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Editors

Dan L. Dumitrascu, Wolfgang Soellner

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FOREWORD

We have the great pleasure to introduce to you the first volume of proceedings from an European Meeting on Psychosomatic Medicine. Indeed, EAPM (the European Association for Psychosomatic Medicine), founded 2012 in Aarhus, merged from the European Association for Consultation-Liaison Psychiatry and Psychosomatics and the European Psychosomatic Research Network. The young association first met in Cambridge in 2013 and this year again in Sibiu. The romantic Transylvanian city situated in the middle of Romania, hosted a very good meeting with a participation of almost 300 attendants from 39 countries from all continents. Beside psychiatrists interested in the community practice, different specialists shared research and experience: internists, family doctors, gastroenterologists, cardiologists, psychologists and even surgeons, etc. The main topics were: the psychosomatic approach of the elderly; the gut-brain axis and the effect of socio-cultural changes on the health. The meeting attracted not only experienced psychosomaticians, but also many trainees. The meeting offered to doctors and psychologists from Central and East Europe the possibility to participate, the venue being closer and easier to reach. Indeed, the intentions of the organizers were achieved by the higher attendance from this part of Europe.

Most of the papers presented during the EAPM meeting in Sibiu are now displayed in front of you: the Monduzzi Editore International Proceedings Division agreed to publish it online and to upload them on their site. Thus, words from Sibiu will remain coined in papers and thus, available to all those who in the future will be interested in the current issues of psychosomatic medicine, and much later, in the early history of EAPM.

We want to mention that this is a selection of presentations at the 2nd Annual Conference of the EAPM, focusing on presentations from Eastern Europe, but not only. The best abstracts of the presentations are published in the Journal of Psychosomatic Research, 2014; 76 (6): 495-520, and the other abstracts are published in Psychologische Medizin 1/2014, Suppl.

This volume presents a diversity of topics, thus we decided to publish them in a common volume, where all contributions were inserted in the alphabetical order of the first author. The contributors keep the responsibility for the texts included in this book.

We are convinced that most of you, our readers, will find at least something new and useful in this proceedings volume.

Prof. Dan L. Dumitrascu
President EAPM 2014 Meeting

Prof. Wolfgang Söllner
President EAPM

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Major Depressive Episode and Perimenopause

Armean S.M.¹, Matyas K.A.², Buzoianu A.D.¹, Micluția I.V.³

¹ Iuliu Hațieganu University of Medicine and Pharmacy, Dept. of Pharmacology, Toxicology and Clinical Pharmacology, Cluj-Napoca (ROMANIA)

² District General Hospital of Huedin – Dept. of Chronic Mental Disorders, Huedin (ROMANIA)

³ Iuliu Hațieganu University of Medicine and Pharmacy, Dept. of Psychiatry and Child psychiatry, Cluj-Napoca (ROMANIA)

E-mails: sebastian.armean@gmail.com, matyaskrisztina1983@gmail.com, abuzoianu@umfcluj.ro, imiclutia@umfcluj.ro

Abstract

Purpose: To assess the clinical manifestations of perimenopause linked to depression.

Introduction: It is well known that major depressive episode occurs more frequently in women addressing medical consultation for symptoms regarding the perimenopause. This is because menopause comes with a high risk of affective disorders. Mood disturbances are present in about 50% of the patients addressing the gynaecologist.

Material and Methods: 80 women, aged 45 to 55 years, were divided into two groups: one consisting of patients diagnosed with major depressive episode from the District General Hospital of Huedin and the 2nd Psychiatric Clinic, Cluj-Napoca and the other of healthy women. The psychometric instruments used were Hamilton Depression Rating Scale, the Perz list of menopausal symptoms and Sloan scale for frequency and severity of hot flashes. Psychiatric symptoms of menopause and those of major depressive episode can be taken one for the other. To prevent that, we focused only on somatic vasomotor symptoms. The assessments were carried out at set intervals of time. The data was statistical analyzed.

Results and Discussion: The given results indicate that depression in menopause is well associated with the frequency of hot flashes ($r = 0.722$; $p = .000$), the severity of hot flashes ($r = 0.769$; $p = .000$), the frequency of menopausal vasomotor symptoms ($r = 0.721$; $p = .000$), the severity of menopausal vasomotor symptoms ($r = 0.754$; $p = .000$) and with the premenstrual dysphoric syndrome ($r = 0.795$; $p = .000$). Another association was noted between the premenstrual dysphoric syndrome and the frequency of the vasomotor symptoms ($r = 0.672$; $p = .000$) and with the severity of vasomotor symptoms ($r = 0.673$; $p = .000$) as well.

Conclusion: The severity of the depression may be influenced by the severity and frequency of menopausal symptoms and by the presence of the premenstrual dysphoric syndrome. The risk of major depressive episode may increase during perimenopause.

Keywords: major depressive episode, perimenopause, hot flashes.

Introduction

More than 85% of women experience one or more symptoms of physical or emotional discomfort between ovulation and the first day of the menses [1-4]. The interference of these symptoms with the daily life of the individual is generally known as premenstrual syndrome [3; 5]. It has two peaks for debut, one around the age of 20 years, and the other one around the age of 30 years [6; 7]. It has a fluctuating evolution, with amelioration and aggravation. The symptoms generally worsen when reaching perimenopause [8]. Mood disturbances are present in approximately 50% of the patients addressing the gynaecologist [9; 10]. For women, menopause is a very delicate transition period, when mood disorders might emerge. [11; 12] Major depressive episode is more frequent in women than in men [13], even those with a smooth transition to menopause [14], and especially in those addressing the physician for perimenopausal symptoms [15]. Perimenopausal depression is not a specific, distinct nosographic category among depressive disorders. Its' importance lies on the elevated prevalence and the difficulty in diagnosis [6].

Purpose

The purpose of our paper is to assess the clinical manifestations of perimenopause that are linked to depression.

Material and Methods

Our study was conducted between 2013 and 2014 on women, aged 45 to 55 years, living in Cluj-Napoca or Huedin and the surroundings, in Romania.

The women were handed a self-reporting questionnaire that reveals general information such as socio-demographical data, information regarding the medical history – whether suffered from any psychiatric disorder, especially mentioning depression, or underwent any psychiatric pharmacotherapy or psychotherapy, the Perz list of menopausal symptoms and Sloan scale for frequency and severity of hot flashes. The severity of depression was measured using Hamilton Depression Rating Scale.

The diagnosis of Major Depressive Episode/Major Depressive Disorder was in accordance to the World Health Organisation's International Classification of Diseases - 10th edition and American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders IV edition – Text Revised.

All the participants to the study signed the informed consent. The study was carried out in accordance with the principles outlined in the Declaration of Helsinki, approved by the institutional review board, and followed international and national regulations applicable.

We distributed 100 questionnaires to women addressing the Psychiatric Department of the District General Hospital of Huedin and the 2nd Psychiatric Clinic of the Clinical Emergency County Hospital of Cluj-Napoca for Major Depressive Episode/Major Depressive Disorder and to women addressing the District General Hospital of Huedin for non-psychiatric issues. These women were referred to us by the Departments of Obstetrics-Gynaecology, Endocrinology, Neurology, Cardiology and Internal Medicine.

Psychiatric symptoms of menopause and those of major depressive episode can be taken one for the other. In order to prevent that, we focused mainly on somatic and vasomotor symptoms.

The participants were divided into two groups, patients and healthy volunteers. The patients' group consisted of women suffering from Major Depressive Episode. The healthy volunteers' groups consisted of women addressing the physician for non-psychiatric issues.

The data was statistical analyzed using Microsoft Office Excel 2007 and SPSS version 20. We used nonparametric tests, Mann-Whitney U-test and Spearman.

Results

Out of the 100 questionnaires delivered, 80 returned to us. 20 women withdrew from the study or did not want to complete the questionnaire. In the end, the patients' group consisted of 40 women suffering from major depressive episode, called "patients", and the healthy volunteers' group, of 40 women without any medical history of psychiatric disorder, called "healthy". The two groups were comparable as of socio-demographic data.

50% of the healthy reported some depressive symptoms, but they did not match the diagnostic criteria for major depressive episode.

Fig. 1 presents the frequency of hot flashes in the two groups.

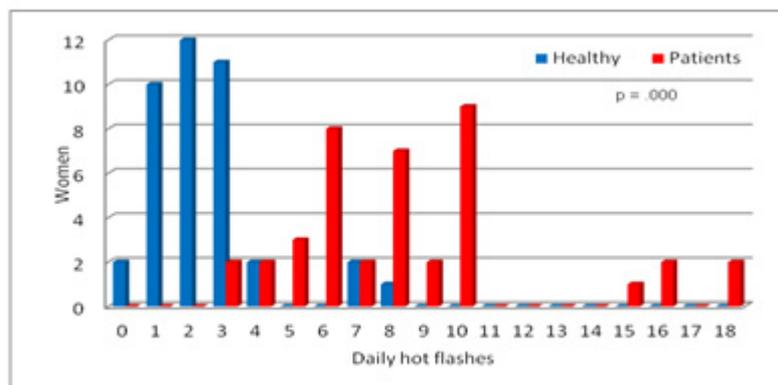


Fig. 1 Frequency of hot flashes among healthy and patients

In healthy, median = 2, module = 2, ranging from 0 to 8 hot flashes/day, and in patients, median = 8, module = 10, ranging from 3 to 18 hot flashes/day. There is significant difference between the daily numbers of hot flashes in the two groups ($p = .000$).

Fig. 2 presents the relation between the daily numbers of hot flashes and the severity of depression.

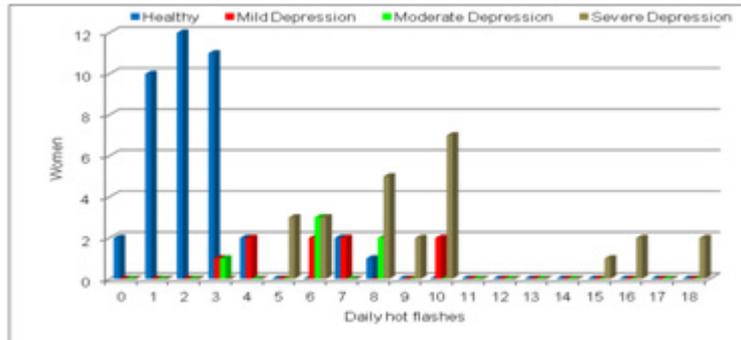


Fig. 2 Relation between daily numbers of hot flashes and severity of depression

In patients suffering from mild depression, median=6, module=4, ranging from 3 to 10 hot flashes/day, in patients suffering from moderate depression, median= 6, module=6, ranging from 3 to 8 hot flashes/day, and in patients suffering from severe depression, median=9, module=10, ranging from 5 to 18 hot flashes/day. There is a positive correlation between the frequency of hot flashes and depression ($r = 0.722$; $p = .000$).

Fig. 3 presents the severity of hot flashes in the two groups.

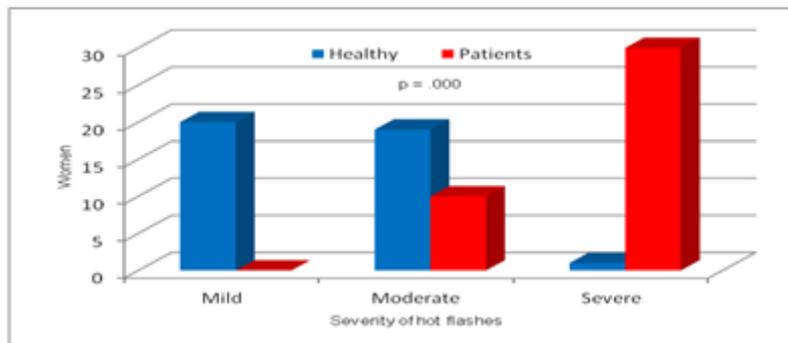


Fig. 3 Severity of hot flashes among healthy and patients

In healthy, median = 2 and module = 2, where 2 means moderate, and in patients, median = 3 and module = 3, where 3 means severe. There is significant difference between the severity of hot flashes in the two groups ($p = .000$). There is a positive correlation between the severity of hot flashes and depression ($r = 0.769$; $p = .000$).

Fig. 4 presents the frequency of reported sweating in the two groups.

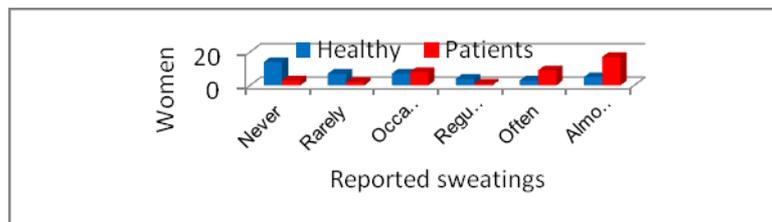


Fig. 4 Frequency of sweating among healthy and patients

The reported sweating shows, in healthy, the median = 1, module = 0, ranging from 0 to 5, and in patients, the median = 4, module = 5, ranging from 0 to 5, where 0 means never, 1 – rarely, 4 – often, and 5 – almost all the time. There is significant difference between the frequency of sweating in

the two groups ($p = .000$). There is a positive correlation between the frequency of vasomotor symptoms and depression ($r = 0.721$; $p = .000$).

Fig. 5 presents the severity of sweating in the two groups.

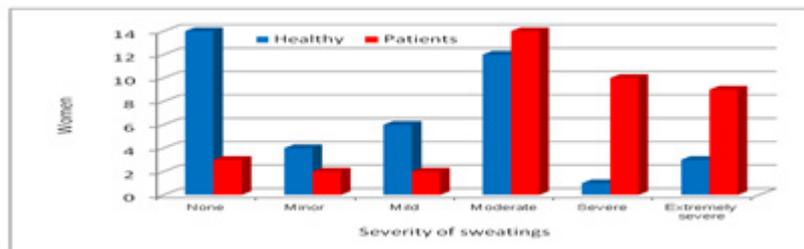


Fig. 5 Severity of sweating among healthy and patients

The severity of sweating shows, in healthy, the median = 2, module = 0, ranging from 0 to 5, and in patients, the median = 3, module = 3, ranging from 0 to 5, where 0 means none, 2 – mild, 3 – moderate, and 5 – extremely severe. There is significant difference between the severity of sweating in the two groups ($p = .000$). There is a positive correlation between the severity of vasomotor symptoms and depression ($r = 0.754$; $p = .000$).

Fig. 6 shows the previous existence of premenstrual dysphoric syndrome in the two groups

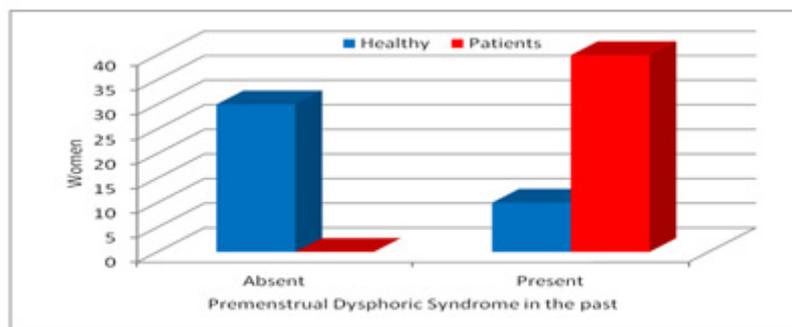


Fig. 6 Previous existence of premenstrual dysphoric syndrome among healthy and patients

When considering both groups as a whole, the prevalence of premenstrual dysphoric syndrome in women in fertile age is 62.5%. The premenstrual dysphoric syndrome was present in all the patients and in 22.5% of the healthy. There is significant difference between the presence of premenstrual dysphoric syndrome in the two groups ($p = .000$). There is a positive correlation between the premenstrual dysphoric syndrome and depression ($r = 0.795$; $p = .000$).

There was also noted a positive correlation between the premenstrual dysphoric syndrome and the frequency of the vasomotor symptoms ($r = 0.672$; $p = .000$) on one hand, and the severity of vasomotor symptoms ($r = 0.673$; $p = .000$), on the other hand.

For a better understanding of the menopause symptoms they were grouped into three categories as follows: psychological symptoms, vasomotor symptoms, and somatic symptoms. The categories were then evaluated in terms of frequency and severity between the two groups, healthy and patients. There is significant difference between menopausal symptoms on all three categories between the two groups ($p = .000$).

Discussion

Singh & Pradhan (2014) reported that 89.3% of the women in a rural area of New Delhi experienced at least one or more menopausal symptoms, and that 32.1% of postmenopausal women suffered from depression [16]. Rahman et al. (2011) reported a prevalence of 37.3% for depressive mood in Bangladesh [17], Martinez et al. (2013), 39.9% and 42.1% for urban and rural Spanish population [18], while Poomalar & Arounassalame (2013) reported a prevalence of 57.2% [19]. Borker et al. (2013) report a high rate of prevalence of up to 90.7% for emotional problems, such as crying spells, depression, and irritability, in women at menopause [20]. The prevalence of depressive symptoms in our healthy is consistent with these findings. Although, we have to keep in mind that the participants to the study were selected from hospital facilities, and there is a possibility for a selection bias.

Our findings regarding the positive correlation between frequency and severity of hot flashes and depression are supported by Karaoulanis et al. (2012) who state a significant association between hot flashes and perimenopausal depression [21], while Ozturk et al. (2006) did not find any correlations [22].

According to Pearlstein (2007), approximately 20% of women at fertile age are affected by premenstrual syndrome with significantly impaired functioning and up to 8% are affected by premenstrual dysphoric syndrome [23]. This partially supports our findings regarding the presence of premenstrual dysphoric syndrome in the healthy group.

Halbreich (2003) and Fava et al. (1992) stated that women suffering from premenstrual syndrome present a higher incidence of depression compared to healthy women [24; 25]. Also, Steinberg et al. (2008) reported that 55% of women suffering from perimenopausal depression had previously suffered by premenstrual dysphoria [26]. This partially supports our findings regarding the association of depression and premenstrual dysphoric syndrome.

Although premenstrual dysphoric disorder and mood disorders can co-occur [27], Veeninga et al (1994) stated that the level of depression had been higher in patients suffering from premenstrual dysphoric disorder than in healthy controls, during luteal phase [28].

De Ronchi et al. (2000) found an association between premenstrual syndrome and major depression [29], and Firoozi et al. (2012) discovered that women suffering from premenstrual syndrome/premenstrual dysphoric disorder report higher levels of psychiatric symptoms, such as depression, than healthy volunteers, even in the follicular phase [30].

A recent systematic review and meta-analysis study conducted by Direkvand-Moghadam et al. (2014) reached the conclusion that almost half the women in reproductive age experience the symptoms of premenstrual syndrome. They found a pooled prevalence worldwide of 47.8% (95% CI: 32.6-62.9) [31].

A recent large cohort study conducted by Chen et al. in Taiwan (2013) indicates a clear association between depressive disorders in midlife women and a symptomatic menopausal transition [32].

Clayton & Ninan (2010) conclude that it is important to identify the major depressive disorder, especially during perimenopause, because this period in a woman's life comes with a great risk for depression. They also state that it is important to recognize the symptoms of menopause, even in non-depressed women, because otherwise, the quality of life may be affected [33].

Conclusions

The severity of the depression may be influenced by the severity and frequency of menopausal symptoms and by the presence of the premenstrual dysphoric syndrome. The risk of major depressive episode may increase during perimenopause.

Limitations

The limitations to the present study are the small sample size of groups, the exclusion of the somatic disorders that may cause symptoms similar to those presented by women during perimenopause, the observational character of the study, the self-reported questionnaire which might have caused confusion between premenstrual syndrome and premenstrual dysphoric syndrome, due to the high rate (100%) of the later being reported by patients. Further researches are required to validate our present findings.

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Psychotherapy versus Drug Therapy in Somatoform Disorders

Artimon H.M.¹, Bradu-Iamandescu I.¹, Răulea C.²

¹ University of Medicine and Pharmacy „Carol Davila” Bucharest (ROMANIA)

² University „Lucian Blaga” Sibiu (ROMANIA)

E-mail: iamandb@yahoo.com

Abstract

The controlled clinical trial study, non-randomized (quasi-experimental design) followed the evolution of two groups of patients diagnosed with somatoform disorders, the first group treated by hypnotherapy and cognitive-behavioral psychotherapy elements, and the second one treated, control group, with sertraline 100 mg/day and psychiatric counseling. The survey results suggest an increased long-term effectiveness of psychotherapy in the treatment of somatoform disorders versus drug therapy on motivated patients and who are able to establish a good therapeutic relationship.

Keywords: somatoform disorder, psychotherapy, drug therapy.

Introduction

The term “somatoform” expresses, according to DSM-IV [1], a somatic symptom which “suggests a general medical condition, but which is not fully explained by a general medical condition, by the direct effects of a substance or other mental disorder.” Symptoms of this type should produce a “clinically significant distress or impairment in social, occupational or other important areas of functioning.” Also, in the case of somatoform disorders, “there is not a general medical condition diagnosable to fully explain the somatic symptoms”. There is a high comorbidity of somatoform disorders with depression and anxiety [2],[3], which increases the negative affectation of social functioning of these patients. The new classification of the recent DSM-V [4] replaces the somatoform disorders with the terminology “somatic symptom and related disorders”, some diagnostic subcategories (somatization disorder, hypochondriac disorder, pain disorder and undifferentiated somatoform disorder) being removed. The new terminology implies that the persons presenting somatic symptoms (which may or may not have a diagnosable medical condition) have abnormal thoughts, feelings or behaviors associated to be classified as “somatic symptom disorder”. Thus the cognitive and the behavior dimensions become essential in the diagnosis of these disorders. An exception is the conversion disorder, where the psychological factors cannot always be identified at the condition diagnose. The European classification ICD-10 keeps the terminology of somatoform disorders, however excluding the conversion disorder, being classified as a dissociative disorder (in this case focusing on the involved psychological mechanism, not on the somatic manifestation).

These patients use excessively the medical services, achieving high costs [5].

Within the etiopathogenesis of somatoform disorders have been incriminated biological factors (increased autonomic activation, low levels of 5-HIAA, increased levels of P neuropeptide substance), deficits in the sensory signal filtering processes, cognitive factors (somatosensory amplification theory) [6], as well as repressed emotions (psychoanalytic theories). These factors are usually associated to varying degrees, they are rather concurrent than in a linear causal relationship, fact recorded since the last century by the psychoanalysts and confirmed by recent discoveries in the cognitive neurosciences.

Consequently, the therapeutical approach of these patients is both psychological and pharmacological. During the drug therapy, there may be used anxiolytic drugs for short-term management and antidepressants for long-term management, the latter ones proving their usefulness in reducing the somatoform symptoms and the disability caused by them [7],[8],[9].

Studies [10], [11], [12], [13], [14], [15], [16] confirm the effectiveness of the cognitive-behavioral therapy for somatoform disorders, especially in the amelioration or remission of associated

depression and anxiety disorders symptoms, but also of somatoform complaints, as well as in the maintenance of patients' social functioning and in the reduction of medical services use by them.

Hypnosis has also proven its effectiveness in the treatment of psychosomatic patients [17],[18],[19],[20], both for relaxation learning, with beneficial effects on the body functioning, for a different perception of their own body, and for the exploitation of unconscious conflicts underlying the somatoform symptoms (hypnoanalysis) [21].

Purpose

The study aimed at the comparison between the effectiveness of psychotherapy and the medication in somatoform disorders, respecting the clinical reality in the selection of patients involved in the research.

Method

The controlled clinical trial study, non-randomized (quasi-experimental design) followed the evolution of two groups of patients diagnosed with somatoform disorders, the first group consisting of 30 patients (21 women, 9 men) aged between 18-67 years, treated with hypnotherapy and cognitive-behavioral psychotherapy, the second group, considered control group, consisting of 33 patients (23 women, 10 men) aged between 21-70 years, treated with sertraline 100 mg/day and psychiatric counseling. The treatment was conducted over a period of at least 3 months in the case of patients treated with psychotherapy and 3 months for the patients treated with drugs, and the patients were followed up at 3 months and 6 months after the therapy completion. The somatoform symptoms were evaluated by measuring their intensity on a self-evaluation scale from 1 to 10.

Results

After the 3 months of treatment, the ameliorations in the somatic and mental state were comparable in the group treated with psychotherapy (73.33%) with the ones from the control group (75.76%), also the remission rate: 26.67% in the group treated with psychotherapy, respectively 24.24% in the control group ($p = 0.83$). At 6 months after the end of the treatment, the ameliorations were maintained at 57.14%, and the remissions at 25% for the patients approached with psychotherapy, while, for the drug treated group, the ameliorations were maintained at 31.82 %, and the remissions at 4.55% of the patients ($p = 0.003$).

The ameliorations were related to lower scores of somatoform symptoms' intensity as well as to symptoms control which have been reflected in the patients' increased quality of life.

Discussions

Ameliorations in the somatic and mental condition were faster for the group treated with sertraline than for the one treated with psychotherapy, but the rebound effects, at 3 and 6 months, were more frequent in the case of patients from the drug group, requiring the drug re-treatment.

The study results suggest likely an increased efficiency of a double therapeutic approach for patients with somatoform disorders, both psychological and drug. The medication could be a catalyst at the beginning of psychotherapy, through a more rapid amelioration of the functional somatic symptoms, which would also constitute a therapeutic trial for the confused and anxious patient in terms of his medically unexplained body symptoms. The psychotherapeutic approach is essential for obtaining a good control of the body symptoms and for long-term amelioration or even their disappearance through the exploitation of unconscious conflicts, the psychotherapy effectiveness is directly proportional to its duration, the patient's motivation and the establishment of a good therapeutic relationship.

Conclusions

The study results suggest an increased long-term effectiveness of psychotherapy in the treatment of somatoform disorders versus the drug therapy on motivated patients and who are able to establish a good therapeutic relationship. Even in the recurrence of symptoms, they have been managed better by the patients receiving psychotherapy than by those who received medication, the latter ones tending to become psychologically addicted to drugs.

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Beneficial Influences of Music on Choral Performers

Avram L.¹, Lupu J.²

¹National Music University Bucharest (ROMANIA)

²Romanian Patriarchate Choir SYMBOL (ROMANIA)

E-mail: luiza_avram@yahoo.com

Abstract

Purpose: Demonstration and evaluation of the beneficial influences that performers experience, due to this musical activities.

Methods: a questionnaire with 20 questions on a group of 50 chorus girl, aged after 12 years . Questions aimed at challenging and stressful aspects involved to participation in a choir with a high level of demand for quality musical performance. It also refers to the psychosomatic benefits that young participants are experiencing as a result of learning and practicing music.

Results: 90 % is the average level of satisfaction they experience in concert performance; 19 % think that the intellectual effort and request, necessary to build a new repertoire, are very high, 54 % believe that the work is hard and 24% moderate. It can be considered a stressor but also represents a valuable way of developing intellectual skills; although respondents were very young and healthy people, about 37 % of them said they regularly suffer headaches and / or stomach, insomnia and even heart palpitations and dizziness. All (except one) were considered to have experienced the situation to escape such conditions when they were in the choir (42 % of them somewhat and 57 % of them more); approximately 44 % of chorus girl believes as "not stressful" the fact of going to chorus, even during demanding evaluation periods from school. Furthermore, there were answers that have found that participation in the choir is a release from current, school duties tension.

Conclusions: The study highlights the many beneficial aspect of sustained involvement in ensemble musical activity.

Keywords: choral singing, positive and negative influences, improve of some quality of life aspects.

Motto: "The Universe is nothing more or less than a no end number of vibration and rhythms"

Context

The most valuable theories in the field of music therapy, explaining the psycho-somatic impact of music, highlight:

- "physiological response of human body depends on the individual psychological response"
- " musical vibrations there seem to be those producing physiological changes at the level of autonomous, immune, endocrine systems and of neuropeptides "
- " physiological effects of the music are due to convergence between pulses hearing aids and central nervous system components involved in the response to stress " (I.B. Iamandescu et all. „Receptive music-therapy” page 175-176)

• "Listening pleasant music activates cerebral structures involved in reward and in the knowledge of pleasure " (I.B. Iamandescu et all. Receptive Music-therapy page 207)

These postulates are based on the main characteristics of the musical phenomenon:

- music consists, physically, from a sequence of vibrations and rates
- communication is made through evoking and sending a variety of emotional states.

On the basis of these data, at the intersection of these coordinates are produced audible art's effects on human beings.

Purpose

There have been many researches that were watching and presenting spectacular effects of music listening and interpretation on human beings. This research emphasizes the effects of musical interpretation and those of long-term involvement in a choral singing band, of a group of 50 young women between the ages 12 - 22 years. They work in a chorus of prestige in Bucharest, choir Symbol of the Romanian Patriarchy, led by Professor Jean Lupu. Hypothesis for it is the one according to which direct involvement in the musical artistic act has a series of extremely beneficial effects, despite the existence of certain stressful aspects and heavy parts involved in such activity. More precise, the study aims to evaluate and to demonstrate that the balance tilt is obviously in favor of profits.

Methods

We applied a questionnaire containing 20 questions that were destined to reveal:

- the level of stress associated with the repetitions program but also that caused by the scenic concerts flutter, responsibility, effort of concentration for heavy learning directories, pressure determined by the crowded program. The effects of these activities can be: fatigue, exhaustion with any other associated symptoms, as well as head or stomachaches, nervousness, nausea, agitation.
- the level of satisfaction that the performers will experience as a result of the business of chorales (complacency, satisfaction, excitement, self esteem and the feeling of satisfaction that they belong to a select group)
- the self assessment of skills development (intellectual, musical, cultural, of social relations capacity)
- items of satisfaction assessment related to the main structural musical elements as: melody, harmony, rhythm, message, spiritual - religious aspects.
- music effects on possible common ailments, that may be encountered in young and, in principle, healthy people (e.g. insomnia, stomach/ headaches, dizziness)

Results

- 19 % think that the intellectual effort and the request, necessary to build a new repertoire, are very high, 54 % believe that the work is hard and 24% moderate. It can be considered a stressor but also represents a valuable way of developing intellectual skills.
- But only 27% are deemed tired after choral singing work and a single person considers that a deplete
- 22% of seen feel agitated, have emotions, lump in the throat, before concerts. Of these, 11 percent of the respondents said that they are very emotionate, with the rest being only moderately affected by trac. The percentage is relatively small because it's happening securizant effect of the assembly. There was also a comment expressing courage which one of participating feels.
- 90% is the average level of satisfaction that features the experience in concert performance
- 14 people find melodic element that what they do like the most in music
- 20 people find that harmony is the most important music element for them
- 9 people consider that the rhythmic element is what they do like most in music
- 7 persons considers the message the most important element
- Although respondents were very young and healthy people, about 37 % of them said they regularly suffer headaches and / or stomach, insomnia and even heart palpitations and dizziness. All (except one) considered to have experienced the situation to escape such conditions when they were in the choir (42 % of them somewhat and 57 % of them more)
- Approximately 44 % of chorus girl believes as "not stressful" the fact of going to chorus, even during demanding evaluation periods from school. Furthermore, there were answers that have found that participation in the choir is a release from current, school duties tension.
- 65% of coriste have stated that they feel very excited when they sing in the choir
- All participantas assessed their intellectual, cultural and musical evolution with scores of "very high" and "high" in the period when attended the choir.
- Among the thoughts, emotions and feelings waked up in performers mind related to the choir activities, there are: the joy, pleasure, peace of mind, victorious exultation, pride, curiosity, the relaxation, devotion, responsibility, delight, optimism, kindness, socialize, revival, happiness, friendship, the applause, the passion, freedom, spiritual feast, the fulfillment, "my happy place", dedication, commitment, reliability, patience, maturity, performance, usefulness

feeling, the joy to play with others, even „disappointment when I'm wrong”, fear that she was singing false (expressed by two people) or concern of another girl (14 years) that she might not have a career in music, in the future!!!

- Music is associated with freedom, the imagination, the emotion, the happiness, affection, the harmony, the flight, purification, smiles, expression, public plotted, introspectia, „tears came to her eyes”, satisfaction, elation, living, twinning, heat, sensitivity and intellectuality, positive vibration, the celebration, fame, pleasure, all that is most beautiful in life, even catharsis, angels, peace and love ...

Conclusions

The study highlights the many benefit aspects of sustained involvement in ensemble musical activity.

- The experience of musical interpretation involves working with some person's interior, with emotions and psychological statuses involved and communicated through music. It develops a deeper understanding, taking account of human emotions, self-knowledge of the characteristics of the own emotional life, self-evaluation of its own person, experimentation with various psychological situations, growing of emotional intelligence and becoming matures.
- Intellectual development, assessed both by teachers and coordinators as well as self-evaluation of the performers, is important quantitatively but especially from the point of view of quality information, the extension and diversity of covered areas (music, literature, traditions, interculturality, social behavior, psychological maturity, self esteem, independence etc. ..)
- Cultivation of such a noble hobby has deep implications in young girl's life and it is perceived as a factor of inner balance, an effective remedy against stressful situations, parts of our daily life.
- Choral singing activity is also a good reason to be proud of. These young girls become conscious of their talent, great music gifts they may have, to the value of their work for other people, doubled by the awareness that nothing is achieved without effort and responsibility.
- The addition of beauty and joy to spectators becomes a reward in itself.
- The young singers explores intuitively the vaste scientific and even mystical possibilities behind the concept of healing and self-healing through music. (Choir Symbol carries out its activities under the patronage of Romanian Patriarchate and this is why they have in the directory a significant number of works with religious message and character by which they can experience deeper the blessings of spiritual songs.) The fact that the transmission of the message in specific rituals of worship is made through vocal singing and represents the most widespread form of prayer in all the traditions is, to any degree of certainty, a confirmation of the fact that people around the world knows, for a long time, that the sound is a key for the enhancement of communication/ communion and music raises the level of cohesion between souls.
- Power of group singing is like the power of group praiers. When resonates together and work in synergy, robust human consciences influence each other. The heartbeats, brain-waves and respiration will be harmonized when people breath and sing together.
- Moreover, researchers at Heart Math Institute have shown that the state of exaltation, of appreciation, of sensitive expression, expressive and enthusiastic, creates a electromagnetic resonance consistency between ones brain and heart. Electromagnetic field generated by the heart is 60 times higher than the electromagnetic field of the brain. It can be said, in these circumstances, such as during execution of musical group, interpreters make a point of growing mind energy, using there heart.
- Sound seems to amplify more the electromagnetic field described above, which is generated by the status of delight, appraise, the attitude of devotion and enthusiasm. Expression of musical values ressonates in the souls and bodies of the interpreters. Here we are referring to both harmonic vibrations of sounds, the philosophy of aesthetic sounds, the dynamic balance of contrasts, the pulsation, often overwhelming, sharp rhythms, but also on the ideas and high philosophical meanings on which bears their musical works of art. For this reason, two seen in chorus have evoked the chatartic force of music.

Concept of „ frequency + emotion = effect” (Goldman J., Healing Sounds) can be applied in the field about which we talk with greater efficiency through resonance and energy of the group.

Such as natural quantum physic itself is made today echo of the words of old mystics masters stating that "the universe is Music" or "everything is vibration" people discover that the sound is a very powerful force. It may affect, literally, human beings up to the level of molecular structure, can influence up to DNA via the intense psychological transformation. Highs of emotions, sound triggered by the musical structures are affecting simultaneously the complex physiology of the organism. Sounds can influence in the first place the conscience, the thoughts and the philosophy of life by means of the music message. But it can change and transform brain-waves, by driving us, sometimes in a state of meditation /ecstasy/ float in which we can access something more grandious than we are. By using our intuition, something from the supreme consciousness is reveled and often, on this path, it can influence and amplify our sense of HUMAN BEEING.

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The factors associated with improving quality of life in psychological rehabilitation and usual care groups of patients after cardiac surgery

Beresnevaite M.¹, Benetis R.², Rasinskiene S.³, Kinduris S.⁴

¹Laboratory of Clinical Cardiology, Institute of Cardiology of Lithuanian University of Health Sciences (LITHUANIA)

²Laboratory of Clinical Cardiology, Institute of Cardiology of Lithuanian University of Health Sciences (LITHUANIA)

³Kaunas Vytautas Magnus University (LITHUANIA)

⁴Laboratory of Clinical Cardiology, Institute of Cardiology of Lithuanian University of Health Sciences (LITHUANIA)

E-mail: MargaritaBeresnevaite@hotmail.com

Abstract

Purpose: To evaluate the factors to predict the improvement of health related quality of life (HRQOL) in intervention (IG) and usual care (CG) groups of patients after cardiac surgery (CS).

Methods: The cognitive behaviour therapy (CBT) impact was analyzed in IG (n=43) and in CG (n=46). HRQOL was measured by using SF-36, Type-A behaviour by JAS-SF, D-type personality by DS-14, alexithymia by TAS-20, Hostility by SCL-90R questionnaires. The assessment was performed at 2 and 12 months after CS. CBT consisted of 18 therapy sessions over 10 months. Fourteen sociodemographic and biomedical factors were collected from the medical records or by interview.

Results: After controlling for baseline imbalance (ANCOVA) findings have demonstrated improvement in IG according to physical functioning (F=5.226, p=0.025), general mental health (F=5.978, p=0.017), and mental component summary (F=6.050, p=0.016) domains. The analysis of sociodemographic, biomedical, and psychological relations with change scores of each SF-36 domain have shown that Type-A behaviour was related to the better changes in both groups according to the bodily pain scale (p<0.05), while according to the role limitations due to emotional problems, mental component summary only in CG. Other variables associations with changes scores of SF-36 in IG were not found. Meanwhile seven factors (older age, female gender, living alone, experience of greater number of stressful life events, following coronary artery bypass grafting, presence of comorbidities, lower ejection fraction) predicted poorer outcomes of HRQOL domains in CG (p<0.05).

Conclusions: The CS patients' postoperative HRQOL outcomes are worse in CG when they are compared with IG ones, and they are significantly related to seven sociodemographic and biomedical variables. Therefore the patients after CS with such variables as older age, female gender, living alone, experience of greater number of stressful life events, following CABG, presence of comorbidities, lower EF should be enrolled in to the psychological IG after discharge from hospital.

Keywords: psychological rehabilitation, cardiac surgery, quality of life.

Introduction

Cardiac surgery (CS) is aimed at alleviating patients' morbidity and prolonging their lives. Given the high success rate of such surgery in achieving these aims, it is clear why the assessment of health-related quality of life (HRQOL) is of such importance. Longitudinal studies have confirmed that most patients improved HRQOL following surgery through reduced symptoms, improved functioning and increased participation in activities. However, for a significant minority of patients, this improvement does not occur or the patients report a deterioration in HRQOL [1,2]. It is known that such biomedical characteristics as low functional status according to the New York Heart Association (NYHA) classification, left ventricular low ejection fraction (EF), presence of some comorbidities (diabetes, pulmonary diseases), complications arising from the surgery, depression are associated with poorer HRQOL [3, 4, 5]. It is also known, that the presence of low mood state, living alone,

unemployment, lower socioeconomic status are related with poorer HRQOL outcome, but all of these variables have not been extensively examined [2]. There are also some other factors, related with the health status, but they were not studied as about their association with the change of HRQOL in patients following CS. Though a number of studies have found cardiac rehabilitation attenders had no better HRQOL than non-attenders at follow up [6], while other studies have found more positive effects [7]. There are no studies on the comparison of various predictors of change of HRQOL between psychological intervention and usual care groups in patients following cardiac surgery. The evaluation of such findings may be useful for postoperative patients' enrolment in to IG.

Purpose

To research the factors to predict the improvement of HRQOL in patients after CS and to compare such findings with the results in psychological intervention group.

Methods

Patients

The sample consisted of 159 patients younger than 75 years old, who were invited to participate in the study two months after undergoing coronary artery bypass graft (CABG) surgery and/or surgery on heart valve. Patients were excluded if they had: a) a history of major psychiatric disorder; b) severe musculoskeletal disorders; c) unstable angina pectoris, severe heart failure, or significant arrhythmias; d) cancer or other non-cardiac diseases. The final sample comprised of 150 patients.

Study design

The patients were contacted two months after their surgery (T1) and invited to participate in the study. After the patients' written consent and psychological assessment they were assigned sequentially to an IG (n=79) or to a CG (n=71). Cognitive behavior therapy for stress management (CBT) was applied for the patients of IG. It was administered according to a standardized guidelines that had been developed in our institution. CBT consisted of 18 sessions over 10 months and included three components – learning progressive muscle relaxation, modulation of automatic negative thoughts, and restructuring irrational attitudes. The end of the intervention program was at 12 months after surgery (T2), and the psychological assessment was performed again.

Sociodemographic and biomedical information was collected from patients' medical records or by interviewing them.

The study protocol was approved by the Kaunas Regional Committee for Biomedical Research Ethics.

Measures

Sociodemographic data collected included age, gender, marital status, years of education, presence of disability. Biomedical variables were hypertension, diabetes mellitus, current smoking, previous myocardial infarction, left ventricular EF, presence of comorbidities, type of CS (CABG or/and surgery on heart valve), length of hospital stay, complications after discharge from hospital.

HRQOL was measured using questionnaire SF-36 [8, 9], which has been used in patients undergoing myocardial revascularization [10]. It is a self-rated instrument that assesses 8 domains of HRQOL – physical functioning (PF), role limitations due to physical problems (RLDTPP), role limitations due to emotional problems (RLDTEP), social functioning (SF), general mental health (GMH), vitality (V), bodily pain (BP), and general health perception (GHP). Each domain is measured on a scale ranging from 0 to 100 with higher scores indicating better health. In addition, we also used summarized scores of four physical domains - physical component summary (PCS) and of four mental domains - mental component summary (MCS).

The presence of the following personality types was also estimated: Type-A behavior, D-type personality, Alexithymia, Hostile personality. Type-A behavior (TAB) was assessed using JAS-SF (Short Form of Jenkins Activity Survey) [11, 12], it is analyzed as continuous variable, higher scores (≥ 25.65) are considered to indicate TAB. Hostile personality was estimated by using Hostility scale score $\geq 61T$ of the Symptom Checklist-90 Revised (SCL-90R) questionnaire [13]. Its T scores ≥ 61

indicate increased hostility. D-type personality was diagnosed using DS-14 (14-item Type D scale) – as categorical construct (if both scores of negative affectivity and social inhibition subscales ≥ 10). The latter subscales were also measured as continuous constructs. Alexithymia was measured by using TAS-20 (20-item Toronto Alexithymia Scale). Its scores are analyzed as continuous variables; cutoff scores of ≥ 61 identify alexithymic construct of personality [14]. Life events were scored using the Interview created by Romanov et al [15].

Statistical analysis

Data were analyzed with the SPSS for Windows version 13.0 statistical package (SPSS Inc., Chicago, IL). Results are expressed as mean and standard deviation (SD) or percentages. Continuous and categorical sociodemographic and biomedical variables differences between IG and CG were compared by means of independent t-tests and chi-square tests; non-normally distributed variables were compared by the Mann-Whitney U test. Paired t-tests and the Wilcoxon rank-sum test were used to estimate changes in the SF-36 variables within each group. Group differences in response to receiving the intervention or usual care were examined using analysis of covariance (ANCOVA), a regression method, controlling for possible differences at baseline. Univariate regression analyzes were used to estimate predictors of the change scores of the SF-36 scales. P value < 0.05 was considered as statistically significant.

Results

36 patients decided to leave the study from the IG and 25 ones – from the CG. Therefore we analyzed the findings of 43 patients of IG and of 46 ones of CG. There were no significant differences in baseline sociodemographic and biomedical variables between the two groups except for the higher number of patients with comorbidities in IG ($F=4.286$, $df=1$, $p=0.038$), and the lower means of RLDTTPP, SF, and V scores ($F=20.601$, $df=87$, $p=0.015$; $F=2.123$, $df=87.000$, $p=0.013$; $F=1.570$, $df=87.000$, $p=0.011$, respectively) in IG.

Table I shows the findings of the within-group comparisons at T1 and T2. The IG reported improvement in HRQOL with significantly higher scores in eight SF-36 scales. For the control group, there were no significant positive changes in the SF-36 scores, but there was statistically significant decrease in general mental health scale score ($p=0.024$).

Table I. SF-36 scores at baseline and follow-up in Intervention and Usual Care Groups

	Intervention Group (n = 43)			Usual Care Group (n = 46)		
	T1 mean (SD)	T2 mean(SD)	<i>p</i>	T1 mean (SD)	T2 mean(SD)	<i>p</i>
<i>SF-36</i>						
Physical function	59.2(16.7)	69.4(17.8)	.002	62.4(22.0)	61.3(25.3)	.771
Role limitations due to physical problems	9.9(21.9)	33.7(35.3)	.000 ^b	26.4(38.2)	40.2(40.6)	.070 ^b
Role limitations due to emotional problems	25.5(35.5)	57.7(43.2)	.001 ^b	37.2(43.7)	46.4(46.9)	.349 ^b
Social functioning	51.8(23.2)	72.3(23.9)	.000	65.0 (25.7)	69.8(29.5)	.212
General mental health	65.3(15.8)	69.5(16.7)	.141	69.0(18.9)	63.5(21.6)	.024
Vitality	49.1(19.2)	60.8(17.3)	.001	60.2(21.4)	59.4(21.1)	.723
Bodily pain	60.5(20.2)	70.7(22.6)	.008	58.8(26.1)	66.4(27.2)	.079
General health perception	43.9(16.0)	47.7(17.3)	.097	47.1(16.5)	48.2(16.1)	.660
Physical component	39.4(6.3)	43.1(6.3)	.002	40.8(8.2)	43.1(8.5)	.084
Mental component	40.0(9.3)	46.8(9.8)	.000	44.5(8.9)	44.1(11.4)	.790

^b Calculated by Wilcoxon rank-sum test; all other *p* values calculated by paired t-tests.

Table II demonstrates the comparisons of the change scores in SF-36 scales between groups. There were estimated the significantly better changes scores in PF, SF, GMH, V, and MCS domains of the HRQOL.

Table II. Change scores of the SF-36 scales in Intervention and Usual Care Groups

	Intervention Group (n=43) Mean (SD)	Usual Care Group (n=46) Mean (SD)	F(df)	p
SF-36				
Physical function	-10.2(20.3)	+1.1(25.3)	2.590(85.100)	0.022
Role limitation due to physical problems	-23.8(39.7)	-13.8(53.2)	2.490(83.030)	0.316
Role limitation due to emotional problems	-32.2(57.0)	-9.2(67.2)	0.168(86.200)	0.085
Social function	-20.5(28.2)	-4.9(26.2)	0.465(85.331)	0.008
General mental health	-11.7(21.9)	+5.5(15.9)	0.043(83.169)	0.009
Vitality	-11.7(21.9)	+0.9(16.5)	2.044(77.887)	0.003
Bodily pain	-10.2(24.1)	-7.6(28.8)	1.232(85.971)	0.650
General health perception	-3.8((14.6)	-1.1(16.6)	0.377(86.696)	0.417
Physical component summary	-3.7(7.4)	-2.3(8.8)	1.094(85.946)	0.400
Mental component summary	-6.7(10.5)	+0.4(10.1)	0.108(85.940)	0.002

After controlling for baseline imbalances in the two groups, there were estimated significantly greater improvement in PF, GMH, and MCS domains in the IG (F=5.226, p=.025; F=5.978, p=.017; F=6.050, p=.016, respectively; ANCOVA).

The analyzes found that seven categories were significant predictors of lower postoperative HRQOL outcomes in CG: older age (of MCS: β =.289, p=.031, 95%CI=.028-.551), gender females (of MCS: β =.072, p=.045, OR=1.075), living alone (of BP: β =.029, p=.049, OR=.971), experience more stressful life events (of MCS: β =1.907, p=.040, 95%CI=.089-3.725), following CABG (of RLDTEP: β =.012, p=.025, OR=.988), the presence of comorbidities (of SF: β =.030, p=.049, OR=1.030), lower EF (of RLDTPP: β =1.763, p=.026, 95%CI=3.301-.226). It was also estimated that presence of higher JAS-SF score is related to better change scores of RLDTPP, RLDTEP, BP, and MCS (β =2.401, p=.012, 96%CI=4.242-.560; β =3.679, p=.002, 95%CI=5.917-1.441; β =1.050, p=.045, 95%CI=2.074-.025; β =.423, p=.020, 95%CI=.775-.079, respectively). The IG findings analyzes didn't show associations except the relation of higher JAS-SF score to better SF (β =.706, p=.000, 95%CI=.395-1.017) and BP (β =1.273, p=.010, 95%CI=2.224-.322) scales.

Conclusions

The CS patients' postoperative outcomes of HRQOL domains are worse in UG when they are compared with IG ones, and they are significantly related to seven sociodemographic and biomedical variables. Therefore the patients after cardiac surgery with such variables as older age, gender females, living alone, greater number of stressful life events, following CABG, presence of comorbidities, and/or lower EF should be enrolled in to the psychological IG after discharge from the hospital.

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Schizo-affective disorder and Kallman de Morsier syndrome. Case presentation

Boloş A.¹, Chiriţă V.², Chiriţă R.³

¹MD, PhD, Assistant of professor, Department of Psychiatry, University of Medicine and Pharmacy Gr.T.Popa Iasi, senior psychiatrist, Socola Hospital Iasi (ROMANIA)

²MD, PhD, Professor, Department of Psychiatry, University of Medicine and Pharmacy Gr.T.Popa Iasi, senior psychiatrist, Socola Hospital Iasi (ROMANIA)

³MD, PhD, Professor, Department of Psychiatry, University of Medicine and Pharmacy Gr.T.Popa Iasi, senior psychiatrist, Socola Hospital Iasi (ROMANIA)

E-mail: alex_andra_bolos@yahoo.com

Abstract

Kallmann de Morsier syndrome is a rare, congenital disease, hypogonadism gonadotrope type, with an unclear genetic transmission. This disease is characterized by the absence or delayed of pubertal development till the age of 18 years old, anosmia, hyposmia and also it can determine disturbances of other systems of the body like skeletal system, renal system, nervous system, auditory system. All of these manifestations can also be associated with psychiatric symptoms. The evolution and the prognosis of the Kallman syndrome are very difficult to be established and genetic advice is mandatory. This case is very interesting because this syndrome is associated with schizo-affective disorder. In this paper we will present a case of a young female of 29 years old, which had been hospitalized for a sudden onset of a psychotic episode and previous she was diagnosed with Kallmann syndrome.

Keywords: Kallman de Morsier syndrome, psychiatric symptoms, therapy

Introduction

Kallman de Morsier syndrome is a congenital disease, subgroup of idiopathic hypogonadotropic hypogonadism that associated deficiency of releasing hormone of gonadotropin (GnRH) with anosmia or hyposmia. This syndrome is caused by a deficiency of neuronal migration involving both GnRH and olfactory neurons that have common embryonic origin. Incriminated in causing this disease are mutations in the KAL-1, FGRF, FGF-8, NELF, CHD-7, PROK-2 and WDR-11 gene, which encodes a protein called "anosmin" involved in neuronal migration. The condition is characterized by absent or delayed pubertal development until the age of 18, anosmia or hyposmia, but can also affect the skeletal system, the renal system, the nervous system, auditory system or cause psychiatric manifestations [1].

Method

We present R.I. patient's case, 29 years old, female, addressing to the Psychiatric Hospital Socola Iasi for relatively sudden onset of a psychotic episode and who was previously diagnosed with Kallman de Morsier syndrome. The reasons for the first hospitalization, in 2012, were: periods of psychomotor agitation, depressed mood, physical and mental fatigue, unorganized delusional ideation, raving ideation, suicidal thoughts, mnezo-prosexic deficiency, bizarre behavior, visual illusions, derealization and depersonalization phenomena, mixed insomnia, irritability and irascibility.

Mention that the patient comes from a family consisting of three members, is the only child and lives in a tense family atmosphere, with multiple conflicts between parents, also the father is an alcoholic and verbally and physically abusive. Of the statements made by patient, we found out that there has been a positive for heredocolateral history regarding Kallman syndrome because an aunt on the maternal line was with native primary amenorrhea, infertility, hyposmia and psychotic episodes. Also, a cousin on the maternal line shows depressive symptoms.

Physiological and pathological personal history reveals primary amenorrhea before the age of 17, later diagnosed with Kallman syndrome (since 2000) and chronic hepatitis with virus B (since

2011). Toxicology history indicates that she smokes 20 cigarettes per day; does not consume alcohol or other drugs. Currently, the patient is a graduate of the faculty of mathematics, is married, lives with her husband and in-laws and have no children.

Psychiatric disorders suddenly started about 2 years ago, by psychomotor agitation, bizarre behavior, insomnia, auditory hallucinations, heteroaggressive behavior. The patient is admitted to the Psychiatric Hospital Socola Iasi for the following symptoms: hypertimic negative mood, mixed insomnia, cenestopatia, facial dysmorphia, metamorphopsia, auditory hallucinations, visual illusions, delusional ideation of influence, tracking and mystical-religious phenomena insertion thoughts, diminished tolerance to minor frustrations, irritability. She received treatment with Aripipazol 20 mg/day, Nitrazepam 5 mg/day. At discharge, the symptoms are improved. Subsequently, these phenomena were repeated in various forms, leading to their classification in schizo-affective disorder diagnosis. Also, the patient has required two hospitalizations, during which psihoproductive phenomena persisted and the affective ones become more prominent. The patient was partially compliant to the treatment and the relapse was determined also by this issue. At the last admission, the patient had depressed mood, bizarre behavior, suicidal thoughts, phenomena of derealization, metamorphopsia, mnezo-prosexic deficiency, insomnia, physical and mental fatigue, anxiety.

Results

Psychiatric evaluation reveals:

General aspect- expressless and hypomimic face, sadness look, reduce gesture, clear and monotone voice, with reduce tonality and affective inflexions of the voice, partial coherence, with some difficulties to start the conversation, focus on psychotraumatic events, partially congruent with the mood. The attitude is defensive, with reciprocity of the dialogue and sustained eye contact with psychiatrist.

Perception and sensation-hyperesthesia, metamorphopsia, auditory pseudohallucinations, visual illusions.

Prosexia-spontaneous and voluntary hypoprosexia, detached, diminished interest for the ambiance, closed inside.

Memory-hypomnesia, especially fixation type and hypermnesia of evocation, for psychotraumatic events.

Thoughts-reduce of the flux of ideas, focus on numbers and very exact and specify dates, detailed of the events, with delusional interpretations of the ideas, delusional ideas of influence, following and mystic, suicidal thoughts and depressive ones.

Mood-depressive mood, irritability, anxiety, anhedonia, complex of inferiority, psychoemotional liability, feelings of personal inadequacy.

Instincts-sexual instinct is reduce, hyperphagia, suicidal thoughts and attempts, insomnia with terrifying nightmares.

Will- apathy, hypobulia, fatigability, adynamia.

Activity-reduced abilities to start any activities, with psychic and physic asthenia, fatigability.

Behavior-bizarre behavior, reduce of interest and pleasure for any activities, isolation, reduce of the relational group, negative impact on social and professional functioning, impulsivity, heteroagresivity.

General clinic exam indicates anosmia and also, reduce pubian and armpit hairiness. Neurological exam is normal, without any pathological findings.

The results of blood samples, including hematology, biochemistry, urinalysis and electrolytes are in normal limits. Electroencephalography had a normal aspect. The morphology of electrocardiogram is normal, with a sinusal rhyme and the pulse is 57 beats per minute.

Echography of the inferior abdomen: retrovers uterus 36.9/28.4mm, regular contour, homogenous myometrium, small image of fibrom. Right ovary has the diameter of 10/14.2mm, normal aspect. Left ovary can not be visualized.

Echography of the thyroid: right lobe 2x4x1.5 (6.2ml), left lobe 1.8x4.2x1.7 (6.6ml), total volume 12.8ml. In left thyroid lobe can be seen smalls nodular hypoechogene forms whit diameter of 0.3-0.5 cm. The values of the thyroid hormones are in normal limits. The endocrinologist indicates that there are not any clinical signs of thyroid pathology, which can determine psychiatric symptoms.

CT scan of the brain with contrast substance reveals that cerebral parenchyma, liquidizes spaces and bones structures are in normal limits. Hypophysis has a normal aspect, with small dimensions and homogenous substance inside.

Psychological exam indicates a depressive aspect with anxious symptoms and psychotic features, on instability-emotive traits of personality. Hamilton Scale for Depression had 39 points and PANSS had 100 points.

Discussions

The diagnosis of schizo-affective disorder, depressive type is based on DSM IV criteria and involves all clinical, paraclinical, psychological investigations and all the historical aspects. These criteria are [2]:

- A. An uninterrupted period of illness during which, at some time, there is either a Major Depressive Episode, a Manic Episode, or a Mixed Episode concurrent with symptoms that meet Criterion A for Schizophrenia. Note: The Major Depressive Episode must include Criterion A1: depressed mood.
- B. During the same period of illness, there have been delusions or hallucinations for at least 2 weeks in the absence of prominent mood symptoms.
- C. Symptoms that meet criteria for a mood episode are present for a substantial portion of the total duration of the active and residual periods of the illness.
- D. The disturbance is not due to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition.

Specify type: Depressive Type: if the disturbance only includes Major Depressive Episodes.

During the last hospitalization, in November 2013, the mental status of the patient had been improved using a combination of antipsychotic, antidepressive drug and mood stabilizer: Quetiapinum XR 600 mg/day, Escitalopram 10 mg/day, Acidum Valproicum 600 mg/day. For insomnia and anxiety we used Clonazepam 0.5 mg/day. The longitudinal evolution of this case suggested a chronic disorder because stress vulnerability is for the whole life any episode can be determine by any psychotraumatic events of life. The psychotic symptoms will be released in time, but without any treatment, the reoccurrences will be higher till 80%.

The prognosis depends on the types of the symptoms, affective or schizophrenic type. In this case, positive factors of prognosis are the presence of affective symptoms, sudden onset of the symptoms, family history of affective disorders, female sex. Negative factors of prognosis are the predominance of schizophrenic symptoms, inadequate familial support because his husband want to divorce her and her parents did not represent a real affective support for her, the frequency of relapses and no evidence of psychotraumatic events before the onset of the disorder. Like outpatient, it will be necessary to be followed up caused to long term maintenance therapy, by endocrinologist and psychiatrist, to evaluate the evolution and to prevent relapses. Therapeutic management involves drug therapy, family consulting and psychotherapy. Complications are suicidal thoughts and attempts, drug abused, increased the number of relapses regarding the fact that the compliance to treatment is reduced.

Kallmann syndrome is a very rare, congenital disease characterized by a deficit in pubertal development caused to a problem regarding migration, synthesize, secretion and action of the GnRH hormone, which is associated with anosmia or hyposmia. The incidence of this disease is between 1:10.000 and 1:86.000 births. It involves especially male and from clinical point of view is characterized by absence or delaying of pubertal development till the age of 18, secondary sexual characters with an incomplete development regarding facial and pubian development, tonality of the voice, micropenis, criptorhidia, primary amenorrhea, erectile dysfunctions and infertility. The differential diagnosis between Kallmann syndrome and other types of idiopathic hypogonadisme hypogonadotrope syndrome is made by the presence of anosmia or hyposmia. Nowadays, researches presented also other symptom like deaf, unilateral renal aplasia, sindactilia, agenesis of callus corpus, dental agenesis, mental retardation, palatine split. The issues of rhiencephal is proved to be the caused in Kallmann syndrome. Thus, olfactory traits realized connections not only with olfactory cortex, but also with limbic system, piriphorme cortex, parahipocampal gyres, lateral hypothalamus and hypocamp, being involved in learning and memory mechanisms [3].

The diagnosis of Kallman syndrome is based on normal or decreased level of FSH and LH, reduced levels of sexual steroids hormones, without any abnormalities of hypophysis and hypothalamus at imagistic investigations. The secretion of other hormones of the hypophysis is normal. The etiology of this syndrome involves mutations of the KAL-1, FGRF, PROK-2, CHD-7, FGF-8, NELF or WDR-11 genes, which coded a protein called "anosmin", involved in neuronal migration. The modality of genetic transmission is unclear, yet. Mutations of the KAL1 gene is connected with the transmission of the X chromosome and the mutations of the CHD-7, FGF-8, FGRF gene had an autosomal dominant transmission [4]. The mutations of the KAL1 gene on the terminal arm of the

Xp22.3 chromosome were associated with the presence of statuary deficit, pointed chondrodysplasia, mental retardation, schizophrenia, Kallmann syndrome, asymptomatic unilateral renal agenesis.

The therapeutic management of the patients with Kallmann syndrome involves steroid sexual hormones, gonadotropin therapy, pulsated subcutaneous administration of GnRH regarding the goal of initiation and maintenance of sexual secondary characters and induces of fertility [5,6]. The evolution and the prognosis are very difficult to be evaluated and periodically it is necessary to determine gonadic function and the mineral density of the bones. The genetic advice is mandatory because the mother is a carrier of genetic mutation and the risk is of 50 percents of transmission for each pregnancy.

The conclusions are that this association of Kallman syndrome with schizo-affective disorders needs more researches in the future because Kallman syndrome is a rare congenital disease with an evolution and prognosis very difficult to establish and the genetic advice is mandatory in this situation.

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The Role of Tumour Necrosis Factor Alpha Inhibitors in Psychiatric Comorbidities in Psoriasis: Literature Review

Botiș C.¹, Crișan M.², Micluția I.³

¹ "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Dept. of Psychiatry and Pediatric Psychiatry (ROMANIA)

² "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Dept. of Psychiatry and Pediatric Psychiatry (ROMANIA)

³ "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Dept. of Hystology/Dermatology (ROMANIA)

E-mails: mihailescu.andreea@umfcj.ro, maria.crisan@umfcj.ro, imiclutia@umfcluj.ro

Abstract

Introduction: Tumor necrosis factor alpha (TNF- α) play a central role in psoriasis pathophysiology. TNF- α inhibitors are widely and efficient used for the treatment of this disease. Depression is an important comorbidity in psoriasis. Recent studies have suggested that TNF-alpha is implicated in pathophysiology of depression. It is hypothesized that blockade of TNF- α may offer substantial benefits in treating depression. Psoriasis is an excellent model of disease which may provide consistent data about the potential of TNF- α antagonists to become a new treatment option for depression, at least for the type associated with inflammation.

Objective: The aim of this paper is to investigate the hypothesis that TNF- α inhibitors are a potential new class of drugs for major depressive disorder using psoriasis model.

Methods: It was conducted a narrative review of randomized clinical trials which investigate the effect of TNF- α on psychiatric comorbidities in psoriasis patients.

Results: Seven randomized clinical trials informed this paper. Depression and associated somatic symptoms were assessed in these studies. There were used a variety of psychometric instruments. Low intensity depression was found at baseline. Impairment in sleep and great levels of fatigability were found in psoriasis patients versus general population. Improvement in depression was statistically significant in treated patients versus placebo groups. Sleep and fatigability were improved after treatment with TNF- α inhibitors. Correlations between improvement in depression and improvement in psoriasis lesions and other associated symptoms (e.g. psoriasis arthritis, skin pain, pruritus) in studies reviewed were not consistent.

Conclusion: This review showed that TNF- α inhibitors offer therapeutic benefit in affective and somatic symptoms of depression associated with psoriasis. Reviewed data didn't offer informational support to conclude that TNF- α inhibitors have direct and independent effects on depression in psoriasis or the effects are related to improvements in psoriatic lesions and other psoriasis characteristics.

There are needed further studies which include psoriasis patients with higher level of depression to investigate the effect of TNF- α on this frequent comorbidity.

Keywords: Psoriasis, depression, tumour necrosis factor alpha inhibitors

Introduction

Psoriasis is a chronic inflammatory autoimmune disorder, considered now adays a systemic disease with multiple comorbidities. The estimated prevalence of depression in psoriasis is between 9% and 62% [1, 2] and have been significantly higher in psoriasis patients than in other dermatological diseases [3, 4]. It has been documented that the extent of psoriasis lesions does not predict severity of depression and other psychosocial comorbidities, patients continuing to present depressive symptoms after cutaneous lesions have been resolved [5, 6, 7]. Depression linked to psoriasis seems to be caused by more profound factors than the negative psychological impact of skin aspects and physical associated symptoms.

There are now substantial evidences that demonstrate a link between inflammation and the development of major depressive disorder (MDD) [8, 9, 10]. Cytokine hypothesis is the most documented one. Tumour necrosis factor alpha (TNF- α) is an important mediator in physiopathology of skin lesions in psoriasis. Epidermal and capillary proliferation results from release of cytokines (e.g. TNF- α) by lymphocytes. There is also consistent literature data about the higher serum levels of TNF- α in MDD [11, 12, 13]. Moreover, TNF- α has been shown to induce MDD even in patients with no prior depression history [14, 15]. According to cytokine theory in depression, increased rates MDD in patients with psoriasis may be linked to increase serum levels of TNF [16]. It has been hypothesized that the blockade of TNF- α may offer benefits in treating depression. TNF- α antagonists can become a new potential treatment option for depression, at least for the type associated with inflammation. As long as TNF- α is documented to be a common mediator in depression and inflammatory diseases, psoriasis is a good example for testing a well-established drug class (TNF- α inhibitors) for a potential new indication (depression) [14].

The aim of this paper is to make a literature review of relevant published data about the efficacy of TNF α inhibitors on depression associated with psoriasis in order to investigate the hypothesis that TNF α inhibitors are a potential new class of drugs for major depressive disorder.

Materials and Methods

A literature review was performed using PUBMED database from 2002 to December 2013. We reviewed randomized controlled trials (RCT) which refer to and also those which evaluate depression and other psychiatric symptoms in psoriasis patients. We limit our review to RCTs as long as these are also, the strongest studies that inform about psychiatric outcomes in psoriasis patients in recent years. [16]

It should be emphasized that this paper doesn't review clinical trials which assess the effect of TNF- α on quality of life, as long as efficacy of this class of drugs in psoriasis is already established in terms of improvement in psoriasis lesions and improvement in quality of life.

Instruments used in reviewed studies

Psoriasis Area and Severity Index (PASI) is an index used to express the severity and extent of psoriasis lesions. It combines the severity (redness, thickness and scaling) and percentage of affected areas (head and neck, upper limbs, trunk and lower limbs) into a single score in the range 0 (no disease) to 72 (maximal disease). [16]

Dermatology Life Quality Index (DLQI) is a validated instrument consisting of ten questions that assess the impact of skin disease in last seven days. It is the most widely used quality of life assessment tool in psoriasis clinical research. The total score range from 0 to 30. Lower scores indicate better health related quality of life. An improvement in DLQI of at least 5 points has been found to be clinically meaningful [17, 18].

36-Item Short Form Health Survey (SF-36) is a validated questionnaire widely used across therapeutic area, consisting of eight multi-item scale. Results can be summarized using physical component summary (PCS) and mental component summary (MCS) including Mental Health, Role Emotional, Social Functioning and Vitality. An increase of at least 3 points in the norm-based scale score and the summary scores of the SF-36 has been determined to be clinically meaningful [19].

The following validated scales were used to evaluate depression: Hamilton Rating Scale for Depression (HAM-D) [20], Beck Depression Inventory (BDI) [21], Zung Depression Scale (ZDS) [22].

Medical Outcomes Study Sleep Scale (MOS-SS) is a 12 items validated questionnaire often use in clinical trials, that aims to evaluate multiple facets of sleep quality and quantity with derived subscales for different domains of sleep. A 9 items Sleep Index II can be generated which assess overall sleep problems. The score for Sleep Index II range from 0 to 100 points, higher scores indicating greater sleep impairment [23].

Functional Assessment of Chronic Illness Therapy- Fatigue Scale (FACIT-F) is a subscale of FACIT Measurement System. This subscale has a range from 0 to 52, with higher scores indicated less fatigue; a clinically meaningful improvement in this scale score is 3 points (FACIT-F responders) [24].

Results

Psychiatric symptoms in psoriasis patients treated with Infliximab

There was identified a randomized controlled trial which investigated the effect of comorbidities, including depression, on HRQOL and evaluated the effect of infliximab treatment on HRQOL in the presence of this comorbidity. Patients included (n=835 patients) were randomized to receive 3 mg/kg or 5 mg/kg infliximab or placebo at week 0, 2 and 6. Placebo patients crossed over to infliximab 5 mg/kg at week 16. Participants were asked to indicate the presence of diagnosed specific comorbidities (e.g. depression). Depression was found to be present in 15,3% of patients at baseline. PASI, depression and psoriasis arthritis (PsA) were found to be significant predictors of poor baseline HRQOL, assessed using DLQI and SF-36. The greatest benefit in mental health (MCS) was observed in patients with depression and in women. Infliximab improved HRQOL, regardless of the presence or absence of depression or other comorbidities. Although there wasn't investigate the effect of infliximab on self-reported depression, the fact that patients with depression comorbidity presented an even great benefit on MCS, may indicate an additional effect of infliximab on depression [25].

Even though it is not a clinical trial, Bassukas et col [26] reported three cases of severe psoriasis with comorbid psychiatric disturbances in which infliximab treatment helped for stabilization in bipolar disorder associated with psoriasis, improved residual symptoms of depression in a case of psoriasis with overt recurrent depression with psychotic symptoms and increased adherence to psychiatric treatment in a case of psoriasis plus bipolar disorder with borderline personality traits. Infliximab was administered for 12 months, 10 months and for 4 months in last case, with also improvement in PASI score.

Psychiatric symptoms in psoriasis patients treated with Etanercept

In this review are discussed two clinical trials that investigate, beside efficacy in psoriasis lesions, efficacy of etanercept in psychiatric symptoms in these patients.

The first trial is a double blind placebo controlled randomized phase III trial. Participants were randomized 1:1 to either etanercept (50 mg twice weekly) or placebo for 12 weeks. Each etanercept and placebo group included 311 patients. Tying et col. investigated the effect of etanercept on fatigue and depression. Depression was investigated using BDI and HAM-D scales and fatigue using FACIT-F. For BDI scores, patients were categorized as having minimal depression:0-9 points, mild depression:10-16 points, moderate to severe:17-63 points. For HAM-D patients were categorized as having no depression: 0-6 points, mild depression: 7-17 points and moderate to severe depression:18-53 points. For both depression scales, analyses included improvement from baseline and proportion of responders (those with $\geq 50\%$ improvement from baseline).

According to BDI, at baseline, 33% patients in etanercept group and 35% in placebo group had mild or moderate depression, at week 12, there was a significantly greater proportion of responders, 55% in etanercept group vs 39% in placebo group. The mean improvement was statistically significant at all time points ($p,0.005$). According to HAM-D, at baseline, 25% of etanercept group and 26 % of placebo group had mild or moderate depression. At week 12, there were a significantly greater proportion of responders in etanercept group compared with placebo group: 43% vs 32%.

FACIT-F score at baseline showed that patients in this study had an increased level of fatigue (37.8 points) than the general population (43.6.points). At week 12, the mean improvement of 5 points in etanercept group was significant and clinically meaningful compared with placebo improvement of 1.9 points. There was a significantly greater proportion of responders in etanercept group (58%) than those in the placebo group (43%). As a group, patients with PsA in etanercept group shown significant and clinically meaningful improvements in fatigue (mean improvement of 7.3 vs. placebo improvement of 2.0, $p<0.0001$ 95% CI 2.7-7.8) while in those without PsA was statistically but not clinically significant (3.7 vs. 1.9 $p=0.0298$ 95% C.I 0.1-3.5).

On week 12, there was observed an improvement in depression symptoms (assessed with BDI and HAM-D), correlated with fatigue and quality of life improvement in patients with at least mild depression at baseline whom received etanercept, but it had no significant correlation with improvement in objective measures of skin clearance (PASI), joint pain, skin pain and itching. Improvement in fatigue in etanercept group were also less correlated with improvement in skin lesions (PASI), but correlated with improvement in depression, joint pain, skin pain and itching [27].

Following the 12 week double-blind phase, 591 subjects entered an open-label treatment with etanercept (50 mg twice weekly). Mean BDI improvement were comparable across

etanercept/etanercept and placebo/etanercept groups (4 units vs 4,5 units) after week 24. The percentage of BDI responders increase to comparable levels in both groups (58% in etanercept/etanercept group and 55% in etanercept/ placebo group). Improvement in HAM-D score at week 24 were similar to improvement observed during the double-blind phase in the etanercept group and the percentage of HAM-D responders also increased to similar levels in the two groups (45% in etanercept/etanercept group and 46% in placebo/etanercept group). The HAM-D and BDI improvements and responder rates were sustained in both groups up to week 96.

This study revealed important data about prevalence of depression and the degree of fatigue in a typical clinical trial population of patients with psoriasis, using validated psychometric instruments. Because visibility of skin lesions is not assessed in PASI score (e.g. nail lesions), the psychological impact of visible lesions may be greater than psoriasis severity measured by PASI. This may explain the low correlation between improvement in symptoms of depression and PASI score. This fact may also indicate that etanercept treatment has a direct effect on depression. [28]

Only 2% of patients had moderate to severe baseline depression assessed by HAM-D and 15% of patients assessed by a BDI. According to this data, is difficult to conclude that the degree of improvement in depression, even though it was observed at 55% of patients (BDI) and 43% of patients (HAM-D) was clinically relevant to the patients. [29]

The second study is an open-label randomized phase IIIB study on efficacy of continuous versus interrupted etanercept administration on depression and fatigue in psoriasis patients. Patients received open-label etanercept 50 mg twice weekly for 12 weeks and then received either continued or interrupted etanercept 50 mg once weekly for the second 12 weeks. There were 1272 patients enrolled in the continuous group and 1274 in the interrupted group (n=2546). Depression and fatigue were assessed using BDI and SF-36 vitality domain respectively. The mean BDI scores at baseline were 8.1 for continuous group and 8.3 for interrupted group. On week 12, mean BDI scores improved from baseline with 29% for both group (28,8% and 29,3% respectively). The improvements were maintained in the continuous (28,6% [95% CI 23.1-34.1] and interrupted groups (23.9% [95% CI 18.6-29.1] at week 24. Significant improvements in vitality was also reported on week 12 (76,5% and 74% in the continuous and in the interrupted group) from baseline; improvements in these scores were maintained in both groups at week 24 [30].

Like patients in the first etanercept study reviewed (Tyring et col.), patients in this study had minimal depression at baseline. According to this date, the clinically meaning of improvement in depression was also uncertain.

Psychiatric symptoms in psoriasis patients treated with Adalimumab

There were taken into discussion three clinical trials which refer to psychiatric symptoms in psoriasis during adalimumab treatment.

In a phase II randomized placebo-controlled double blind clinical trial, Menter et col assessed the effect of adalimumab on depression symptoms using ZDS scale at baseline and week 12. There were 96 patients included, randomized to receive adalimumab and placebo treatment (44 vs 52 patients). Score of 50 points or greater in ZDS scale indicate depression.

In adalimumab group, at baseline, 32% of patients were diagnosed having depression, while mean ZDS score was 42.9 points. For the placebo group, at baseline 37% of patients had depression, while ZDS mean score was 45.8 points. On week 12 there was observed a substantial reducing in symptoms of depression in adalimumab group, with a mean reduction in ZDS score of 6 points more than in placebo group (95 CI: 2.5-9.5, $P < 0.001$). Although there is no established minimum clinical important difference for ZDS score changes for psoriasis, the observed result is comparable with half the standard deviation of baseline ZDS scores, a commonly used measure of clinical significance. At baseline, ZDS scores were significantly correlated with impaired HRQOL, as measured by DLQI, MCS or PCS scores ($P < 0.0001$ for each comparison), the correlation with MCS score was particularly strong. ZDS and PASI scores were not significantly correlated at baseline. During the 12 week treatment period, however, reduction in depression symptoms were significantly correlated with both improvement in HRQOL (as measured by DLQI, MCS and PCS scores) and reductions in psoriasis severity. PASI 75 responders experienced a significantly greater improvement on depression symptoms than non responders [31].

This study reveal the prevalence of depression in a moderate to severe psoriasis trial using a validated psychometric instrument, demonstrating that depression is an important comorbidity in psoriasis. Adalimumab reduced depression symptoms in patients treated with this TNF inhibitor, although the independent effect on depression couldn't be evaluated because of the correlation

between improving in depression score with improvement in psoriasis severity measured by PASI score.

In a 16 weeks open label phase IIIB trial, (n=152) there was assessed the extent of sleep impairment and the effect of adalimumab on sleep in psoriasis patients with suboptimal response to prior therapy. Adalimumab was self-injected subcutaneously 80 mg at week 0, than 40 mg every other week from week 1. Patients were asked about the existence of certain comorbidities, including depression. Sleep impairment was assessed using MOS-SS. At baseline, patients reported greater sleep impairment than in general population (35.1 points vs. 25.8 points). Severity of cutaneous lesions (PASI score), quality of life (DLQI score), depression and PsA pain were predictors for the majority of sleep impairment, including daytime somnolence while pain and pruritus were not. Following adalimumab treatment, on week 16, significant improvements ($p < 0.005$) were observed in most sleep measures. On average, the Sleep Problem Index II was improved by 5.2 points and 38.4 patients exceed the minimal clinically important difference. Other domains with percentage of patients achieving the minimal clinically important difference from baseline to week 16 were: 30.8% for sleep disturbance, 32.2% for daytime somnolence, 37% for perceived sleep adequacy, 52.3% for DLQI. Sleep impairment was more correlated with DLQI ($r: 0.47$) than objective psoriasis signs, such as PASI ($r 0.40$) and PsA ($r 0.12$). Despite the significant correlations, only 16% of the variance in Sleep Problem Index II changes could be attributed to PASI changes and only 7.24% can be explained by changes in other patient-reported outcomes individually. The improvement observed in sleep impairment were significantly correlated with, but cannot be fully explained by improvements in the severity of psoriasis. This result suggests that the improvement in patient's sleep quality during adalimumab treatment cannot be entirely explained through improving in psoriasis signs, and indicates that there might be supplementary pathways through which adalimumab could impact sleep quality [32].

Kimball et al assessed in a subanalysis of results from a 16 weeks randomized double blind, placebo-controlled phase III trial the efficacy of adalimumab treatment in psoriasis comorbidities, including depression. The study included 828 patients randomized in a 2:1 ratio to receive subcutaneous injection of adalimumab 80 mg induction at week 0, followed by 40 mg weekly from week 1 to week 15 (547 patients) or placebo (281 patients). Depression was detected using a self-reported questionnaire in 20% of patients in adalimumab group and 19% in placebo group, with a prevalence of 13.5%. Depression and PsA were both associated with significant impairment across HRQOL outcomes (DLQI and MCS), $p < 0.05$. On week 16, adalimumab treated patients with depression comorbidity demonstrated statistically and clinically significant improvement in quality of life: DLQI score decreased with 8.6 points in adalimumab group vs 1.3 points in placebo group ($p < 0.0001$.) Moreover, despite the large incremental burden of psoriasis on SF36 MCS at baseline, scores improved by an average of 4.4 points among adalimumab treated patients with this comorbidity ($p < 0.001$), compared with an insignificant worsening of -0.4 points among placebo recipients ($p = 0.772$) [33].

Self-reported method used in this study for estimating the prevalence for depression is likely to underestimate the true prevalence of depression, given evidence that comorbidities such depression are under-diagnosed in patients with psoriasis.

Discussions

The reviewed clinical trials revealed relevant data about depression, other related symptoms (sleep, fatigue) and relationship about these psychiatric comorbidities and other psoriasis parameters. There were used a large pallet of instruments to assess these comorbid mental symptoms. This limits us from making an analytical systematic review in order to assess the TNF- α in the treatment of depression.

The majority of the patients did not have significant depression at baseline when assessed with validated psychometric instruments [28, 29, 30] in contrast with what is already known about general psoriasis population [1, 2, 3, 4]. This findings might reflect a selection bias that refer to possibility to exist some common traits for patients who consent to be enroll in clinical trial, more optimistic than those in general population with psoriasis [29]. Moreover, when it was assessed the impact of depression on psoriasis outcomes, it was used self-reported data about the existence of depression, with uncertain relevance for the prevalence of depression, even though studies population were representatives. This means that data about depression from clinical trials of biologics may not be relevant for general psoriasis population.

Patients in these trials were not assessed for other psychiatric diseases were symptoms of depression might be present (e.g. mental disorders due to psychoactive substance use, anxiety disorders).

Although the improvement in depression was statistically significant in TNF- α inhibitors treated patients, the low intensity of depression at baseline does not allow us to sustain a clinically relevant benefit for these patients.

The correlations between depression, psoriasis severity and other psoriasis symptoms (e.g. pruritus, joint pain, skin pain) which might have an impact on depression were not consistent in reviewed trials. The variety of data about the impact of confounders on depression related to psoriasis does not allow us to determine whether the beneficial effects of TNF- α on depression represent a direct and independent ones or are related to improvements in psoriatic lesions and arthritis.

The majority of clinical trials reviewed reveal short-term period data about the effect of TNF- α inhibitors on psychiatric symptoms.

Conclusions

There was made a literature review of randomized clinical trials which refer to psychiatric comorbidities in patients with psoriasis receiving TNF- α inhibitors treatment.

It was reviewed seven studies in a narrative manner. Available clinical trials which assess efficacy of TNF- α inhibitors in psoriasis provide support that this class of biologics may offer therapeutic benefit in affective and somatic symptoms due to depression associated with psoriasis. Although RCTs are the most representative studies which inform about psychiatric symptoms in psoriasis patients in recent years, we cannot conclude that data about prevalence of depression in reviewed trials are similar with those in general psoriasis population

According to data reviewed, it is plausible that suppression of TNF- α has antidepressant effects on psoriasis related depression, but these data don't offer support to sustain a direct and independent antidepressant effect. Studies reviewed reveal important data about improvement in sleep and fatigue which are also somatic symptoms in depression.

Although psoriasis is a proper example for the inflamed depression theory and for testing the suspected antidepressant effect of TNF- α , it need studies with psoriasis patients with high levels of depression and longer term period of assessing to investigate the effect of TNF α on this disorder.

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Psychological Defense and Cognitive Strategies in Thyroid Dysfunction Patients in Comorbidity with Depression

Bouleanu E.-L.¹, Iliovici P.-I.¹, Moşoiu C.¹, Beldean L.¹

¹ Lucian Blaga University of Sibiu (ROMANIA)

E-mails: elena.bouleanu@ulbsibiu.ro, petre.iliovici@gmail.com, mosoiu.corneliu@gmail.com, luminita.beldean@ulbsibiu.ro

Abstract

The quality of life does not depend exclusively on the health status in a bio-physiological sense, but also on an optimistic assessment of personal resources in relation to the environment. Psycho-neuro-hormonal mechanisms are involved in thyroid dysfunction. This raises questions about the nature of differences in psychiatric manifestations (anxiety/depression) for the two categories of patients (Hypo- and Hyperthyroidian) and in comparison with other chronic patients. Objectives. 1)The analysis of defensive patterns in patients with thyroid dysfunction (TD) compared with patients with other chronic diseases. 2)The description of a clinical model from a cognitive perspective for depression-thyroid dysfunction comorbidity. Design. An exploratory transactional study was conducted. There were two stages of the study: first stage regarded defensive style in chronic patients and the second regarded complex psychological evaluation of patients with TD. Subjects and methods. 101 chronic inpatients, mean age 56±9.9 and 33 patients with TD, mean age 48.7±9.2 (23 hypothyroidism, 10 hyperthyroidism). Chronic patients were tested with DSQ40. TD patients were tested with DSQ40, PED, YSQ-S3, ABS2, HAS, HRSD and ATQ. Results. The main difference identified between the chronic patients and patients with TD was for Mature Defensive Style: $t=1.804$ (one tailed), $p=.037$. *In relation to depression* there are different dysfunctional cognitive strategies depending on the duration of the disease. We found an overlap with the statistical significance for *functional negative emotions* and developments in relation to the standard of scales for a longer duration of TD ($U=76.500$, $n_1=18$ $n_2=15$, $p=.034$). Conclusions. TD patients have mostly neurotic defense mechanisms compared with other chronic patients. We found no significant differences compared with the scales assessed for TD patients (hypothyroidism–hyperthyroidism). Both have medium depression and sub-clinical level of anxiety. The anxiety-depressive disorder in patients with TD is due to poor management of stressful situations and to inefficient assessments of life events by the person's psychological system, grafted on to a central system of irrational beliefs about self, people and life.

Keywords: thyroid disorders, defensive style, cognitive schemas, emotional distress.

Introduction

The quality of life does not depend exclusively on the health status in a bio-physiological sense, but also on an optimistic assessment of personal resources in relation to the environment. Antonovsky A. (quoted by Tudose, 2006) argued that there is no state of "health" or "illness" in the strict sense, but rather "*a slightly continuum to the disease*" that we are moving back and forth along the life cycle. When we feel good that does not simply mean the absence of pathology; the key factor of salutogenesis is that a state of good health may be directly sustained by positive psychological factors (well-being perception).

The humoral-hormonal-neural-psychological isomorphism

Evolving successively, human beings possess four ways of integration: a) *humoral*, b) *hormonal* (endocrine), c) *neural* and d) *psychological* (Olteanu, 2000). There are interactions between the four ways of integration with genetic factors and environment in health and disease.

Considering disease an *alarm output of the system* (a new perceived identity), we cannot intervene in regulating the functions, relationships or structure, except insofar as they are known to us and where we have built methods, tools and techniques to include all forms of system's exchange with the environment and of subsystems between them, namely: *matter, energy and information*. Integration is a seamless process, but the means to develop and maintain homeostasis in the three areas of complexity are different: biochemical and biophysical in the cellular space, – physiological – in the extracellular space (internal environment) - and behavioral - in ambient space of the body.

Stress, coping and defense

Stress is largely an informational input and will be processed by the body in all of its components: *biological, physiological and psychological*. The output's value will eventually be a combination of integrative rather than summative partial values. The diathesis-stress paradigm explains precisely this generalized dysfunctional state of the body no longer able to perform adjustment and homeostatic control. Depression is manifested by the vulnerability of the self-defense and self-adaptation ratio change, when defenses fail to absorb the system's entropy. Empirical data have focused on large individual differences in terms of response to stress and adversity (Anthony & Cohler, 1987), identifying even situations of positive interaction of events that determine resilience. When one cannot find an acceptable solution to problems of the objective reality, the person reinterprets the reality through compensatory cognitive strategies, translated into defense and coping.

Coping and defense have adjustment as a common aim. Differentiation can be made in quantitative terms (functioning) for coping and qualitative (internal determinants of functioning) for defense mechanisms (Kramer, 2010).

Depression in the context of thyroid dysfunction

We initiate our theoretical approach to specific mental disorders seen in patients with thyroid dysfunction (TD), from the clinical assumptions that the thyroid disease produces affective disorders (depression or mania), anxiety, sleep disorders, and psychosis (Grabe, 2005; Demet, 2002; Haggerty, 1993; Iacovides, 2000, Placid, 1998). Most studies are, however, case reports and therefore no causal assumption can be made for comorbidity. Evaluation of thyroid function in patients with psychiatric disorders showed a minimal or even no alteration of thyroid function in anxiety disorders (Simon, 2002), major depression (Maes, 1994; Ordas, 1995, Rao, 1996; Vandoolaeghe, 1997) and schizophrenia (Baumgartner, 2000, Sat 2002). More recently, a low T4 level before drug treatment was estimated to be a predictor of poor treatment results in bulimia nervosa (Gendall, 2003).

Epidemiological data to allow non-clinical investigations of the relationship between thyroid dysfunction and psychopathological states are very rare. Engum (2002) addressed this issue on a large scale and showed that hypothyroidism was associated with a lower self-assessment risk of depression and anxiety. The study presented by Aslan et al. (2005) postulated that depression is more common in hypothyroidism, while it has a higher prevalence of anxiety in hyperthyroidism. Findings have led to rejection of the hypothesis. Symptoms of anxiety and depression may coexist in patients with hypo-or hyperthyroidism. The study also showed that there is still a positive correlation between TSH levels and psychiatric symptoms. 43% of study subjects showed DSM I axis psychiatric disorders. The results of this study, although surprising in terms of rebutting the general views on the association of depression with hypothyroidism and anxiety with hyperthyroidism, provides a clear picture of the complexity of psycho-neuro-hormonal mechanisms involved in thyroid dysfunction, but also raises questions about the nature of differences in psychiatric manifestations (anxiety/depression) for the two categories of patients.

Methodology

Problematisation

Difficulties encountered by the *endocrinologist-clinical psychologist-psychiatrist triad* in front of a DT patient start with analysing the hormonal secretion (qualitatively or quantitatively) or structure alterations of the thyroid gland by an endocrinologist, the complexity of current psychological symptoms, the delineation of psychological effects caused by the manifestation of the disease from the ones caused by specific medication and the importance life events have for the patient. Currently, indiscriminate psychological evaluation on psychological risk factors vis-à-vis a presumptive evolution

of these patients towards psychiatric disorders and the lack of a psychological screening protocol, are reflected in "exploratory" therapeutic attitudes waiting for an optimum response in terms of the patient's state of well-being, who not infrequently gives up treatment prematurely.

Another question arising from the study of literature in this domain is if there is a specific pattern of maladaptation for patients with thyroid dysfunction, or the fact itself of being in a medical condition causes this.

Objectives

1. The analysis of defensive patterns in patients with thyroid dysfunction compared with patients with other chronic diseases.
2. The description of a clinical model from a cognitive perspective for depression-thyroid dysfunction comorbidity.

Participants and instruments

For the first phase of the study the *participants* were 110 chronically ill patients hospitalized inwards: CFR Sibiu Medical Hospital and Sibiu County Hospital (76 medical, 5 diabetes, 29 cardiac). In the second phase we evaluated 33 patients with thyroid dysfunction (23 hypothyroidism, 10 hyperthyroidism) from the Endocrinology ward of Clinical Hospital Sibiu and a private endocrinology praxis from Sibiu. All patients signed an informed consent.

Instruments: observation sheets and medical records, the Hamilton Depression Rating Scale (HRSD), the Hamilton Anxiety Scale (HRSA), the Profile of Emotional Distress (PED), the Defensive Style Questionnaire (DSQ40), the Young Cognitive Schemes Questionnaire - short form (YSQ-S3), the Automatic Thoughts Questionnaire (ATQ), the Attitudes and Beliefs Scale 2 (ABS2) and the psychological semi-structured interview pattern.

In patients with chronic diseases the defensive style was assessed. In patients with thyroid dysfunction the assessment was on defensive style, cognitive patterns, attitudes and beliefs, negative automatic thoughts, the emotional distress profile, depression and anxiety.

Results

The following defensive style differences were identified between the chronic patients and patients with TD (table 1).

Table 1. *Comparative assessment of defensive style in chronic patients/patients with TD*

Defensive Style	t	p
Sublimation	2.764	.007
Anticipation	3.552	.001
Reaction Formation	-2.046	.043
Projection	1.961 (one-tailed)	.026
Passive Aggression	2.410	.019
Devaluation	-1.665 (one-tailed)	.042
Mature Style	1.804 (one-tailed)	.037

For *sublimation, anticipation, projection, passive aggression* (as defense mechanisms) and *mature style* (as controlling factor) *higher scores were recorded in chronically ill patients*, while for *reaction forming* and *devaluation higher scores were recorded in patients with TD*.

The following statistically significant associations were registered between depression and anxiety with the dimensions of emotional distress, cognitive schemes, attitudes and beliefs, negative automatic thoughts, depending on the duration of disease (under six and over six years). Statistically significant differences between patients with hyperthyroidism and hypothyroidism were detected only for "*isolation*" as a defense mechanism, ($U=72.000$, $n_1=23$ $n_2=10$, $p=0.045$) *higher scores being obtained by people with hypothyroidism*.

The profile of association between depression and anxiety with YSQ-S3, PDA, ABS2, ATQ in TD patients depending on the duration of disease is shown in Table 2.

Table 2. Correlation matrix (Spearman's rho) HRSD and HRSA scores-YSQ-S3, PDA, ABS2, ATQ

TD Patients Under six years duration of disease n=18			TD Patients Over six years duration of disease n=15		
	HRSD	HRSA	HRSD	HRSA	
HRSD		.838**	.824**		HRSD
HRSA	.838**		.824**		HRSA
Score Profile of Emotional Distress	.479*	.480*	.658**	.586*	Score Profile of Emotional Distress
Functional negative emotions	.479*		.679**	.576*	Functional negative emotions
			.720**	.689**	Dysfunctional negative emotions
			.560*		Positive Emotions
Score DSQ 40, Immaturity Factor	.555*		.582*		Score DSQ 40, Immaturity Factor
Emotional deprivation	.743**	.710**	.597*		Score DSQ 40, Neuroticism Factor
Abandonment / Instability	.569*		.616*		Deficiency / Shame
Social Isolation / Alienation	.523*	.481*	.566*		Dependence / incompetence
Unrealistic standards / exigency	.593**	.617**			
Claiming Personal Rights / Dominance	.577*		.757**		Vulnerability to hazards
Lack of self-control and self-discipline	.750**	.679**			
Negativity / Passivity	.511*		.539*		Negativity / Passivity
Punishment	.523*				
Score YSQ-S3	.511*				
Absolutist requirements	.521*	.681**	.685**		Negative overall assessment
Need for achievement		.594**	.575*	.532*	Need for achievement
Need for approval	.565*	.609**			
Irrational beliefs	.475*	.524*			
Score ABS2		.513*			
Negative automatic thoughts	.502*	.558*	.613*		Negative automatic thoughts

*p<.05;**p<.01

On retain a very strong association between depression and anxiety scores recorded regardless of disease duration. In relation to depression it can be observed that there are different dysfunctional cognitive strategies depending on the duration of the disease. In patients with fewer than six years of disease, dysfunctional cognitive schemes domains are *segregation/rejection*, *faulty limits* and *hypervigilance/inhibition*. For more than six years of disease, the main domain of dysfunctional cognitive schemes includes *poor autonomy and performance*.

In terms of *emotional distress* profile, for over six years of disease duration, significant correlations with all types of emotions are ascertained (positive, negative and dysfunctional negative), in relation to depression, compared with patients with less than six years of disease, for which significant correlation in relation to depression was found only for functional negative emotions.

Attitudes and irrational beliefs in relation to depression, in patients with under six years of disease, are manifested in the form of *absolutist requirements* while in patients with over six years of disease they are manifested as *negative overall assessment*. The *need for achievement* correlates with depression regardless of disease duration, while the *need for approval* and *irrationality* correlate with depression only in patients with less than 6 years length of disease.

From the perspective of *defensive style*, for patients with TD and more than six years of disease duration, we report a statistically significant association between depression with the 2nd and 3rd factors (neurotic style and immature style), while for patients with under six years disease duration the correlation is recorded only with the 3rd factor (immature style), shown in table 3.

Table 3. Comparative analysis of patients with TD depending on the age of disease

$n_1=18; n_2=15$	Mann-Whitney U	P (two-tailed)
Positive Emotions	70.000	.019
Functional negative emotions	76.500	.034
PED score	71.500	.022

The stated differences lead to the assumption that *adjustment to stress occurs in the space of emotion due to sustained high level of dysfunctional negative emotions* (according to the PDE standard).

Following the *clinical significance* of changes to the psychological dimensions assessed, we see an overlap with the statistical significance for *functional negative emotions* and developments in relation to the standard of scales (cognitive failure downward) for an over six years duration of disease.

In clinical practice it is generally accepted that patients with hypothyroidism raise larger issues of evolution and long-term treatment. Therefore, for this nosological category, changes were tracked to psychological dimensions measured in terms of disease duration (see table 4).

Tabel 4. Differences between hypothyroidism patients depending on the age of the disease (less than 6 years/ more than 6 years)

$n_1=10; n_2=13$	Mann-Whitney U	p
Emotional deprivation	36.500	.038 (unidirectional)
Abandonment / Instability	35.500	.032 (unidirectional)
Distrust / Abuse	28.000	.021
Score YSQ-S3	36.000	.036 (unidirectional)
Positive emotions	28.000	.022
Dysfunctional negative emotions	38.500	.05 (unidirectional)
Functional negative emotions	25.000	.013
PED score	28.500	.023
Score DSQ 40, Reaction formation	26.500	.016

Of the four subordinate neurotic style defense mechanisms (*undoing, pseudo-altruism, idealization* and *reaction formation*), for *reaction formation* significantly higher scores were registered in patients with hypothyroidism and more than six years duration of the disease.

Discussion

The analysis of the results for the two nosological categories (Hypothyroidism – Hyperthyroidism), showed no significant differences compared with the scales assessed, which led to the analysis of the participants as one group. The duration of thyroid disease is do to maintain depression as the most significant psychological symptom, both for hypo- and hyperthyroidism. As results show, for hypothyroid patients depression is related mostly with dysfunctional cognitive schemes, since for hyperthyroidian patients depression is related mostly with emotional distress. This could be an explanation for the reason that physicians (endocrinologists and psychiatrists) interpret hyperthyroidians as being mostly anxious and hypothyroidians mostly depressive.

Somewhat surprising is the fact that levels of depression (moderate) and anxiety (subclinical) remain constant, despite the slight decrease in the level of dysfunctional cognitive schemes (from very high in most schemes to high), together with disorder duration (and therefore under hormonal treatment). If we analyze the emotional distress profile, a decrease in the level of functional negative emotions is noticed, while negative dysfunctional emotions remain constant at a very high level. Thus, we can say that anxiety-depressive disorder is maintained amid rising self-perceived vulnerabilities to emotional stressors, while decreasing the patient's expectations regarding the need for approval, and maintaining the same level (high) of negative automatic thoughts. The complexity of mental life does not allow generation of *flexible reflection models of reality* (subjectively mediated), leading to uncertainty.

A possible explanation of higher score ratings for *reaction formation* as a neurotic defense mechanism for a longer duration of disease derives from the description of this defense mechanism in

the DSMIV-TR. The individual resolves the emotional conflict or internal or external stressors by *substituting the behaviors, thoughts and feelings opposite his own thoughts or feelings that are unacceptable* (this usually occurs in connection with their discharge). In cognitive approach context, we can speak of reinterpreting reality in terms of cancelling its disruptive effect, by *anticipation of certain positive memories* (Kahneman, 2010), thus preserving the consistency of self-image.

In our opinion, the anxiety-depressive disorder in patients with thyroid dysfunction is due on the one hand to poor management of stressful situations as a result of compensatory functioning of the endocrine system, which is obliged to respond specifically to this type of aggression, and secondly to inefficient assessments of life events by the person's psychological system, grafted on to a central system of irrational beliefs about self, people and life. Therefore, regulatory intervention is required at both the endocrine system by specific chemical agents, and at the psychological level through information with the effect of removing and replacing inefficient evaluations with efficient models.

Conclusions

Summarizing the information presented, we can sketch an intuitive portrait of psycho-behavioral patients with DT. Take for example a *hypertiroidian*. The central belief "*I'm afraid I'm not enough (strong, fast, good, etc.)*" can trigger a psychosomatic signal of the type "*I need to fight*". The *hipothyroidian* is the individual that understands to overcome a stressful life event with a "*call for help*" because they think "*I can't!*".

The recent years' trend in evaluating the tense mental states is to measure the "hard" base by dosing physiological markers. Such a study could lead to an even better clarification of the humoral-hormonal-neural-psychological relationship and the extension of empirically based psychology explanations for improved screening and effective therapeutic interventions aiming at improving quality of life in patients with TD.

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The individual and community impact of the prevention programs assessment results, in the light of psychosomatic medicine

Brumboiu I. ^{1,2}, Tzaneva V. ³, Manole F. ², Dinescu S. ⁴, Halloumi B. ¹, Lingefjord M. ¹

¹ Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca (ROMANIA)

² Clinical Epidemiology Francophone Network, Cluj-Napoca Unit (ROMANIA)

³ Trakia University, Medical Faculty, Stara Zagora (BULGARIA)

⁴ University of Medicine and Pharmacy Craiova (ROMANIA)

E-mails: ibrumboiu@umfcluj.ro, vtzaneva@gmail.com, manoleflavia@yahoo.com, dinescus73@yahoo.com, bessan_972@hotmail.com, mikaela.lingefjord@gmail.com

Abstract

We aim to explain the weak aspects about population prevention programs, the possible consequences at the individual or population level and to promote the improvement of their performances.

The evaluation of population programs is a very important stage in the planning as well as the running period, and the results depend on the future decisions regarding the entire program. In the innovation context the real status is known, but in terms of practical activity, the individual real state is unknown. The evaluation methods must use appropriate epidemiological studies, which compare samples or measures an association. In order to perform a complex assessment, the medical criteria is completed with psychological and social aspects.

In the primary prevention programs like vaccinations, some individuals remain unprotected or can lose the protection in time, there can also be side effects and the acceptance of the preventive methods will become very low. For vaccination programs, because of the disappearance of the disease which makes the risk of illness to be low, the adverse effects have a great impact and became a predominant problem. The secondary prevention program may produce false positive and false negative results, depending on program performances and the disease prevalence in the population. As a result, at the social level we are faced with negative attitude to vaccination and criticism towards certain medical services.

Public health programs assessment using adequate epidemiological methods is not only crucial for the implementation and running of new prevention programs, but also to control and reduce the public impact of their results.

Keywords: programs assessment, psychological impact, social impact.

Background

The medical practices for achieving the people's wellness, must respond to the population needs in healthcare services, according to the level of technological development and social acceptance [1], [2], [3]. In the last decades, the real explosion of technological possibilities for diagnostic and treatment, new molecular methods and communication systems, made practicing medicine a highly complex activity, providing a huge quantity of data about each patient, which cannot be easily managed [4]. On the other hand, because even the most advanced medical technologies have limits, disadvantages and create some risks, in order to achieve maximum utility, it seems necessary to use the epidemiological methods besides the classical clinical activity, [4], [5]. The epidemiological tools provide information about the causes of disease, the natural history, prognosis and objectives (avoiding and controlling errors) criteria for the selection of diagnostic and therapeutic decisions [4], [6], [7]. In consequence physicians must have an epidemiological training for appropriate use of information derived from population studies and for adapting this kind of results to the patient's individual needs.

Social aspects which hamper the activities of healthcare providers are the ethical, legal, regulatory issues, medical errors, economic costs, cultural particularities and educational level of community members [3]. For the interaction between the principal actors in the healthcare settings: patients (consumers) and medical services providers, these social problems are the most difficult to be solved. In this sense for the protection of the practitioners, it's important to know the results of the evaluation of their own practical activity, should be adopted a transparent medical system and methods for controlling the medical expenses [5]. To manage the complex interaction between people and the medical system, the psychological aspects of the doctor-patient relation should be considered.

These technological, social and economical strong reasons have oriented the medical practice, in the recent years, to a personalized, predictive, preventive and participatory medicine. Such characteristics mean to deliver a tailored care to the particularities of each individual, predicting the onset of chronic disease and prevent it, all medical interventions being done with the direct contribution of the beneficiary subject [2], [3], [8].

For achieving maximum efficiency, preventive medical interventions are implemented in elaborated prevention programs, mainly for diseases that represent important problems for public health.

Levels of prevention

To achieve the goals of preventive medicine consisting in the promotion, preservation and restoration of health when it is impaired and to minimize suffering and distress, appropriate methods are selected for different stages of the natural disease's history, resulting in differentiated levels of prevention: primordial, primary, secondary and tertiary prevention (Fig. 1).

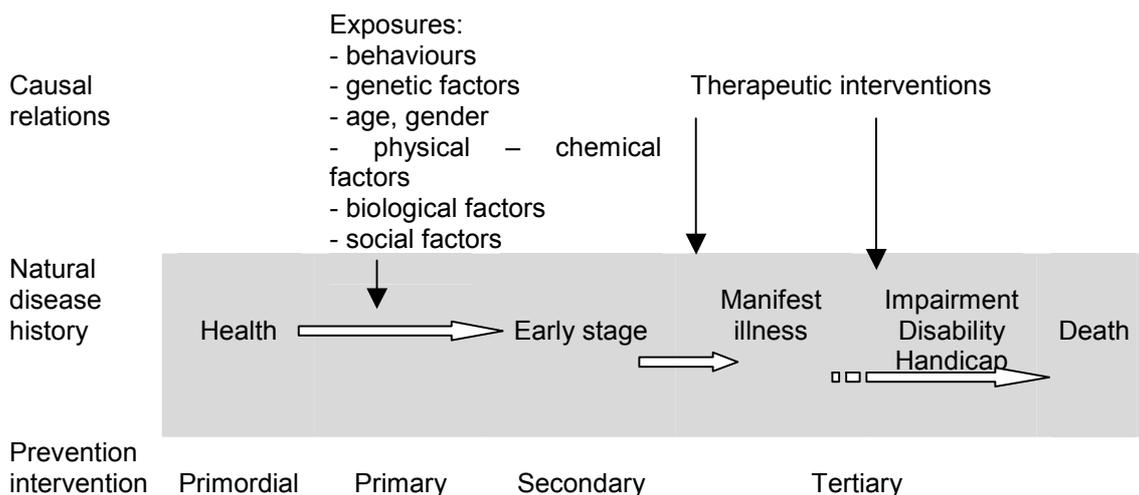


Fig.1. The natural history of a disease and levels of prevention. Horizontal arrows represent the passing through successive stages of the disease's evolution and the vertical arrows represent the causal relation between factors (exposure, treatment) and the health condition.

Primordial prevention, recently added to the practice of preventive medicine, consists in actions and measures that prevent the emergence and development of risk factors in a population or group in which they have not yet appeared [6]. In the primary prevention, measures are applied in the period of exposure, in order to remove the risk factors or protect susceptible persons, thereby reducing the incidence of the disease. The secondary prevention aims to detect the disease at an earlier stage, and apply an effective intervention to restore health, before irreversible pathological changes take place [6], [9]. Tertiary prevention is addressed to ill persons, serving in the scope of avoiding premature death, to reduce or limit impairment and disabilities, for the patients' life adjustment to the chronic irremediable conditions and for social integration.

Using preventive methods in programs for general or targeted population, given their purpose, reduces the burden and consequences of a disease in the community when they are applied. Beside the benefits, some inconvenience may arise in a preventive program, as it happens after any medical intervention. Compared to curative programs, when the medical intervention is applied to healthy (or apparently healthy) people in a preventive setting, the invasive methods and side effects are accepted much harder [9]. On the other hand, preventive programs are populational and even when the

frequency of side effects is very low, the appearance of a few cases might frighten the population creating a very high psychological impact. In order to reduce the impact of these negative aspects, they must be known, being possible through the evaluation process. This process has as principal components, the identification and characterisation of risks and benefits of a prevention program [5], [10].

Assessment of a prevention program

The evaluation in the planning and running of a preventive program is a continuous and dynamic process that demands interventions based on decision making. Changes as a result of evaluation can be made in any stage of health program planning (Fig. 2).

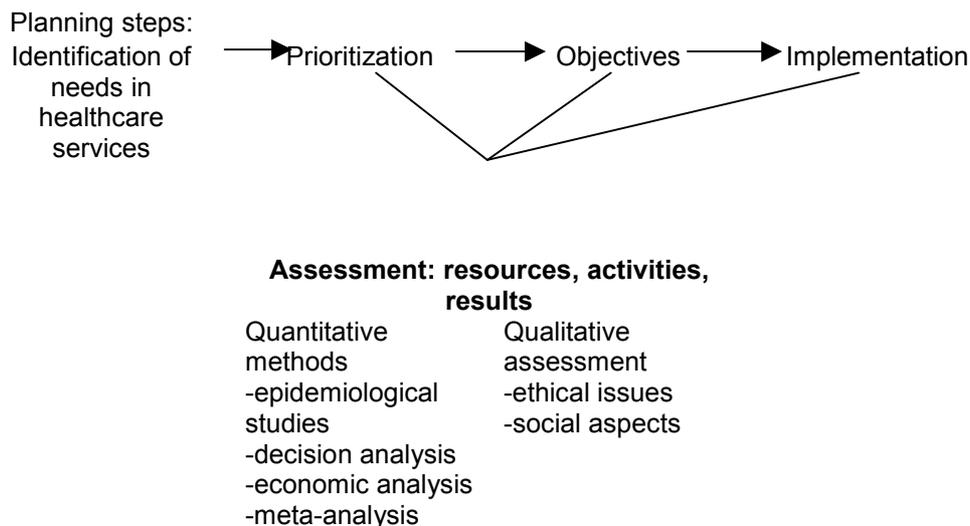


Fig. 2. Stages of the planning process and the assessment of a prevention program. Arrows shows the sequence of steps in the planning process and lines make the connection with stages in which the assessment is made and changes are decided.

The methods for assessment differ at each stage of planning, depending on the aspects that need to be explored. Identification of risk factors is made by basic observational epidemiology and then the efficacy of potential preventive interventions is measured by experimental epidemiological studies. For a community, all programs that are possible cannot be applied to all people. The modelling and prioritization process is necessary for selection of prevention programs that are feasible and really needed to be implemented [5], [10]. Objectives and conditions for program implementation are established based on the effectiveness, of the data that is usually inferior to efficacy, which is measured in ideal conditions, a selected population, and optimal resources [10]. The effectiveness is more realistic because it evaluates the strategy in an ordinary community settings, resource constraints, possible low adherence and coverage of the intervention program.

Technically, in the assessment process of a public health program are evaluated the resources, activities and results. Resources for public health, referring to staff, materials and especially financial resources, become limited and there are more and more competitor users. In this context, for a public health program, we have only the possibility to maximise the population benefit with available resources or with as little expenditure as possible [10]. This means that the evaluation of a public health programs is extremely important particularly to demonstrate the value of a current prevention intervention or a new one, which we would like to implement and for an effective management of resources. The resource assessment is completed by the evaluation of the way in which these resources were used to provide the necessary activities for achieving the prevention program.

Results of a public health program represented by health condition and wellness are measured by indicators of morbidity, mortality and quality of life. A more explicit presentation of the results is in the form of utility and efficiency of the program [6], [11]. Utility or usefulness of a medical intervention, expresses the advantages obtained by the person who benefited from the medical intervention that was correctly applied, in standard conditions [5]. Efficiency measures both benefits and harms of a preventive intervention, applied in conditions of practical activity, in the form of cost-

benefit, cost-effectiveness and cost-utility analysis. The costs are not only analysed in a financial way, but also the inconveniences to the patient, like anxiety, emotional distress alongside secondary effects, incidents or other consequences [9]. The significance of utility and efficiency for the practice, for example, in the case of a therapeutic method that can cure the patient (high utility) if it is recommended only to a low number of potential beneficiaries will become an inefficient method. In the current activity, a preventive intervention with high utility will be efficient only if it is used and if people have access to that medical intervention [5].

Because of multiple dimensions of a health program, the evaluation process must combine the methods specific to epidemiology, statistics, economics, sociology, psychology and other sciences useful in the decision process.

The results of the assessment process represent the essential information for evidence-based public health used not only for the management of public health programs, but also for the recommendation of population intervention measures, prevention and control guidelines and decision analysis.

Evaluation of Diagnostic and Screening Tests

Tests are used to establish by complementary ways, the presence of a disease or for describing the health status within a population. Although the interpretation of the tests is made in a clinical or public health context, the analysed individuals may be erroneously classified towards the real condition. Some ill persons may be considered without the disease, because of false negative results of the test and some individuals without the disease, but with positive results can be considered sick, having a false positive result to the test. For controlling the errors in the medical practice, a systematic diagnostic test evaluation is necessary.

Performances of the test

The capacity of a test to distinguish between ill and nondiseased subjects is evaluated in research settings to establish test performances, with the real condition being known, by comparing with a gold standard test. This method establishes in the pre license period, the test validity by indicators of sensitivity and specificity (Tab. 1).

Table 1. The possible situations upon test results and the test performances measured through sensitivity and specificity.

Test results	Disease	Without disease	Possible interpretation
Positive	True positive (a)	False positive (b)	Diseased person
Negative	False negative (c)	True negative (d)	Nondiseased person
Indicators	Sensitivity ($a/a+c$)	Specificity ($d/b+d$)	All persons

The sensitivity is the probability of correct diagnosis of cases by using the test [12]. Due to false negative results depending on the sensitivity level (in percent) some cases will be lost. The specificity of the test is the probability of the correct exclusion of the disease to nondiseased persons [12]. Among tested persons will be some healthy people diagnosed by error due to false positive results (low specificity). To control false results the sensibility and specificity can be modified by changing the test itself or by using different tests that measure the same dimension. When we use tests in serial, the negative results to the first test are tested with the second, the falls negative decreases and the sensitivity increases and when tests are sequential, only the positive results are retested excluding many false positive and increasing the specificity [7]. In the practical activity it must be decided which situation is acceptable, to lose some patients for excluding the most of nondiseased people, which means to lower the sensibility for increasing the specificity. A test with high sensitivity is recommended especially for diseases that have a low frequency, an effective treatment, a low psychological impact for false positive results and low costs for other investigations. High specificity is necessary for commune diseases which are difficult to be treat and have an important psychological impact of false positive results and high costs for further investigations.

Informational value of the test in practical conditions

In the practical activity the real status of patients is not known and the probability of correct diagnosis of the patient's condition is evaluated through predictive values (Tab. 2). Predictive value of a positive test represents the probability of a positive person to the test, to be real positive and the negative results represent the probability for a person with negative test to not have the disease [7], [12], [13].

Table 2. Measurement of the predictive values of a test. Abbreviation means: PPV predictive positive value PNV predictive negative value

Test results	Disease	Without disease	Indicators
Positive	True positive (a)	False positive (b)	PPV (a/a+b)
Negative	False negative (c)	True negative (d)	NPV (d/c+d)

Predictive values are determined by test performances. A high sensitivity determines a high negative predictive value (NPV) by a low number of false negative and a high specificity induces the positive predictive value (PPV) by a low number of false positives. The prevalence of the condition for which the test is used, influences the predictive values. If the prevalence is high the PPV is elevated and NPV is low and in low prevalence PPV is low because of a high number of false positive persons and NPV is high, the number of false negative being small.

Evaluation of a Medical Intervention

In the domain of public health the medical interventions aim to preserve or improve the health condition. The required interventions can be preventive and are made in primary prevention programs or may be therapeutic for secondary or tertiary prevention programs. Doctors in their practice strongly need to know if the treatment (or prevention intervention) works and does not cause harm. Such information is provided by intervention evaluation studies, made in order to obtain the license of a product and after licence by the surveillance in postmarketing settings (14) (15). These epidemiological studies must be adequate for measuring an association or make a comparison to identify the difference between treatments. Different studies provide different levels of evidence, the highest being offered by randomised clinical trial.

The evaluations of preventive and therapeutic interventions involve measurements of efficacy, the risk of side effects and also the control of errors that may occur. We can have a situation when efficacy is found (or difference between treatments) when in reality it doesn't exist (alpha error or type I) or it doesn't find efficacy when in reality it is present (beta error or type II) (Tab. 3.) [15].

Table 3. Risk of errors and power in the evaluation of interventional studies (after: [7], [14]). Abbreviations means: H_0 – null hypothesis which states no association; H_1 – alternative hypothesis which affirm association.

Conclusions	Reality	
	H_0 true	H_1 true
No rejection of H_0	(1- α)	risk β error
Rejection of H_0	risk α error	power (1- β)

Given the fact that measurements are made on samples, the size of errors that will be tolerable is 5% for alpha and 20% for beta errors [7], [15]. Errors in evaluation of interventional studies can be controlled to a certain level for knowing the real effect of intervention, when in fact it exists. This probability of identifying the effect (or a difference among comparison groups) of a medical intervention that really exists is represented by the power of the epidemiological study. The value of this probability must be at least 80% being complementary with the beta error or the lack of the power [14].

A faulty interpretation and lack of error control, leads to erroneous advice for an entire population which causes a huge impact. This was the case of measles vaccination and autism, an

association that does not really exist, but the assumption led to the cessation of vaccination, which caused epidemics between unvaccinated children [16], [17], [18], [19]. Intervention evaluation must be done by experienced specialists, as it involves a great responsibility.

Summary

Interventions in public health programs bring together people and the health care system in a complex relationship in which social, including emotional aspects, are the most difficult to be solved. For a proper management and to reduce the negative consequences of a health program, the evaluation has a key role. It is not enough for prevention programs to be effective, they must also be used properly and people, who could potentially benefit, must have access to them. A correct interpretation and the error control in the assessment of an interventional public health program avoid erroneous recommendations at population level that could have a high impact on the health status of that population.

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Relationship between psychiatric disorders, perception and coping with pain in chronic low back pain patients

Ciaramella A.^{1, 2}, Poli P.³

¹*GIFT Institute for Integrative Medicine, Pisa, (ITALY)*

²*Department of Surgical, Medical, Molecular and Critical Area Pathology, University of Pisa, (ITALY)*

³*Pain Therapy Unit, Azienda Ospedaliero Universitaria Pisana, Pisa, (ITALY)*

E-mail: ciarantogift@gmail.com

Abstract

Background. Low back pain is the most common specific complaint leading to consultation with primary-care physicians. The outcome of any treatment of low back pain strongly depends on psychiatric cofactors. We investigate the relationship between psychiatric disorders and perception and coping with pain in Chronic Low Back Pain (CLBP) comparing it to another group of chronic pain (CG).

Methods. 427 CLBP patients and 629 CG (consisting of patients with different forms of chronic pain) were included in this retrospective study. All patients were assessed with the Mini-International Neuropsychiatric Interview (MINI) for psychiatric disorder, the Italian Pain Questionnaire to assess dimensions and intensity of pain and the Multidimensional Pain Inventory to explore coping with pain.

Results. An increase of prevalence of males and older subjects with lower income have been found in the CLBP than CG. More lifetime Major Depressive Episodes (MDEL), increase the prevalence of Dysthymia (DD), Suicidal Risk (SR), Agoraphobia (A) have been found in the CLBP than CG. CLBP subjects showed more Sensorial, Affective, Evaluative dimensions and Intensity of pain with a higher prevalence of Dysfunctional (DYS) pain coping compared to CG. An increased prevalence of agoraphobia with panic disorder in DYS cluster were found in the CLBP group.

Conclusions. Both current and historical psychiatric disorders are associated with the modification of perception and ability to cope with pain. Agoraphobia increases the unpleasantness of pain and the disability of CLBP subjects facilitating dysfunctional pain related coping..

Keywords: CLBP, psychiatric Disorders, coping with pain, MPI, perception of pain, somatosensory amplification, agoraphobia.

Introduction

Chronic LBP (CLBP) is a condition where biological, psychological and social factors interact and mutually influence each other, both as causal factors and in maintaining the complaints [1], [2]. In CLBP there is a high degree of comorbidity with reports of additional somatic and psychological symptoms and complaints [3], [4]. Lifetime history of major depression or anxiety disorder may represent a potential psychosocial risk factor for the transition to chronicity in men with first-onset LBP. Screening for lifetime depressive or anxiety disorders may identify individuals at higher risk, who may benefit from referral for more intensive rehabilitation [5]. Concurrent psychopathology in CLBP imply poor prognosis [6], poor outcome [7] and high health care utilization [8] and clinical guidelines emphasize the importance of screening for psychopathology in these patients [9]. In this study we investigate the relationship between psychiatric disorders and perception and coping with pain of CLBP comparing with another group of chronic pain (CG) in a tertiary pain clinic.

Material and methods

Participants

Consecutively subjects sent to office of psychophysic in the Pain Clinic of Azienda Ospedaliero-Universitaria Pisana during 2005-2008 were included in this retrospective study.

Cold Pressure Test

The nondominant limb was immersed in icy water ($-0, 5-2^{\circ}\text{C}$) for a maximum of 240 sec after temperature standardization, via limb immersion, in water at body temperature ($37 \pm 0.5^{\circ}\text{C}$) for 240 sec. The time from the immersion of the limb in the icy water until the first pain sensation as the pain threshold. We defined the time from the immersion of the limb in the icy water until the limb retracted intolerable pain as the pain tolerance [10]

IPQ

The Italian Pain Questionnaire derives from the construct of McGill Pain Questionnaire made up of 3 factors or classes (Sensorial, Affective, and Evaluative). Intensity of pain was investigated using VAS (visual analogue scale) [11].

MPI

The Multidimensional Pain Inventory (MPI) articulated in three parts of the inventory, comprised of 12 scales, examines the impact of pain on the patients' lives, the responses of others to the patients' communications of pain, and the extent to which patients participate in common daily activities. Program software developed by Rudy (2004) allows the bundling of the dimensions into categories of related maladaptive pain coping: Dysfunctional (DYS), Interpersonal Distressed (ID), Adaptive Copers (AC) [12].

MINI

The Mini-International Neuropsychiatric Interview (MINI) was applied as the structured diagnostic interview [13] for DSM-IV and ICD-10 assessing psychiatric disorders. We used the Italian version of MINI Plus [14].

Statistical analyses

The data were analyzed using a StatView 5.0 software (SAS Institute Inc.). Differences in the frequency of psychiatric disorders among various diagnostic pain groups were assessed with χ^2 analysis using Fisher's exact test for a small sample. Logistic regression analysis has been performed only for the dimensions statistically different between groups. Data is presented as the mean \pm SD with a level of significance at $p < 0.05$.

Results

Differences in Socio-demographic and clinical factors between chronic low back pain (CLBP) and other forms of chronic pain groups (CG)

As showed in the table 1 the CLBP group is older, with less education, higher prevalence of males than CG. CLBP group has more subjects married with low income. No difference was found between groups at the beginning of the pain, number of other form of chronic pain in comorbidity, current treatment for pain or for psychiatric comorbidity.

Table 1: Perception of pain, sociodemographic and clinical factors in the group of CLBP comparing with other form of chronic pain group (CG) evaluated in a Tertiary Pain Clinic

		CLBP (n. 427)	CG (n. 629)	t/χ ²
	%	Mean (sd)	% Mean (sd)	
Age		60.97 (13.75)	52.66 (17.08)	8.31****
Education (number of years)		8.60 (4.53)	11.37 (5.13)	6.06****
Gender	males	39.32	32.49	
	females	60.67	67.50	4.82*
Marital status	married	65.03	58.92	
	divorced	9.79	7.14	
	single	9.79	23.80	
	widower	15.38	10.11	11.56**
income	High	3.57	1.89	
	medium	67.85	85.44	
	Low	28.57	12.65	13.08***
Sensorial Dimension		0.40 (0.16)	0.34 (0.15)	5.95****
Affective Dimension		0.39 (0.22)	0.36 (0.22)	2.15*
Evaluative Dimension		0.46 (0.28)	0.37 (0.25)	5.95****
VAS		8.04 (2.03)	7.35 (2.13)	5.21****
Cold Pain Threshold (sec)		22.62 (25.50)	18.93 (20.41)	1.73
Cold Pain Tolerance (sec)		63.61 (38.82)	56.30 (39.50)	2.07*
Onset of pain (months)		101.76 (106.43)	102.42 (132.24)	0.06
Pain Comorbidity		76.22	74.43	0.11
Treated for pain		77.16	77.95	0.88
Treated for psychiatric d.		38.84	36.70	0.11

T test unpaired data and chi square analyses.

*= p<0.05; **= p<0.01; ***=p<0.001; ****=p<0.0001; CLBP: Chonic Low Back Pain

Differences in the comorbidity of psychiatric disorders between CLBP and CG groups

Only 879 subjects (416 CLBP and 463 CG) were investigated using a semi-structured interview for psychiatric disorders (MINI plus). CLBP patients showed an increased prevalence of major depressive episode in the lifetime, have an increased prevalence of dysthymic disorder, higher suicidal risk and more agoraphobia with and without panic disorder than the CG group (figure 1).

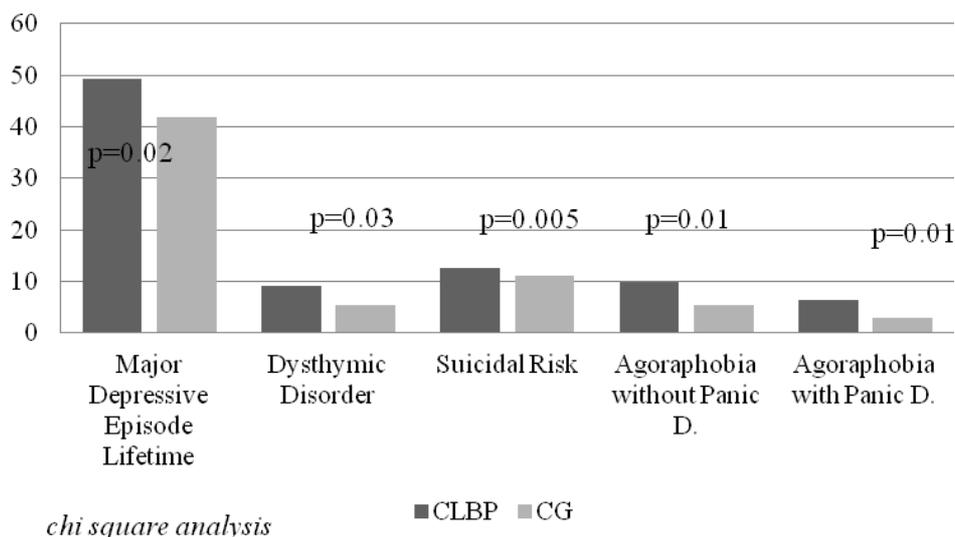


Fig. 1: Percentage of subjects with psychiatric disorders statistically different between Chronic Low Back Pain (CLBP) and other form of chronic pain (CG) groups

Subjects with major depression episode in lifetime report a pain with a higher adversative component, lower tolerance of painful stimulus. Subjects with dysthymic disorder showed greater adversative component and higher intensity of clinical pain (table 2).

Table 2: Perception of pain in relationship with the difference of prevalence of psychiatric disorders in the CLBP compared CG

	CLBP/CG									
	MDEL		DD		SR		AWOP		AWP	
	coef	χ^2	coef	χ^2	coef	χ^2	coef	χ^2	coef	χ^2
Sensorial D.	0.95	1.14	1.76	1.33	0.22	0.02	-0.29	0.03	0.42	0.03
Affective D.	-1.50	5.70*	-3.25	8.46**	-1.34	1.96	-0.65	0.31	-0.03	0.01
Evaluative D.	-0.09	0.02	1.00	0.86	1.37	1.91	-1.08	0.94	-2.21	2.64
VAS pain	0.01	0.05	0.25	7.20**	-0.06	0.86	0.15	2.00	0.24	3.44
Tolerance	0.00	4.33*	0.00	0.05	-0.00	0.38	-0.00	0.37	0.00	0.05

Logistic Regression analysis; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; Chronic Low Back Pain; CG: control group (other forms of chronic pain). MDEL= Major Depressive Episode Lifetime; DD=Dysthymic Disorder; SR= Suicidal Risk; AWOP= Agoraphobia without panic disorder; AWP= Agoraphobia with Panic Disorder; VAS= Visual Analogue scale; D.= Dimension of pain;

Differences in pain coping style between CLBP and CG groups

Only 529 chronic pain subjects (282 CLBP and 247 CG) have been evaluated using Multidimensional Pain Inventory (MPI) for assessment of coping of pain. As shown in the figure 2 an higher severity and interference of pain have been found in the CLBP compared to the CG group. Interesting data emerges when we investigate family relationships. CLBP subjects have higher punishing, lower solicitous and higher distracting responses from the person who lives with CLBP subject compared with subjects with another form of chronic pain. This is even more evident when we use the three categories (clusters) of coping style. An increase of prevalence of subjects with dysfunctional coping style we founded in the CLBP comparing CG using unpaired t test (figure 3). The person of the dysfunctional cluster report high pain severity, high interference and activity distress, low life control and low activity level. Abnormalities of family dynamics that we found in our research are consistent with showed in other studies in which DYS group reported more anxiety/depression, help-/hopelessness, and catastrophizing with an increase of non verbal pain communication searching for social support than did those classified as AC [15].

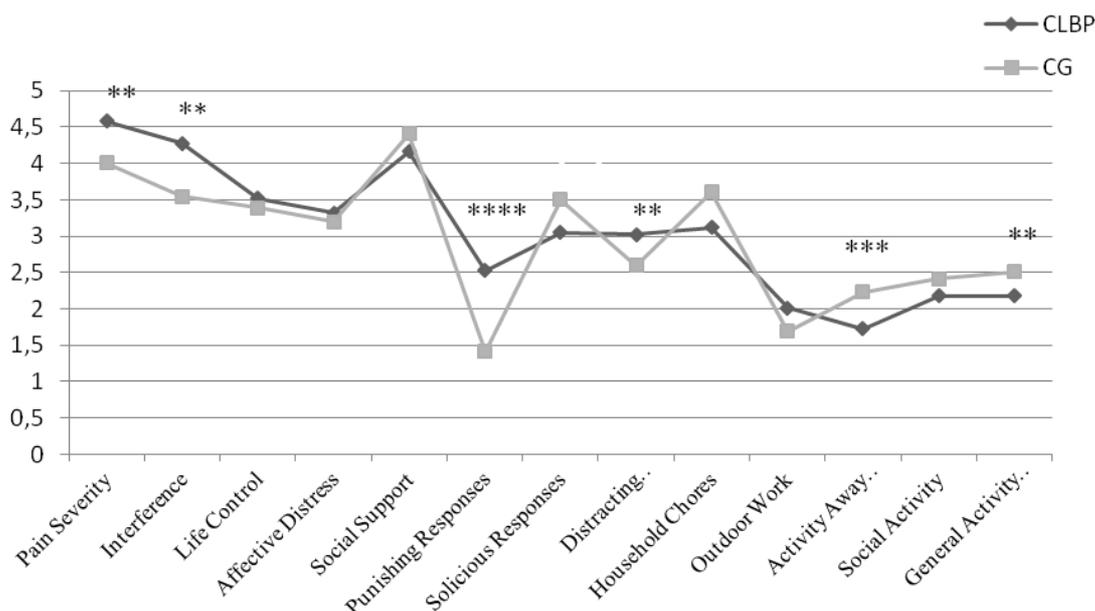


Fig. 2: Coping of pain Multidimensional Pain Inventory (MPI)

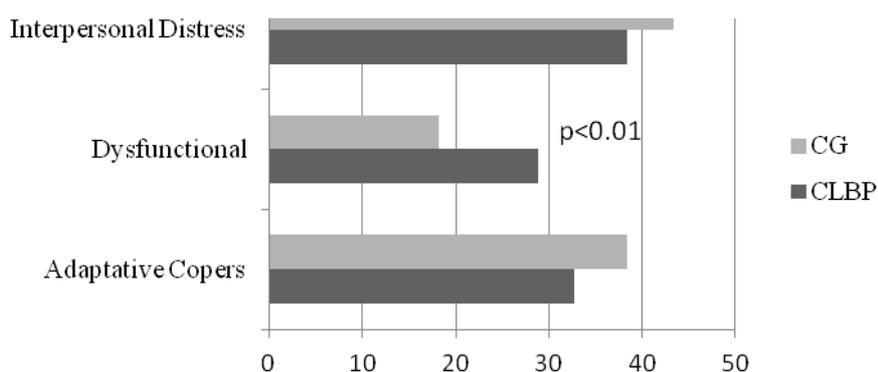


Fig. 3: Maladaptive pain related coping

Relationship between pain coping style and psychiatric disorders

Our results showed an increase prevalence of agoraphobia with panic disorder in subjects CLBP included in the DYS cluster compared to the subjects of the same cluster of CG group (table 3). This likely underlies the lower general activity level in particular away from home of CLBP group highlighted in the figure 2. Any relationship was found between the presence of psychiatric disorders and other forms of MPI cluster.

Table 3: number of subjects with Dysfunctional pain related coping style with Agoraphobia with Panic Disorder (AWP)

	CLBP (n.81)		CG (n.43)		χ^2
	N	%	N	%	
AWP	16	19.75	3	6.97	3.74*

Conclusion

In our study we found a difference from CLBP and other form of chronic pain. A consensus group from Mexico to promote health program in chronic low back pain builds a guideline for a multimodal program to counteract inadequate pain management that will cause severe physical, psycho-affective, and socioeconomic repercussions for patients, families, and public health services [16]. Despite several studies investigating the prevalence of psychiatric disorders in CLBP [4] very few showed how this comorbidity affects the perception and ability to cope with pain. In the literature female is a gender strongly associated with chronic pain [17] our results showed that in the CLBP subjects are an increase prevalence of males with low education and low income comparing other form of chronic pain. CLBP subjects also perceived pain with high intensity and greater sensorial, affective and evaluative dimensions more than other chronic pain subjects. Our results have confirmed the belief in the severity of the syndrome and justifies the high social costs of this disease [16]. Even if a majority of the members within the CLBP group is married, contrary to what one may think, we have found a maladaptive cope. These results suggest a disturbed relationship in the family that predisposes to pain behavior. Greater intensity in and high interference with daily life with a high punishing, less solicitous and greater distracting response in the CLBP group has been found. This type of relationship predisposes to maladaptive pain-related coping named Dysfunctional that in CLBP comorbid with the presence of agoraphobia, closely associated with this coping style, that increases the disability with lowest level of general activity. In addition it seems that CLBP subjects are at a higher risk of suicide. A careful psychiatric supervision seems necessary. This can be further confirmed by the association with frequent depressive episodes often reported outside the suffering for pain.

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The “Structured Phenomenological Hypnotic Protocol” (SPHP) for Treatment of Chronic Pain. Case Reports

Ciaramella A.^{1,2}, Micco P.², Rossi M.^{1,2}, Rossi S.²

¹ Health Psychology, Department of Surgical, Medical, Molecular and Critical Area Pathology, University of Pisa, (ITALY)

² Gift Institute for Integrative Medicine, Pisa, (ITALY)

E-mail: ciarantogift@gmail.com

Abstract

Introduction. Clinical and experimental research literature indicates hypnosis is very useful for severe and persistent pain although is not widely used. It is not yet clear whether the hypnotic analgesia depends on the degree of individual susceptibility.

Methods Before enrolling in hypnosis treatment, chronic pain subjects were evaluated using a Stanford scale form A. The hypnosis treatment (Structured Phenomenological Hypnotic Protocol or SPHP) consists of four sessions with different suggestions per session carried every 14 days. The SPHP includes: 1) Rapid Induction Analgesia (RIA, Barber, 1977); 2) Symptom Transformation (ST), 3) Symptom Modulation (SM), d) Dissociation (D). The pain was evaluated before and after (Δ) each session using IPQ (Italian Pain Questionnaire) and VAS (Visual Analogue Scale).

Results. Of the seventeen patients with chronic pain (2 cancer, 7 fibromyalgia, 6 headache; 2 Low Back) only 10 have gone beyond the SM session. RIA and dissociation are the session with more pain relief at the end of session. The Affective dimension had the best outcome than others to the hypnosis analgesia.

Conclusions. This is a preliminary evaluation of SPHP for analgesia. Except the affective dimension of pain no long lasting effect has been found with SPHP. A different weighting was observed between phenomenological responses.

Keywords: Hypnosis, cancer, fibromyalgia, headache, hypnotic analgesia, case report, phenomenology of hypnosis

Introduction

Chronic pain

Some studies have shown that approximately 70% of individuals with chronic pain are able to experience a short-term reduction in chronic pain during a treatment session or hypnosis practice; between 20% and 30% achieve more permanent reductions in daily pain ([1], [2]). When a combination of pain-specific and non pain-related suggestions were used, several findings have shown that hypnosis is more effective than both active and control treatments across several different pain outcomes, including pain intensity pain sensation (perceived control over pain, pain interference, and decreased use of pain medications)[1]. There are evidences suggesting that hypnosis may be more effective in treating neuropathic or vascular pain and less efficacious in treating primarily musculoskeletal pain (e.g., low back pain) [1]. Hypnosis proved to be useful in different form of chronic pain. Spiegel and Bloom [3] showed the level of pain in women with breast carcinoma increases less over time (as cancer progressed) compared to patients who did not receive the hypnosis intervention. Elkins et al. [4] in a prospective, randomized study of 39 advanced-stage (Stage III or IV) cancer patients with malignant bone disease showed a mean rating of the effectiveness of self-hypnosis practice outside the sessions was 6.5 on a 0-to-10 scale. The most used suggestions were for relaxation, comfort, mental imagery, dissociation and pain control and recommended self-hypnosis. Hypnosis analgesic have been used in Low back pain and when compared with relaxation it was more effective at 3 months of follow up [5] but it did not reveal any significant differences compared the educational program [6]. A 57% reduction in current pain intensity and 51% reduction in worst pain

intensity have been reported in temporomandibular pain subjects compared to patients in the education/advice condition [7]. Compared to the physical therapy, hypnosis proved to be useful in subjects with fibromyalgia [8].

Neurophysiological Effects Of Hypnosis

If a person in a state of hypnosis asked to feel the pain not only feels it, but it will also associated with an increase of the activity of the thalamus, ACC, insula, PFC, and parietal cortex. The perception of pain and the activity of these brain areas is much greater than the conditions in which it is asked to feel the pain in the waking state [9]. When it is suggested to a subjects with pain in a state of hypnosis to feel pain, the activation of corresponding areas of the brain increases in the above manner in relation to the intensity of suggestion. That is, if the suggestion is to increase the pain slightly, moderately or strongly, in a state of hypnosis the perception of pain and activation of brain "neuromatrix" increases respectively slightly, moderately and strongly [10]. Hypnosis acts not only on the intensity of the pain but also on the part of the unpleasantness (affective) that always accompanies the pain. The ACC is the substrate of elaboration of the emotions and also of the affective component of pain [11].

Susceptibility: reductions in brain activity in the anterior "default mode" network, which includes the prefrontal cortex more in subjects with high susceptibility was observed during hypnosis. The "default mode" network includes the pattern of spontaneous brain activity that occurs during a normal resting state. If in the hypnotic state it asked to participants to actively focus attention in one think it has shown an increase activity on the competent area and the other "default mode" remain inactive. This a demonstration that occurs a very discriminative competence of the brain activity during hypnotic state [12].

Methodology

Material

For the assessment of pain the IPQ (Italian Pain Questionnaire [13]) was used, to measure pain considering its sensory-discriminative, affective, and evaluative components. The intensity was measured by VAS (Visual Analogue Scale) [14] that evaluates the clinical pain with a chromatic line scale of color with extremes 0 no pain and 10 the worst pain. For the investigation of hypnotic susceptibility was used the Stanford type A in which 12 suggestions are provided to explore the hypnotic phenomena [15]. Hypnosis Susceptibility was distinguished on the basis of Stanford A total scoring: >7 is High; 5-7 Medium; <5 is Low.

Study design

The pain was investigated in each biweekly session and for the entire period of treatment with hypnosis (2 months). Patients were asked to follow the same daily therapy without alterations for the whole period of treatment. Patients that needed to change drugs were considered drop outs.

The sessions have taken place in the following order:

1) Rapid Induction analgesia (RIA): the hallmark of this session is the suggestion of relaxation and comfort that is provided for almost the entire trance (indirect suggestion analgesia). It also evoked a suggestion of amnesia without ever referring to the pain. The session is built along the lines of Rapid Induction Analgesia by Barber [16].

2) Symptom Transformation (ST): the characteristic of this session is oriented on the transformation of the symptom, by unpleasant sensations to other less unpleasant (eg tingling) (direct suggestion of analgesia).

3) Symptom Modulation (SM): in this case, the suggestion is oriented to increase the pleasant sensations and reduce the unpleasant ones (direct suggestion of analgesia).

4) Dissociation (D): the hallmark of this session is to direct in focusing attention on the each side of body-coupling of perception. Provides suggestions of lightness/heaviness; Hot /cold; Relaxation /exciting (suggestions based distraction).

Results

Description of the sample and intensity variation of pain in each session

The enrolled sample is constitute by 2 cancer, 7 fibromyalgia, 6 headache, 2 low back pain subjects. After the ST session, 7 subjects drop out. Hypnosis susceptibility degree has been showed in table 1.

	Drop out		High	Medium	Low
	yes	no			
total	7	10			
males	2	0			
Mean age	43.29	53.20			
Cancer	0	2	2		
Fibromyalgia	3	4	3		4
Headache	2	4	4	2	
Low Back	2	0		1	1

Hypnosis Susceptibility: Stanford A total scoring: >7 High; 5-7 Medium; <5 Low

In table 2 was report the variation of intensity of pain from before and after (Δ) each session of hypnosis.

Table 2: VAS variation in each session and degree of susceptibility per pain syndromes

	Δ RIA (n.H/M/L)	Δ ST (n.H/M/L)	Δ SM (n.H/M/L)	Δ D (n.H/M/L)
Cancer	3.5 (2/0/0)	0 (2/0/0)	3 (2/0/0)	3.5 (2/0/0)
Fibromyalgia	2.71 (3/0/4)	1.2 (3/0/3)	1 (2/0/2)	2.5 (2/0/2)
Headache	1 (4/2/0)	-1.6 (3/2/0)	-0.5 (3/1/0)	2.5 (3/1/0)
Low Back	0.5 (0/1/1)	-3.0 (0/0/1)	/	/

Δ =variation of VAS from before to after each session. RIA: Rapid induction analgesia; ST: Symtoms Transformation, SM: Symptom Modulation, D: dissociation of sensorial perception of the body. n.H/M/L: number of subjects with High, medium and Low Hypnosis Susceptibility

Outcome of Pain

No significant statistical differences have been found in the intensity of pain during the two months of hypnosis treatment (fig.1).

Anova repeated measures analysis

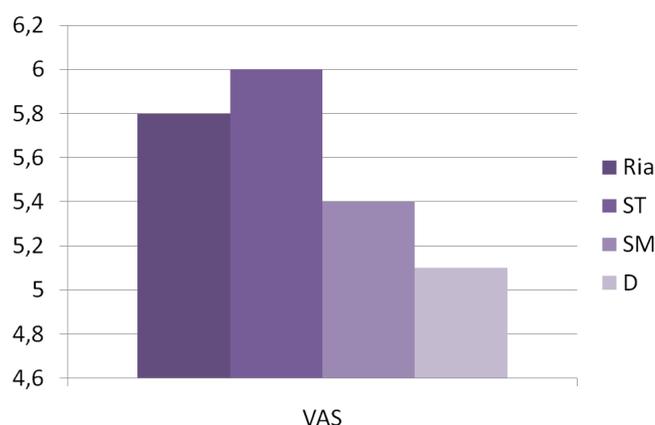


Fig. 1: Intensity of pain (VAS) at the beginning of each session

Only affective dimensions showed a constant and progressive statistically significant reduction during hypnosis treatment (figure 2).

Anova repeated measures analysis

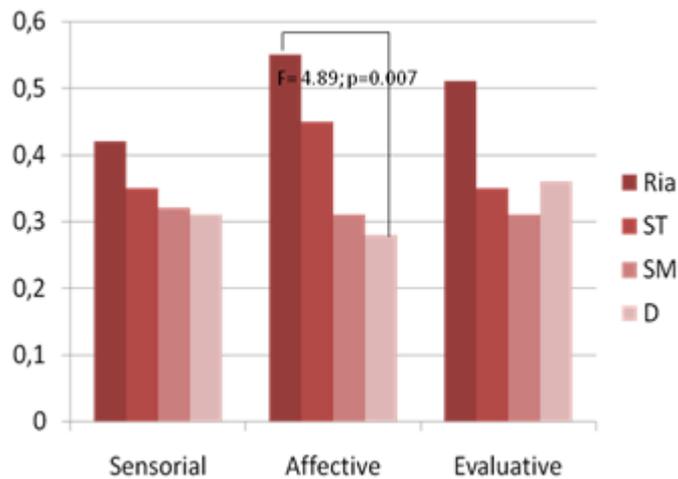


Fig. 2: scoring of dimensions of pain at beginning of each session

Unpleasantness dimension of pain decreases in all subjects distinguished according to their hypnotic susceptibility (fig. 3) although it is much more evident in subjects with a high degree of susceptibility.

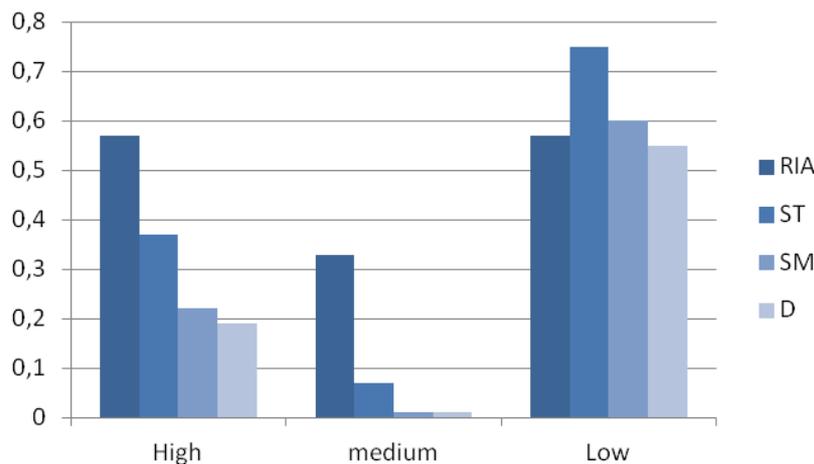


Fig. 3: Mean scoring of the unpleasantness (affective) dimension of pain in subjects subdivided according to the susceptibility degree

Conclusions

Results of this observation show a certain degree of response to hypnosis of chronic pain and in particular in its component of unpleasantness. In fact, unlike the other dimensions of pain the affective dimension had a statistically progressive reduction (figure 2). That is, the component of unpleasantness, unlike other components of pain, proved to be the most sensitive to such treatment progressively reducing independently from the hypnotic susceptibility of the subject. Seven out of 10 subjects who terminate treatment have a high degree of hypnotic susceptibility. These individuals are those who have had a higher pain relief than subjects with low susceptibility which instead seem to get worse and indeed many of these discontinue treatment. The reduction of the number of entities after the second session a glimpse of an important limitation of the protocol SPHP. As reported in the work of Jensen and co-workers, the frequency of sessions of hypnosis should be within close intervals of each other and be aided by "self hypnosis" between sessions [17]. The biweekly interval proved to be limiting, especially in those individuals who have not responded to the first session and therefore little incentive to continue. Moreover, in agreement with Jensen and colleagues [17], each session should cover several possibilities including direct and indirect suggestions of analgesia.

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The influence of classic music on the blood glucose level in type 2 diabetic patients

Cioca I.E.

Department of Medical Psychology and Psychosomatics, University of Medicine and Pharmacy "Carol Davila" Bucharest, (ROMANIA)

E-mail: ioanaecioca@yahoo.com

Abstract

A rigorous analysis of medical literature shows that there are numerous aspects in which stress is linked to diabetes. Type II diabetes implies that the abnormalities in glucose levels as a result of stress, are associated, on one side, with hormones who are involved in the metabolism of glucose, and on the other side, with stress-induced changes in eating habits. The psychosomatic perspective on diabetes creates a new approach to the needs and burden of a diabetic patient, offers the chance to find the most efficient treatment and improves the doctor-patient relationship based exactly on the understanding of the complex implications of this disease. Music therapy is an important way of treating psychological disorders as well as psychosomatic diseases because it creates psychological wellness, increases the ability to concentrate and make plans, helps to express emotions and to clarify thoughts. Music helps patients to relax and reduces depression and anxiety. In diabetes, some aspects of this therapy help treating the disease and its possible complications. The results of our personal study prove the obvious hypoglycemic role of classic music for type II diabetic patients. This beneficial effect preserves itself no matter what type of music the subject is listening to (joyful or relaxing). There is no doubt that besides psychological parameters improved through music, the improvement of somatic markers (glucose level) stands by the idea of using music in therapeutic purposes, for type II diabetic patients.

Key words: type II diabetes, psychosomatic, blood glucose level, music therapy

Literature data

Type II diabetes implies that the abnormalities in glucose levels as a result of stress, are associated, on one side, with hormones who are involved in the metabolism of glucose, and on the other side, with stress-induced changes in eating habits. [1] Other studies show that stress, especially linked to working places characterized by overload and low coherence are associated with type II diabetes [2]. A 1994 study [3] shows that the glucose level is higher on stressful or solicitant days than on a normal uneventful day – subjects are less active in stressful days and have a lower compliancy in what regards eating restrictions. A relatively recent study [4] shows that depression is more likely to appear among middle aged people who suffer from chronic diseases such as diabetes.

Moreover, patients who have a low control over glucose levels, show an increased level of plasmatic cortisol; neuroendocrine dysfunctions including increased sensibility to acute and chronic stress are observed in experimental diabetes examples [5], [6], [7]. One of the most important metabolic effect of a chronic increase in cortisol levels is the resistance to insulin, a disease caused by an increase of glucose in the serum [8], [9]. In normal physiological conditions, the increase in plasmatic insulin levels stimulates the translocation of the glucose transporter, that is sensitive to insulin, glut4 from intracellular deposits from the plasmatic membrane, to organs, muscles, adipose tissue increasing the absorption and usage of glucose [9], [10]. High levels of circulating cortisol leads to a decrease in the function of glut4, which can contribute to the resistance to peripheral insulin [11].

Cognitive-behavioral therapy has proven to be efficient in treating diabetic patients from depression. But favorable effects have been also noticed in areas such as: stress and weight management, eating and sexual disorders, auto destructive or in health endangering behaviors. Numerous studies have proven that different behavioral interventions can be efficient in changing the quality of life for diabetic patients [12], [13]. Nonetheless, there has not been clarified yet which form of therapy is more efficient [14].

Taking all the above mentioned into consideration, the psychosomatic perspective creates a new approach to the needs and burden of a diabetic patient, offers the chance to find the most efficient treatment and improves the doctor-patient relationship based exactly on the understanding of the complex implications of this disease.

Music influences our mind before it is transformed into thoughts and emotions. It stimulates the superior and inferior cerebral centers so that music therapy helps one discover personal harmony. Music therapy is an important way of treating psychological disorders as well as psychosomatic diseases because it creates psychological wellness, increases the ability to concentrate and make plans, helps to express emotions and to clarify thoughts.

Stress leads to physiological disorders and can determine functional disorders of multiple organs, temporarily or permanently. For example, the hepatic carbohydrates resources of diabetic patients are low as a consequence of insulin deficiency. This shortage does not allow sugar to pass from blood to the liver or to other cells that need it, and this is why, the blood sugar level remains elevated. Sugar is a form of a complex carbohydrate called glycogen, which is put into the circulation of the blood on demand, through epinephrine. Classic music stimulates the activity of Beta cells in the organs and ensures normality for a given period of time. In emotional situations, the blood sugar level is affected. Classic music helps to gently alter the activity of the neurotransmitter epinephrine.

Metabolic changes have been poorly studied and have been put in connection with neuro-vegetal changes produced by music. The most studied indicator was the level of glucose. A study [15] has revealed elevated glucose levels when listening to an intense type of music, which have been interpreted as markers of catecholamine increase, whereas a slow and discrete music lowers glucose levels.

Pain is a serious issue among diabetic patients. Some of them are persistent and resistant to any type of medication, and musical therapy can help in this way by distracting them or by stimulating endorphin secretions. Music can also make the patient believe he is in control and thus relax him by regulating his heart beats and respiration. Diabetes is different from other conditions, due to the fact that its treatment requires self management. This self management implies keeping a strict diet, regular physical exercise and precise checking of glucose levels. All these cause considerable stress that can be replaced by the eustress (positive stress) created by listening to music, due to the fact that research has proved that music improves respiration, decreases arterial pressure, reduces the cardiac rhythm. In other words, music therapy improves almost every physiologic indicators of stress. A study [16] proves actual benefits for diabetic patients involved in music therapy with medical purposes: faster steadiness of insulin, decrease in irritation, in thirst sensation, headaches, dizziness, sleep disorders and improvement in emotional stability and an obvious peaceful mood.

Therefore, the real beneficial action of musical therapy on both somatic and psychic levels for patients who suffer from diabetes has been scientifically proven.

Personal study regarding variations of blood glucose level after listening to music, on patients suffering from type II diabetes

Taking into consideration the existing information concerning favorable effects of music on diabetic patients, we have decided to study the variations of blood glucose level after listening to music, on type II diabetic patients (40 subjects as experimental group – 20 listening to joyful music and 20 to relaxing music) in comparison to healthy people (40 subjects as control group – 20 listening to joyful music and 20 to relaxing music) and to diabetic patients who have not listened to music (40 subjects as control group). The impact of music on glucose levels has been investigated using to types of music:

- Active, joyful music : Richard Wagner – "Lohengrin" 3 min 32 sec, Dmitri Shostakovich – 02 3 min, Bela Bartok - 1 min 27 sec, Jean Sibelius – "Karelia" 3 min 2 sec

- Relaxing, melancholic music: Felix Mendelssohn op.30 2 min 41 sec, Dmitri Shostakovich - "Melody" 2 min 59 sec., Gabriel Faurè – " Apre un reve" 2 min 49 sec, Frederick Delius – "La Kalinda" 4 min 37 sec

We have measured glucose before and after listening to music (for both quick and relaxing music). Glucose has been measured similarly for all diabetic patients (control or experimental group) obliging conditions and avoiding measuring after treatment. For diabetic patients – control group, levels have been measured in an interval of time equal to the listening one (in the experimental group – approximately 15 minutes) in a relaxed mood.

Hypothesis of the study

1. The level of glucose after listening to music is significantly decreased in comparison to the levels measured before that, among diabetic patients.
2. The level of glucose after listening to music is significantly decreased in comparison to the levels measured before that, among healthy patients.
3. The level of glucose after listening to music is significantly decreased than the levels measured before among diabetic patients in comparison to healthy patients and diabetic patients who have not listened to music.

Statistic analysis of the results

We have used **t test** in order to evaluate the statistic significance of the difference between **average levels of glucose measured before and after listening to music** for the diabetic patients in the experimental group. The results show a very important statistic difference ($t=6,585$, $DF=39$, $p<0,001$) between glucose levels before listening to music ($M=197,75$, $SD=61,05$) and after listening to music ($M=158,93$, $SD=52,80$).

In what concerns separate effects of the two types of music (joyful and relaxing), relaxing music has determined a decrease in glucose levels from an average of $M=169,76$ to $M=148,10$, with a statistically significant difference ($t=2,887$, $DF=20$, $p<0,05$). Joyful music has determined a statistically significant difference from $M=197,53$ to $M=172,84$ (12,49%) ($t=2,296$, $DF=18$, $p<0,05$). Data indicates there is a decrease in the level of glucose in both subgroups (relaxing – 1,82% and joyful – 1,86%), so the type of music does not matter. Afterwards, a thing that we considered of importance was whether the decrease is statistically significant or not. This is why we have used the t test for correlated number patterns. The difference between the average level of glucose before listening to music ($M=105,68$, $SD=21,96$) and afterwards is of 1,95, among healthy subjects ($M=103,73$, $SD=15,89$). 95% confidence interval for this difference is from -1,36 to 5,29. Because the confidence interval passes through 0,000 the difference is not statistically significant at a two tailed 5% level of significance.

The analysis of the results in control group reveals the fact that there is not a statistically significant difference (the difference between the average numbers was 3 with a percentage of 1,68% between average glucose levels measured before ($M=177,80$, $SD=45,78$) and after approximately 25 minutes ($M=174,80$, $SD=39,24$) for diabetic patients in relaxed conditions but without listening to music.

Discussion

Statistic results offer a statistically significant difference ($t=6,585$, $DF=39$, $p<0,001$) between average glucose levels before listening to music and afterward, for the experimental group. In what concerns the separate effects of the two types of music (relaxing and joyful), relaxed music has determined a decrease in glucose levels with a statistically significant difference of 12,75% ($t=2,887$, $DF=20$, $p<0,05$). Joyful music has determined statistically significant decrease with 12,49% ($t=2,296$, $DF=18$, $p<0,05$). In conclusion, our hypothesis is confirmed for both types of music, because the level of glucose after listening to music is significantly decreased in comparison to the glucose level that diabetic patients had before.

The level of glycemia has decreased with almost 20% among the diabetic patients who have listened to relaxed or quick music. In what concerns control groups, the healthy patients who have listened to music and the diabetic patients who have not listened to music the decrease was approximately similar of 1,85% and 1,7%. Therefore, the level of glycemia decreases significantly more among diabetic patients who have listened to music than among control groups, so, in this way, the third hypothesis proves to be true. This is why, the higher the level of glucose is, the more obvious the effects of music on this parameter are. This change implies a regulatory music capacity, possibly by mobilizing other neuromediators which lead to other favorable changes, besides the “mechanical” decrease of glucose. In conclusion, music can contribute to more complex metabolic regulation, apart from adjusting the levels of glucose.

Conclusions

The results of our study prove the obvious hypoglycemic role of classic music for type II diabetic patients, not taking into consideration the natural variations of glycemia. Hypoglycemic effect

is less emphasized and statistically insignificant among healthy patients, which highlights the favorable role of symphonic music among diabetic patients. This beneficial effect preserves itself no matter what type of music the subject is listening to (joyful or relaxing), thus non-confirming the fact that joyful music leads to elevated glycemia whereas relaxing music decreases the level of glucose.

There is no doubt that besides psychological parameters altered through music, the improvement of somatic markers (glycemia) stands by the idea of using music in therapeutic purposes, for type II diabetic patients. In addition to other psychotherapeutic useful interventions, music therapy can help the diabetic patient up to a somatic level. Certainly, music therapy has an important role in treating diabetes through its relaxing effects and obvious ways of intervention in symptoms such as depression, anxiety etc. Nonetheless, we share the opinion that it would be useful to extend studies regarding the effects of music on glycemia among type I diabetic patients.

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Interoceptive awareness and resting heart rate variability in women

Costa R.M.¹, Oliveira T.F.²

¹ISPA – Instituto Universitário, Unidade de Investigação em Psicologia e Saúde; Lisbon, (PORTUGAL)

²ISPA – Instituto Universitário, Unidade de Investigação em Eco-Etologia; Lisbon, (PORTUGAL)

E-mail: rcosta@ispa.pt

Abstract

Purpose: To test the hypothesis that greater resting heart rate variability (HRV) is associated with better interoceptive awareness in women.

Methods: Thirty four women participated in the study (mean age = 22.76, SD = 3.77). From a five-minute recording of resting heart rate, several time and frequency-domain measures of HRV were calculated: high-frequency HRV (HF), low-frequency HRV (LF), standard deviation of NN intervals (SDNN), root mean square of differences between adjacent NNs (RMSSD), number of pairs of successive NNs differing more than 50 ms (NN50), percentage of NN50 (pNN50), and standard deviation of heart rate (STD HR). Interoceptive awareness was assessed through a heartbeat perception task.

Results: Interoception correlated directly with almost all time-domain measures of HRV: SDNN ($r = .41, p = .017$), RMSSD ($r = .39, p = .025$), NN50 ($r = .34, p = .046$), pNN50 ($r = .40, p = .021$). Interoception did not correlate with STD HR ($r = .18, p = .29$) nor with the frequency-domain measures: HF ($r = .30, p = .09$), LF ($r = .28, p = .11$).

Conclusions: The results support the view that resting HRV (an index of emotion regulation, associated with physical and mental health) tends to be greater among women with more accurate awareness of bodily responses.

Keywords: heart rate variability, interoceptive awareness

Introduction

Resting heart rate variability (HRV) is thought to reflect flexible emotional regulation in response to environmental demands [1-3]. Accordingly, greater resting high-frequency HRV (HF; primarily determined by the parasympathetic nervous system) is associated with indices of emotional regulation and health [1, 2, 4]. In nonclinical samples, lower resting HF is associated with dysfunctional biological processes (e. g., inflammation, glucose dysregulation, excessive adiposity, higher low-density lipoprotein cholesterol) [2, 5], which makes it a plausible subtle marker of dysfunction among the nominally healthy.

Also, HF might be important for the processing of emotional stimuli; previous research in women showed that HF during presentation of emotional stimuli correlated directly with activation of brain regions elicited by those same emotional stimuli [6], including regions involved in the representation of one's emotions (medial prefrontal cortex) and in the awareness of bodily states (insula) [6], which is a likely prerequisite for emotional awareness [7].

Interoceptive awareness or interoception is the ability to be aware of one's bodily responses, and it is often measured as the ability to detect one's heartbeats. There is evidence that interoceptive awareness reflects the capacity for emotional awareness, as it is associated with lower alexithymia [8] and greater activity of the right anterior insular cortex [7]. Thus, the present study examined if greater resting HRV is associated with better interoceptive awareness.

Method

Participants

Thirty four Portuguese women participated in the study (mean age = 22.76 years, $SD = 3.77$). All were university students who received course credits for their participation.

Measures

Resting heart rate was measured with a MP150 BIOPAC system using the software AcqKnowledge 4.0 (BIOPAC Systems, Inc.); three Ag-AgCl electrodes were applied to both wrists and one ankle. The recorded ECG was treated according to the guidelines of BIOPAC Systems, Inc., in order to optimize the R-R interval data for HRV analysis (www.biopac.com). The sample acquisition rate is 1000 samples per second. The ECG is then filtered (band pass) between 0.5 and 35 Hz using 8000 coefficients. After applying the template correlation function, a tachogram was created and visually inspected for detection of artefacts. From a 5-minute recording, several time and frequency domains of resting HRV were calculated using the software HRV analysis (<http://kubios.uef.fi>). Frequency domains were fast Fourier transformed high-frequency power (0.15 – .040 Hz; HF) and low-frequency power (0.04 – .14 Hz; LF). Time domains were standard deviation of NN intervals (SDNN), root mean square of differences between adjacent NNs (RMSSD), number of pairs of successive NNs differing more than 50 ms (NN50), percentage of pairs of successive NNs differing more than 50 ms (pNN50), and standard deviation of heart rate (STD HR).

For measuring interoceptive awareness, participants were asked to count their heartbeats during three trials of 25, 35 and 45 minutes. Interoceptive awareness was calculated as the average modulus of the subtraction of the counted value from the recorded value, divided by the recorded value [9].

Results

Interoceptive awareness correlated directly with SDNN ($r = .41, p = .017$), RMSSD ($r = .39, p = .025$), NN50 ($r = .34, p = .046$), pNN50 ($r = .40, p = .021$). Interoceptive awareness was uncorrelated with STD HR ($r = .18, p = .29$), HF ($r = .30, p = .09$) and LF ($r = .28, p = .11$).

Discussion

Interoception ability (as measured by a heartbeat detection task) correlated with several time-domains of HRV, but not with time domains, notably with HF (although there was a nonsignificant trend). These findings confirm that, at least for women, resting HRV is associated with more accurate awareness of bodily responses, which appears to be consistent with HRV being related to higher activation of the insula during exposition to emotional stimuli [6].

It has been proposed that the parasympathetic nervous system acts as a brake to emotional arousal thereby allowing better regulation and flexibility in the emotional and behavioral expression [3]. It is plausible that better awareness of emotional responses contributes to better self-regulation concomitant with a greater parasympathetic control of the heart. The present results seem to support this notion: SDNN reflects both sympathetic and parasympathetic influences, but RMSSD, NN50 and pNN50 are mainly parasympathetically driven.

Future studies might examine to what extent interoceptive awareness explains characteristics related to higher HRV, such as health [2, 4, 5] and sexual function outcomes [10-12].

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Anxiety And Bronchoscopic Examination: Is There A Link?

Crişan C.¹, Vremarioiu P.², Simon M.³, Pinteaa S.⁴, Pop M.⁵, Nuna M.³, Sabău L.³

¹University of Medicine and Pharmacy "Iuliu Hatieganu", Department of Psychiatry and Pediatric Psychiatry, Cluj-Napoca (ROMANIA)

²Hôpital Fribourgeois Riaz (SWISS)

³Emergency County Hospital, Department of Pneumology, Cluj-Napoca (ROMANIA)

⁴Babes-Bolyai University, Faculty of Psychology and Educational Sciences, Clinical Psychology and Psychotherapy Department, Cluj-Napoca (ROMANIA)

⁵University of Medicine and Pharmacy "Iuliu Hatieganu", Department of Pneumology, Cluj-Napoca (ROMANIA)

E-mail: ccrisan2004@yahoo.com

Abstract

Purpose: To evaluate the level of anxiety in patients undergoing diagnostic bronchoscopy for lung cancer in the Emergency County Hospital Cluj-Napoca, Department of Pneumology.

Methods: 50 patients (18 women=36% and 32 men=64%), age between 29 and 65 years (mean=52.28, SD=9.86) participated in this study. A semi-structured interview collected demographical data. We followed up physiological indicators of anxiety (blood pressure, heart rate) before, during and after bronchoscopic examination. ECG was performed before and after bronchoscopy. We evaluated the subjective anxiety using State Anxiety Inventory (STAI-X1) and Trait Anxiety Inventory (STAI-X2).

Results: The level of subjective anxiety (measured by STAI-X1) after bronchoscopic examination was significantly lower ($t(49)=7.11$, $p<0.01$). Evaluating objective anxiety through physiological indicators, our results showed that the heart rate increased significantly from pre-intervention to intervention and decreased significantly from intervention to post-intervention ($p<0.016$). The results were similar for systolic and diastolic blood pressure ($p<0.016$). There was no significant correlation between subjective and objective anxiety before or after procedure ($p>0.001$). There were significant differences between females and males in terms of heart rate during bronchoscopy procedure ($p=0.006$). Patients with no previous information about the procedure were more anxious than those who read about it ($p=0.013$). Patients who knew the reason for this invasive examination and those who received standardized explanations about the procedure were less anxious ($p=0.001$, respectively $p=0.020$). We didn't find a correlation between the level of subjective anxiety and cooperation during sedation or bronchoscopy.

Discussion: Even if the bronchoscopy is considered a minimal invasive procedure with no need for a future period of recovery, it is accomplished by anxiety.

Keywords: anxiety, bronchoscopy, lung cancer

Introduction

Endoscopic techniques, flexible, rigid bronchoscopy and thoracoscopy are central tools in the evaluation and treatment of respiratory disorders and their use has been steadily growing. Gustav Killian was the one who performed the first rigid bronchoscopy in 1897. He removed a piece of pork bone from the bronchus of a 63-year-old farmer. ([1], [2]). Ikeda in the late 60s pioneered fiber optic bronchoscopy as a tool to enter sub segmental bronchi and obtain specimens for early diagnosis of lung cancer ([3]). Even if endoscopy operations can be considered safe since they are widely used and the rate of complications is extremely low ([4], [5]), they are, however, rather costly and constitute an uncomfortable and stressful procedures for most patients.

Endoscopy is often performed for diagnostic purposes and generally triggers anxiety in patients. Patients' anxiety may result from lack of knowledge about the operation and fear of discomfort or pain throughout the operation. Also, the patient is surrounded by monitoring and bronchoscopy equipment, and care is administered by strangers who perform intimate, invasive, often

painful procedures ([6]). Poi (1998) showed in his study that most patient (62%) undergoing fiber optic bronchoscopy are anxious; he observed that explanations about the procedures and previous personal experience had little impact on allaying the fears of patients ([7]). De Leon and his collaborators observed that fear of the possible diagnosis of cancer, dyspnoea or asphyxiation was the main cause of anxiety in 68% of the patients ([8]).

Patient anxiety levels before impending endoscopy can lead to increased blood pressure and heart rate and apprehension. As a result, patients require additional sedatives and experience greater discomfort during a procedure ([9]).

The aim of this study was to evaluate the level of anxiety in patients undergoing diagnostic bronchoscopy for lung cancer.

Methods

Participants

This study included 50 patients who applied for endoscopy to Emergency County Hospital Cluj-Napoca, Department of Pneumology between September and October 2011. Eligibility criteria for study were as follows: patients who were between 18 and 70 years old, had no psychiatric disease, were not using psychotropic drugs, were able to understand the data collection instruments and agreed to participate in the study.

Instruments

The measurement tools consisted of a semi-structured interview for collecting demographical data and other characteristics of patients, and Spielberger's State-Trait Anxiety Inventory (STAI) to evaluate subjective anxiety. Also, we followed up physiological indicators of anxiety (blood pressure, heart rate), before, during and after bronchoscopic examination.

Demographic data and other characteristics of patients

Demographic characteristics of participants included: age, educational status, marital status, smoking, information on bronchoscopy to be undergone or not, previous bronchoscopic examination or not.

Spielberger's State-Trait Anxiety Inventory (STAI)

The State-Trait Anxiety Inventory (STAI) is a psychological inventory based on a 4-point Likert scale and consists of 40 questions on a self-report basis. The STAI measures two types of anxiety-state anxiety, or anxiety about an event, and trait anxiety, or anxiety level as a personal characteristic. Each of the measures consists of 20 statements and obtained scores can vary between 20 and 80. Higher scores are positively correlated with higher levels of anxiety. It was developed by psychologists Charles Spielberger, R.L. Gorsuch, and R.E. Lushene [10]. Their goal in creating the inventory was to create a set of questions that could be applied towards assessing different types of anxiety. This was a new development because all other questionnaires focused on one type of anxiety at the time.

Statistical procedure

For the descriptive analysis of the sample included in the study were used indicators of central tendency (arithmetic mean) and the dispersion (standard deviation, minimum and maximum values). Where the sample was analyzed simultaneously in terms of two categorical variables, charts were constructed based on contingency tables and association of variables was tested using the nonparametric correlation coefficient square hi-specific variables categorical. Materiality of these values was tested at a significance level less than 0.05.

Results

Demographic data and other characteristics of patients

Our study included 50 patients, 18 women (36%) and 32 men (64%). The mean age was $52,28 \pm 9,86$ years (range 29-65 years). 20 patients (40%) were smokers. Some 32% stated that they had undergone bronchoscopic examination previously, 62% stated that they had previous data about the technique before our study. 76% stated that they knew the reason for which they needed to perform the bronchoscopic examination. 68 stated that they had received information about the procedure.

Results for anxiety

Subjective anxiety

When the average state anxiety level scores were examined before and after bronchoscopy, a significant difference was found in statistical terms ($t(49)=7,11$, $p<0,01$) (Table 1).

Table 1. Mean score of the state anxiety before and after bronchoscopy

	Mean	N	SD	t	p
STAIX1.before	42.54	50	10.10	7.11	0.001
STAIX1.after	34.14	50	4.11		

Objective anxiety-physiological indicators

Table 2 shows significant changes of heart rate during the three measurements. Post-hoc analysis with Benferonni correction shows statistically significant changes between pre-intervention and intervention $t(49)=-4.08$, $p<0.016$, respectively between intervention and post-intervention $t(49)=3.30$, $p<0.016$. In other words, the bronchoscopic examination generated a high level of anxiety.

Table 2. Heart rate before, during and after bronchoscopy

	Mean	SD	F	p
Heart rate.before	93.90	20.23	12.91	0.001
Heart rate.during intervention	107.24	26.22		
Heart rate.after	97.40	18.30		

Table 3 shows significant changes of systolic blood pressure during the three measurements. Post-hoc analysis with Benferonni correction shows significant differences between pre-intervention and intervention $t(49)=-3.33$, $p<0.016$, respectively between intervention and post-intervention $t(49)=5.06$, $p<0.016$.

Table 3. Systolic blood pressure before, during and after bronchoscopy

	Mean	SD	F	p
TAS.before	152.04	26.19	13.49	0.001
TAS.during intervention	164.06	28.34		
TAS.after	146.72	24.50		

We didn't find a statistically significant difference for the diastolic blood pressure between the three measurements ($p=0,059$). Post-hoc analysis with Benferonni correction showed a significant difference between intervention and post-intervention $t(49)=2.68$, $p<0.016$ (Table 4).

Table 4. Diastolic blood pressure before, during and after bronchoscopy

	Mean	SD	F	p
TAD.before	86.78	15.57	2.92	0.059
TAD.during intervention	89.96	15.80		
TAD.after	84.94	12.26		

Regarding a correlation between subjective and physiological indicators of the anxiety, we didn't find any statistically significant correlation in pre- or after bronchoscopic examination (Tables 5, 6).

Table 5. The matrix of correlation between subjective and physiological indicators of anxiety before bronchoscopy

	1	2	3	4
1. STAIX1	1	.12	-.16	-.13
2. Heart rate		1	-.07	.20
3. TAS			1	.61**
4. TAD				1

** Significant correlation for $p < 0.01$

Table 6. The matrix of correlation between subjective and physiological indicators of anxiety after bronchoscopy

	1	2	3	4
1. STAIX1	1	.10	-.04	.17
2. Heart rate		1	-.12	.11
3. TAS			1	.41**
4. TAD				1

** Significant correlation for $p < 0.01$

Regarding a possible correlation between subjective and physiological indicators of anxiety and age, gender, environment of origin and smoking, we did find a statistically significant correlation only for gender (the heart rate was higher in women) (Table 7, 8, 9, 10).

Table 7. Correlation age-subjective and physiological indicators of anxiety

	1	2	3	4	5
1. age	1	-.11	-.11	.27	.25
2. STAIX1.before		1	-.06	-.20	-.06
3. Heart rate.intervention			1	.22	.11
4. TAS.intervention				1	.51**
5. TAD.intervention					1

** Significant correlation for $p < 0.01$

Table 8. Correlation gender-subjective and physiological indicators of anxiety

	gender	N	Mean	SD	t	p
STAIX1.before	female	18	42.77	10.35	0.12	0.902
	male	32	42.40	10.12		
Heart rate.intervention	female	18	120.44	17.88	2.85	0.006
	male	32	99.81	27.45		
TAS.intervention	female	18	174.55	31.58	1.89	0.068
	male	32	158.15	24.96		
TAD.intervention	female	18	85.66	13.93	-1.45	0.152
	male	32	92.37	16.48		

Table 9. Correlation environment of origin-subjective and physiological indicators of anxiety

	environment	N	Mean	SD	t	p
STAIX1.before	rural	16	41.88	11.01	-0.316	.753
	urban	34	42.85	9.80		
AV.intervention	rural	16	108.19	24.90	0.174	.863
	urban	34	106.79	27.18		
TAS.intervention	rural	16	162.06	27.60	-0.339	.736
	urban	34	165.00	29.06		
TAD.intervention	rural	16	88.38	10.34	-0.483	.632
	urban	34	90.71	17.91		

Table 10. Correlation smoking-subjective and physiological indicators of anxiety

	smoking	N	Mean	SD	t	p
STAIX1.before	no	20	42.55	13.39	.01	.996
	yes	30	42.53	7.41		
AV.intervention	no	20	107.10	30.06	-.03	.976
	yes	30	107.33	23.88		
TAS.intervention	no	20	170.95	31.26	1.41	.163
	yes	30	159.47	25.75		
TAD.intervention	no	20	91.35	13.50	.50	.617
	yes	30	89.03	17.34		

We didn't find a statistically significant difference in the level of anxiety between patients who performed a previous bronchoscopic examination and those who didn't, but the patients who didn't have information about the procedure were more anxious (subjective anxiety) than patients who knew some data about the technique (Table 11, 12). Also, the patients who received explanations about the procedure from the medical team were less anxious than the patients who weren't informed (Table 13).

Table 11. Correlation previous bronchoscopic examination-subjective and physiological indicators of anxiety

	Previous bronchoscopy	N	Mean	SD	t	p
STAIX1.before	no	34	44.50	9.99	2.06	.044
	yes	16	38.38	9.32		
Heart rate.intervention	no	34	108.38	24.90	.44	.658
	yes	16	104.81	29.55		
TAS.intervention	no	34	163.79	28.46	-.09	.924
	yes	16	164.63	29.03		
TAD.intervention	no	34	90.76	13.93	.52	.605
	yes	16	88.25	19.62		

Table 12. Correlation previous information about bronchoscopy-subjective and physiological indicators of anxiety

	Previous information	N	Mean	SD	t	p
STAIX1.before	no	19	47.00	10.03	2.58	.013
	yes	31	39.81	9.28		
Heart rate.interventie	no	19	105.68	25.65	-.33	.746
	yes	31	108.19	26.95		
TAS.intervention	no	19	161.84	25.27	-.43	.669
	yes	31	165.42	30.40		
TAD.intervention	no	19	93.11	15.68	1.10	.275
	yes	31	88.03	15.83		

Table 13. Correlation explanations about the procedure-subjective and physiological indicators of anxiety

	Explanations about procedure	N	Mean	SD	t	p
STAIX1.before	no	16	47.31	10.62	2.40	.020
	yes	34	40.29	9.17		
Heart rate.intervention	no	16	109.25	28.02	.37	.714
	yes	34	106.29	25.72		
TAS.intervention	no	16	162.19	26.02	-.32	.752
	yes	34	164.94	29.72		
TAD.intervention	no	16	90.63	15.05	.20	.841
	yes	34	89.65	16.36		

Conclusions

Subjective anxiety measured by STAI-XI scale increased significantly after the intervention compared to the time before intervention. Also, the objective anxiety (assessed by pulse, systolic blood pressure and diastolic blood pressure) was present. From pulse point of view, bronchoscopy was generating more anxiety than both situations: waiting for the intervention and subsequent to intervention. Systolic blood pressure increased significantly during the intervention compared to the waiting call and decreased again significantly after the intervention, without having big statistical differences between initial and final state. The trend in diastolic blood pressure between the three moments of measurement was similar to the evolution of systolic blood pressure.

In terms of correlation between subjective and physiological key indicators of anxiety with several variables, we didn't find any positive correlation with age, environment, toxic substance abuse or previous experience of a bronchoscopic procedure. We found a statistically significant correlation with gender (women pulse was more accelerated, $p=0.006$), with patient's level of previous knowledge about bronchoscopic procedure (subjects without knowledge showed a higher level of subjective anxiety STAI-XI compared to those ones who have had knowledge, $p=0.013$) and with the knowledge of the reason for which the patients were required to perform the bronchoscopic procedure (subjects who knew the reason they were required to perform the intervention showed a significantly lower anxiety level than the subjects who didn't know it).

As conclusion, present study shows that the bronchoscopy, even being a minimal invasive intervention and not requiring subsequent significant recovery, is accompanied with anxiety, bit subjective and objective.

Conflict of interest

There are no conflicts between authors related on this article.

Funding

None

Ethical approval

The aims and procedure of the study were explained and a consent form was received from each participant. Official permission was received from the hospital where the study was executed before collection of the data.

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Managing Anxiety before Colonoscopy by an Ad-Hoc Video Tape

David L.¹, Pop G.¹, Dumitraşcu D.L.¹

¹2nd Medical Dept., University of Medicine and Pharmacy Iuliu Hatieganu Cluj-Napoca (ROMANIA)
E-mails: lilidavid2007@yahoo.com, ddumitrascu@umfcluj.ro

Abstract

Background and aim: Patients submitted to colonoscopy for the first time present anxiety caused by the procedure itself (preparation, intimacy, exposure, phobias, including oncophobia) and also by the disease itself that caused the referral of the patient to this investigation. We tried to diminish this anxiety by an intervention.

Methods: A videotape was produced *ad-hoc*. It included an introductory part on bowel diseases, followed by the explanation of the procedure, by a brief recording of a colonoscopy and by the recording of a patient just finishing colonoscopy and who was satisfied with this investigation. Patients submitted first time to colonoscopy for diagnostic purposes (not preventive) were divided in 2 groups by stratified randomization: group 1 received usual information for colonoscopy before signing the informed consent. Group 2 viewed in addition the videotape one day before the examination. STAI I and II anxiety scales were administered to the patients before the colonoscopy.

Results: Both groups were similar in respect to age, sex, functional or organic conditions, comorbidities. Group 2 had significantly lower scores of STAI I compared to group 1. The STAI II scores were similar in both groups. Satisfaction was higher on a visual analogue scale in group 2.

Conclusion: Educating the patients submitted to colonoscopy with the aid of a videotape decreases anxiety as state before colonoscopy.

Keywords: anxiety, colonoscopy, patients' education, videotape

Introduction

Endoscopy in general has an impact on the subjects referred to this investigation: anxiety about the procedure in less informed people, anxiety caused by the symptoms, possible adverse effects, diagnostic errors etc. Even upper digestive endoscopy, which is easier and faster than colonoscopy, creates anxiety [1]. Colonoscopy compared with gastroscopy is a relatively more invasive investigation, including preparation, unpleasant manoeuvres, in some cases attempts against individual pudicity and intimacy. To these, it should be added the anxiety caused by underlying conditions requiring endoscopy, either diagnostic or preventive or therapeutic [2, 3]. The use of colonoscopy is increasing in the world, thus a pool of patients becoming larger from year to year are submitted to colonoscopy [4]. Hence the necessity to have well instructed patients submitted to colonoscopy, able to accept the easy performance of the investigation.

There is a need to educate patients before colonoscopy, in order to have less anxious patients, well prepared in order to obtain high quality visibility and to tolerate easily the examination. The usual information given to the patients before the colonoscopy in order to obtain the informed consent is useful, but not sufficient.

We undertook a prospective study to look for the effect of an educational videotape on the anxiety of the patients submitted to colonoscopy.

Methods

Protocol

A prospective controlled study has been designed. A sample of consecutive subjects referred to colonoscopy for the first time, excluding cases referred for preventive investigation i.e. early prevention of colorectal cancer, were randomly allocated to two groups. Group 1 received the basic

information on colonoscopy before the informed consent; group 2 has regarded in the previous day, an educative videotape. Anxiety was measured before colonoscopy and comparison between the two groups was carried out.

Material

The tape has the duration of 30 min, was created by specialists in the field and included several chapters on following matters: what is the colon, elements of anatomy and physiology, pathology of the colon, the method of colonoscopy, the witness of a satisfied patient, instructions of preparation for the patient [5].

Measures

Anxiety was measured with the STAI I and II questionnaires, both questionnaires being well validated and used in this country. STAI is for state and trait anxiety inventory, developed by Spielberger [6]. STAI I measure anxiety as state (i.e. in the moment of the testing, as before colonoscopy) and STAI II measures anxiety as a trait, thus anxiety in general, STAI II controls in this way the state anxiety.

We also measured the satisfaction of the subjects using a visual analogue scale. This test was filled by the patients after colonoscopy.

Subjects

The subjects were recruited in consecutive order. Inclusion criteria were: given informed consent; able to cooperate; first time colonoscopy. Exclusion criteria: preventive colonoscopy. We included in this study a number of 20 patients in each group, thus a total of 40 subjects.

Statistics

With the aid of a commercially available statistical package, we performed measurements of descriptive statistics and compared both groups using the chi square test.

Ethical issues

This study was approved by the local ethics committee.

Results

The groups 1 and 2 were comparable in respect to: sex, age, education level. Group 1 included 12M/8F while group 2 included 11M/9F. The gender distribution in both groups is displayed in Fig. 1a and Fig. 1b.

The STAI scores are displayed in table 1.

Table 1: STAI scores in both groups:

	STAI I	STAI II
Group 1	44 _± 12	38 _± 9
Group 2	46 _± 11	41 _± 13
p	<0.05	NS

Education level was similar in both groups and did not correlate with anxiety scores.

Gender distribution Lot 1

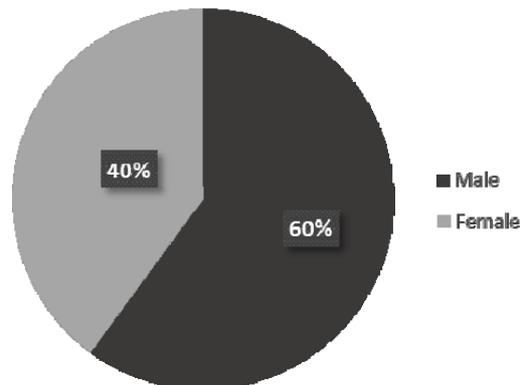


Fig. 1.a: gender distribution in group 1

Gender distribution Lot 2

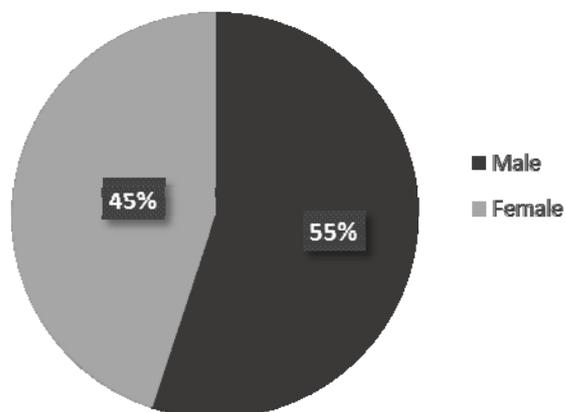


Fig. 1.b: gender distribution in group 2

The results at the test with the visual analogue scale performed after the colonoscopy showed a higher satisfaction in patients from group 2, who regarded the educational videotape before the colonoscopy.

90% of them declared themselves satisfied with the investigation and not anxious, compared with 75% only from the group 1 who did not regard the videotape ($p < 0.01$).

Discussion

This is the first study in our country using an educational videotape to prevent anxiety and dissatisfaction in patients submitted to colonoscopy. The videotape offered to the patients main information on the purpose, the techniques and possible inconvenients of colonoscopy. Our data are similar with similar data produced independently by other groups [3, 7]. Thus, our study increases the evidence for the benefits of education and instruction of patients by using a short movie, i.e. a videotape. Our results are comparable with those provided by other studies. Our limitation is mainly

the reduced number of cases, giving to this study a character of pilot study, in an area and on a population where no data was published before on this issue. Therefore the date represent the starting point for a more extended study.

Conclusions

Colonoscopy is associated with high scores of anxiety. Using a videotape, it is possible to significantly decrease the levels of anxiety in this group of patients. Also, the patients submitted to colonoscopy have a higher satisfaction level if they are instructed before the examination. The audiovisual means developed by us has thus shown its utility.

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Teaching psychosomatic medicine to nurses: the Romanian experience

David L.

Emergency County Hospital Cluj, Cluj-Napoca (ROMANIA)

E-mail: lilidavid2007@yahoo.com

Abstract

Nurses are frequently facing the problems of the patients seen in ambulatory or admitted in hospital wards. They also have contacts with the associated sorrow of the relatives or accompanying persons. Therefore it is useful to have nurses trained according to the biopsychosocial medicine besides the usual professional training.

Starting from this premises, we offered optional courses to nursing students at the faculty of medicine in Cluj-Napoca, in addition to courses on medical communication. Postgraduate courses on psychosomatic medicine were also organized. In the last two years, we accepted also nurses to a master degree program of 12 months on psychosomatic medicine. This program includes lectures and practical activity on psychosomatic medicine, psychoneuroimmunology, counseling and communication. We also elaborated a book in Romanian on "Psychosomatic Medicine for Nurses".

In this review, we will share our experience during the EAPM 2014 meeting in Sibiu.

Keywords: Nurses, psychosomatic medicine, teaching.

Introduction

Psychosomatic medicine is not a speciality in Romania. In the last 10 days it became a teaching object, first in Bucharest [1], than in Cluj-Napoca [2], later in other Romanian universities: Brasov and Sibiu. The courses and seminars on psychosomatic medicine are mainly dedicated to students and are optional. Other faculties introduce essentials of psychosomatic medicine in the curricula of medical psychology.

Courses on psychosomatic medicine are also given at postgraduate level and more recently in the frame of a master programme at the Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca.

The training of nurses in Romania includes four year tuition and a bachelor degree is according to all obtaining the 240 ECTS (European credit transfer system) credits. In the curricula we started 4 years ago offering lectures and practical seminars for medical communication. In the frame of these teaching hours, we included several hours of teaching biopsychosocial medicine. Since 2013, these lectures are optional, however well attended.

The medical school has a relatively long history of teaching in health sciences, starting back in the 17th Century, when under the Empress Maria Theresia, a Jesuit college was founded. Medicine continued to be taught in 1872 in the Franz-Joseph University, in 1919- in the University King Ferdinand and continued after WW2 in the Institute of Medicine and Pharmacy (1948) and later the University of Medicine and Pharmacy Iuliu Hatieganu (1990). The university has 2500+ enrolled students from more than 50 countries. The nurses' education is important, given also the high degree of migration of this vocational group.

Content of the Training

The particularity of the psychosomatic medicine in Romania, as well as in other countries of the area, is that it is not dominated by C/L psychiatrists [3]. Therefore, psychosomatic medicine is rather a biopsychosocial medicine with emphasis on socio-psychological factors, on quality of life and on psychotherapy or counseling. However, collaboration with psychiatrists exists, but the interest of our psychiatrists is mainly directed toward other fields.

The specialization of our teachers in psychosomatic medicine has thus lead to a structuration of the curricula for nurses toward the biopsychosocial model.

We offer to nurses in the fourth years information starting with the differentiation between health and disease and on model of diseases. Our students learn in these lectures that health is traditionally equated to the absence of disease and that the lack of a fundamental pathology was thought to define one's health as good, according to the biomedical model. We further show that biologically driven pathogens and conditions would render an individual with poor health as ill. Based on the biopsychosocial model, the state of being in good health is accompanied by good quality of life.

Our students have also access to the knowledge that the biopsychosocial model is the background for clinical care according to the holistic, psychosomatic approach. This is a possibility to understand the disease. We differentiate between diseases, illness, and sickness. The patient may be affecting according to this model from the societal to the molecular level. From the practical point of view, psychosomatic medicine is also the possibility to understand each patient's subjective experience as an essential contributor to accurate diagnosis, health outcomes, and therapy.

The model allows the understanding of the functional disorders.

We present to the students also the psychosocial factors modulating the presentation to the healthcare providers and finally we offer essentials on psychotherapeutical techniques.

Our proceedings and textbooks are a continuation of a Romanian tradition in the field of neurosciences.

Thus, we should mention the forerunners and their contributions. Alexandru Sutz: has wrote as early as 1877 the seminal book: The madman in rapport with the society and science. Some decades later, Constantin I Parhon, who will become the founder of endocrinology in this country, has founded the Society of Neurology, Psychiatry and Psychology in 1918, an organization dealing with many topics today covered by the psychosomatic medicine. We should also mention Constantin Urechia and Jean Mihailescu who wrote the Treatise of Neuro-mental pathology in 1928 and few years later C. Vlad with the first Romanian studies on psychoanalysis, in the '30s. The political changes after WW2 in Romania where against the development of psychosomatic medicine and the faculties of psychology were closed during the communist dictature in the '80s. However, an important book was allowed to be issued: Stefan Milcu: "L' apparition immediate et tardive des endocrinopathies apres le stress", in French in 1977.

The tradition was continued with the teaching activity, including for nurses, in the last decade. A textbook was issued for Romanian students of the faculty of nurses in Cluj-Napoca, being to our knowledge the first in this country having such a destination [4]. The book cover is displayed in the Fig. 1.

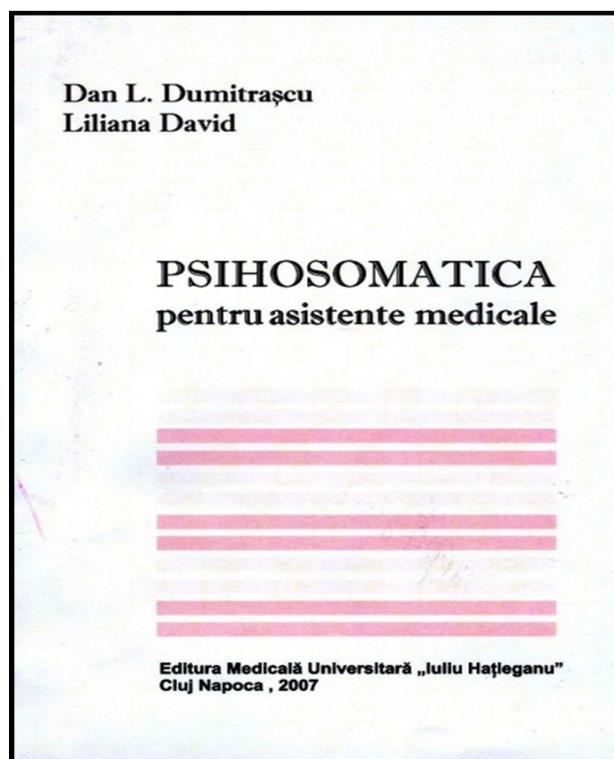


Fig. 1: The textbook of psychosomatic medicine for nurses in Romanian [4]

Communication and Psychosomatic Medicine

In our conception, psychosomatic medicine is very much tied to the medical communication [5]. In this respect, our teaching is very much directed toward improving the communication skills of the nurses with the patients in all possible conditions, and also the relatives. We should mention that in our standing, we start with teaching the relationship with the patient and then we continue with the essentials of psychosomatic medicine. The topics that we consider while teaching communication to nurses are displayed in table 1.

Table 1: Topics of health communication in our course of psychosomatic medicine for nurses.

Anamnesis with diagnostic purpose (patient history)
Communication with peers (consulting)
Formulation of therapeutic and prophylactic recommendations
Interaction with relatives
Interaction with peers
Interaction with disciples and mentors
Interaction with other health care personnel: nurses, pharmacists etc..
Interaction with authorities
Scientific communication
Formulation of health care policies
Formulation of professional guidelines
Telemedicine

Beside the lecture we have also practical seminars with true interaction with the patients or the relatives or discuss different scenarios.

Conclusions

Psychosomatic medicine according to the paradigm of biopsychosocial medicine has been introduced in the curricula of the nurses in the fourth study year in the faculty of medicine of Cluj-Napoca, Romania. Based on a short but comprehensive tradition, the lectures and seminars are well attended and well evaluated by students. The curriculum includes also an extended part of lessons on the interrelationship with the patient and the relatives.

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Opportunities for psychosocial oncology care in Romania - professional perspectives

Degi Cs.¹, Cimpianu M.²

^{1,2} Babes Bolyai University (ROMANIA)

E-mail: d.csaba@socasis.ubbcluj.ro

Abstract

The present research project is a first assessment of the present situation regarding the unattended and unconsidered psychosocial necessities and needs within the oncological treatment in Romania, from the perspective of involved specialists.

Keywords: psychosocial, professionals, cancer care, Romania.

Introduction

In Romania, the psychosocial care of cancer patients is not yet included in the National Cancer Plan. Moreover, there are no guidelines, published clinical guides, or any professional recommendations at national level for the psychosocial care of cancer patients. The Romanian public health system can by no means offer qualitative psychosocial care for cancer patients, since cancer distress is not assessed and treated as the 6th vital sign after body temperature, blood pressure, pulse, breathing and pain.

Within the cancer population (420 patients) studied by us in the first extensive interdisciplinary research in Romania focusing on psychosocial aspects of adult cancer patients, one in five patients is not informed regarding his/her oncological diagnosis, 47.5% suffer of clinical depression, 46.7% experience states of anxiety, and 28.1% relate a seriously impaired quality of life [1, 2].

At this point, we have to emphasize the fact that research in psycho-oncology indicates that psychosocial well-being and the quality of the cancer patients' and their family's life, as well as that of the involved specialists, influences each other.

Presently, we do not have any data regarding the emerging needs and opportunities of psychosocial care specialists in Romania, working with cancer patients. Key data will be presented about the emerging needs of psychosocial professionals in cancer care in Romania.

Methodology

The present research project is a first assessment of the present situation regarding the unattended and unconsidered psychosocial necessities and needs within the oncological treatment in Romania, from the perspective of involved specialists. This research project uses a mixed methodological approach with a quantitative component (questionnaires) and a qualitative (in-depth interviews) alike. The questionnaire will be applied in early 2014 to a sample of 100 psychosocial professionals in Romania, out of which a total of 25-30 oncology professionals will be included in the heterogenic group of interviewees.

Results

Most of the professionals in the field of psychosocial oncology are females, 88.3% of the respondents were women. Moreover, women also showed a greater willingness to respond than men. The average age of the respondents is 40.5 years, the interviewees being aged between 23 and 69 years. Of the total persons who answered the questionnaire, more than half agreed to participate in a telephone interview (62.8 %).

As expected, the vast majority of those who completed the questionnaire on psycho-oncology are from urban areas, 97.9% respectively. Moreover, the health facilities treating oncology patients are located in the major cities and university centers respectively, which is also where the foundations or

non-governmental organizations are based providing specialized services to cancer patients; consequently, the professionals working with these patients are mainly from the urban areas.

Given the subject matter, the majority of the respondents were clinical psychologists, i.e. 37.23 %, followed by doctors - 14.89 %, psychotherapists - 9.57 %, social workers - 7.44 %. There was also an equal number of nurses and counselors - 4.25%, as well as of managers and specialists in health psychology - 3.19 %. The respondents with the lowest participation rate were priests. It is natural that the professionals most present near the oncology patient should be the clinical psychologist and the physician, but in the Romanian hospitals the number of professionals is too small to cover their needs. In addition, there is an acute need of social workers who are currently not present in the organizational chart of the public health care units in this field.

On average, the activity of the psychosocial professionals working in the field of oncology totals 41 hours / week, with most of the time being devoted to direct interactions with the patient. On average, the actual time spent with the patients is 17:09 hours, out of which 4:19 hours with end-stage patients under palliative care. In addition to the time spent with the patients, a professional in this field allocates 7:12 hours to solving administrative tasks, 4:49 hours for teaching, 4:52 hours for research and 8:14 hours to other types of domain-specific activities.

Almost half of the professionals interviewed, 48.94 % respectively, had worked between 1 and 5 years in the field of oncology. If we consider that the largest number of respondents are clinical psychologists and that psycho-oncology is a new branch in Romania in which timid steps have been taken only recently, we can explain the large number of professionals with little experience in this area. They were able to prove their usefulness in this field and in recent years this profession has been ever more present in the organization chart of the health care units specialized in Oncology. With increased experience in the field of oncology decreases the percentage of specialists, so only 4.26% of the respondents have more than 21 years of experience in working with oncology patients. In recent years there has been a great increase in the number of people affected by cancer, which has required an increased number of professionals; therefore, almost three quarters of those interviewed, 72.3 % respectively, have an experience of less than 10 years in this field. Due to advances in medicine both in terms of diagnosis and treatment of neoplastic pathologies, the life expectancy of cancer patients has significantly increased. This increase in life expectancy has implicitly led to an increase in the period during which cancer patients need psychological support in addition to specific treatment.

Due to the higher frequency of oncologic pathology in adults more than three quarters of respondents work with adults - 80.9%, while 12.77% work with children between 0 and 15 years. The lowest weight of specialists in the sample group is of those who work with adolescents (6.38%).

The complexity and multitude of the oncologic patients' needs require a multidisciplinary team. This is also reflected by the responses provided by the study participants. Thus, two thirds (67 %) of the respondents are part of such a team. The remaining responses reflected the absence of such teams or did not provide information in this regard.

Most respondents (70 %) believe that psychosocial activities at the workplace are appreciated and highly regarded, and only 17 % consider these to be undervalued. This result is favorable to the integration of the new professionals into multidisciplinary teams working with patients with neoplastic pathology.

Over half of the respondents (57.4 %) answered that they do not use standardized psychosocial assessment instruments or protocols in their current activity (Fig. 1).

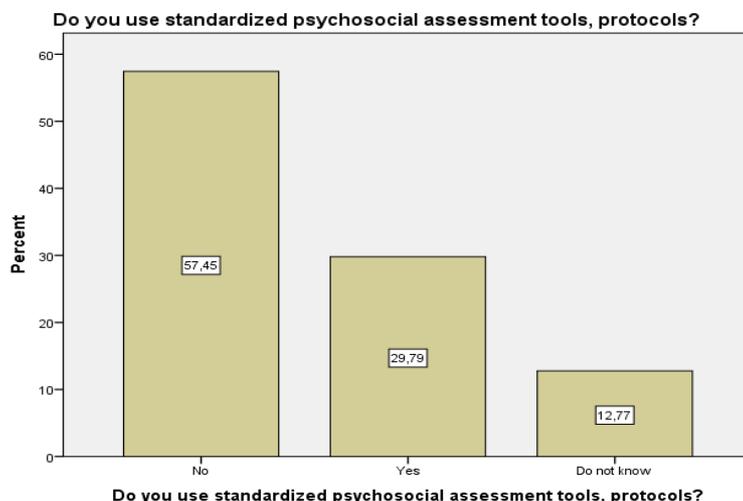


Fig. 1. Standards of psychosocial oncology care in use in Romania

They motivated their responses by the fact that in Romania there is no standardization in this area and signaled the need to develop tools to meet the needs of the psycho-oncology patient. The 30 % of participants, who responded positively, use either instruments specific to other areas or have taken over these instruments from other countries, but which are inappropriate in Romania. Creating a unified framework for the psycho-oncology professionals should contribute to increasing the quality of the services provided to cancer patients. This in the context in which the most frequent problem among cancer patients is oncology distress, manifested mainly by symptoms of depression and anxiety. The fact that 62.8% of the specialists consider that more than half of the patients experience this problem underlines one more time the increasing need for training professionals in the field, in order to provide adequate support to these patients and their families. A small number of respondents - 2.1 % consider that less than 25 % of cancer patients suffer from oncology distress.

The respondents reported a lack of trainers in this field who could provide specific training and monitor the activity. Of those interviewed, 85% were not able to benefit from supervision in the workplace. Only 14.9% of the respondents receive supervision at work and of these, only 4.3 % had more than 3 meetings per month with the supervisor. Also, some of the respondents believe it would be beneficial to consult with colleagues about situations they encounter in their work with oncology patients, and feel the lack of collaboration and supervision in the current work activity.

Globally, there can be noted an increasing tendency to a patient-centered approach in tumor disease management, with increasingly more attention being paid to the psychosocial issues that accompany the illness, such as quality of life, patients' rights and empowerment, in addition to the specific medical and surgical oncology treatment. When requested to assess on a scale of 0-10 to what extent they agree with the fact that the quality of patient treatment in oncology should integrate the psychosocial aspects of the disease in the routine care, the professionals almost unanimously recognized this need, the average score being 9.28. This proves that the new trends in oncology patient care also take into consideration the psychosocial aspects of the disease. A holistic approach to the patient with neoplastic pathology would enhance the chances of survival. Treatment success is obviously higher in these patients than in patients whom treatment is limited to their disease, focused on the medical condition without considering other issues that inevitably derive from it. In treating cancer patients one should consider the psychological peculiarities of the patient, the socio-economic, cultural and spiritual aspects of them. It is important for professionals to promote complex care, rehabilitation and social reintegration of the patient. Unfortunately, many of the respondents believe that this way of treating the patient is just at the beginning and even nonexistent in the health care units in Romania.

The respondents were asked to assess to what extent they consider that oncology distress (depression, anxiety, quality of life) should be measured as the 6th vital sign, after temperature, blood pressure, pulse, respiratory rate and pain, using a scale of 0 to 10. The average score was 9.36. Most of them consider that in patients with cancer it is important to assess distress, the presence or absence of which represents a valuable indicator that can influence therapy, therapy compliance, the approach to the disease and, ultimately, therapeutic success.

The majority of the subjects participating in the study expressed a desire to attend in the future courses of psycho-oncology (37.2 % to a great extent, 31.9 % a lot). Only a negligible part of the respondents, respectively, 4.26 %, do not wish to participate in this kind of courses in the future. Their availability to attend psycho-oncology courses is encouraging, and we believe that it is appropriate to hold several training activities in this field, which would entail an increasing in the oncology patient quality of life. Also, the study participants drew attention to the lack of training and specialization courses, despite their growing importance and necessity.

Surprisingly, the vast majority of the study participants have not yet joined the Romanian professional association in the field (96.8%). We believe that greater involvement of the professionals in the Romanian Association of Psychosocial Oncology (RAPO) would contribute to a better collaboration while giving the organization the power to promote and support specialists in the field. For this, RAPO would need to increase the visibility and attractiveness to the target audience, in order to provide better training and to respond to the specific needs of oncology patients in Romania.

Conclusions

The average age of the sample group included in the study is 40.5 years.

The majorities of the specialists working with oncology patients in the study are female (88.3 %) and come from urban areas.

About a third of the study participants are clinical psychologists, 15 % physicians, nearly 10% psychotherapists and social workers, with a lower weight of nurses, counselors and priests.

Almost half of the respondents have a work experience between 1 and 5 years and almost three quarters of them (72.3 %) have worked for more than 10 years in the field.

The vast majority of the study participants work with adult patients, and only a quarter of them work with minors.

The activity of the professionals in the field totals on average 41 hours / week. Most of this time is spent working with patients (17 hours), while the remaining time is used for administrative tasks, teaching and research, and other activities.

The overwhelming majority of the study participants wish to attend future courses of psycho-oncology (95%).

Over 70 % of the respondents believe that the psychosocial activity is appreciated.

Of the total respondents, two-thirds say they are part of a team in their work with oncology patients.

Over half of the oncology professionals do not use standardized psychosocial assessment instruments or protocols in their work. Creating a unified framework for the psycho-oncology professionals should contribute to increasing the quality of the services provided to cancer patients.

Only 15 % of the respondents receive supervision at work and of these, only 4.25% have more than three meetings per month with the supervisor.

Most of the specialists participating in the study believe that most of the patients with neoplastic pathology suffer from oncologic distress, presenting symptoms of depression and anxiety.

The respondents stated almost unanimously that quality patient treatment in oncology needs to integrate the psychosocial aspects of the disease in routine care.

The overwhelming majority of the professionals believe that it is important to assess distress (depression, anxiety, quality of life) as the 6th vital sign in patients with cancer.

Only 18 % of the respondents were aware that psychosocial support is included in the National Cancer Control Plan.

A little more than half of the respondents do not know whether or not a specific budget is provided by the Ministry of Health or government for the psychosocial support of patients diagnosed with cancer and they also do not know if there are published or recommended clinical principles of psychosocial care in oncology at national level.

Most of the professionals working with oncology patients do not know (44.7 %) or believe that there is no (43.6 %) official certification for psychosocial care in oncology or for psycho-oncology.

Two thirds of the participants to the interview do not know or claim they are not offered training courses to help them develop their communication skills with cancer patients within the medical psychological and social work system education in Romania.

The professionals working with cancer patients have given an average score of 4.04 to the degree of satisfaction (maximum 10) in the care of cancer patients in Romania.

Based on the hierarchy of the participants' answers on the institutions providing psycho-social assistance in Romania, we concluded that PHC centers occupy the last position, with a score of 6.73, the top two positions being occupied by cancer centers of national interest (3.96) and cancer organizations (3.07).

Physicians (5.17) and psychiatrists (5.06) are considered to be the least involved in providing psychosocial care in Romania, while the first place is occupied by psychologists (3.09).

Acknowledgments

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Drug Allergic Reactions and Distress Vulnerability

Diaconescu L.

University of Medicine and Pharmacy "Carol Davila", Department of Medical Psychology, Bucharest, (ROMANIA)

E-mail: idiac2002@yahoo.com

Abstract

Purpose: The aim of the study was to assess the psychological particularities at patients with drug allergy, such as high vulnerability to stress and increased levels of anxiety and depression.

Method: The design of the study was transversal and included 152 patients with drug allergic reactions (128 women and 24 men, mean age 46,83) and a control group of 60 healthy subjects (46 women and 14 men, mean age 44,20). They were administered Hospital Anxiety and Depression Scale (Zigmond & Snaith), Perceived Stress Scale (Cohen & Williamson), Stress Vulnerability Scale (Miller & Smith) and a psychological anamnesis (Diaconescu & Iamandescu).

Results: The levels of anxiety and depression were increased at drug allergic patients (10,8 vs 5,58, respective 6 vs 4; $p < 0.001$). The scores at Perceived stress scale were higher in patients compared with healthy subjects (34 vs 30, $p < 0.001$). The scores at Vulnerability stress scale were higher in patients than in healthy subjects (41,5 vs 33, $p < 0.001$) and in patients with anaphylactic shock than patients without anaphylactic shock in their medical history (45,75 vs 42,6, $p < 0.08$). There were significant correlations between perceived stress and anxiety ($r = 0,619$), respective depression ($r = 0.572$).

Conclusions: Higher stress vulnerability at drug allergic patients points out that they have an increased responsiveness to psychological stress agents, reflected also by increased levels of anxiety and depression. We do not know to what extent, in patients allergic to drugs, this vulnerability is constitutional, pre-existing allergy, or is acquired by experiencing allergic reactions. Maybe a "mixed" vulnerability (constitutional and acquired) is especially evident in atopic patients, subjected to repeated and various allergic manifestations. In addition, the increased levels of studied variables at patients with a history of anaphylactic shock emphasize the somatopsychic recoil of these severe generalized allergic manifestations.

Keywords: drug allergy, vulnerability, anxiety, depression

Introduction

Previous studies revealed in patients with drug allergy some psychological aspects such as the presence of individual factors (stress load, stress vulnerability) which can increase the allergic reactions' incidence [1], a high rate of anxious and panic troubles [2], [3] and increased levels of depression [4], [5], [6].

Psychological vulnerability to stress may be regarded as a particular feature of individuals which respond in a easy manner to psychological stress and appears as an element favoring psychosomatic disease in which an organ vulnerability is associated. Stress vulnerability is influenced by perceived stress [7], [8] and is formed during the individual's life, in tight correlation with immunogenic traits and depending on the experience of stress and the manner of facing the stressor events. Also, at patients with drug allergy, due the anticipation of an allergic type-reaction, there is described a state called "helplessness- hopelessness", which diminish the coping strategies (cognitive and behavioral conscious strategies elaborated to tolerate and manage a stressful situation) [9].

The aim of the study was to assess the psychological particularities at patients with drug allergy, such as high vulnerability to stress and increased levels of anxiety and depression.

Methodology

The study included 152 patients with drug allergic reactions (128 women and 24 men, mean age 46,83) and a control group of 60 healthy subjects (46 women and 14 men, mean age 44,20).The

design of the study was transversal and comprised a single administration of the following study instruments:

HADS (Hospital Anxiety and Depression Scale) [10] It is a brief self-report questionnaire (14 items), which assesses anxiety (HADS-A) and depression (HADS-D) as two distinct dimensions in non-psychiatric populations [11]. It has been used widely in clinical settings where anxiety and depression can co-occur with physical pathology [12].

Perceived Stress Scale (PSS) [13]. It is a psychological instrument (10 items) which measures a global perception of stress. The questions ask about feelings and thoughts during the last month. Items were designed to tap how unpredictable, uncontrollable and overloaded respondents find their lives.

Stress Vulnerability Scale [14]. It is a self report questionnaire (20 items) which measures how vulnerable is someone to stress. It refers to a number of factors that affect one's vulnerability to stress - among them are eating and sleeping habits, caffeine and alcohol intake, and how people express their emotions.

A psychological anamnesis [15] which comprised items concerning psychological aspects such as: attitudes adopted after the allergic reaction; attitudes toward further treatment after the diagnosis of drug allergy; degree and manner in which the allergy drug influenced patient's lifestyle; attitudes which would be safety features for patients on following treatment.

Results

A 59.2% of patients from this study were atopic, with predominance of females (64%), which is consistent with other studies showing that allergic reactions are more common in women [16], [17], [18]. In terms of clinical manifestations: anaphylactic shock was present in 24.3% of patients and the most frequent organ manifestations were allergic skin manifestations (79.64%) (as revealed by previous studies [17], [19]. With regard to coexistent pathology, it is noted the presence of at least one disease (78,3%) which requires either continuous or repeated periodically treatment.

The levels of anxiety and depression were increased at drug allergic patients (10,8 vs 5,58, respective 6 vs 4; $p < 0.001$). The scores at Perceived stress scale were higher at patients compared with healthy subjects (34 vs 30, $p < 0.001$) (Fig. 1)

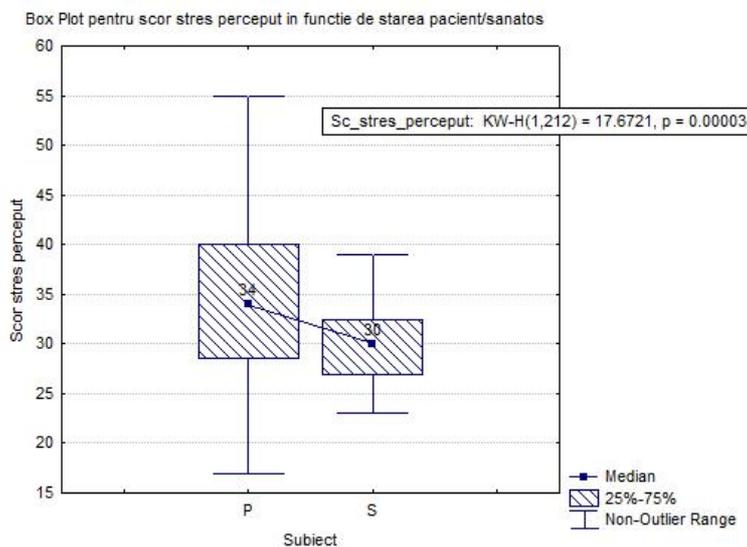


Fig. 1 Box Plot –Perceived stress scores at drug allergic patients/ healthy subjects

The scores at Vulnerability stress scale were higher at patients than in healthy subjects (41,5 vs 33, $p < 0.001$) (Fig. 2) and in patients with anaphylactic shock than patients without anaphylactic shock in their medical history (45,75 vs 42,6, $p < 0.08$).

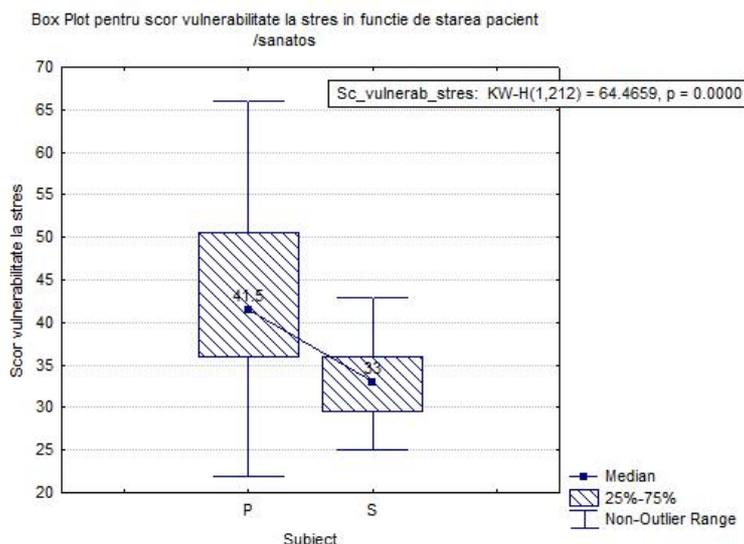


Fig. 2 Box Plot –Stress vulnerability scores at drug allergic patients/ healthy subjects

The attitude taken by patients which experienced allergic reactions: fear and anxiety (in generally) (35%); fear about getting sick and needing medication (15%); fear to take any medication (14%); are more agitated and anxious only thinking at the possibilities and risks of a medicine (10%); reliving the episode in which the allergic reaction occurred (9%); concern that at some point they have to make dental treatment involving local anesthesia (6%); concern of the possibility of surgery involving anesthesia (5%).

There were significant correlations between perceived stress and anxiety ($r=0,619$), respective depression ($r=0,572$), mainly at patients with atopic terrain and at patients which experienced an anaphylactic shock (Table 1)

Table 1. Pearson correlations

Group	Anxiety- Depression	Anxiety- Perceived stress	Anxiety Stress vulnerability	- Depression -Perceived stress	Depression- Stress vulnerability	Perceived stress -Stress vulnerability
Patients	0.565**	0.619**	0.479**	0.572**	0.519**	0.589**
Healthy subjects	0.354*	0.299*	0.350*	0.365*	0.342*	0.220*
Atopic	0.615**	0.538**	0.440**	0.446**	0.531**	0.329**
Non-atopic	0.504**	0.470*	0.284	0.300	0.377	0.123
With anaphy- lactic shock	0.594**	0.521**	0.427**	0.248**	0.381*	0.243**
Without ana- phylactic shock	0.421**	0.395*	0.293*	0.396*	0.461*	0.118

Conclusions

Higher stress vulnerability at drug allergic patients points out that they have an increased responsiveness to psychological stress agents, reflected also by increased levels of anxiety and depression. High levels of perceived stress and stress vulnerability are particularly in those patients with anaphylactic shock, which become extremely anxious and/or catch phobia against any kind of drugs. Drug allergy implies an increase vulnerability to stress, but also is an important factor that can maximize the perceived stress in case of any disease and can change patients' behavior towards any kind of treatment. We do not know to what extent, in patients allergic to drugs, this vulnerability is constitutional, pre-existing allergy, or is acquired by experiencing allergic reactions. Maybe a "mixed" vulnerability (constitutional and acquired) is especially evident in atopic patients, subjected to repeated and various allergic manifestations. In addition, the increased levels of studied variables at patients with a history of anaphylactic shock emphasize the somatopsychic recoil of these severe generalized allergic manifestations.

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Psychosomatic Symptoms in Academic Settings: Investigating Coping Strategies for the Early Detection of Risk

Diaconescu L., Cioca I., Frunză A., Popa-Velea O.

University of Medicine and Pharmacy "Carol Davila", Department of Medical Psychology, Bucharest, (ROMANIA)
E-mail: idiac2002@yahoo.com

Abstract

Purpose: The aim of this study was (1) to assess the prevalence of psychosomatic symptoms (PS) in a heterogeneous, apparently healthy academic sample, and (2) to highlight the association between coping strategies, gender and country of origin on the expression of PS.

Method: The design of the study was transversal. 582 undergraduate students (428 Romanian, 154 international) (335♀, 247♂, mean age=19,29) were administered Cohen & Williamson's Perceived Stress Scale (PSS), Miller & Smith's Stress Vulnerability Scale, Carver's COPE Inventory and Giessen Symptom Questionnaire. *t*-tests and the analysis of variance were later computed, to assess the comparative contribution of coping strategies, gender and country of origin to PS.

Results: Gender influenced the score of perceived stress (20,63♀ vs. 17,80♂, $p < .003$) and PS (48,59♀ vs. 42,91♂, $p < .001$), and the choice of coping strategies (women: focus on emotions, use of instrumental and emotional social support, religion; men: humor, substance use). By country of origin, international students had a higher stress vulnerability (30,52 vs 25,82; $p < .025$). Romanians preferred active coping, use of emotional social support, suppression of competing activities and planning, while for international the most frequent were denial, behavioral disengagement and substance use. There were no significant differences in terms of PS, however they correlated inversely with certain coping strategies, e.g. mental disengagement ($p < .007$), active coping ($p < .015$) and planning ($p < .033$).

Discussion: Academic stress and adjustment issues can lead to PS in youngsters, with gender and cultural factors active as contributors in developing a certain profile of coping. Women have a higher psychosomatic load and perceive stress more acutely, whereas foreigners have a higher vulnerability to stress and do not always use adequate coping strategies. These findings can have implications for the early detection of PS risk.

Keywords: psychosomatic symptoms, stress, coping

Background

Academic settings, through its different aspects (academic workloads, examinations, time pressures, financial aspects, displacement from home, being away from families and friends, dealing with new responsibilities and with unfamiliar situations) represent an environment in which the students (especially the undergraduate ones) experience high levels of distress [1], [2], [3]. The stress related to students' activity can have a negative impact on health leading to physical and psychological symptoms [4], [5], [6], [7]. Frequently experiencing stress contributes to the occurrence of psychosomatic symptoms, especially among youngsters [8], [9].

It was highlighted that not the stressful life events themselves are harmful, but often the individual's inability to cope adequately with various stressful events that have a negative impact on the adolescent's health and well-being [10]. The coping abilities have a significant influence on the intensity of psychosomatic reactions to stress [11]. Active coping styles (positive reinterpretation, planning, acceptance, active coping) correlate negatively with distress [12], may reduce the adverse physiological effects of negative life events [13], [14] and predict better adjustment to college and less somatic symptoms among adolescents [15]. Avoiding coping strategies (denial, disengagement) or ineffective ones (such as smoking or substance abuse to minimize the stress and tension) may contribute to additional stress and lead to, besides a decreased academic performance, a negative pattern of behavior and development of psychosomatic symptoms [16], [17], [18], [19].

The aim of this study was: (1) to assess the prevalence of psychosomatic symptoms in a heterogenous, apparently healthy academic sample and (2) to highlight the association between coping strategies, gender and country of origin on the expression of psychosomatic symptoms.

Methodology

The design of the study was transversal. The participants were 582 undergraduate students: 428 Romanian and 154 international students (335 women, 247men, mean age=19,29). They were administered the following tests:

Perceived Stress Scale (PSS) [20]. It is a 14-item self-report instrument, designed to measure "the degree to which situations in one's life are appraised as stressful".

Stress Vulnerability Scale [21]. It is a 20-item self-report questionnaire, designed to measure how vulnerable is someone to stress. It refers to a number of factors that affect one's vulnerability to stress (such as eating and sleeping habits, caffeine and alcohol intake, and how people express their emotions).

COPE Inventory [22]. It is a 60-item measure that yields 15 factors that reflect active versus avoidant coping strategies. It contains 15 scales: Active Coping, Planning, Seeking Instrumental Social Support, Seeking Emotional Social Support, Suppression of Competing Activities, Religion, Positive Reinterpretation and Growth, Restraint Coping, Resignation/Acceptance, Focus on and Venting of Emotions, Denial, Mental Disengagement, Behavioral Disengagement, Alcohol/Drug Use and Humor.

Giessen Symptom Questionnaire [23]. It contains 24 items describing four subscales (exhaustion tendency, gastric symptoms, pain in the limbs and heart complaints). Higher scores indicate greater impairment of well-being.

Responses were analyzed using SPSS Statistics 17.0.1 software (SPSS, Inc.). There were computed *t*-tests and the analysis of variance, to assess the comparative contribution of coping strategies, gender and country of origin to psychosomatic symptoms.

Results

There were **gender differences** (Table 1) regarding the score of perceived stress (20,63 women vs. 17,80 men , $p<.003$) and psychosomatic symptoms (48,59 women vs. 42,91 men, $p<.001$), and the choice of coping strategies: women preferred focus on emotions (COPE 3), use of instrumental (COPE 4) and emotional social support (COPE 11), religi3n (COPE 7), while men preferred humor (COPE 8), substance use (COPE 12).

Table 1. *t*-test -comparison by gender (the selected data have statistically significant *p* values ($p<0.05$))

	Gender	Mean	SD	t
Perceived stress	Men	17.80	6.784	-5.037
	Women	20.63	6.618	-5.018
Psychosomatic symptoms	Men	42.91	11.101	-5.814
	Women	48.59	12.062	-5.887
COPE 3	Men	9.49	2.351	-5.336
	Women	10.57	2.459	-5.372
COPE 4	Men	10.79	2.563	-3.788
	Women	11.61	2.569	-3.790
COPE 7	Men	8.91	3.931	-1.976
	Women	9.56	3.844	-1.970
COPE 8	Men	10.37	3.671	2.104
	Women	9.76	3.335	2.073
COPE 11	Men	9.59	2.940	-7.058
	Women	11.28	2.790	-7.002
COPE 12	Men	5.98	2.698	2.576
	Women	5.44	2.351	2.523

By **country of origin** (Table 2), international students had a higher stress vulnerability (30,52 vs 25,82; $p < .025$). Romanians preferred active coping (COPE 5), use of emotional social support (COPE 11), suppression of competing activities (COPE 14) and planning (COPE 15), while for international students the most frequent were denial (COPE 6), behavioral disengagement (COPE 9) and substance use (COPE 12).

Table 2. *t*-test -comparison by country of origin (the selected data have statistically significant p values ($p < 0.05$))

	Students	Mean	SD	t
Stress vulnerability	Romanians	25.82	10.744	-4.632
	International	30.50	10.774	-4.626
COPE 5	Romanians	12.32	2.086	4.327
	International	11.43	2.486	3.985
COPE 6	Romanians	6.50	2.306	-3.499
	International	7.33	3.019	-3.089
COPE 9	Romanians	6.25	2.088	-7.264
	International	7.85	2.937	-6.213
COPE 11	Romanians	10.81	2.998	3.375
	International	9.88	2.794	3.489
COPE 12	Romanians	5.42	2.399	-4.012
	International	6.36	2.707	-3.791
COPE 14	Romanians	11.17	2.762	3.221
	International	10.36	2.312	3.501
COPE 15	Romanians	12.71	2.516	3.233
	International	11.92	2.865	3.042

There were no significant differences in terms of psychosomatic symptoms, however they correlated inversely with certain coping strategies, e.g. mental disengagement (COPE 2) ($p < .007$), active coping (COPE 5) ($p < .015$) and planning (COPE 15) ($p < .033$) (Table 3).

Table 3 Analysis of variance (there were selected only the statistically significant data)

Source	Dependent Variable	Type III Sum of Squares	Mean Square	F	Sig.
COPE 2	Perceived social support	135,535	135,535	3,220	,073
	Stress vulnerability	107,826	107,826	1,030	,311
	Score of psychosomatic symptoms	935,774	935,774	7,251	,007
COPE 5	Perceived social support	262,347	262,347	6,232	,013
	Stress vulnerability	662,636	662,636	6,328	,012
	Score of psychosomatic symptoms	775,586	775,586	6,010	,015
COPE 15	Perceived social support	112,008	112,008	2,661	,103
	Stress vulnerability	27,193	27,193	,260	,611
	Score of psychosomatic symptoms	590,663	590,663	4,577	,033

Conclusions

Academic stress and adjustment issues can lead to psychosomatic symptoms in youngsters, with gender and cultural factors active as contributors in developing a certain profile of coping. Women have a higher psychosomatic load and perceive stress more acutely (which is consistent with previous studies [24]), whereas international students have a higher vulnerability to stress and do not always use adequate coping strategies. These findings are similar with those from other studies [25] which emphasized the relationship between youngsters' ways of coping and their health. It is important, on the one hand to recognize the factors contributing to psychosomatic stress response and on the other hand to realize the early detection of psychosomatic symptoms risk and then to develop preventive strategies to improve coping abilities and reduce the risk of psychosomatic disorders

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Quality of Life and Mental Resilience in Patients with Parkinson's Disease: An Explorative, Qualitative Study

Dobbelaere K.¹, Pickut B.²

¹St-Jozef Ziekenhuis, University of Antwerp, (BELGIUM)

²University Hospital, University of Antwerp, (BELGIUM)

E-mail: kristl.dobbelaere@telenet.be

Abstract

Introduction: Parkinson disease is a chronic neurological disease, associated with significant morbidity. First, we assess quality of life (QOL) in a group of patients with Parkinson Disease (PD). Secondly, we evaluate the influence of mental resilience and the relation between QOL and resilience in this same group. **Methods:** Participants: Patients are recruited at the neurological department of a general hospital in Belgium. We invite 16 patients, from which 12 accept to participate. Measures: We develop a brief questionnaire to obtain basic demographical and medical information from the participants. We collect data by a semi-structured interview and by 2 questionnaires. To evaluate the quality of life, we use the RAND-36 questionnaire. The RS-NL is used to measure the mental resilience. Data-analysis: We make a qualitative analysis of the obtained data and focus on the relation between QOL and mental resilience in PD. **Results:** Patients report low to moderate quality of life with moderate to severe feelings of burden, going along with maladaptive coping strategies and resulting in a low degree of resilience. In this small and explorative study, the relation between QOL and mental resilience seems an interesting approach for future research. **Conclusion:** The relation between QOL and mental resilience in Parkinson, needs to be studied in a larger population. In the clinical management of patients with Parkinson, it becomes an interesting perspective to stress on resilience-augmenting strategies.

Keywords: Explorative, Qualitative, Parkinson, quality of life, resilience, coping-strategies

Introduction

Parkinson's disease (PD) is a chronic and disabling disease and can have a major impact on the quality of life of the patient. PD influences daily life and is characterized by a large number of complex symptoms and a large variability in time course. Beside the well-known motor-symptoms, there are a lot of common nonmotor features which involve personality, mood, cognition, autonomic symptoms, sleep disturbances (fragmented sleep, acting out), fatigue and sensory symptoms (pain, burning, tingling). Personality changes include a reduced attention span, visuospatial impairment and a personality that slowly becomes more dependent, fearful, indecisive and passive. Talking is more reticent. Depression is frequent. Anxiety is common.

Parkinson disease lasts between 10 and 20 years on average. Patients have to cope with ever changing problems and symptoms. Coping with such a disease seems to require a big capacity of resilience. In order to better understand the problem, we want to determinate which factors are crucial for the well-being of persons with PD. We begin by evaluating the quality of life of persons with PD and we collect PD-patients' experiences with resilience.

In the present study, we interview persons with PD to address the following goals: (1) We want to examine and determine the factors which influence the quality of life in patients with PD. We want to assess the impact of Parkinson symptoms, on quality of life and we try to classify the determining factors. (2) We want to obtain a better understanding of mental resilience in people with Parkinson Disease. (3) We want to investigate the relationship between quality of life and mental resilience in Parkinson. The corresponding study-questions are: (1) Which symptoms influence the quality of life in patients with PD? (2) What kind of strategies patients experience as helpful in coping with the disease? (3) How resilience relates to quality of life in Parkinson?

Methods

Participants

Persons diagnosed with idiopathic PD are recruited from the neurologic department of a general hospital. Interviews and questionnaires are conducted at in-clinic consultations. Participants receive written and verbal information about the purpose and nature of the study. It is emphasized that participation was entirely voluntary. Confidentiality and anonymity are assured and written consent is given by all participants.

Data-collection

We collect data by a semi-structured interview and by 2 questionnaires. To evaluate the quality of life, we use the RAND-36 questionnaire. The RS-NL is used to measure the mental resilience.

First, we look to the data we collected by the semi-structured interview ([1]RUBIN & RUBIN, 1995). The interview is subdivided into several components. In the introduction, we ensure that the patient was fully informed about the purpose of the interview, that he/she had received and understood the information sheet and that he/she confirmed their full consent. Briefly, the structure of the interview is explained. Initially, we ask some general questions on socio-demographic variables (age, gender, marital status, education, social and professional background). After explaining the structure of the interview, we focus on some facts pertaining to the illness (years since first symptoms and since diagnosis, medication). The following part of the interview dealt with our study-goals and our study-questions

After the semi-structured interview, we also ask questions about resilience by the dutch version of the Resilience Scale ([2]Portzky, 2008). The scale results in a global resilience-score, which can be divided in 2 subtests: (1) individual competitions and (2) acceptance of life and self-acceptation. The questionnaire consists of 25 statements for which persons have to indicate in which degree from 1 to 4 they agree with the statements. The reliability of the questionnaire was rated largely sufficient in a mixed study-population from The Netherlands and Belgium. The test-retestcorrelation is high and the validity is acceptable ([3]Portzky, Wagnild, De Bacquer & Audenaert, 2010)

The quality of life is measured by the RAND-36 ([4]Van der Zee, Sanderman, Heyink & De Haes, 1996). This questionnaire consists of 36 items in 8 subscales. For 6 of those subscales, they use a Likert-scale with 3 up to 6 points. The scores of the individual subscales are add together in two categories and result in a first score concerning psychological well-being and a second score concerning physical functioning. The subscales go from 1 to 100, with high scores representing better level of health and functioning. Psychometric analysis of the RAND-36 in a Dutch population of 17 years and older revealed a high internal consistency and good validity (Van der Zee et al., 1996).

During the whole phase of data-collection, the researcher emphasize that the focus is primarily on the patients' quality of life and resilience, rather than the nature of their illness and its treatment. Single interviews last 40 minutes on average.

Data-analysis

The interviews are analyzed by the investigator in different steps, from creating categories, over connecting data to linking categories After reading the interview transcripts for an initial overview of the data, five content-based categories are decided upon: (1) Ideas and convictions about quality of life in general: The patient talks about his/her understanding of quality of life. (2) Coping as a life-long strategy, resulting in resilience: The patient explains how he was coping with difficult situations during life. (3) Quality of life, stress and burdens brought on by the disease: The patient speaks of the motor and non motor symptoms which arose in the course of the disease and how they influence quality of life. (4) Mental resilience and strategies to cope with the disease: The patient speaks about what helps, in order to live with the disease. (5) Relationship between quality of life and resilience in PD: does more resilience lead to better quality of life in PD? The statements in the transcripts were assigned to one of these categories. The 5 categories gave us an initial scheme of the patient's answers. They were used as background for the further analyses.

In the second stage of the analysis, statements are selected from the pre-structured data in order to develop a more analytic approach with relevance to our key study-questions.: (1) Which symptoms influence the quality of life in patients with PD? (2) What kind of strategies patients

experience as helpful in coping with the disease? (3) How resilience relates to quality of life in Parkinson?

The data collected by the RS-NL and by the RAND-36 are not further analyzed for the moment.

Results

Participants

In total, 12 persons (9 male, 3 female) are interviewed. Four participants show a low severity of disease level with unilateral or bilateral symptoms without impairment of balance (i.e. HOEHN & YAHR stages 1 and 2; the HOEHN & YAHR Scale characterizes the severity of the illness by classifying PD into stages 1 to 5, from mild to very severe). Six participants showed a mild to moderate disease severity level (i.e. HOEHN & YAHR stage 3, with bilateral symptoms, some postural instability and balance problems, but with physical independence). Two participants showed severe disability, neither able to walk nor stand unassisted, or wheelchair-bound (HOEHN & YAHR stages 4 and 5). Scores on the Schwab and England Activities of Daily Living Scale (1967) ranged from a state of being independent with only some degree of slowness, difficulty and impairment to a state of being totally independent and invalid.

Categories of statements

As we said before, after interviewing and reading the transcripts, the statements are assigned to five broad categories. First, we examine the statements concerning general factors which influence quality of life. Second, statements implying coping and mental resilience are classified with regard to four subcategories of life-long sources of coping: seeking information, seeking emotional support, seeking social support and augmenting communication-skills Third, we have a look to specific disease factors that influence quality of life in PD. We try to filter out if certain PD-symptoms influence QOL more than others. Patients clearly point to anxiety as the symptom which influences QOL in the most negative way. Fourth, we look which coping-strategies make patients more resilient? A number of patients report disappointing experiences which often reflect maladaptive coping strategies, going along with low resilience. Fifth, we want to know how QOL relate to resilience in PD: does more resilient patients have a better QOL? Five patients express the need to know how they can actively improve their QOL by physical exercise, adequate nutrition or compliance. Of our patients, three explain how they are able to manage their anxiety and they declare having good QOL. On the other hand, one of our patients says he really doesn't know how to fight his anxiety and also express having extremely low QOL.

Discussion

The present explorative and qualitative study certainly has important limitations by its inherent small study population. This force us to be cautious concerning our findings, but also invite us to extend our research to larger study populations with other study-designs. In this context, we remark we still dispose about a lot of information which permits us to make a quantitative analysis in the future.

We want to summarize our findings and try to relate them to existing literature. Our study suggest that the ability to manage anxiety is a reliable predictor of QOL in PD. [5]K Hanna & A Cronin –Golomb made a study about the impact of anxiety on QOL in PD. They found that symptoms of anxiety, more than depression, overall cognitive status, or motor stage, affect health-related quality of life for nondemented patients with PD.

In trying to explain the underlying neurobiologic mechanism of stress, coping and resilience, we look to the HPA-axis (Hypothalamus-Pituitary-Adrenal Cortex Axis), which often is considered as fundamental in the regulation of emotion-processing. We wouldn't dare to contest the central position of the HPA-axis in terms of coping with stress, but in clinical practice this model is difficult to overview because of the huge number of variables that influences it.

Our explorative analysis of resilience & QOL in PD describe the need of basic instruments in order to evaluate the whole scale of symptoms and invite us to develop a more global and more supporting approach by resilience-augmenting-strategies. We wonder if a resiliencetraining would be a good option. In literature, we found resiliencetraining in a group of students leads towards less

psychological and psychosomatic symptoms([6]Steinhardt & Dolbier, 2008). Can we also develop such a training for PD patients and is it useful for the whole group or do we have to select only the most anxious patients? What would be the best underlying theoretical approach of a resilience training for PD-patients? Are trainings based on the Acceptance Commitment Therapy and which uses mindfulness a good choice? ([7]Hayes, Luoma, Bond, Masuda, & Lillis, 2006).

Conclusion

Summarizing the essential elements of our study we conclude the relation between QOL and mental resilience in Parkinson, needs to be studied in a larger population.

We continue asking if anxiety is a good or even the best predictor of QOL in PD. If so, do we have to focus our study-project on this subgroup of patients?

It seems an interesting perspective to stress on resilience-augmenting strategies in the clinical management of patients with Parkinson, but there is a big need of complementary research in order to further develop those strategies in a practical way.

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The impact of psychological stress on blood pressure in middle school pupils and the role of other risk factors in its occurrence

Domnariu C.D.¹, Duca Ș.², Domnariu H.P.³

¹Faculty of Medicine, "Lucian Blaga" University of Sibiu, (ROMANIA)

²Faculty of Psychology, "Lucian Blaga" University of Sibiu, (ROMANIA)

³Faculty of Medicine, Ulm University, (GERMANY)

E-mails: cdomnariu@yahoo.com, stefaniaifrimelea@ymail.com, horatiu.domnariu@gmail.com

Abstract

Purpose: Assessing the impact of stress on blood pressure in middle school children and of the socio-economic, familial, genetic, school environment and extracurricular risk factors that may influence this overstress.

Methods: I have dublicately measured systolic and diastolic blood pressure at an interval of 5 minutes at least, during the first days after the holiday, during the educational classes for the normal values and during the evaluation of students' knowledge, i.e. before taking tests. Individual study was based on a questionnaire on the identity data, school, grade, address, age and occupation of parents, age and number of brothers, school starting age and schedule. Data on family environment focused on how to prepare homework, sleep duration, bedtimes, wakening-up hour in the morning, differentiated by curricular activity and practicing extracurricular physical activities. School environment targeted the average grade obtained in the semester previous to the investigation, most preferred and most disliked study discipline, activities during the holidays. Data were collected from 203 students from V – VIIIth grades from two schools of Sibiu city.

Results: Systolic blood pressure (BP) showed an increase ($p = 0.0000$) from 100.67 mmHg to 112.48 mmHg during knowledge evaluation period, with a highly significant relation ($r = 0.68$). Diastolic BP increased from 57.71 mmHg to 64.56 mmHg during overstress, $r = 0.62$. Systolic BP response to stress was correlated with school starting age ($r = 0.57$). The waking-up time showed significant variances of basal BP ($p = 0.0078$) and after stress ($p = 0.0227$) in the schools pupils from one of the schools. The study of genetic factors represented by the current age of the parents showed that the age group of the father and mother did not cause significant variances of basal systolic BP and diastolic BP and during stress. Economic factors were analyzed based on parental occupation and number of siblings as indicators of the financial situation of the family. Maximum systolic BP values during knowledge evaluation were registered in the students having intellectual fathers (110 ± 20), followed by those without employment (105 ± 7) and the unemployed (116 ± 12). Basal systolic BP increased ($r = 0.231$) with the average grade, variances ($p = 0.033$) being within physiological school age limits. Diastolic BP differences in relation to the average grade were preserved ($p = 0.035$) after stress.

Conclusions: Psychological stress produced by evaluating school knowledge causes increased BP in normotensive subjects. Diastolic BP is in line with systolic BP after stress. Hemodynamic answer to stress is higher in the schoolchildren with extreme economic situations, expression of parental occupation.

Keywords: Stress, middle school pupils, blood pressure, risk factors

Introduction

Stress is a normal necessary physiological response, through which the functions of the body try to meet the demands of the moment.[1] M. Golu defines psychological stress as "a state of tension, strain and discomfort caused by affective agents with negative influences, resulted from frustration or suppression of certain motivational states, from the difficulty or impossibility to solve certain problems. [2,3] Psychological stress is accompanied by a range of clinical manifestations, the most important being at the level of cardiovascular and neurovegetative systems. Stress is emblematic for the life of

the 21st century and if it is uncontrolled, it seems to mediate or contribute to the occurrence of various health issues from cardiovascular disorders to neurological degeneration. Of the top ten causes of death, stress has been directly involved in four (heart disease, stroke, musculoskeletal disorders and suicide) and indirectly in three (cancer, chronic liver disease and pulmonary emphysema, chronic bronchitis). [4,5] Stress affects the individual's life from an early age bringing about severe diseases with physical, psychological and social consequences. Among the mental stress parameters, we can also mention the increase in blood pressure (BP), which is more or less expressed, as a result of stress sympathoadrenergic activation. Therefore, it is very important to know and understand stress in order to avoid certain situations, eliminate the risk factors and adapt to a healthy lifestyle.

The progress made in stress research concluded the existence of psychological stress in secondary school pupils, as a result of the transition from a single-teacher education system, the schoolmistress, to a larger number of teachers, to unequal disciplines in terms of importance and expansion, with a great heterogeneity of the teaching staff - mental stress generating factors. School pupils' overstress in general and especially in secondary school pupils occurs during the evaluation of pupils' knowledge. The attempts made by the educational institutions to reduce school overstress by interposing intermediate holidays during the year and permanent reorganization were uncertain.

Based on the continuing changes in the educational system, the influence of the family environment, economic and financial situation of the school pupil, we aimed at studying the impact of psychological stress on blood pressure in middle school children generated during the knowledge evaluation period of time and the role of familial, genetic and economic factors, school environment and extracurricular risk factors that may influence this overstress.

Methodology

The study comprised 203 school pupils of the V-VIIIth grades coming from two schools of the city of Sibiu (elementary school no. 6 and school no. 21), the period of study being 2000-2001. We chose to include in our study children from secondary schools, who were before puberty, in order to rule out other hormonal factors, specific to puberty. School no. 6 included 96 school pupils coming from families with higher economic and social status and with better learning results; school no. 21 comprised 107 school pupils coming from families with less favoured economic situation and with a reduced interest regarding the training requirements of their children.

The individual study was based on an individual questionnaire concerning data on identity, school, grade, address, age and occupation of parents, age and number of brothers, the age when school started, training curriculum and schedule. The data on the family environment focused on how to prepare homework, bedtimes, waking up hours, differentiated by curriculum activity and practicing extracurricular physical activities.

School environment targeted the average grade obtained in the semester previous to the investigation, most preferred and most disliked study discipline, activities during holidays.

We have dublicately measured the systolic and diastolic blood pressure at an interval of five minutes, at least, during the first days of the holiday, during the educational classes for the normal values and during the evaluation of students' knowledge, i.e. before taking tests. As a working measuring instrument, we used a Vaquez-Laubrie sphygmomanometer. The standard protocol recommended by the WHO Expert Group and the French Society of Hypertension [6,7] provided that the following basic conditions and blood pressure measurement techniques should be observed: the child must keep a state of physical and mental rest at least 5 minutes before determination; measurement is made in the supine or sitting position with the arm brought at heart level as much as possible; the sleeve must be selected in such a way as to cover 2/3 of the length of the arm.

The results were statistically analyzed using plurifactorial ANOVA analysis of variance, Kruskal Wallis nonparametric test and Spearman's correlation coefficient. [8,9,10] $P \leq 0.05$ was considered statistically significant.

Results and discussions

School children's systolic blood pressure (SBP) showed an increase ($p = 0.0000$) from 100.67 mmHg to 112.48 mmHg during the knowledge evaluation period of time. The relation between basal values considered normal and those during the evaluation period was highly significant ($r = 0.68$). Diastolic BP (DBP) increased ($p = 0.0000$) from 57.71 mmHg to 64.56 mmHg as a result of the overstress caused by knowledge assessment. The correlation between basal DBP and the DBP during evaluation was $r = 0.62$.

The average values of SBP and DBP in relation to the two schools attended by the investigated pupils showed insignificant differences between the two values, basal and during evaluation, and insignificant between the two schools. BP increase after stress during knowledge assessment period was confirmed in each school. (Table no. 1).

Table no. 1. Systolic and diastolic blood pressure (mmHg), basal and during knowledge assessment period, according to school

School	n	SBP		DBP	
		Basal	During knowledge assessment	Basal	During knowledge assessment
6	96	102±14	109±17	58±10	66±9
21	107	100±14	106±13	57±11	63±12
P		0,616	0,146	0,166	0,070

The statistical significance of BP growth after overstress is maintained at every age group. The breakdown of blood pressure values by study forms, expression of school pupils' age, showed highly significant variances with age, both regarding the baseline values and during assessment. (Table no. 2)

Table no. 2. Systolic and diastolic blood pressure (mmHg), basal and during knowledge assessment period, according to school and grade

School no. 6					
Grade	n	SBP		DBP	
		Basal	During knowledge assessment	Basal	During knowledge assessment
V	27	97±14	106±13	57±8	64±8
VI	24	96±14	105±13	56±11	62±8
VII	14	102±12	108±14	59±14	64±10
VIII	31	109±12	114±22	62±7	71±7
P		0,0010	0,0032	0,0307	0,0006
School no. 21					
Grade	n	SBP		DBP	
		Basal	During knowledge assessment	Basal	During knowledge assessment
V	28	95±13	103±12	52±11	61±12
VI	25	98±17	105±15	58±14	63±13
VII	24	99±11	104±12	54±8	60±12
VIII	30	107±11	113±12	62±9	69±10
P		0,0102	0,0237	0,0048	0,0222

Systolic BP response to stress was correlated with school starting age ($r = 0,57$). Basal DBP reported to school starting age ($p = 0,484$) followed the rules of the current physiological age of the subjects. DBP response to stress is related ($r = 0,53$) to the basal values. The waking-up time during weekdays showed significant variances of basal BP ($p = 0,0078$) and after stress ($p = 0,0227$) in the schools pupils from School no. 6. SBP and DPB, basal and after knowledge assessment, did not show any variances in relation to the walking up hour in the school pupils attending School no. 21. Bedtimes during weekdays were related to the school pupils' age, curriculum and extracurricular activities. SBP and DBP response to stress did not show variances regarding the bedtime hour during the weekdays.

The study of genetic factors represented by the current age of parents showed that the age group of the father and mother did not cause significant variances of basal SBP and DBP and during stress. The relation between basal SBP and father's age showed insignificant variances ($p = 0,104$), variances given by the school pupils with fathers aged 40-49 years old, who had lower average values compared to the school pupils with fathers aged 35-39 years old. SBP increased after stress in all cases, with variances ($p = 0,159$) recorded in school pupils with fathers aged 40-49 years old. The analysis of SBP and DBP after overstress, on school grades, showed that the lower average values of the school pupils with fathers aged 40-44 years old were given by 17 children of grade Vth, 18 school pupils in sixth grade, 10 students in seventh grade, 25 eighth graders and four students from grade V, 7 students from grade VI, 6 school pupils from grade VII and 13 students of class VIII with fathers aged 45-49 years old. Father's age group did not cause significant variances in systolic and diastolic BP at baseline and during knowledge evaluation. The analysis of baseline SBP of schoolchildren according to the current age of the mother showed average values of children, progressively

increasing with the maternal age ($r = 0.173$). Evaluation of SBP after overstress confirmed an increase from baseline values, but the variances between the current maternal age groups were not significant ($p = 0.355$), lower average values ($p \leq 0.50$) than those in the previous age groups.

The economic factors were analyzed based on parental occupation and number of siblings as indicators of the financial situation of the family. Maximum SBP values during knowledge evaluation were recorded in children with intellectual fathers (110 ± 12), followed by those with unemployed fathers (116 ± 12) and fathers without employment (105 ± 7). SBP response to stress regarding the school pupils of school no. 21 was maximum in the children with unemployed fathers, followed by children with intellectual fathers, employers, technicians and those without employment. (Table no. 3).

Table no. 3. Systolic and diastolic BP (mmHg), basal and during assessment, according to father's occupation and school

Father's occupation	School No.		SBP				DBP			
	6.	21	Basal		Assessment		Basal		Assessment	
			School no. 6	School no. 21						
Without employment	1	2	90±0	105±7	100±0	95±7	50±0	65±7	60±0	60±0
Worker	19	52	98±15	100±14	108±13	105±14	58±13	57±11	65±7	62±11
Unemployed	4	2	110±9	108±4	116±12	115±7	61±5	60±0	70±0	65±7
Technician	13	11	96±13	99±9	101±13	107±13	59±12	58±11	61±9	66±11
Intellectual	49	27	103±16	99±14	110±20	108±12	58±9	55±12	67±10	63±13
Retired	1	-	95±0	-	100±0	-	55±0	-	70±0	-
Employer	6	7	102±7	101±17	108±7	108±16	57±4	55±14	64±5	70±17
p			0,328	0,899	0,170	0,609	0,893	0,605	0,322	0,811

Mother's occupation, for both schools indicated they were employed at rate of 88.2%, without variances related to occupation ($p = 0.971$).

The analysis of basal BP in relation to the number of siblings indicated insignificant variances for both SBP ($p = 0.709$) and DBP ($p = 0.386$). Psychological stress was followed by a negative relation of both SBP ($r = -0.06$) and DBP ($r = -0.11$) with the number of brothers.

SBP and DBP, basal and after assessment, did not show differences in relation to the way of preparing the homework.

Basal systolic BP increased ($r = 0.231$) with the average grade, variances ($p = 0.033$) being within physiological school age limits. Diastolic BP differences in relation to the average grade were preserved ($p = 0.035$) after stress. (Table no. 4)

Table no. 4. Basal BP and during knowledge assessment according to the average grade in the previous semester

Average grade	n	SBP		DBP	
		Basal	Assessment	Basal	Assessment
9,50-10	39	95±12	103±11	54±8	60±8
9,00-9,49	55	100±15	111±14	58±11	66±11
8,50-8,99	33	99±14	108±12	57±12	67±11
8,00-8,49	43	104±14	105±21	58±11	63±11
7,50-7,99	15	106±11	110±14	63±10	66±7
7,00-7,49	14	104±15	110±13	60±9	67±10
<7,00	3	110±0	115±9	67±12	70±0
p		0,033	0,169	0,072	0,035

Psychological stress resulted after knowledge assessment was followed by increased BP in both schools, regardless of the preferred study discipline.

Extracurricular physical activity assessed by the number of hours of training per week was practiced by 48% of the investigated schoolchildren. The number of hours of physical activity has been in a negative relation with basal SBP ($r = -0.024$) and DBP ($r = -0.003$). SBP and DBP increased after stress but with no variances in relation to the number of hours of extracurricular activity performed.

Conclusions

Psychological stress produced by evaluating school knowledge causes increased BP in normotensive subjects.

Diastolic BP is in line with systolic BP after stress.

Hemodynamic answer to stress is higher in the schoolchildren with extreme economic situations, expression of parental occupation.

Starting school age influences BP response to stress.

Parental age not is a risk factor in the genesis of genetic stress.

Average grade is not a risk factor in stress response.

School schedule, the number of hours and the way of preparing the homework, as well as the study discipline, and the average grade were not considered risk factors of the response to stress.

Physical and extracurricular activities did not represent adjuvant risk factors to psychological stress response.

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Correlations between depressive symptoms and quality of life in metastatic breast cancer patients during chemotherapy

Dragomir B.I.¹, Câmpean A.²

¹ University of Medicine and Pharmacy "Iuliu Hațieganu" Cluj-Napoca (ROMANIA)

² Clinical Emergency County Hospital Cluj-Napoca (ROMANIA)

E-mails: yasmina63us@yahoo.com, tana_6660@yahoo.com

Abstract

Depressive symptoms are reported to be present in 12 to 34% of metastatic breast cancer patients. The hypothesis we based our study on was that depressive symptoms in metastatic breast cancer during chemotherapy significantly correlates with certain aspects of the quality of life. We evaluated 100 metastatic breast cancer patients during chemotherapy analyzing the correlations between depression and quality of life scores. The results showed that the intensity of the depressive symptoms significantly correlated with low scores for quality of life/general health status, physical, role, emotional and sexual functioning, future perspective and financial difficulties and increased scores for nausea and vomiting, pain and breast symptoms. The correlations between arm symptoms, cognitive functioning and depressive symptoms were mediated by socio-demographic peculiarities, cancer therapy related data and comorbidities.

Keywords: breast cancer, quality of life, metastasis, depression

Introduction

Clinically significant depressive symptoms are reported to be encountered in metastatic breast cancer patients in 12.0% to 34.0% of the cases. Cancer recurrence can be a significant stressor and depression related fatigue can alter the quality of life of these patients, whilst depressive symptoms are reported to shorten life expectancy in this population group. The hypothesis of this research is that depressive symptoms in metastatic breast cancer during chemotherapy significantly correlates with certain aspects of the quality of life, trying to identify significant correlations between Hamilton Depression Rating Scale (HAM-D 17 scores [1]) and aspects of quality of life, evaluated through the European Organization for Research and Treatment for Cancer Quality of Life Questionnaire (QLQ-C30), third version, with the supplementary breast module (QLQ-BR23).

Methods

Study population

A number of 100 metastatic breast cancer patients were evaluated, being recruited from the 642 patients hospitalized in the Day Care Unit of the Oncological Institute "Iona Chiricuța" Cluj-Napoca, from February to June 2013.

Exclusion criteria were age under 18, brain metastasis, psychiatric treatment in the last 6 months, substance abuse or addiction, central nervous system acting medication use, unable or unwilling to give consent patients. One patient was later excluded as she had proven to have brain metastasis.

The recorded data are noted in table 1.

Table 1. General data

Demographics

1. Age (years)
 2. Living environment
-

3.	Marital status
4.	Financial difficulties
5.	Social support
Cancer related	
1.	Time since diagnosis (months)
2.	Time since recurrence (months)
3.	Metastasis site
Therapies	
1.	Surgery (mastectomy/breast conserving)
2.	Previous therapies (chemotherapy/radiation/combined)
3.	Dexamethasone premedication (yes/no)
4.	Concomitant opiates therapy (yes/no)
Other	
1.	Somatic comorbidities

The mean age was 56,07 years old, with a standard deviation (SD) of 9,988. Most of the patients were living in urban area (79,8%), were married (68,7%) and had consistent social support (79,8%). Financial difficulties were equally distributed. The majority of the patients had bone metastasis, followed by multiple, lung and liver metastasis. Most of them had undergone bilateral mastectomy (74,7%), and both chemo and radiotherapy (85%). A percent of 73,7 had received dexamethasone (8-24 mg/day) and 29,3% received opiates for pain management. Hypertension, diabetes, asthma, obesity or dyslipidemia were noted in 34 patients.

Data analysis

We used the SPSS package 0, version 13.0, including correlation coefficients. We evaluated the correlations between the HAM-D 17 scores [1] and the EORTC QLQ-C30 - QLQ-BR23 scores 0. For normally distributed variables we used Pearson coefficients, and for those without normal distribution the Spearman coefficients. Partial correlations were used to adjust the other factors which could possibly impact on the correlation and abnormally distributed variables were turned into logarithms. A p under or equal to 0,5 was considered statistically significant.

Results

The mean HAM-D score was 9,49, with a SD of 7,146.

The HAM-D 17 scores significantly and inversely correlated with all the functional scales scores of the QLQ-C30 questionnaire. After the statistical adjustment for demographics, cancer related data and somatic comorbidities, the correlation with cognitive functioning became insignificant, whilst it remained statistically significant for physical, social, role and emotional functioning with a mild decrease in the correlation factors value (table 3).

Table 3 . Correlations HAM-D 17 –functional scales QLQ-C30

		HAM-D 17 SCORE (not adjusted)	HAM-D 17* SCORE (partially adjusted)
HAM-D 17 score		Pearson correlation	
Physical functioning	Correlation	-.373*	-.278*
	p	.000	.009
Social functioning	Correlation	-.410*	-.314*
	p	.000	.003
Role functioning	Correlation	-.431*	-.356*
	p	.000	.001
Emotional functioning	Correlation	-.615*	-.526*
	p	.000	.000
Cognitive functioning	Correlation	-.213*	-.146
	p	.034	.180

Correlation significant for $p \leq 0.05$

* adjusted for age, living environment, age, financial difficulties, social support, metastasis site, surgical intervention, therapy, dexamethasone and opiates use, comorbidities, time since diagnosis and recurrence

Concerning the symptoms scores from QLQ-C30, direct and significant correlations were noted for HAM-D 17 scores and fatigue, nausea and vomiting, pain, dyspnea, insomnia, appetite loss and constipation (table 4).

Table 4. Correlations between HAM-D 17 scores –symptoms QLQ-C30

HAM-D 17 score		HAM-D 17 SCORE (unadjusted)	HAM-D 17* SCORE (partially adjusted)
		Pearson correlation	
Fatigue	Correlation	.531*	.428*
	p	.000	.000
Nausea and vomiting	Correlation	.259*	.270*
	p	.010	.012
Pain	Correlation	.452*	.353*
	p	.000	.001
Dyspnea	Correlation	.297*	.473
	p	.003	.167
Insomnia	Correlation	.427*	-.111
	p	.000	.761
Appetite loss	Correlation	.442*	-.008
	p	.000	.982
Constipation	Correlation	.246*	-.523
	p	.014	.120

Correlation significant for $p \leq 0.05$

* adjusted for age, living environment, age, financial difficulties, social support, metastasis site, surgical intervention, therapy, dexamethasone and opiates use, comorbidities, time since diagnosis and recurrence

The correlation between the financial difficulties and the HAM-D 17 scores became statistically significant only after the mentioned adjustments and registered an inverse correlation (correlation coefficient - 0.867, $p=0.001$).

The scores for quality of life/ general health status didn't have a normal distribution, and were transformed into logarithms. They inversely correlated with the HAM-D scores (table 5).

Table 5 Correlations HAM-D 17 – quality of life/general health status

HAM-D 17 score		HAM-D 17 SCORE (not adjusted)	HAM-D 17 score	HAM-D 17* SCORE (partially adjusted)
		Spearman correlation		
Quality of life/general health status	Correlation	-.429*	Log_quality of life/general health status	-.248*
	p	.000		.021

Correlation significant for $p \leq 0.05$

* adjusted for age, living environment, age, financial difficulties, social support, metastasis site, surgical intervention, therapy, dexamethasone and opiates use, comorbidities, time since diagnosis and recurrence

Concerning the functional scales from the QLQ-BR23 module, only future perspective and sexual functioning scores significantly correlated with the HAM-D (table 6).

Table 6 . Correlations HAM-D 17 – functional scales BR-23

HAM-D 17 score		HAM-D 17 SCORE (not adjusted)	HAM-D 17 score	HAM-D 17* SCORE (partially adjusted)
		Pearson correlation		
Future perspective	Pearson correlation	-.406*		-.335*
	p	.000		.021
Sexual functioning	Spearman correlation	-.415*	Log_sexual functioning	-.393*
	p	.000		.000

Correlation significant for $p \leq 0.05$

* adjusted for age, living environment, age, financial difficulties, social support, metastasis site, surgical intervention, therapy, dexamethasone and opiates use, comorbidities, time since diagnosis and recurrence

From the symptoms evaluated with QLQ-BR23, only the scores for breast symptoms significantly correlated with the HAM-D scores (table 7).

Table 7. Correlations HAM-D 17 – symptom scales BR-23

		HAM-D 17 SCORE (not adjusted)	HAM-D17 score	HAM-D 17* SCORE (partially adjusted)
HAM-D 17 score				
Arm symptoms	Pearson correlation	.229*		-.062
	p	.024		.680
Breast symptoms	Spearman correlation	-.189	Log_breast symptoms	.216*
	p	.063		.046

Correlation significant for $p \leq 0.05$

* adjusted for age, living environment, age, financial difficulties, social support, metastasis site, surgical intervention, therapy, dexamethasone and opiates use, comorbidities, time since diagnosis and recurrence

Discussion

A number of previous researches proved that depressive symptoms impact on the quality of life of cancer suffering patients 0,0,0, but also the fact that an impaired quality of life can generate depression 0, 0.

First of all, our results point to the important emotional impact of autonomy loss induced by breast cancer. Impaired emotional functioning and future perspective can be compounds of the depressive syndrome in this research. The correlation between low physical functioning and depressive symptoms was also confirmed by other authors 0.

Concerning the symptoms we evaluated, nausea and vomiting, fatigue and pain correlated with higher HAM-D 17 scores, more than that the correlation coefficient for nausea and vomiting increased after the mentioned statistical adjustments, suggesting that specific therapies for cancer are not the only ones responsible for these results. Previous studies revealed the association between nausea and depression in advanced cancer patients 0 with a possible bivariate correlation.

Fatigue was reported to be the most frequently encountered symptom in advanced cancer patients 0, and in our study it significantly correlated with depressive symptoms, result which Williams et al also noted in 2004 0. This is an important issue to consider in the management of this invalidating symptom.

The well-known interdependence between cancer pain and depression 0, 0, 0 was also confirmed in this sample population.

Further prospective studies are needed in order to establish the direction of the correlation we obtained between breast symptoms and depressive symptoms.

Our research also confirms the significant correlation between the subjective perspective on the quality of life and health status and depression in metastatic breast cancer patients, asking for an appropriate screening for emotional issues and a subsequent professional approach 0.

In a meta analysis performed in 2006, comparing 15 studies, Osborn et al 0 concluded that behavioral and cognitive interventions can be helpful in managing depression and improving the quality of life in cancer patients, and adequate antidepressant prescription can improve their quality of life 0.

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Lack of instrumental and emotional support is a marker for risk of postnatal depression

Duca Ș.¹, Domnariu C.D.², Domnariu H.P.³

¹Faculty of Psychology, "Lucian Blaga" University of Sibiu, (ROMANIA)

²Faculty of Medicine, "Lucian Blaga" University of Sibiu, (ROMANIA)

³Faculty of Medicine, Ulm University, (GERMANY)

E-mails: stefaniaifrimelea@gmail.com, cdomnariu@yahoo.com, horatiu.domnariu@gmail.com

Abstract

Purpose: To identify the most important risk factors which possibly account for the occurrence of postnatal depression.

Methods: We retrospectively analyzed 120 mothers identified at risk for developing postnatal depression. The risk factors accounting for the development of postnatal depression were assessed through a clinical interview containing questions based on the model of Postpartum Depression Predictors Inventory (PDPI) – revised. The clinical interview was mainly focused on the following aspects: social support, socio-economic status, marital satisfaction, history of previous anxiety or depression mood and the planned/unplanned pregnancy.

Results: The development of postpartum depression seemed to be deeply influenced by the maternal perception of lack of family support. 83 women (69,16%) mentioned the lack of support from the mate or from those living with the mother, corroborated with the stress related to the daily activities performance and motherhood. Mothers' reporting having had anxiety or depression mood before pregnancy was in percentage of 18,33% (22 persons). Socio-economic status and marital satisfaction were not considered significant risk factors by the mothers taken in the study: 5,83%, respectively 5%. The fact that the pregnancy was planned or unplanned was considered to be the weakest predictor for postpartum depression – 1,66%.

Conclusions: The results of this study show that social support is considerably influencing the postpartum depression development and are consistent with the literature results. Therefore, it is of uttermost importance to identify such risk factors in the antenatal period in order to prevent and manage postpartum depression in the future.

Keywords: Postnatal depression, social support

Introduction

Postnatal depression is a major public health problem affecting one in four women according to the statistical data of World Health Organization (WHO). [1] The Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM IV) considers postpartum depression a subtype of major depressive disorders with onset within the fourth weeks after delivery. Most of the times, it is underdiagnosed, therefore untreated.

Literature revising study on postpartum depression undertaken by Jonathan P. Richards shows that this type of depression is under-diagnosed because it is very difficult to assess mothers for postpartum depression risk once they leave the hospital. Without diagnosis and treatment, this disorder could have a long evolution with harmful effects both for the mother and for the baby. According to some studies, the children whose mothers suffered from postpartum depression show delays in developing mental and behavioural abilities. [2]

There are three types of postpartum affective disorders: baby (maternity) blues, which is showing minor symptoms, postpartum depression – the most common form of mood disorder after childbearing and the most severe type, postpartum psychosis. The symptoms of postnatal depression are similar to those of a major depressive syndrome, including anhedonia, low energy, depressed mood, sleep and appetite disturbances, fatigue, anxiety, feelings of worthlessness, tears, low ability to think or concentrate etc. [3] These symptoms are often ignored by the mother thinking it is normal to feel this way after childbearing or, even worse, hidden for fear not to be judged by relatives for feeling that way, as childbirth is a moment of complete happiness and not sadness or depression. Therefore,

such mothers do not search for help, do not get proper treatment, the symptoms are aggravating, compromising the health of the mother and of the newborn baby. Although this mood disorder tends to affect more and more women, there are not sufficient studies or assessment instruments developed, to reduce its high prevalence. Postpartum depression is more frequent than premature birth, yet, it does not benefit from the same medical attention.

As in the case of all the other severe affective disorders, it is important to early recognize the signs and symptoms of postpartum depression, but most importantly, to identify the possible risk factors that could lead to postnatal depression occurrence.

Recent studies demonstrated that there are certain risk factors considered to be strong predictors for the occurrence of postpartum depression. [1] According to these studies, among the most potent risk factors leading to postnatal depression after childbirth, there are the lack of social support, the previous history of depression as well as anxiety and depression during pregnancy, while socio-economic status and planned or unplanned pregnancy were considered weak predictors for this affective illness.

The present study aims at identifying the most important risk factors that possibly account for the occurrence of postpartum depression in a number of mothers, who were assessed through a clinical interview containing questions based on the model of Postpartum Depression Predictors Inventory (PDPI).

Methods

Participants: The study group consisted of 120 mothers whom we retrospectively assessed after having been identified at risk for developing postnatal depression. The mothers were identified being at such a risk in a previous study, when they were applied the Edinburgh Postnatal Depression Scale [4] at two months after giving birth in order to measure postpartum depression symptoms. Those mothers who recorded a score above 10 were considered at risk for postnatal depression. At that moment, these mothers were asked to participate in this study in order to identify the possible risk factors for postnatal depression. Therefore, this study included 120 mothers, who agreed to participate in this study and who agreed to receive either an e-mail or a phone call from the authors in order to schedule the clinical interview for the identification of the postnatal risk factors.

Instrument: The clinical interview contained questions based on the Postpartum Depression Predictors Inventory (PDPI) – revised. [5] This scale consists of 13 risk factors having been considered as postnatal depression triggers: marital status, socio-economic status, self-esteem, prenatal depression, prenatal anxiety, planned/unplanned pregnancy, history of previous depression, social support, marital satisfaction, life stress, child care stress, infant temperament, maternity blues. The scale also includes guide questions for each predictor that the interviewers can use to help them in determining whether a certain risk factor is present in the women being interviewed. The answers are under the yes/no form.

The assessment clinical interview took place at the office of the family physicians, who had in their evidence the mothers at risk. The scale was completed during the clinical interview at 3 months after birth. The interview was conducted by a psychiatrist, psychologist and a public health expert. The interview gave the mothers the opportunity to discuss their experiences or any other issues related to these risk factors.

The inclusion criteria were: women who gave birth and were identified at risk for postnatal depression, who registered in the previous study a score above 10 in Edinburgh Postnatal Depression Scale; the mothers should have been registered on family physicians lists in Sibiu County for the interview to take place, willing to sign an informed consent release form, and available to be contacted by either phone or e-mail.

The exclusion criteria: mothers who registered a score below 10 at postpartum depression symptoms assessment.

The age of the mothers included in this study ranged between 19 and 32 years old.

The study period was from December 2011 to October 2013.

Data are presented as means and percentages. We took into consideration the frequencies of answers in establishing the relation between predictors and postpartum depression occurrence.

Ethical considerations: Each participant was informed about the purpose of the study both verbally and in writing, and we guaranteed that their information would be treated confidentially. We informed them that their participation in the study was voluntary and that refusal to participate would not disadvantage them in any way.

Results and discussions

Patients' socio-demographic characteristics are presented in the table below. The mean age of the study participants was 25, 5 years old. Most of the patients were married (70%), were employed (65%), with university degree in terms of educational level (62,5%). Of the 120 women who were interviewed, 46, 6% (56 subjects) had a medium socio-economic status and 31,6% (38 subjects) had high socio-economic status.

Table no. 1. Characteristics of patients (age, marital status, level of occupation, education) (N=120)

Age, mean		25,5
Age range, years		19-32
Marital status, n (%)		
Married/partnered	84	70%
Single	31	25,8%
Divorced	5	4,1%
Employment status, n (%)		
Employed	78	65%
Part-time	17	14,1%
Housewife	25	20,8%
Educational level, n (%)		
Elementary school	15	12,5%
High school	30	25%
University degree	75	62,5%
Socioeconomic status, n (%)		
Low	26	21,6%
Medium	56	46,6%
High	38	31,6%

Along time, research studies have shown that the following risk factors have been strong predictors for the occurrence of postnatal depression: depression or anxiety during pregnancy, stressful life events, poor social support or previous history of depression before pregnancy. [1] In our study, after applying the Postpartum Depression Predictors Inventory (PDPI), it was found that the strongest predictor of postpartum depression is the lack of family support. Of the 120 study subjects, 83 women (69,16%) mentioned the lack of support from the mate or from those living with the new mother, corroborated with the stress related to performing the daily household activities. The second major possible risk factor for postnatal depression reported by the mothers in a percentage of 18,33% (22 subjects) was symptoms of depression before pregnancy.

The frequency analysis of the main risk factors mentioned by the new mothers as being responsible for the occurrence of the postpartum depression symptoms are listed in the table below:

Table. no. 2. Frequency of risk factors for postpartum depression

Main risk factor	No. of subjects	%
Social support (emotional support from the partner, help with household activities)	83	69,16%
History of previous depression	22	18,33%
Socio-economic status	7	5,83%
Marital satisfaction	6	5%
Planned/unplanned pregnancy	2	1,66%

Socio-economic status and marital satisfaction were not considered significant risk factors by the mothers taken in the study: 5,83%, respectively 5%. The fact that the pregnancy was planned or unplanned was considered to be the weakest predictor for postpartum depression – 1,66%. The results obtained in this study are similar with those in the literature.[2] Poor quality social support and previous psychiatric history and mental state have been found to be related to postnatal depression.

Social support, also called instrumental support, refers to various types of support, in terms of financial, material or goods, services assistance (such as, babysitting, helping in different households

activities) and emotional support in terms of empathy, affection, love, concern, encouragement from the family (especially from the mate, mother, mother-in-law, friends etc.). Lack of this kind of support occurs when a new mother, for example, perceives she is not benefiting from this kind of support as she is expecting, even if it is true or is only in her imagination. The study conducted by Ball (a senior midwife) showed that mothers' perception of family support was the most important predictor in the establishment of maternal wellbeing. [6] In our study, social support was measured based on the PDPI instrument, but also from the extra questions asked by the interviewers to those mothers who firstly mentioned this item. The questions that helped us measuring social support referred to affection, emotional support from the partner and from the people living with the mother, whether she gets or not help in the household activities and babysitting, whether she feels she can rely or confide in her partner. These mothers who did not experience support from their mate and family felt they can no longer cope with motherhood and daily activities finding themselves with depression symptoms they cannot fight against.

The second most important risk factor for postpartum depression identified was the history of previous emotional instability or depression. Literature talks about vulnerability, as a factor which may cause postpartum depression. A woman's previous depression history or mental state seems to lack the internal or external resources to cope with this important event in a life of a woman, childbearing, and they end up experiencing postnatal depression symptoms.

The socio-economic status, either high or low did not seem to influence postpartum depression occurrence, neither marital satisfaction nor the fact that the pregnancy was planned or not. This was probably due to the fact that most of the women were married and pregnancy comes naturally. These last items recorded the lowest frequencies. As mentioned in other studies, these items seem to be irrelevant to the development of postpartum depression.

Conclusions

Mothers suffering from postpartum depression declared they feel like "death warmed up" and "are afraid to live". [5,7] It affects family relationships, social life, the education and behavioural development of the baby. Unfortunately, there are insufficient and recent studies which describe this major public health problem. Currently, there are only two instruments used to detect postpartum depression. This study is only a glimpse of what postpartum possible risk factors are. We wish to emphasize the need for the recognition and identification of these risk factors which can prevent the occurrence of postpartum depression. Moreover, we stress upon the importance of identifying those psychologically vulnerable mothers. Postpartum depression can be prevented and the PDPI can be a tool that helps health professionals, general practitioners, family physicians who have pregnant women registered on their list, in providing useful information about the possibility to develop postnatal depression in a new mother.

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The CEEPUS network on psychosomatic medicine: achievements and perspectives

Dumitraşcu D.L.¹, Băban A.², Tkalcic M.³, Schuessler G.⁴

¹ *University of Medicine and Pharmacy Cluj-Napoca (ROMANIA)*

² *University Babes-Bolyai Cluj-Napoca (Romania) [11-point, italic]*

³ *Faculty of Philosophy, Department of Psychology, University of Rijeka (CROATIA)*

⁴ *Dept Medical Psychology and Psychotherapy Med Univ Innsbruck (AUSTRIA)*

E-mails: ddumitrascu@umfcluj.ro, adrianababan@psychology.ro, mladenka.tkalcic@ffri.hr, gerhard.schuessler@uki.at

Abstract

The CEEPUS network on psychosomatic medicine RO 0016 is the single international network on this topic in Central and East Europe. Linking Austria and postcommunist Balkan and East European countries, this is a mini ERASMUS project. It allows exchanges of teaching staff, PhD students and students between participating centers from Romania, Croatia, Hungary, Austria, Bulgaria, Moldavia, Poland, Albania, and Bosnia. The name of the project is: PSYCHOSOMATIC MEDICINE: A MULTIDISCIPLINARY APPROACH TO IMPROVE THE MANAGING SKILLS OF HEALTHCARE PROVIDERS. Like the ERASMUS projects, our network, now 10 years old, facilitates reciprocal exchanges of students, teachers and PhD students, as well as the development of bilateral projects like joint degrees.

Keywords: Central and East Europe, education, network, psychosomatic medicine

Introduction: how it started

Psychosomatic medicine is still at its beginning in most Central and East European countries [1]. Therefore it is a need to increase the awareness of healthcare providers and of the health authorities on the psychosomatic medicine and on its benefits.

Our network has evolved from a grant offered by the Alexander von Humboldt Foundation from Bonn, Germany, in order to organize an International Symposium on Psychosomatic Medicine in Cluj-Napoca, Romania, in 2003. At that meeting some opinion leaders in this field from Germany and Sweden participated apart from several Humboldt research fellows from Central and East Europe. This was the kick-off of a network of specialists from different medical and psychological disciplines, some trained in Germany (where psychosomatic medicine is a speciality). In the following year we have applied for a CEEPUS network on psychosomatic medicine with the title: **Psychosomatic medicine: a multidisciplinary approach to improve the managing skills of healthcare providers.**

This network was accepted in the next year in the frame of CEEPUS and has been renewed every year since then. This is one of the few CEEPUS medical networks and the single network on psychosomatic medicine in Europe. It was even a model for an ERASMUS academic network in 2009. But the application to ERASMUS has not been accepted for funding yet. The structure and the content of our network changed somewhat during time, with new members joining and some of the first members quitting. This network allowed reciprocal exchanges of teachers and students, as well as the development of joint programs.

What is CEEPUS

CEEPUS is for Central European Exchange Program for University Studies. This project relies on an initiative to increase and sustain the network cooperation between countries from the Central and Eastern part of our continent [2].

In this respect, we can assume that CEEPUS is actually a kind of ERASMUS of limited size and with selective participation. Which are the countries involved? These are Austria, the East European countries and exclusively Moldova as the ex-Soviet country. The extension of the list of

participating countries increased gradually from the beginning of the CEEPUS project, parallel to the building of democratic governance in these countries.

At this moment CEEPUS is financing several tenths of different networks and only few in the field of biomedical sciences. Among them our network is the only one on psychosomatic medicine.

Working in network, as the project emphasizes, is very important for the educational and scientific progress [3], therefore this principle of working in networks is so frequently used in European projects of different types.

The state of psychosomatic medicine in Central and East Europe

As in whole Europe, the psychosomatic medicine has very diverse meaning and development in Central and East Europe.

The state of psychosomatic medicine in our participating countries is displayed in table 1.

Table 1: Psychosomatic medicine in Central and East European countries involved in the CEEPUS network:

Country	State of psychosomatic medicine
Albania	At the beginning
Austria	Medical diploma, scientific society, medical units, reimbursement, journals
Bosnia and Herzegovina	At the beginning
Bulgaria	Medical society, awareness
Croatia	Teaching, practice, journals
Hungary	Some teaching, practice
Moldova	At the beginning
Poland	Teaching, practice, medical society
Romania	Teaching, practice, some medical units, society, leading this network

As one can observe, psychosomatic medicine is a concept having different meanings in different countries. In Austria, like in Germany, the strong traditional impact of psychiatry and psychotherapy has led to the development of a special field having medical units dedicated to medical psychology and psychosomatics. In the East European countries, psychosomatic medicine is not a speciality but rather a concept or paradigm to manage the patients. This concept is based on the bio-psycho-social model first suggested by Engel. Therefore psychosomatic medicine is a hot topic at the interference of clinical medicine, psychiatry and psychology. Psychosomatic medicine is in this respect different from the Consultation/Liaison psychiatry, which looks for the psychiatric problems of the patients of other specialities.

The content of the network, achievements and perspectives

As described at the CEEPUS web site [2], our network relies on the cooperation of specialists from different centers, which facilitate the exchange of experience by teaching activity, by exchange of master and PhD students and young teachers. The network's participants have sporadically reciprocally collaborated in different occasions. Beside this, the group emphasizes the dissemination of their work results via open distance learning. Reciprocal recognition of the credits is given to mobility users.

There is a responsibility distribution between the members of this network, according to the principal speciality of the contact person [2]. Thus, the University of Medicine and Pharmacy Iuliu Hatieganu Cluj-Napoca coordinates the project and the mobilities. It organizes on internal psychosomatic diseases. It organizes studies of psychological, behavioural and socio-cultural factors in this area. It will coordinate the publishing of a common textbook on psychosomatic medicine. In the University of Zagreb the incoming students and residents learn language and communication problems in special cases. The University of Szeged is responsible for the neurological and psychiatric basis of psychosomatic disorders. The students' education in neurological sciences is organized as a component of psychosomatic diseases. The University of Stara Zagora is responsible in this network with the teaching of the anatomical bases of the psychosomatic disorders. The University Transylvania of Brasov will assist in the teaching of the therapy of psychosomatic disorders and with the methodology of the pharmacological research in this field. The University of

Sofia and Plovdiv (the newcomer) contributes with their experience in psychosomatic medicine mainly applied to allergological conditions. The Department of Psychology at the Faculty of Humanities and Social sciences in the University of Rijeka teaches students and postgraduates in the field of psychosomatic research. Graz medical school joined again our network and we all will benefit from its experience in this field.

The University Babes-Bolyai from Cluj-Napoca will be a partner in health psychology topics. Its multiculturalism will enhance the inter-ethnic collaboration in East Europe. The Psychosomatic medicine department from Innsbruck is a valuable partner to our network, given the level elevated of the psychosomatic medicine in Austria and has a broad psychosomatic outpatient and psychosomatic inpatient C/L service for all medical specialities. The Department of Psychodermatology from Lodz, Poland brings its experience of this very specific field. Nursing and training in psychosomatic medicine for nurses are represented by Albania (University of Korca). We were also joined by a partner from Sarajevo, Bosnia and Herzegovina: this will cover the field of psychopharmacology. The Medical School from Kishinev, Moldova, is planning an educational program in this field [2].

The extension of our network will be followed by the extension of the ECTS credit system. Thus, the students will fully benefit from their mobilities and the credit transfer will be easy to accept and introduce in practice.

The teachers in mobility will also benefit from the experience of their colleagues in complementary fields.

Contacts between partners will be enhanced during meetings at other regional or international meetings.

The network will be functional and flexible [2].

Our network has finished a joint degree, i.e. a PhD thesis en co-tutelle (participating centers Cluj-Napoca and Rijeka) and has opened the perspective for others. We also launched the teaching of psychosomatic medicine to Albanian nurses. Many Bosnian students are trained in Innsbruck in psychosomatic medicine.

The participating centers in our network are listed in Table 2.

Table 2: Centers participating in the CEEPUS network on psychosomatic medicine:

Name of the center
"Iuliu Hatieganu" University of Medicine and Pharmacy of Cluj-Napoca
University "Fan S. Noli" Korca
Medical University of Graz
Innsbruck Medical University
University of Sarajevo
Medical University Sofia
Trakia University of Stara Zagora
University of Zagreb
University of Rijeka
University of Szeged
State University of Medicine and Pharmacy "Nicolae Testemitanu"
Medical University of Łódź
"Transilvania" University of Brasov
"Babes Bolyai" University of Cluj-Napoca

As perspectives, we want to put pressure on each country's educational authority in order to include in the curricula of each participating country certain teaching hours of psychosomatic disorders for the students and postgraduate students; We also use this opportunity in order to enhance the research of psychosomatics in our countries and finally to publish a textbook to be used in our centers [2, 4].

Conclusions

As a conclusion, we are confident that our network will find a progressive evolution, after playing an important role in the establishing and dissemination of psychosomatic medicine during the last decade in this part of Europe. This dynamic area has and will offer improved medical care on a larger scale by adopting the paradigm of psychosomatic medicine.

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Psychosomatic aspects of upper limb reconstruction using propeller perforator flaps

Dumitrașcu D.I.¹, Georgescu Al.V.¹

¹UMF Cluj, Plastic Surgery Reconstructive Microsurgery Department (ROMANIA)
E-mails: d.dumitrascu@yahoo.com

Abstract

In the practice of reconstructive surgery the occurrence of vast soft tissue defects of the upper limb is very frequent. The coverage of this defect is always a challenging problem for the surgeon. Because it's important role in self body image any disorder of the hand can cause a psychological imbalance. The aim of the study is to determine how patients who benefit from hand reconstruction with propeller perforator flaps experienced the self body imaged from a psychological and emotional point of view.

A number of 176 patients that were operated in our clinic in 2012 were included in the study. A questioner was carried out 12 month after the final surgery. The data was analyzed according to the cosmetic and functional results of the patients. In average, the subjects were satisfied with the outcome. They reported an increased quality of life and body image perception. The perforator flaps which are well known to have a minor donor and recipient site morbidity can also be associated with an improved psychosocial well-being.

According to the results of the study we can confirm that reconstructive surgery of the upper limb using propeller perforator flaps brings an increased role in quality of life.

Keywords: propeller flap, perforator flap, psychosomatic.

Introduction

In the practice of plastic reconstructive surgery the occurrence of large defects of the upper limb is very high. In case of soft tissue laceration, the presence of important anatomical structures that lie superficial and relative unprotected by fascia and skin is imposing the coverage with flaps. The principle to replace like with like is also applied to the upper limb reconstruction. From the large variety of available flaps, the surgeon can choose from the simple local, to regional, to pedicle, even to the most complicated free flaps. Each of these procedures bring both advantages and disadvantages. The "ideal" flap is the one that is safe, has a good aesthetical result and also allows the possibility of a immediate mobilization of the limb after surgery [1, 2, 3, 4].

The new studies of the anatomy of skin blood supply, helped with the elaboration of the angiosomes and perforasomes theory. The practical application of these principles was the use of the perforator flaps, including the "propeller" perforator flaps [5, 6, 7, 8].

The propeller perforator flaps, are considered microsurgical but not microvascular flaps. Because a microvascular anastomosis is not performed, the postoperative mobilization and rehabilitation are very rapid which is mandatory especially when articulations are close to the defect [7, 9, 10].

Even the end result of upper limb reconstructions with propeller perforator flaps are considered to have good aesthetic and functional results, the patient is going through a long rehabilitation program that can bring psychosomatic modifications, depression and anxiety [11, 12]. The aim of the study is to determine how patients who benefit from hand reconstruction with propeller perforator flaps experienced the self body imaged from a psychological and emotional point of view [13, 14].

Methods

The study included patients with soft tissue defects of the upper limb that were covered with propeller perforator flaps starting from January 2012 till December 2012. The etiology of the defects

was very vast including trauma, necrosis, postcombustional scars or tumor excision. The cases included in the study presented the defects of the shoulder, arm, elbow, forearm and hand (proximal to metacarpophalangeal joint).

12 month postoperative, patients were administered a questionnaire consisting in the visual analogue scale (VAS). For the patients that required a second operation for grafting a marginal superficial necrosis, the questionnaire was administered only after the final surgery. The obtained results were analyzed using descriptive statistics.

Results

The study group comprised 176 patients. The vast majority were males (125 males, 51 females). The age of the subjects varied from 16 to 82 years. The patients were followed 12 month after surgery. In 15% of the cases, a marginal superficial necrosis occurred. In this case a second intervention was performed. The second surgery was either a debridement and secondary suture or skin grafting of the granulated area of the flap. In the case when a corrective intervention was mandatory, the follow up continued 12 month after the final surgery.

From a surgical point of view, the healing was successful with perfect coverage of the defect. The VAS scores showed a positive outcome, only a small part of the patient showing the tendency to develop psychosomatic problems.

Discussion

The aim of our study was determine the clinical results and the psychosomatic impact at the patients who undergo reconstruction of the upper limb with propeller perforator flaps [7, 10, 15]. On the other hand, the main goal of the perforator flap technique is that it is replacing the lost tissue with similar one (from a structural and functional point of view) [10, 15, 16]. In literature it is well accepted that the best way to replace like with like is by using local or regional flaps [7, 17]. From these flaps, the propeller flaps offers a wide variety of design and a large surface. There only one important disadvantage of the propeller flap: venous congestion. This is the cause of inadequate drainage in the concomitant perforator veins [1, 7, 18, 19]. A prolonged congestion will bring to necrosis but compared with the necrosis in free flaps, the perforator flaps necrosis is mainly superficial. The profound flap tissue will stay vital, will offer a good coverage of the noble structures underneath and can be grafted after granulation [2, 7, 10, 20].

Talking in consideration these facts we expected an increased quality of life and body image perception in patients selected in our group, compared with literature data for patients who underwent other types of surgery. The VAS scale showed successful result at 12 months. Definitely the propeller flaps can be associated with an improved psychological well-being and quality of life.

At the patients that suffered complications (mainly partial necrosis of the flaps) a higher somatisation level was observed. We considered that the somatisation is induced by psychological distress concerning the rehabilitation period and degree of functional recovery [21, 22]. For the subjects with lower results in the VAS analysis, we observed an amplification of pain sensation, low compliance in kinesiotherapy and decreased functionality of the upper limb.

The limitations of the study are a quantitative comparison between functional performance of the upper limb (DASH score) and psychosomatic results. Another comparison can be made between the operated limb and the contra lateral healthy one. Because the majority of our cases were emergencies and not elective surgery, a preoperative vs. postoperative analysis can not be performed.

Conclusions

In average, the subjects were satisfied with the outcome. They reported an increased quality of life and body image perception. The perforator flaps which are well known to have a minor donor and recipient site morbidity can also be associated with an improved psychosocial well-being.

According to the results of the study we can confirm that reconstructive surgery of the upper limb using propeller perforator flaps brings an increased role in quality of life. Because it's important role in self body image any disorder of the hand can cause a psychological imbalance. Therefore, we consider that propeller perforator flaps are a very efficient method for the upper limb reconstruction, which can provide a better functional and aesthetic result.

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Role of Anger and Coping Mechanisms in Patients with Irritable Bowel Syndrome

Fadgyas Stănculete M.¹, Pojoga C.^{2,3}, Dumitraşcu D.L.⁴

¹Department of Neurosciences, Iuliu Hatieganu University of Medicine and Pharmacology, Cluj Napoca (ROMANIA)

²Regional Institute of Gastroenterology and Hepatology Octavian Fodor, Cluj Napoca, (ROMANIA)

³Department of Clinical Psychology and Psychotherapy, Babeş-Bolyai University, Cluj-Napoca, (ROMANIA)

⁴2nd Medical Department, Iuliu Hatieganu University of Medicine and Pharmacology, Cluj Napoca (ROMANIA)

E-mails: fadgyas.mihaela@umfcluj.ro, ddumitrascu@umfcluj.ro

Abstract

Objectives: Irritable bowel syndrome (IBS) is a painful condition associated with significant psychological distress. The etiology of this syndrome has been attributed to altered gastrointestinal motility, visceral hypersensitivity, and psychosocial factors, but most of all to the dysregulation of the brain-gut axis. A number of studies have suggested that stress can lead to IBS exacerbation. The present study aimed to evaluate the experience and expression of anger and the prevalent coping mechanisms in a group of patients with irritable bowel syndrome.

Methods: The study was a cross-sectional comparison between a group of patients with IBS (N=37) and healthy subjects (N=32). IBS subjects (after an examination by a gastroenterologist and a total colonoscopy) and healthy subjects underwent a clinical interview and psychometric examination. Assessment was conducted using the State Trait Anger Expression Inventory second edition and Brief COPE Inventory.

Results: The results suggest difference in trait anger between IBS patients and healthy controls ($p=0,04$). Regarding state anger, no significant differences were documented. When considering the different coping mechanisms, IBS patients showed significant differences on Self Distraction ($p= 0,04$), Active Coping ($p=0,01$), Substance Use ($p=0,013$), Venting ($p=0,01$), and Acceptance ($p=0,034$)

Conclusions: IBS patients had significant higher levels of trait anger than controls. Different coping styles may influence the ability to tolerate, reduce or eliminate a source of stress such IBS related symptoms. These results suggest that future research in IBS should investigate the role of anger and coping styles plays in onset, symptom severity and outcome.

Keywords: IBS, anger, coping mechanisms

Introduction

Irritable bowel syndrome (IBS) is a chronic, functional disorder of the gastrointestinal tract. The pathogenesis of IBS is poorly understood but many studies suggest that psychosocial factors play a contributing role in IBS symptoms.

Anger is a commonly experienced emotion defined as a person's response to a threat or the perception of a threat against an individual or group [1]. Anger is often difficult to control because of the intense physiological reactions involved in the fight or flight response that triggers the emotion. Anger is elicited if an incident is appraised as both undesirable and as being the result of another behavioral's intention. According to other cognitive theories, anger occurs as the results of a frustration that is experienced when a desired goal cannot be attained or a desired state cannot be maintained [2] Spielberger described anger as "an emotional state of feeling that varies in intensity, from mild irritation to fury and rage" [3]. He conceptualised anger either as a transient state or as a trait, defined as individual differences in general anger level.

Until now relatively little is known about the mechanisms by which anger (general anger proneness and anger expression style) may be associated with pro-inflammatory processes and visceral hypersensitivity observed in IBS. Research has revealed that IBS may be related to an imbalance of serotonin (5-HT) in the gut [4, 5, 6]. It has been hypothesized that the comorbidity of anger and IBS may be related to serotonergic hypofunction both in the enteric nervous system and central nervous system, this mediating the pain experience and altered bowel motility [7, 8].

Anger is strongly associated with the coping style. Coping is defined as cognitive and behavioral efforts to control, reduce or tolerate internal or external demands that are evaluated as exceeding the resources of the person, regardless of the result of these efforts [9]. Coping may play an important role in the relationship between cognitive appraisal of IBS symptom severity and psychological distress [10, 11,12,13].

The aim of this study to investigate a Romanian sample of patients with IBS are more prone to anger and reports more suppressed anger in daily life than control healthy subjects and to identify the coping mechanism used by patients with IBS.

Methods

This cross-sectional study was carried out from September 2013 to March 2014. The participants gave their written informed consent prior to data collection. The study was approved by the local Ethics in Research Committee. Patients with IBS were included in the study and a lot of healthy subjects. All the IBS patients met the Rome III criteria. All participants completed the State Trait Anger Expression Inventory second edition (STAXI-2, Spielberger, 1999)- Romanian version (Pitariu and Iliescu, 2006) [14] and Brief-COPE inventory. The State Anger (S-Ang) scale includes three subscales. The Trait Anger scale (T-Ang) measures how often angry feelings are experienced over time; it includes two subscales. The Anger Expression and Anger Control scales assess four relatively independent anger-related traits: Anger Expression-Out (AX-O), Anger Expression-In (AX-I), Anger Control-Out (AC-O), and Anger Control-In (AC-I). The Anger Expression Index (AX-Index) is an overall measure of total anger expression. Individuals rated themselves on 4-point scales that assess both the intensity of their anger at a particular time and the frequency that anger is experienced, expressed, and controlled.

The Brief COPE (Carver, 1997) is a self-report questionnaire [15]. B-Cope is a 28-item measure developed from the full-version COPE inventory (60 items) to provide an efficient means of assessing coping behaviors and consists of 14 subscales: self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame.

The Normality test and Levene test for equality of variance were applied for all variables. Differences among the groups were investigated by independent t-samples analysis. Continuous data were expressed as mean and standard deviation (SD). Group categories were used as independent variables while the STAXI-2 and B-COPE measures served as dependent variables. The significance level for the test was $p < 0.05$. The statistical analysis was performed with Statistical Package for the Social Sciences- SPSS for Windows software (IBM Corp., Armonk, USA)- version 16.0.

Results

Participants included 37 IBS patients with mean and standard deviation age of 38.44 (10.57) and 32 controls with mean and standard deviation age of 35.42 (9.37).

Tables 1, 2 and 3 show the descriptive statistical analyses and the t-test for two independent samples based on the STAXI and B-COPE variables for IBS patients and controls.

Table 1 . STAXI-2 mean scores for IBS patients and healthy controls.

Subscale	IBS patients		Controls		F	p value
	Mean	SD	Mean	SD		
S-Ang	17.95	7.46	17.04	6.42	0.002	.964
S- Ang/Feeling	6.92	3.18	5.98	2.57	0.498	.482
S-Ang/Verbal	5.81	2.77	5.57	2.13	0.546	.462
S-Ang/Physical	5.22	1.96	5.48	2.39	0.765	.384
T-Ang	19.56	7.54	17.88	5.56	4.216	.043*
T-Ang Temperament	8.10	3.74	6.77	2.71	3.84	.053
T-Ang Reaction Index	8.71	3.25	8.06	2.70	2.683	.104
AX-O	15.65	5.53	15.02	4.12	3.685	.058
AX-I	16.86	5.57	15.46	4.08	1.147	.287
AC-O	20.06	6.49	20.64	5.58	1.105	.296
AC-I	20.95	6.73	21.80	5.43	3.022	.085
AX-Index	39.50	14.96	36.04	11.22	6.14	.015

Sig* < 0.05

Table 2. B-COPE mean scores for IBS patients and healthy controls.

Coping mechanisms	IBS patients		Controls		F	p value
	Mean	SD	Mean	SD		
Self-distraction	3.92	1.93	3.1	2.03	0.36	0.023*
Active coping	4.84	1.51	4.1	1.76	1.27	0.01*
Substance use	1.05	1.92	0.32	1.05	21.56	0.013*
Venting	3.15	1.89	2.32	1.9	0.172	0.01*
Acceptance	3.47	1.97	4.49	1.73	3.66	0.034*

Sig* < 0.05 Based on the definitions of problem-based and emotion-based coping, item were classified as problem-based coping, active emotion-based coping, avoidant emotion-based coping.

Table 3. Mean scores B-COPE coping style for IBS patients and healthy controls.

Coping style	IBS patients		Controls		F	p value
	Mean	SD	Mean	SD		
Problem focused coping	17.91	5.12	15.03	6.04	1.86	0.06
Active emotional coping	16.61	6.16	17.81	6.96	0.27	0.3
Avoidant emotional coping	10.11	5.34	8.05	5.76	0.43	0.04*

Sig* < 0.05

Discussion

Several studies have examined the association between anger and IBS. To our knowledge, this is the first study to assess anger and coping mechanisms in a sample of Romanian IBS patients. Several studies documented a relationship between the tendency to repress/ control anger, the intensity of abdominal pain and augmented postprandial colonic motility [16,17,18]. Other authors found that antral motor activity decreased in IBS patients and increased in controls when a state of anger was induced [19].

In our study, the patients' state anger levels were not significantly different from controls group. Zocalli et al. obtained comparable results in a study investigating the anger and the prevalent ego-defence mechanisms in a group of non-psychiatric patients with irritable bowel syndrome [20]

Our results indicate that IBS patients scored higher than control subjects on trait anger scale and AX-Index suggesting that anger may play a role in IBS symptoms. Our finding that trait anger is higher in IBS patients is consistent with the results of various studies that showed that the levels of trait anger were higher in IBS patients (even when other psychological characteristics were controlled) than in patients with organic bowel disease or healthy controls [21,22]

IBS patients preferred self-distraction, active coping, venting, and substance use. Avoidant emotional coping was found to be significant in patients group when compared with healthy subjects. IBS patients engaged in more avoidant behaviors such as substance use, behavioral disengagement, denial. These results have been previously observed in other functional disorder population [23].

There are conflicting results in the literature regarding the gastrointestinal consequences of different anger expression and coping style. More research is needed to better elucidate the psychosocial factors that are relevant to understanding the irritable bowel syndrome.

Conclusions

In summary, our results suggest that anger proneness as a personality trait may place subjects at risk for developing IBS. IBS patients had greater reliance on avoidant coping strategies with maladaptive effects on health status. These findings suggest that interventions aimed at decreasing anger and psychoeducation on effective coping may improve health outcome in IBS patients.

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Functional Dyspepsia Assessment in Patients from a Single Medical Center from Oradea, Romania

Frățilă O.¹, Iliăș T.¹

¹University of Oradea (Romania)

E-mails: ovidiufr@yahoo.co.uk, tiberia_ilias@yahoo.com

Abstract

Background: Functional dyspepsia, a worldwide problem, can appear in all ages but it is more likely to affect elderly people. It is characterized by chronic or recurrent pain or discomfort symptoms in the upper abdomen in the absence of specific structural disease.

Aim: to assess the prevalence and characteristics of FD in patients from an endoscopy unit of the 1st Internal Medicine Clinic- Emergency Clinical County Hospital Oradea, Romania. **Methods:** From January to October 2013, 390 people who addressed for an upper gastrointestinal endoscopy (UGIE) for dyspeptic symptoms in our clinic, were included. Common laboratory tests, an UGIE and an abdominal ultrasound were performed and afterwards all patients without structural lesions were questioned about personal demographic data, history, psychiatric comorbidities and symptoms. The prevalence of FD was assessed using chi square test.

Results: From the 390 patients included, 33.8% (n=132) had functional dyspepsia. Medium age was 40.3 ±14 years; 266 (68.2%) were female; 139 (35.6%) were from rural areas; 46 (11.7%) were smokers. Concerning symptoms, 99 (25.3%) patients had pain in the upper abdomen, 49 (12.5%) had nausea, 104 (26.6%) had distention after eating, 87 (22.3%) had precocious satiety, 106 (27.1%) had heartburn, and 54 (13.8%) had belching, 29 (7.4%) had vomiting. As numbers show a lot of patients presented with more than one symptom. Dyspepsia prevalence was higher in patients over 60 years of age than in middle aged ones (p=0.008). In these patients the most common known psychiatric comorbidities were anxiety disorders, depression and somatoform disorders.

Conclusion: Our study revealed, high prevalence of functional dyspepsia. Older people and women are more affected. Smoking association with FD was not consistent but psychological associations can be encountered.

Keywords: functional dyspepsia, prevalence, endoscopy

Introduction

Dyspepsia is a notion which dates back from the greek words *dys -pepse* that represented a difficult process of digestion. The etiology of dyspepsia might be organic (where there is evidence of structural disease) or it might be functional. Nowadays functional dyspepsia (FD) is nicely defined by the Rome III criteria as it follows: the presence of symptoms like bothersome postprandial fullness, early satiation, epigastric pain or burning and no evidence of structural disease. All these symptoms must be present for the last 3 months and the onset of the symptoms must be at least 6 months prior to the diagnosis [1]. People with functional dyspepsia have a significantly reduced quality of life when compared to the general population [2].

Depending on different studies and sources, the prevalence of dyspepsia varies widely from region to region and especially from population to population ranging from 7% to 34% [3] in Europe and going up to 43% in Argentina[4]. In our country, the prevalence of functional dyspepsia is not precisely evaluated.

Functional dyspepsia is slightly more frequently encountered in women [5-7], with an age linked peak prevalence of 40-50 years [8], but there is no definitive role of race, ethnicity or of the use of cigarettes and alcohol in the development of FD[9-11].

Fortunately, functional dyspepsia is not a life-threatening disorder and the mortality of patients suffering from this disease is not increased [12].

Objectives

The purpose of our work was to assess the prevalence and characteristics of functional dyspepsia in a population of patients that addressed or were referred to our endoscopy unit from the 1st Internal Medicine Clinic of Oradea, Romania.

Subjects and Methods

The study was carried out with the approval of the Administration of the Emergency Clinical County Hospital of Oradea, and all the subjects provided informed written consent before being investigated.

Our research took place in the 1st Internal Medicine Clinic of the Emergency Clinical County Hospital of Oradea, during January to October 2013. The study was conducted in the general population and we included in our study 390 people (aged 40.3 ± 14 years, 266 women and 124 men) who addressed for an upper gastrointestinal endoscopy (UGIE) for dyspeptic symptoms in our clinic. All these patients were hospitalized and investigated clinically and endoscopically. Common laboratory tests, an upper gastrointestinal endoscopy (UGIE) and an abdominal ultrasound were performed in all patients. The UGIE was performed with an Olympus Exera CLE145 videoendoscope in the Endoscopy Unit of the same clinic and the ultrasonography with a Siemens Sonoline Adara ultrasound machine. Afterwards, all patients without structural lesions were questioned about personal demographic data, history, psychiatric comorbidities and symptoms.

Statistical analysis

Statistical analysis was performed with SPSS application-„*Statistical Package for the Social Sciences*”, using chi square test. P –value was considered significant at 0.05.

Results

From the 390 patients included, 33.8% (n=132) had functional dyspepsia. Medium age was 40.3 ± 14 years; 266 (68.2%) were female; 139 (35.6%) were from rural areas; 46 (11.7%) were smokers. Concerning symptoms, 99 (25.3%) patients had upper abdomen pain, 104 (26.6%) had distension after meals, 49 (12.5%) had nausea, 87 (22.3%) had precocious satiety, 106 (27.1%) had heartburn, and 54 (13.8%) had belching, 29 (7.4%) had vomiting (Fig. 1). As numbers show a lot of patients presented with more than one symptom.

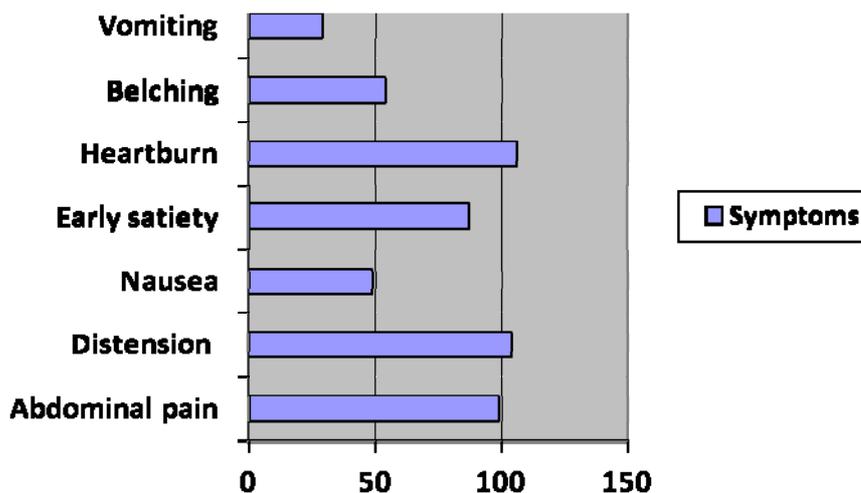


Fig. 1 Symptoms of FD

Dyspepsia prevalence was higher in patients over 60 years of age than in middle aged ones ($p=0.008$). In these patients the most common known psychiatric comorbidities were anxiety disorders, depression and somatoform disorders (Table 1).

Table 1: Prevalence and associated factors of dyspepsia

Variables	Frequency of variables (%)	Dyspepsia prevalence %	p-value
Age group			0.008
<60	145 (37.2%)	39 (26.9%)	
>60	245 (62.8%)	93 (37.9%)	
Smokers			0.1
Yes	46 (11.7%)	15 (32.6%)	
No	344 (88.3%)	122 (34%)	
Sex			0.008
Male	124 (31.8%)	31 (25%)	
Female	266 (68.2%)	101 (37.9%)	
Provenience			0.1
Rural	139 (35.6%)	54 (38%)	
Urban	251 (64.4%)	78 (31%)	
Psychiatric comorbidities			0.003
Anxiety	70 (17.9%)	42 (60%)	
Depression	46 (11.8%)	32 (69.5%)	
Somatoform disorders	69 (17.7%)	58 (84%)	

Discussion

We consider functional dyspepsia to be of great importance in our daily practice as the number of affected people increases steadily. It is therefore mandatory to have a correct image of the characteristics of FD in our region which will allow us to have an early diagnosis and better understanding of the disease.

Concerning prevalence, our study situates our region among those with high prevalence like the United Kingdom, United States of America and New Zealand [13-15].

Sometimes FD is not related to any specific group age. However, we observed that in our region people over 60 years of age were more affected by FD, data that correlates well with studies like Kay's and Jorgensen's [5].

Although most of population based researches did not revealed any sex predominance in FD, we found out that in our case, women were clearly more affected by the disease like in the case of Asian populations [16, 17].

Smoking habits seems not to be significantly related to FD as most of our patients with FD were non smokers, but we have to mention that in other studies smoking was identified as a particular risk factor [12].

A particular attention must be paid, in our opinion to psychological association in functional dyspepsia as it was clearly demonstrated before, that these states not only worsen the course of FD but sometimes they can initiate digestive problems and lower the response rate to treatment [11, 18, 19]. We emphasize that anxiety disorders, depression and somatoform disorders are commonly encountered in our region in patients with functional dyspepsia and we recommend proper and early treatment in specialized services.

Conclusions and future perspectives

Our study revealed, high prevalence of functional dyspepsia in our region. Older people and women were more affected. Smoking association with FD was not consistent but psychological associations were clearly encountered.

A combination of enhanced surveillance and early treatment might be the optimal way to manage the increasingly number of cases of functional dyspepsia in these patients. Further studies to find additional prognostic parameters might provide valuable insights into the behavior FD.

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Self-perception in dental aesthetics - A study in two ethnic groups

Greco A.G.¹, Dumitraşcu D.L.¹, Ciutrilă I.¹, Gasparik C.¹, Lassere J.F.², Colosi H.¹, Culic B.¹, Ducea D.¹

¹ University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca (ROMANIA)

² Université "Victor Segalen" Bordeaux (FRANCE)

E-mails: dducea@umfcluj.ro, Greco.Alexandru@umfcluj.ro

Abstract

Purpose: to assess, in two different ethnic groups, variations in the subjects' self-perception regarding their oral health, their dental aesthetics and dental color, and the informational level in respect to whitening treatments.

Material and Methods: A questionnaire, evaluating: self-perception of general oral health, the role played by the aesthetics in the motivation of seeking dental treatments, the satisfaction with the aspect of the dental arches, as well as the needs for dental bleaching, was distributed in two ethnic groups of patients: French (F) and Romanian (R); (n=105 subjects). The questionnaire, edited in both languages, was completed by a set of 8 pictures of dental arches, divided in 4 dental color groups. Distribution of the subjects in the two groups in respect to the gender, age and education was homogeneous. Descriptive statistics was performed in order to indicate: the role of the dental color among other esthetic parameters, variation in tooth-perceived color and history of the patients in whitening treatments.

Results: Subjects who considered their aspect during smile "acceptable" (46% R, 49% F) prevailed against those who regard their smile as "perfect" or "unsatisfactory".

From the Romanian patients, 34% identified the non-aesthetical dental treatments as the major shortcoming of their smile, whilst 33% F subjects opted for the altered dental alignment.

The highest percent in both groups considered themselves as having medium dental shade (42% R, 38% F), most of the subjects evaluating their own dental color as normal (49% R, 73% F); The patients were well informed about dental whitening therapy (70% F, 73% R), but the majority of the subjects (79% R, 88% F) have no experience on it.

Conclusions: For the questions rating the self-awareness of one's own esthetic parameters, the answers are similar in both ethnic groups. Discrepancies are found in rating the smile defects.

Keywords: self-perception, aesthetics, dental color

Introduction

The quality of life represents a multidirectional concept, which ranges between five categories: physical, material, social and emotional wellbeing, and the domain of development and activity [1].

Beginning with 1930s, this concept influenced all the medical fields, evaluating the effects of the pathology and therapy on the patients' psychological, emotional and social profile. Dentistry and dental aesthetics were also included [2], [3], [4].

In order to assess the interrelation between oral health and quality of life, specific questionnaires (quality of life assessment indices) have been developed [5]: The mostly commonly used are the Oral Health Assessment Index, the Oral Health Impact Profile or the Dental Impacts on Daily Performance [6], [7], [8], [9]. These questionnaires address a wide field of oro-dental pathology. In the modern social context, in which image is viewed as an important factor in the social development of the individual, dental aesthetics has gained an overwhelming importance that influences both dental treatment methods and patients' treatment needs.

Studies over the past twenty years have argued about the role of an agreeable dento-facial aspect upon the patients' self-esteem, psychic comfort and security. Studies reveal that attractiveness and beauty, especially regarding the face, have become major concerns for the population, notably the young-aged one [2], [3].

With this background, indices specialized on dental aesthetics were developed. Such instruments, as the Psychosocial Impact of Dental Aesthetics Questionnaire, the Dental Aesthetic Index or Goldstein's Aesthetic Self-perception Questionnaire try to evaluate, as precisely as possible, the effects of the altered dental aesthetics, respectively of the aesthetical dental treatment upon the patients' self-perception, self-esteem, security in the society and psychological balance [10], [11], [12]. Consequently, a wide range of studies has been performed, in different directions: the evaluation of the comfort degree of the subjects in relation to various dental and facial aesthetic parameters (dental color, smile etc.) or the evaluation of the differences in dental color assessing, between female and male patients or between dentists, dental technicians, laypersons and dental students [13].

It was stated that the ethnicity influences the aesthetic standards and perception. The purpose of the present study was to observe the variability in two ethnical groups (French (F) and Romanian (R)), regarding the self-perception of the subjects oral health status, facial aesthetics and experience in relation to dental whitening treatments.

Null hypothesis: 1. There is no difference between the two ethnic groups, regarding characteristics of the self-perception of their smile, particularly of the dental color.
2. There is no difference among the two ethnical groups regarding knowledge and experience in the field of dental whitening procedures.

Materials and methods

The instrument of assessment was represented by a multiple-choice questionnaire, which was certified through a pilot study, and obtained the approval of the Ethics Committee of the "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca. The questionnaire was applied to 105 Romanian and French dental patients. Distribution of the subjects in the two groups in respect to the gender, age and education was homogeneous. The questionnaire was edited in both languages, maintaining the content and order of the questions identical.

The questionnaire was structured in 35 items, oriented in the following domains:

- Self assessment and satisfaction regarding the own dental appearance
- Self-assessment of the own dental shade;
- Oral hygiene and diet habits, which could influence the dental shade;
- Level of information and personal experience, regarding teeth whitening treatments.

The questionnaire had attached a group of 8 pictures of dental arches with different dental shades, divided in 4 groups: very light dental shades, light dental shades, medium dental shades, dark dental shades. The patients were asked to compare their own dental shades with the pictures and to include themselves in the most similar color group.

Answers to the questionnaires were statistically analyzed using Microsoft Excel and SPSS v20.00 software. For hypothesis testing, Mann-Whitney U test, Pearson's chi-square test and Kendall's tau b coefficients were used at a significance level of 0.05.

Results

The age and gender distribution of the patients, in the two ethnical groups, is presented in Table 1.

Table 1: Gender and age distribution of the patients in the two ethnical groups

	French		Romanian		Age	French	Romanian
	Females	Males	Females	Males			
Gender	59	46	61	44		16-73	28-80

Aspect during smile: The repartition of the patients, regarding the self-perception of their smile is included in Table 2. No statistical significant difference has been established between the two groups in this respect ($p > 0.05$). The distribution of the answers by the most detrimental factor in smile is presented in Table 2.

A statistically significant difference between the two ethnic groups has been found regarding the factor with the major impact upon smile: the non-aesthetical dental treatments ($p < 0.05$) and the disagreeable dental color ($p < 0.0001$)

Self-assessment of the dental color: Evaluation of the dental color and self-inclusion in color groups are illustrated in Table 2 and Table 3; no statistical significant differences regarding the self-inclusion in a certain color group, between the two ethnicities, was registered ($\chi^2(9) = 15,091$, $p = 0.088$). There is a good correlation between self-inclusion in color groups and self-perception of an altered dental shade (Kendall's tau-b = 0.22, $p < 0.001$).

Experience regarding dental whitening therapy: Both the level of information and patients' experience related to dental whitening are shown in Table 3. No correlation has been found amid the degree of information on dental whitening and the experience of the patients with this therapy (Kendall's Tau-b = 0.011; $p > 0.05$); Moreover, Kendall's Tau-b indicated no correlation between the self-inclusion in a dental color group and dental whitening treatments experience (Kendal Tau-b = 0.07, $p > 0.05$).

Table 2: Distribution of the patient's answers, in regard to their own smile and dental shade

Smile perception		Pleasant	Acceptable	Some defects	Major defects	No opinion
	F	14%	49%	22%	8%	6%
	R	15%	46%	24%	7%	3%
Most disturbing element in other persons' smile		Non-aesthetical dental treatments	Tooth shape/dimension	Dental shade	Dental alignment	
	F	25%	17%	22%	34%	
	R	28%	23%	28%	13%	
Dental shade self-assessment		Very light	Light	Medium	Dark	
	F	19%	37%	38%	6%	
	R	21%	29%	42%	8%	
Factor perceived as most disturbing in own smile		Tooth shape/dimension	Dental alignment	Dental shade	Non-aesthetical dental treatments	None
	F	7%	33%	27%	12%	16%
	R	13%	30%	15%	34%	8%

Table 3: Distribution of the answers in respect to dental whitening

	Perceiving the dental shade as normal		Information about dental whitening		Experience regarding dental whitening		Information about dental whitening side effects		Use of whitening tooth paste	
	F	R	F	R	F	R	F	R	F	R
Yes	73%	49%	70%	73%	7%	13%	22%	25%	20%	39%
No	21%	46%	30%	27%	88%	79%	70%	68%	76%	57%

Discussion

Both French and Romanian patients who evaluated their smile as "acceptable" prevailed. The highest percent of both French and Romanian patients included itself in the medium dental shade group. However, French patients chose, as the most disturbing factor in their own smile, the dental alignment defects, while the Romanian ones opted the non-aesthetical dental treatments. Hence the first null hypothesis was partially confirmed.

The statistical tests revealed a correlation between the self-inclusion in one color group and an altered dental color perception, the second null hypothesis being partially rejected.

Although patients showed a high level of information regarding the dental whitening treatments, for both ethnical groups, and despite the fact that the highest percent of patients, in both ethnical groups, included themselves in a medium dental shade category, experience of the patients with dental whitening therapy remains poor. Due to the small percent of patients undergoing dental whitening treatments, the second null hypothesis was partially accepted.

Self-assessment of one's own aesthetical parameters can be related to age, gender, profession or educational level. In similar studies, Tin-Oo et al., in a study conducted in Malaysia [3] presented that: 52.8% of the interviewed patients were unsatisfied with their overall dental appearance, 56.2% complaining about their dental shade, tooth whitening treatments being the most requested ones. Evaluating the satisfaction with appearance, Bader [14] observed a high degree of dissatisfaction with the dental appearance and tooth color (65.9%), and a correlation between the own tooth color and the desire for dental whitening treatments. In a study regarding the perception of unmodified, decayed and whitened teeth [15], Kershaw assesses that the demographic background has no influence in the patients' perceptions. In a study led by Saunders among African Americans, small differences are pointed, regarding the perception of dental aesthetics, between African and Caucasian subjects [16].

In comparison with the present study, Tin-Oo and Bader obtained a higher percent of patients, complaining about their dental color and demanding whitening treatments. Similar to the present study, Kershaw and Saunders find small ethnic differences in the assessing of dento-facial aesthetics.

Conclusions

1. For both ethnical groups, self-inclusion into "acceptable" smile aesthetical category and into the medium dental shade prevailed; there was a good correlation between self-inclusion in color groups and self-perception of an altered dental shade.

2. The highest number of French patients chose as the most affecting element of the smile the "dental alignment defects", while Romanian patients opted for the non-aesthetical dental treatments; statistically significant difference between the two ethnic groups has been found regarding the factor with the major impact upon smile.

3. A limited number of patients have performed dental whitening treatments, in both groups; no correlation has been found amid the degree of information on dental whitening and the experience of the patients with this therapy. No correlation between the self-inclusion in a dental color 133olor and dental whitening treatments experience has been established

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Assessment Methods of the Somatization Process Related to the Nurses with Risk of Developing the Burnout Syndrome

Grigorescu S.¹, Nedelcu L.¹, Grigorescu D.¹, Rogozea L.¹

¹Transilvania University Brasov (ROMANIA)

E-mails: simo.grigorescu@yahoo.com, r_liliana@yahoo.com

Abstract

Introduction. In Romania, highlighting the burn-out syndrome (BOs) and, subsequent, the somatization process (SOM) related to the medical staff involved in the nursing of patients with severe chronic pathology is not a current concern, although early detection of the subjects who develop such pathology is absolutely necessary.

The aim of the study. We propose an analysis of the somatization incidence to the nurses and if the SOM incidence is significantly different in nurses involved in the nursing of the patients with severe chronic illness to those involved in the treatment of the ordinary patients.

Methods and means. This study have as subjects a target group (TG) of nurses (51) and a control group (CG) of nurses (46) to whom were applied an original combination of questionnaires (Maslach Burn-out Inventory + Brief Symptoms Inventory 18), supplemented with additional items proposed by the authors.

Results. Initially, a comparative analysis of the BOs incidence in the nurses of the two groups was performed (34% in the TG, in comparison with 26% in the CG), considered to be relatively equal. After that It was revealed the incidence of SOM in subjects with BOs, observing that: a) SOM occurred with a 3,1 times higher (27,5%/8,7%, $p=0.0202$) in the TG, if we consider 4 as the minimum number of symptoms present in a subject such that the SOM exist and b) SOM occurred with a 5,9 times higher (23,5%/4,3%, $p=0.0087$) in the TG GT, if we consider 5 as the minimum number of symptoms present in a subject such that the SOM exist.

Conclusions. This study addresses in an original way the somatization process appearance after the burnout syndrome in similar, but different categories of medical personnel. SOM has as generator key the relationship of nurses to patients with severe chronic illness and it is not strictly correlated with the incidence of the burnout syndrome appearance. The results allow the argument that subjects who care patients with serious chronic diseases have a major risk of somatizations with long term negative effects that underscores the need for regular and systematic evaluation of these medical personnel.

Keywords: Somatization process, Burn-out syndrome, Brief Symptoms inventory

Introduction

In the recent years the issue of occupational stress and burnout has received increasing research attention. Given the amount of time people spend on work-related activities and the key role of work to one's sense of identity and self-worth, it is not surprising that occupational stress is regarded as a central area of study. Although burnout is related to the extensive literature on occupational health, burnout goes beyond it, focusing on specific stressors in the workplace to emphasize total life and environmental pressures affecting health [1, 2].

Burnout syndrome can be defined through feelings of exhaustion, a cynical attitude towards the workplace and co-workers and reduced personal achievements or low efficiency [2,3]. In a radical manner the burnout syndrome exhausts a person's spirit. This means that an employee's energy and work capacity may diminish in time, when the work environment does not offer resources and is highly demanding. At an advanced stage a state of physical, emotional and mental exhaustion occurs which is difficult to recover from [3].

The definition provided by Maslach, "burnout may be defined as a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding [4,5,6].

The effects of the burnout syndrome have not only consequences just a personal level, but tends to spread from one member of a team to another, from the team to the patients, involving the entire organization.

The consequences of all these can be organized on three levels [6]: 1. The patient level whom for, the contact with medical staff with burnout, determines frustration and inefficiency. 2. The community level in general, which records high loss in investment. 3. The professionals level who "pay" the burnout through somatization, and especially through resource dissipation and use of potential under the expected level.

By somatic symptoms we understand body complaints with no organic basis, the so-called functional disorder or psycho-vegetative symptomatic complexes [7]. Among the functional disorders we identify headaches, gastritis, ulcers, insomnia or psychopathological disorders such as anxiety, obsession-compulsion, interpersonal sensitivity, depression, hostility, paranoid ideation, alcoholism and addictions with unspecified causes. What characterizes these disorders is the absence of organic lesions to justify their presence. They are "sine materia" ailments representing the expression of frustration, affective deficit, internalized conflicts [8, 9].

For organizations, it can lead to serious reduction in performance and productivity, deterioration in customer service, excessive rotations and absenteeism, and the employees can even lead leaving their jobs [4].

In Romania, highlighting the burn-out syndrome and the somatization process related to the medical staff involved in the treatment and nursing of patients with severe chronic pathology is not a current concern, although their emergence and evolution also generates destructive impact both on the individual and general. Therefore, early and systematic detection of the subjects who develop such pathology is absolutely necessary.

This study aims to develop a correlation between the incidence of the two types of events occurring in the nursing personnel, respectively whether somatization: a) has a different incidence in subjects without burn-out syndrome than in those with the syndrome revealed; b) evolve independently or linked to burnout syndrome.

Methods

The present study was conceived in the form of a comparative statistical study, having as subjects medical nurses in several hospitals in Brasov, Romania: Emergency County Clinical Hospital (public hospital), St. Constantin and Medlife Hospital (private hospitals). The managers of these institutions have given their consent beforehand.

In the study there were involved 97 medical nurses who have given their consent to participate beforehand. The subjects were split in two groups: the target group and the witness group. 51 of them are medical nurses involved in severe chronic diseases patients' care (oncology, neurology and hematology), these representing the target group, and 46 medical nurses from emergency surgery departments regularly caring for patients with acute diseases (plastic surgery and neurosurgery), these representing the witness group.

The study is based on the questionnaire method applied to all subjects, on condition of filling it in entirely. The questionnaire is an original combination between Brief Symptoms Inventory 18 (BSI 18) and Burn-out Inventory (MBI), completed with supplementary items by the authors.

Subjects were first asked to complete a series of specifically-prepared questions related to general socio-demographic and occupational characteristics. The questionnaire collected information on the variables: age, gender, married ('yes' or 'no'), children ('yes' or 'no'), level of education, hospital department in which they work, occupation, number of hours worked per day, length of service ('< 5years', '5-15years', '> 15years'), type of the contract with the hospital ('permanent' or 'temporary').

Subjects were presented with the MBI and BSI 18 validated Romanian language version. This adaptation of MBI, consisting 15 items grouped into three dimensions: 'exhaustion', 'cynicism' and 'efficacy'. The 'exhaustion' dimension consists of 5 items (e.g. "I feel emotionally drained from my work"), the 'cynicism' dimension consists of 4 items (e.g. "I've become more callous toward people since I took this job") and the 'efficacy' dimension consists of 5 items (e.g. "I deal very effectively with the problems of my work").

The BSI 18 questionnaire, modified by the authors, consists of 17 items referring to somatic symptoms occurring in the absence of pathology. (i.e.: headaches, irritability, changes of appetite,

shoulder and back pains, insomnia, sexual disorders and loss of sexual appetite, turmoil, tendency of increased alcohol, tobacco or other substances consumption, fatigue, etc.).

The data gained were analyzed so as to emphasize the burn-out syndrome and somatic process in the questioned subjects. The purpose of the analysis is to point out a potential significant association of somatic changes in patients with burn-out syndrome.

Results

Initially, a comparative analysis of the burn-out syndrome incidence in the nurses of the two study groups was performed, the incidence being relatively equal (26 % in the control group compared to 34% in the target group), which may be explained by the subjects' similar psychological strain determined by their activity with patients suffering from severe pathologies, either chronic or acute (fig.1, BURN-OUT 2-nd column each table).

The occurrence of somatization process was also analyzed in patients who had developed burn-out syndrome, considering as somatization the presence of a necessary minimum number of symptoms, considered in sets of 4, respectively 5 (Fig.1, SYMPTOMS 3-rd column each table).

There has been observed that: a) the somatization process had a three times (3,1) bigger incidence (27,5%/ 8,7%) within the target group, if we consider 4 as a necessary minimum number of symptoms present in a subject in order to consider the somatization process existing (Fig.1 INCIDENCE, 5-th column left tables), and b) the somatization process had a six times (5,9) bigger incidence (23,5%/ 4,3%) within the target group, if we consider 5 as a necessary minimum number of symptoms present in a subject in order to consider the somatization process existing (Fig.1 INCIDENCE, 5-th column right tables).

Total number of subjects: 97

<i>Control group: 46 subjects with 4 symptoms</i>					<i>Control group: 46 subjects with 5 symptoms</i>				
	BURN-OUT	SYMPTOMS (+4)	SOM	INCIDENCE		BURN-OUT	SYMPTOMS (+5)	SOM	INCIDENCE
4	+	+	+	8,7%	2	+	+	+	4,3%
8	+	-	-	17,4%	10	+	-	-	21,7%
6	-	+	-	13,0%	4	-	+	-	8,6%
28	-	-	-	60,9%	30	-	-	-	65,4%
46	12	10	4		46	12	6	2	
	26%	21,7%				26%	13%		
<i>Target Group: 51 subjects with 4 symptoms</i>					<i>Target Group: 51 subjects with 5 symptoms</i>				
	BURN-OUT	SYMPTOMS (+4)	SOM	INCIDENCE		BURN-OUT	SYMPTOMS (+5)	SOM	INCIDENCE
14	+	+	+	27,5%	12	+	+	+	23,5%
4	+	-	-	7,5%	6	+	-	-	11,8%
13	-	+	-	25,5%	10	-	+	-	19,6%
20	-	-	-	39,5%	23	-	-	-	45,1%
51	18	27	14		51	18	22	12	
	34%	53%				34%	41,5%		

Fig.1. Analysis of incidence of somatization process in the CG and TG
Comparison between 4 symptoms and 5 symptoms set in SOM

The results are statistically significant, more significant as the set of symptoms is bigger: p = 0.0202 for the set of 4 symptoms necessary to be present in a subject in order to consider the somatization process existing, compared to p = 0.0087 for the set of 5 4 symptoms necessary to be present in a subject in order to consider the somatization process existing, as indicated by the statistic calculations (Fig.2).

Data 1			Data 2		
	subjects	SOM - 4 symptoms		subjects	SOM - 5 symptoms
Control Group	46	4	Control Group	46	2
Target Group	51	14	Target Group	51	12

Fisher's exact test

Table Analyzed Data 1				Table Analyzed Data 2			
Data analyzed	Col A	Col B	Total	Data analyzed	Col A	Col B	Total
Control Group	42	4	46	Control Group	44	2	46
Target Group	37	14	51	Target Group	39	12	51
Total	79	18	97	Total	83	14	97
P value 0.0202				P value 0.0087			
P value summary*				P value summary **			
One- or two-sided				Two-sided One- or two-sided			
Statistically significant? (Alpha < 0.05) Yes				Statistically significant? (Alpha<0.05) Yes			

Fig.2. Statistical significance calculation

Conclusions

The originally approach of the somatization process occurrence subsequent to burn-out syndrome within two resembling, but different, medical staff categories, allowed us to prove that: 1. The occurrence of the burn-out syndrome in medical nurses in hospitals is not necessarily a characteristic of their contact with patients suffering from severe chronic diseases, as it has an almost identical occurrence in the context of relating to either acute or chronic, but severely sick, patients; 2. The development of the somatization process has no direct link to the prior occurrence of burn-out syndrome, but is, statistically significant, in full agreement to the relation with severe chronic diseases; 3. The somatization process has to be considered more specifically if the set of symptoms being developed subsequently to the professional relation of the medical nurses with severe chronic patients contains at least 5 symptoms; 4. The results allow supporting the fact that subjects caring for patients suffering from severe chronic diseases are at high risk of developing a somatization process changes with long-term negative effects, which emphasizes the necessity of regular and systematic psychological evaluation for these categories of medical staff.

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Friedrich Schiller – from a psychosomatic viewpoint

Häfner S.

*CELENUS German Clinic of Integrative Medicine and Rehabilitation, Department of Behavioral Medicine and Psychosomatics, Prof.-Paul-Köhler-Str.3, 08645 Bad Elster (GERMANY)
E-mail: s.haefner@dekimed.de*

Abstract

Purpose: To show that Friedrich Schiller (1759-1805), not only one of the most famous German poets, but also physician and historian, was very early inclined for psychosomatic interactions. **Methods:** Analysis of the secondary literature since the death of Friedrich Schiller for the subjects “Friedrich Schiller” and “psychosomatics”. **Results:** Already during his medical studies at the “Hohe Karlsschule” in Stuttgart (Germany) Schiller studied very intensively psychosomatic issues on behalf of the disease of another student, Joseph Frédéric Grammont, and in his three doctoral theses. Not inclined to practical work as a physician, there are many psychosomatic thinking and medical concepts in his writings especially in the play “Die Räuber” (1781) and in “Don Carlos, Infant von Spanien” (1787). Towards the upcoming mesmerism he remained very sceptic. In coping with his own illness there are many psychosomatic aspects, too. **Conclusions:** Despite his own severe somatic illness he could cope with pain and emphasized in his writings the importance of the freedom of anxiety in difficult conditions.

Keywords: Friedrich Schiller, psychosomatic disorders, body-soul-dualism, mesmerism, pain

Introduction

The aim of this article is to show that the German poet Friedrich Schiller (1759-1805) very early was interested in psychosomatic questions.

Material and Method

Secondary Literature from the 19th century up to now dealing with Friedrich Schiller and psychosomatic medicine was investigated. Common data sources as Medline, PubMed, PsychINFO and Psyn dex did not yield many results with the search words “Friedrich Schiller” and “psychosomatics”. It was more valuable to include literature of monographies, contributions to books and of articles in journals about Friedrich Schiller and psychosomatic topics. Primary literature was mostly not included.

Results

Friedrich Schiller was a brilliant pupil at the “Hohe Karlsschule” in Stuttgart but had difficulties in arranging himself with the strict discipline there. He did not like to dance and to ride, but was very inclined to reading “forbidden” literature, very often on the wards of the hospital [1]. His very traditionally oriented father Johann Caspar Schiller (1723-1796) was a surgeon in the army of the duke Carl Eugen [2]. At first Schiller wanted to become a theologian, which was the wish of the father, too, but by an order of the duke Carl Eugen, he had to study law [2]. Later on when it was clear that there would be too many lawyers Schiller had to change and study medicine.

Grammont

During the suicidal crisis of another pupil of the “Hohe Karlsschule”, Joseph Frédéric Grammont (1759-1819), Schiller had the opportunity to make very differentiated psychological observations [3,4]. In the years 1779 and 1780 Grammont suffered after the death of his father from a very severe depressive reaction including symptoms as headaches, lack of appetite, abdominal pain, lack of energy and suicidal ideation. The interpretation of the physicians of the Hohe Karlsschule was

purely somatic and included strict observation of the pupil. Already at this time Schiller favoured a modern diagnostic approach and thought in a psychosomatic way. He was convinced that Grammont's symptoms had a lot to do with the very strict rules at the Hohe Karlsschule and the strict military discipline [5,6].

The doctoral theses

Another proof for the very early inclination on psychosomatic interactions are the three doctoral theses of Schiller. Only at first sight they deal with febrile conditions, but they are very subtle works on basic psychosomatic questions and the problems of body-soul-interaction [7-9].

Medical and psychological concepts and ideas in the works of Schiller

When finishing his third doctoral thesis, Schiller also wrote his drama "Die Räuber" (1781) dealing with anxieties, unconscious wishes and internal conflicts [10,11]. In the dramatic poem "Don Carlos, Infant von Spanien" (1787) he deals with his relationship with the duke Carl Eugen during the time when he had to flee from the military service in Stuttgart. In "Maria Stuart" (1800) the focus is on the moment of freedom facing death.

Schiller as physician

Already as a medical student Schiller's concept of himself was that of a poet. He always tried to transfer his medical knowledge into his writings. He was very interested in the medical research of his time, for example the pox vaccination and studied Johann Caspar Lavater's (1741-1801) and Herman Boerhaave's (1668-1738) medical systems [5]. But he could not imagine to work as a physician [12]. His first job as a physician in the army at the poorly estimated regiment Augé in Stuttgart was very boring for him. He earned not much money and had an inclination to make prescriptions with very strong medications. But he had a lot of time to write his first plays [13].

Schiller was very interested in mesmerism and planned to meet in the city of Heilbronn the mesmerian physician Eberhard Gmelin (1751-1809), a follower of Mesmer's ideas, during a trip to his Swabian origins [14]. He wanted to become more acquainted with "animal magnetism", but was not convinced about the method and remained full of scepticism against Gmelin so that there was no attempt by Gmelin to mesmerize him.

Schiller's way of working

During the whole year Schiller suffered from colds and was coughing a lot [15]. He sought stimulation by nicotine, coffee, champagne and later opium [16]. Schiller always was very optimistic ("If I have I plan, I'm sure to realize it within three weeks"), but he suffered a lot because he worked in a very acerbic way [17]. Very often he was suffering from severe mood instabilities [18].

Everybody as "his own physician"?

Schiller's reaction to his surrounding conditions always was very sensitive. After the success of his play "Die Räuber" he had to flee from Stuttgart to Mannheim where he tried to work as a poet at the national theater – without any success. In Mannheim he was for the first time severely ill when he got the so-called "cold fever", at that time a synonym for malaria [19,20]. He was his own physician, took tremendous doses of chinine and made a very strict diet by which he ruined his stomach [13].

In his early years Schiller didn't care much about his body. For Schiller it was normal to live with pain. He compared pain with "unpleasant members of the household". He was convinced that everybody had the potential to become "his own physician" [17] and he liked very much drastic treatments [17].

His professorship for history at the university of Jena in the year 1788 was not without ambivalence [12]. It was not easy for him to change his life as a free author to that of a professor at a university with many duties in teaching and organisation. He was in panic to speak to many students and did not like academic rites. When speaking loudly he suffered from pronounced dyspnoea, so that he had to cancel lectures and retire from university [17]. 1793 he tried again to teach the students, but suffered from a very severe pain attack during a lecture so that he never returned to teaching again.

During the years in Jena he suffered from an identity crisis, feeling his Swabian origins. He never got very familiar with the life habits in Thuringia despite a very positive effect of the climate on his health condition [19]. He had only lived ten years of his life in the city of Stuttgart but these were the most important years for him forming his personality. So it is not surprising that he was very proud that his first son Karl Friedrich Ludwig was born in Ludwigsburg nearby Stuttgart.

After many very severe medical conditions in 1791 it was clear for him that he would die in the next years. Therefore he wanted to return to his most important profession as a writer and to poetry. In the year 1804 one day before the birth of his youngest daughter Emilie Henriette Luise, Schiller caught a cold. It was so severe that he said "I can't stand it, I wish I would be dead" [13].

Schiller died on May 9th 1805 at 17.30h in his house in Weimar, only 45.5 years old. After doing the section of Schillers body, his physician Huschke wrote that it was a miracle that this poor man could live so long with this body. Tuberculosis of the lung after an infection during his time in the army has been discussed as cause for his death for a long time [20]. Today there is much evidence that Schiller suffered from recurrent pneumonias and localized peritoneal inflammations that were the causes of his pain and early death [17,21].

Conclusions

During his first three years of life Schiller grew up most of the time without his father being with the army far away, a condition that might have had a negative effect on Schillers health [2]. Schillers professional career was not straight forward. His first wish as a boy was to become theologian, then he started to study law and finally had to change to medicine. Very early in his observations on the treatment of his friend Grammont he found a psychosomatic way of thinking. He started as military doctor with no identification or inclination to this profession, was one of the leading historians of Germany and professor of history at the university of Jena. He was a writer and wrote dramas that had a tremendous impact on the theory of theater. He was gifted as well as physician and as author, tried to analyze the soul of his characters like an anatom. It is not astonishing that he uses a lot of words from the field of surgery in his work. On behalf of Stuttgart he oscillated between hatred and fascination. On the one hand he remembered the harshness of the duke Carl Eugen that forced him to flee, on the other hand he often felt home-sick and wanted to go back to his Swabian origins when living in Thuringia.

Schiller had a very profound understanding of psychosomatic medicine. In his writings psychosomatic thinking is very well documented [4,22,23]. In his speeches to the 150th anniversary of Schiller's death on May 8th, 1955 in Stuttgart and on May 14th, 1955 in Weimar Thomas Mann (1875-1955) called him "the soul doctor of our sick times" [24]. So Schiller can be seen as a precursor of psychosomatic thinking, for example as Uexküll in the 20th century [25] even if he cannot be assigned directly to one of the precursors such as Johann Christian August Heinroth, Georg Groddeck, Felix Deutsch, Otto Fenichel, Harald Schultz-Hencke, Franz Alexander, Max Schur, Arthur Jores or Alexander Mitscherlich. He anticipated many aspects of psychosomatic theory and practice and was fascinated by the idea that the soul builds up its own body. This is of great interest on behalf of his own way of coping with his diseases and severe medical problems [17]. Despite being limited by his own poor body conditions he was able to defend the freedom of thinking [17].

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Physician's communication skills from patient's perspective

Hoțoleanu C.¹, Dumitrașcu D.L.¹

¹ UMF Iuliu Hatieganu, (ROMANIA)

E-mails: chotoleanu@umfcluj.ro, ddumitrascu@umfcluj.ro

Abstract

Background: Medical communication plays an important role in patient care. The patient's perception of the physician's communication skills can be assessed using a psychometrically validated instrument, the Communication Assessment Tool (CAT).

Aim: We aimed to apply it on a group of patients admitted to the internal medicine department of a teaching hospital in Cluj, Romania.

Material and method: CAT consists into 15-items; 14 items regard the physician and one refers to the staff. Each item has a five-point answer scale with 5 corresponding to "excellent". The proportion of "excellent" ratings is considered to be more useful than using the means of the scores. We enrolled a group of 42 patients, 18 women and 24 men, aged between 38-71 years old (mean age: 55.55).

Results: The average of excellent score obtained was 66.83%. The highest proportion of excellent score (88.09%) was obtained for items 1 and 2 (corresponding to "the patient was greeted appropriately", respective "the patient was treated with respect") and the lowest for items 10 and 11 (45.23%, respective 42.85%) corresponding to "the patient was encouraged to put questions", respective "the patient was involved in decision making as much as (s)he wanted". The findings are consistent with literature (Makoul et al, Myerholtz et al).

Conclusion: Although limited by the sample size in our case, CAT results could be useful in practice for the improvement of medical communication.

Keywords: medical communication, communication skills, patient's perspective

Background

Communication is defined by the use of words, facial mimic, gestures, and body language in the interaction with another person. Medical communication plays an important role in patient care; data reveal that the majority of complaints and malpractice problems are the result of communication errors (1). It has been shown that physician's good communication skills diminish the emotional distress in patients, contribute to a better control of some chronic diseases (such as hypertension, diabetes), are associated with a higher compliance to the therapy, and lead to an increased patient's satisfaction, which is an important aspect especially in the light of patient-centered medicine (2-4). The patient-centered medical approach was identified as a factor in achieving quality health by the Institute of Medicine in 2001; since then numerous data support it (5).

Since the improving of doctor-patient communication represents an important health policy issue, several instruments were developed to assess the communication from the patient's perspective. It was found that patients appreciate most the medical visits where the doctors give information spontaneously and show affective behaviors (6). The majority of these instruments are focused on the moments of taking the patient's history and the final conclusions of the interview; others assess also the patients' involvement in the decision-making process (Brody et al. 1989; Flocke 1997; Safran, Kosinski et al. 1998; Stewart 1995; Stewart et al. 1999) (7). The Communication Assessment Tool (CAT) was developed by Makoul et al, tested and found to be a valid instrument for measuring patient's perceptions of physician's communication skills; it is easily administered in a paper-and-pencil format, or using the internet or phone. The authors published data for physicians of different specialties (8).

Objectives and method

Our main objective was to assess the patient's perception about the physician's communication skills using CAT. The secondary aim was to analyse differences in this perception according to the sex.

CAT consists into 15 items about different aspects of communication and interpersonal skills of the physician, written at the fourth grade reading level; each item has a five-point response scale, (1=poor, 2=fair, 3=good, 4=very good, 5=excellent). CAT includes 14 items regarding the physician and one item regarding the staff. The authors showed that the proportion of the responses quoted as "excellent" is more useful than the sum of the means (8).

A group of 42 patients admitted to the Internal Medicine Departement of a teaching hospital from Cluj, Romania was enrolled in the study. The group included 18 women and 24 men, aged between 38-71 years old (mean age: 55.55). Patients with severe medical conditions and/or altered mental status were excluded from the study. CAT was administered in a paper-and-pencil format, after the patients were informed that completion of the survey is voluntary, does not influence the medication and the responses are confidential; we used only the first 14 items of CAT that regard the physician.

The percentage of items with the response 'excellent' represents the percentage of items with a score of 5 out of the number of items answered. The difference in the distribution of the mean of excellent scores according to the sex was analysed using t test; P value less 0.05 was considered statistical significant.

Results

The average of 'excellent' score was 66.83% across the items. The highest proportion of excellent score (88.09%) was obtained for items 1 and 2, corresponding to "the patient was greeted appropriately", respective "the patient was treated with respect". The lowest percentage of excellent scores was found for items 10 and 11 (45.23%, respective 42.85%) corresponding to "the patient was encouraged to put questions", respective "the patient was involved in decision making as much as (s)he wanted". Female patients presented the highest rate of excellent score for item 1, 94.44%, and the lowest, for item 11, 33.33%. Male patients' answers with the highest rate of excellent score were for item 2 and with the lowest rate, for item 6, 33.33%. The mean of excellent scores was not significantly different in female (67.85, SD: 18.14) and male (66.91, SD: 14.95), P= 0.886. The distribution of the "excellent" scores according to the items and sex is shown in table I.

Table 1

CAT item	% of excellent score	% excellent score in female	% excellent score in male
1. Greeted me in a way that made me feel comfortable	88.09	94.44	83.33
2. Treated me with respect	88.09	83.33	91.66
3. Showed interest in my ideas about my health	71.42	83.33	62.5
4. Understood my main health concerns	76.19	83.33	70.83
5. Paid attention to me (looked at me, listened carefully)	71.42	72.22	70.83
6. Let me talk without interruptions	52.38	77.77	33.33
7. Gave me as much information as I wanted	64.28	50	75
8. Talked in terms I could understand	59.52	61.11	57.69
9. Checked to be sure I understood everything	59.52	38.88	79.16
10. Encouraged me to ask questions	45.23	44.44	50
11. Involved me in decisions as much as I wanted	42.85	33.33	54.16
12. Discussed next steps, including any follow-up plans	71.42	83.33	62.5
13. Showed care and concern	71.42	72.22	70.83
14. Spent the right amount of time with me	73.8	72.22	75

Discussion

We obtained an overall mean of excellent scores of 66.83% in our group of patients, similar with other data 69.7% (Myerhotlz et al), 59.1% (Ferranti et al) and slightly lower than reported by Makoul et al, 76.3% (8-10). A study including 700 hospitalized patients reveals that the items with the highest rate of excellent score were number 2, 6 and 8 (treating the patient with respect, letting the patient talk without interruptions, and talking in terms the patient can understand) and the lowest ratings were for items 1, 10 and 11 (greeting the patient in a way that made him or her feel comfortable, encouraging the patient to ask questions, involving the patient in decisions as much as he or she wanted (10). We obtained the same highest rating for item 2 and the lowest for items 10 and 11; the main difference regarded item 1 (greeting properly the patient) with a highest score in our study, explained maybe by the cultural and traditional background. Similar to the literature, no significant difference regarding the mean of highest rate was found between female and male patients. However, the item 6 (letting patient talk without interruption) got the lowest rate only among men; this could be a reflection of the doctor's respect manifested for women.

Conclusion

Although limited by the sample size, the present study could be considered as a first attempt in our country (according to our knowledge) taking into consideration the patient's perspective about the doctor's communication skills. The identification of the lowest ratings may lead to the development of an improved approach to the patient.

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Immixture of Internet Health Related Information in Medical Communication

Iamandescu I.B.

UMF Carol Davila, Bucharest, (ROMANIA)

E-mails: iamandb@yahoo.com

Abstract

Based on literature data, own clinical experience, and on a recent study among physicians and patients, author presents some considerations regarding especially the reasons of physician's frustration in front of patients who are informed by internet about their medical problems. Self-diagnosis and self-medication for their diseases, the lack of personal contact with physician, and filtered medical informations through internet informations are the main causes of patients responsibility for deteriorating their medical communication with physician.

Keywords: medical communication, internet health related informations, frustration

Introduction

Is worth to mention that parameters, fixed as objectives of the mentioned study, were inspired by all 3 components of medical communication (intellectual, affective and moral) [1], and affected by a patient informed on internet. The result of this interposition of internet information between physician and patient could disturb their relation of communication and generate conflictual situations. [2]. Before analysing the modalities of this internet immixture in medical communication, it appears as necessary to emphasise **the advantages and disadvantages of this way of patient 'information** about health related knowledges.

Methods

The favourable effects of internet health related informations may be the following [3,4,5,6,]:

- internet large accessibility and low costs, the time economy of time and money (in comparison with medical assistance) ;
- possibility to obtain detailed informations about healthy life style, prophylaxis of common and dangerous diseases, inclusively their risk factors ;
- advertising precociously about some debut symptoms in main or very rare but severe diseases ;
- addresses of private or de stat institutions and their quotation /appreciation by patients, inclusively about prestigious physicians ;
- confidential acces to "delicate" informations, but also free acces and participation to forums - discussions with other patients .

The disadvantages for patients [7,8,9] are :

- possible erroneous (but not often) or misunderstanding (frequently) informations ;
- suggestions about numerous diseases in patients (like the medical students in first years of clinical stages) and induction in those of anxiety and frightend scenarios ;
- temptation to selfdiagnosis and -dangerously - selfmedication, inclusively polypragmasia ;
- lack of contact with physician and inherent loss of multiple forms of medical empathic and informational support;
- wrong use of informations by patients with generating -after their thinking and knowledges - personal history of illness, omitting some essential data needed for a right diagnosis and, in such manner, misleading the physician ;

Relationship between physician and patient represents an essential component of medical act, being **the frame of medical communication**. It manifests at two main levels [1]:

-**bio medical**, which consist in a bidirectional exchange of information, furnished by **the patient** (data about his symptoms and the disease' evolution) and the **physician** (indications of medical investigations and for therapy, life style, etc.);

- **psycho-behavioral**, a cognitive, affective and attitudes ‘ “cover “ of the medical information , is made up also by a permanent exchange of explicit and implicit messages between both partners of interrelationship.

Annalysing the extremely rich and varied content of these both above- mentioned levels, Iamandescu transferred into the medical field [1] the Piaget ‘s classification -division (cit. by Popescu-Neveanu) (2 of each **interpersonal relationship -in 3 compartments: intellectual, affective and moral/ethical.**

The theme of the present paper is dedicated to the various problems created by the patient‘ s use of internet, regarding health related informations, before and after medical consultation. The following considerations represent the theoretical base for an ongoing personal study carried out on patients and physicians. Both members of medical communications are interviewed about some problems which will be analysed firstly in this paper.

It is worth mentioning that all parameters fixed as objectives of the mentioned study were inspired by all 3 components of medical communication already presented (intellectual ,affective and moral), and affected by a patient informed on internet . The result of this interposition of internet information between physician and patient could disturb their relation of communication and generate conflict situations.

Before analysing the modalities of this internet immixture in medical communication, it appears as necessary to emphasise **the advantages and disadvantages of this mode of patient ‘information** about health related knowledge.

At the beginning it is worth mentioning the huge number of patients who use internet for seeking health related information. In a summarizing presentation of Delphi Study, entitled “Can Internet Impact Consumers Behavior and Health Outcomes?”, Susan Dorfaman [3] presents an american statistics with 140 millions of internet users from whom 83% seek medical informations. A similar percent (81,9%) in romanian internet users was reported by Wolters Kluwer Health Division. A personal systematic presentation of main literature data together with own considerations, evaluates the benefits and risks for the patients who use internet medical informations during their communication with the physicians.

The favourable effects of internet health related informations may be the following [3,4,5,6]:

- internet large accessibility and low costs, the economy of time and money (in comparison to medical assistance) ;
- possibility to obtain detailed informations about healthy life style ,prophylaxis of common and dangerous diseases ,including their risk factors ;
- advertising precociously about some debute symptoms in main or very rare but severe diseases ;
- addresses of private or public institutions and their quotation /appreciation by patients ,including info about prestigious physicians ;
- confidential acces to “delicate “ information ,but also free acces and participation to forums - discussions with other patients ;
- physicians can easier to work with the medically informed patients.

The disadvantages for patients [3,5,7,8,9] are :

- possible erroneous (but not often) or misunderstanding (frequently) information ;
- suggestions about numerous diseases in patients (like the medical students in first years of clinical stages) and induction in those of anxiety and frightend scenarios ;
- temptation to self-diagnosis and –dangerously – self-medication,inclusively polypragmasia;
- inherent supply of informations for cyberchondriacs (hypochondriacs “nourished”by internet and other media informations);
- lack of contact with physician and inherent loss of multiple forms of medical empathic and informational support ;
- wrong use of informations by patients with generating –after their thinking and knowledge - personal history of illness ,omitting some essential data needed for a correct diagnosis and ,in such manner, misleading the physician ;

The physicians frustrations

It is obvious, that the great majority of the physicians disagree a such kind of new relation with their patients much different to classical therapeutical relationship (even nowadays dominated by paternalistic model). They become frustrated being obliged to support a real attempt on their professional authority and to consume also a lot of energy and a long time for the necessary explanations addressed to such patients.

These regards, rised from own personal clinical experience and from literature data, may be round up with several recent conclusions of a dissertation sustained by Marina Toma [10] under our leadership (2013). After processing into answers to a questionnaire, regarding some frustration

reasons of the physicians exposed to the patients who were informed by internet before the consultation, author could furnish a lot of informations in this respect :

- patients approach their relationship with the physicians from a position of an equal medical competence (76,7%)
- erroneous ideas about their symptoms` diagnosis,causes and treatment(80%) ;
- self-diagnosis (autodiagnosis) of the patients induced by internet informations(86,7%);
- insistent therapeutical options for the internet prescriptions that patient is waiting for physician`s approval(90%);

Although in 93,3% patients informed by internet have generated more difficulties for physician to take over history ,only 30% from physicians accused this difficulties to extend the consultation duration.

Discussion

The patient`s habit to obtain medical information on the internet may contribute to modify its classical relationship with the physician ; this is one of main causes which makes this relationship more symmetrical [11] and could create an apparent informing equality for both members of this relation . A such equality favored either by internet or media obtained informations by the patient focused on a small area of medical pathology or by a possible poor physician`s training in that area.These situations may reinforce his autonomy right and therefore to disrespect physician`s therapeutical indications .

A summarizing point of view on the immixture of internet information in medical communication should take into account **its involvements in each above mentioned three levels of physician –patient relationship affecting especially medical communication :**

- **on an intelectual level**, it generates patient`s approval or disapproval of physician` medical opinions regarding the diagnosis of exposed symptoms and of reccomanded medicines. The resistance to medical indications is often caused by "internet immixture " but the informations about disease ,obtained by the patient before the medical consult ,could create a " diagnosis trap" fo the physician. For instance , the presentation of almost all symptoms that the patient believe he had got could diminish physician`s vigilance ,and thus other symptoms and circumstances –specific for another diseases-may be omitted by the patient. An example of a such situation is represented by the case of a patient who told the allergist he had an allergy to the subliminal TV radiations because all his astma attacks , during all past 2 weeks , appeared in the dinning- room only after finishing the TV transmissions of world football championship . A rigorous history evidenced the presence in that room of a fish aquarium, and that the patient had been nourishing them with daphnia grains–after the end of TV games – before going to sleep . The skin tests confirmed the supposition of daphnia allergy for that patient.
- **on an affective level**, the discordance between patient`s(!) and physician`s diagnosis could create mistrust -for patient – and frustration and irritability- for physician .
- **on an ethical level**, as result of the negative impacts of internet" immixture " at the other above mentioned levels (cognitive and affective), behavioral reactions will occur : patient could follow - partially or at all -therapeutical indications, according to his own opinions, and physician could develop a strong aversion and hostility towards the patient. Finally, both will contribute to the break of their interrelationship and patient will begin his way of "doctor shopping ".

Conclusions

Internet related health care information realize a real "empowerment" [3] of every patient , giving him the chance to contribute himself to maintain a better state of his health in comparison with uninformed patients.

The way the patient use this informational power may be benefical, especially regarding prophylaxis (e.g.life style) and when he will seek medical advice , he should be able to clarify some possible confusions or erroneous informations by giving detailed instructions about illness management.

The most negative use of internet medical information which is present in patients who avoid the contact with physician (sometimes from financial and lack of time reasons) are the self-diagnosis and self-treatment, both having as major result, the lack of psychological support (informational and affective) offered by the physician.

For the medical communication, an "informed " patient may create some important problems in all 3 compartments of therapeutical relationship -especially affective- because possible different

views contrary to physician's opinions and decisions , and unfair behaviors regarding his therapeutic compliance.

The management of these psycho-social problems involved in medical problems are almost always dependent by the responsibility and competence of the physician (sometimes helped by psychologist).

The adjustment or limitations of the relational impediments created by internet medical empowerment of the patient represent the real solution for the conflictual situations above mentioned and due to the "internet immixture", but not to avoid it.

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On the Problem of the Efficacy of Psychotherapy in Diabetic Foot Ulcer Patients

Isachenkova O.

Scientific Research Institute of Traumatology and Orthopedics, N. Novgorod (RUSSIA)

E-mail: isachenkova@mail.ru

Abstract

Introduction: It is known that patients suffering from diabetes and its complications have expressed psycho-emotional disorders that worsen the disease's prognosis and quality of patients life and require appropriate correction. However, the efficacy of psychotherapy in these patients is often low and depends on various factors, among which the severity of psychosomatic disorders are probably important.

The aim of the study was to investigate the psychological and somatic disorders affecting the choice of psychotherapeutic methods and its results.

Methods: The levels of anxiety, depression, alexithymia, emotional and cognitive intelligence, personality type, and also the concentration of glycated hemoglobin, severity of cardiovascular and neuro-angiopathic violations were determined in 120 diabetic foot ulcer patients at the age of 43 to 73 years.

Results: The study revealed two main groups of patients with varying degrees of severity of psychosomatic disorders. In the first group of patients there was observed a high level of depression, alexithymia, psychopathic personality type, combined with deep encephalopathy, cognitive disorders and long duration of disease (more than 15 years). Expressed metabolic, cardiovascular, neuropathic disorders and a large number of lower limb amputations were observed also in this group of patients. In the second group there were small or no depression, enough emotional and cognitive intelligence, neuropathic type of person, less impaired somatic condition and high motivation for psychotherapy. All patients obtained autogenic relaxation sessions. The first group of patients received supplemental antidepressants, the second group of patients - CBT therapy. Satisfactory efficacy of this treatment was observed in approximately 40% patients in the first group and 70% - in the second group.

Conclusions: The study identified two main groups of patients with varying degree psychosomatic disorders which suggest different therapeutic approaches to increase efficacy.

Key words: diabetic foot ulcers, psychosomatic disorders, depression, psychotherapy.

Introduction

The diabetes mellitus occupies one of the first places in the structure of morbidity of population in highly developed countries. Besides its steady growth is marked, and the main thing is development of heavy complications in short time periods, leading patients to deep invalidity and even death. One of such complications is a diabetic foot ulcer [1, 2, 3].

It is known that mental maladjustment developing as a result of acute or chronic stress, plays a significant role in the pathogenesis of diabetes and its complications. In a certain percentage of cases, it might be a direct trigger diabetes mechanism, in other situations may be a psychogenic response to the occurrence of the disease and its severe complications [4, 5, 6, 7, 8]. In any case, it worsens the prognosis of diseases and quality of patients' life and requires appropriate correction. Very often psychic maladjustment is manifested as anxiety, depression, eating disorders and other pathological conditions. Patients with complications of diabetes, especially such as diabetic foot ulcer, these disorders are more expressed and can manifest as depression, hypochondriacal, astheno-neurotic and other psychiatric syndromes. A lot of research is devoted to the study of anxiety and especially depression in patients with diabetes and their influence on the course and prognosis of disease [9, 10, 11, 12].

Correction of these disorders is a serious problem, because it is very time-consuming, hard and often ineffective work. In our opinion, the choice of psychotherapy and its results largely depend on the mental and physical status of these patients.

The purpose of this study was to investigate the psycho-emotional and somatic disorders in patients with diabetic foot ulcers, their relationships and impact on the selection and results of treatment. Data processing methods of nonparametric statistics were used with software package Statistics-6.0

Methods

Psycho-emotional disorders such as anxiety and depression (HADS) [13], neurosis (Heca's and Hessa's Scale), alexithymia (Toronto's Alexitymia Scale) [14], cognitive declines (MMSE)[15] were investigated in 120 patients with diabetes mellitus type 2 complicated with diabetic foot ulcers at the age of 43 to 73 years. Their connection with somatic disorders, such as glycated hemoglobin, the number of comorbidities, the number of amputations and others were also studied. We proposed such methods for correction of psycho-emotional disorders as autogenic relaxation training, drug therapy and some personal-centered psychotherapeutic methods and studied their results.

The study has revealed that almost 90% of patients have severe psycho-emotional disturbances in the form of increased levels of anxiety, depression, neurosis, alexithymia, cognitive and personality disorders. Thus, elevated levels of anxiety have been found in 60% of patients, depression - 55%, alexithymia - 70%, neurotic disorders in 35%. According to the degree of depression the deep ones has been observed in about 25% of patients, and the small - about 30%.

In the study of the relationships between psycho-emotional and physical disorders it has been found that severe depression and anxiety are combined with severe personal and physical disorders. Thus, high level of depression has had strong correlation with alexithymia ($r=0,67$, $p<0,05$), cognitive declines ($r=0,69$, $p<0,05$) and also such somatic disorders as high level of glycated hemoglobin ($r=0,65$, $p<0,05$), a large number of comorbidities and low limb amputations. A less connection has been observed with anxiety ($r=0,43$, $p<0,05$). In turn small depressive disorders on the contrary have been more associated with anxiety ($r=0,63$, $p<0,05$) and neurosis ($r=0,59$, $p<0,05$), and less with alexithymia ($r=0,45$, $p<0,05$) cognitive impairment ($r=0,35$, $p<0,05$) and glycated hemoglobin ($r=0,43$, $p<0,05$).

Discussion

The research has revealed two main groups of patients with varying degrees of psychosomatic disorders. Thus, in the first group of patients there were a high level of depression, anxiety, alexithymia, combined with cognitive declines, a large number of comorbidities and a long duration of diabetes (more than 15 years). There were expressed metabolic, cardiovascular, neuropatic disorders and a large number of lower limb amputations in this group. Patients of this group had also poor treatment compliance, disease control and no motivation to psychotherapy. Sometimes they even refused it categorically. Patients of the second group had less intensive disturbances in psycho-emotional, and physical areas. These patients had more preserved cognitive and emotional intelligence and less long duration of diabetes (less than 15 years). According to our observations, patients of this group had a better adherence of the treatment, and were more motivated to psychotherapy, than patients of the first group.

In order to correct the psycho-emotional disorders, we first used in all patients method of psycho-physiological self-regulation in the form of autogenic relaxation training of 10 sessions. Satisfactory effect of improved well-being and development of skills of self-regulation was observed in about 30% of patients in the first group and about 50% in the second.

To improve the results of treatment, we found it useful to add drug therapy in the form of antidepressants (sertraline) to patients of the first group. Patients of the second group who had better preserved psychosomatic status and great motivation for psychotherapy, we found it useful to add personal-centered and cognitive-behavioral techniques.

This study is going on and the results will be presented in future reports. However, according to preliminary data, these therapeutic approaches contribute to the improvement of psycho-emotional status and outcomes of these patients.

Conclusion

The study has identified two main groups of patients according to the severity of psychosomatic disorders. Depending on this, we consider it appropriate to use different of psychotherapeutic approaches that will contribute to improved health outcomes.

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The benefit of self-help groups during and after inpatient psychosomatic treatment – a qualitative study

Laumen K.¹, Langenbach M.¹

¹ Department of Psychosomatic Medicine and Psychotherapy, GFO-Kliniken Bonn, St. Marien-Hospital, Robert-Koch-Str. 1, D-53115 Bonn, (GERMANY)
E-mail: Michael.langenbach@marien-hospital-bonn.de

Abstract

Self-help groups (SHG) can promote recovery and health for their members. In psychiatry, SHGs are well established. Little is known, however, about the use and efficacy of SHG during and after psychosomatic treatment. There is a lack of substantial knowledge how patients experience SHGs. Our qualitative study of patients' subjective evaluation of 4 SHGs attended by 20 former inpatients of our psychosomatic clinic, and of 3 SHGs attended by 20 psychosomatic inpatients during their current treatment reveals that SHG are viewed as helpful and stabilising. Patients predominantly felt that emotional cohesion and stability of the SHG are important valuable factors. It seems as if patients in need of more structure and of help with mentalization can cope less well with a SHG and do better in a therapist-led group.

Keywords: Psychosomatic medicine, qualitative study, self-help groups.

Introduction

In self-help groups (SHG), attenders provide mutual support for each other. SHGs have the potential to enhance self-determination and promote recovery for their members ([1], [2], [3]). In psychiatry, SHGs are well established for a number of diseases (anxiety disorders, depression, schizophrenia). Little is known, however, about the use and efficacy of SHG during and after psychosomatic hospital treatment ([4], [5]). There is a lack of substantial knowledge how patients experience their SHG, and what they feel is valuable about it. We carried out a qualitative investigation of patients' subjective evaluation of 4 SHGs attended by 20 former inpatients of our psychosomatic clinic, and of 3 SHGs attended by 20 psychosomatic inpatients during their current treatment (as part of their clinical treatment programme).

Methods

We presented questionnaires with three questions to all patients:

1. What do you value most in your self-help group?
2. What do you feel are the most important differences between a self-help group and a group led by a therapist?
3. What do you feel are the most important differences between a self-help group and a discussion in private, e.g. in a café?

The patients were requested to answer with a short free text. The patients' answers were analysed qualitatively. They were repeatedly looked through and systematically processed according to the method of qualitative content analysis ([6]) resulting in the gathering of different categories.

The study obtained ethics approval by the Ärztekammer Nordrhein as the competent supervisory authority. Participants gave informed consent before taking part.

Results

Fifteen of the post-treatment patients (with somatoform disorder and depression), and 19 inpatients (somatoform disorder, depression, and anxiety disorder) completed the questionnaire. Both our inpatients and patients post-treatment view their SHG predominantly as generally helpful and stabilising.

An important category expressed by the patients was the feeling that the other members of the SHG had similar experiences of suffering, and that this was helpful for them (table 1).

Table 1. SHG stimulates the feeling of the universality of experience

Patient	Occupation	Diagnosis	What do you value most in your self-help group?
inpatients			
43 female	executive employee	somatization disorder, personality disorder	"conversational exchange with relevant people (people with a range of similar experiences)"
50 female	clerk	depression	"you can experience in a SHG that you are not alone suffering such a ›fate‹ but others, too"
69 male	retired	depression	"...recognizing parallels in other people's lives"
outpatients			
58 male	executive employee	depression	"the feeling to communicate with people who are connected by similar or identical ›doom‹ or ›experiences‹"

It seems as if detecting that other members of the SHG suffer from similar complaints or that similar life experiences are shared facilitates the feeling of being connected to other people which our patients rate highly as a valuable ingredient of SHGs.

The experience of being accepted and not being ridiculed with their problems was valued highly by our patients. They assert that this helped them to express themselves candidly and took a burden off them (table 2).

Table 2. SHG brings forward the feeling of being accepted

Patient	Occupation	Diagnosis	What do you value most in your self-help group?
inpatients			
49 female	unemployed	depression	"to have the feeling of being able to be frank with my worries and problem without being ridiculed"
69 male	unemployed	depression	"...the warm-hearted and sympathetic interaction with each other..."
22 female	in training	depression	"[...], that each theme is respected and no one is ridiculed because of his problems/themes/person; that no one is offended personally"
outpatients			
47 female	executive employee	somatization disorder, personality disorder	"honesty, to be able to show your feelings openly [...] mutual attentiveness"
40 female	executive employee	depression	"that each one is listened to; the appreciation I receive by the others"

Other categories valued highly by our patients were getting concrete advice by others, the facility of common reflection, and the atmosphere of trust and self disclosure. Less often, and mentioned in a by the way manner were the categories of learning in the SHG and confidentiality. Of the post-treatment group, patients valued stability and regularity of attending the SHG particularly highly.

Only few inpatients expressed negative opinions on the SHG: two patients felt the SHG was not important for them, one patient felt anxiety due to "too much closeness" in the SHG. This patient (clinically rated as a "poor mentalizer") felt safer in a therapist-led group.

When asked which was the most important difference between SHG and a private conversation, our patients stressed the importance of a safe environment which was provided by the SHG (table 3).

Table 3. Importance of an atmosphere of safety and confidentiality

Patient	Occupation	Diagnosis	What are, for you, the most important differences between SHG and a private conversation (e.g. in a café)?
inpatients			
49 female	no occupation	depression	"that our conversation takes place in a safe place. No one is observing us, we are in private. And we keep the talks to ourselves (trust/confidentiality)"

outpatients			
26 female	clerical employee	depression, posttraumatic stress disorder	"in the group, we can talk candidly without being forced to worry whether anyone else is listening who does not belong to the group"
54 female	executive employee	depression, personality disorder	"[...] secure setting (without eavesdroppers)"

Most of our patients maintain that the SHG provides a secure space enabling free exchange of words and feelings.

When asked which was the most important difference between SHG and a therapist-led group, our patients display diverse opinions, often expressed with an ambivalent or even paradox stance. Both groups of patients mentioned three different aspects. SHG members felt they were in a more familiar atmosphere facilitating a more candid conversation and more attachment to each other, compared to a group with therapist (table 4). On the other hand, they express that they sometimes miss a hand to take hold of the scene or someone to provide a thread through the sessions. They further often voice the opinion that therapists are able to analyse and structure things more clearly than the SHG, and that therapists intervene effectively in unexpected situations and unanticipated challenges (table 5).

Table 4. SHG is felt to be more open but sometimes a therapist is missed

Patient	Occupation	Diagnosis	What are, for you, the most important differences between SHG and a therapist-led group?
inpatients			
54 female	clerk	Depression, panic disorder	"horizontal relationships. No hierarchy or dispatching of competencies. The SHG has to work in personal responsibility (and has to work this out beforehand) --> group dynamics"
27 female	freelance	anxiety disorder, depersonalisation/der ealisation syndrome	"with a therapist, there would be more structure, perhaps more insights. Threads could be followed more easily. But, I feel less restricted in the SHG than in the group of Dr.* in the clinic."
53 female	freelance	depression	"that we are amongst ourselves and are able to talk more freely"
outpatients			
52 female	freelance	depression	"The therapist can intervene in a difficult situation, whereas the SHG has to make up its own rules and stick to them, and has to solve difficult situations on its own. In the SHG, members take on more responsibility for oneself and others"
54 female	executive employee	depression, personality disorder	"Own perception and responsibility; more burden on the group; adherence to the rules must be controlled by the group; more fear of difficult behaviour of other members (e.g. aggression / violation / hurt / pointing fingers on the group / suicidal threats etc.)"
65 female	clerk	depression, anxiety disorder, personality disorder	"A SHG can be more candid. People dare to say even awkward things. But sometimes, I miss a therapist"

Table 5. Patients feel more burden on the members of a SHG than of a therapist-led group

Patient	Occupation	Diagnosis	What are, for you, the most important differences between SHG and a therapist-led group?
inpatients			
41 female	unskilled worker	depression, somatoform disorder	"you need more trust in others in a SHG as there is no therapist to defend you against unfair attacks"
27 female	freelance	anxiety disorder, depersonalisation/der ealisation syndrome	"with a therapist, there would be more structure, perhaps more insights. Threads could be followed more easily. But, I feel less restricted in the SHG than in the group of Dr.* in the clinic."
37 female	clerk	Somatization disorder, panic disorder	"The therapist can lead the group more neutrally and can help"

outpatients			
47 female	executive employee	depression, personality disorder	"the therapist often has the function of a supervisor. He can pull things together which are not clear to the SHG. Often, he is a kind of moderator who involves all group members present who might not say something spontaneously"
52 female	freelance	depression	"The therapist can intervene in a difficult situation, whereas the SHG has to make up its own rules and stick to them, and has to solve difficult situations on its own. In the SHG, members take on more responsibility for oneself and others"
65 female	clerk	depression, anxiety disorder, personality disorder	"A SHG can be more candid. People dare to say even awkward things. But sometimes, I miss a therapist"
58 male	executive employee	depression	"Sometimes the 'hand to take hold of the scene' is lacking in the SHG"
40 female	executive employee	depression	"I prefer the therapist-led group as the conversation is steered a bit more. The SHG is prone to be affected by people who 'palaver' at length and can't get enough, or derail from the proper issue of the discussion and, thus, miss out problematic issues. Therapists dig deeper at 'critical' points which I find much better, more effective and more interesting because more solution oriented"
58 female	clerk	depression	"The therapist queries things and discusses them in great depth. Induces me to think things over"

In summary, our patients feel that the SHG has advantages and disadvantages when compared to a therapist-led group. They express different, and sometimes ambivalent, preferences for the "democratic" configuration of the SHG or the "hierarchical" texture of a therapist-led group. For example, the 40 year old female executive employee prefers unambiguously a therapist-led group as it appears to her "more effective" (table 5), whereas the 27 year old freelance credits the therapist-led group with more insights and more structure but feels less restricted in a SHG, at the same time (table 4 and 5).

It seems that less mentalized and less structured patients (e.g. the patient mentioned earlier who feels too much closeness in the SHG) are overwhelmed by the task facing the members of an SHG to keep an adequate cohesion of the group.

Discussion

Our patients appreciate the compassionate style of their SHG enabling them to openly confiding their feelings and to receive support and critique. The characteristics they value most in their SHG resemble some of Yalom's therapeutic factors in psychotherapeutic (therapist-led) groups ([7]): universality, altruism and catharsis. There was more satisfaction with the SHG in the group of patients post-treatment than in the inpatients' group which is not surprising as the outpatients were attending the SHG voluntarily whereas inpatients had to visit the SHG as part of the treatment programme.

There are some hints that patients in need of more structure and with less ability to mentalize can cope less well with a SHG and do better in a therapist-led group.

Conclusions

Our results provide support for psychosomatic care providers to encourage participation of patients in SHG to improve stability and life satisfaction. Some therapeutic factors known from therapist-led groups seem to be efficient in SHG, too. Less structured patients may benefit more from therapist-led groups.

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Low-grade Inflammation: a Linking Mechanism between Anxiety and Metabolic Syndrome?

Lupu D.¹, Albu A.¹, Dumitrașcu D.L.¹

¹University of Medicine and Pharmacy „Iuliu Hațieganu”, 2nd Department of Internal Medicine, Cluj Napoca (ROMANIA)

E-mail: delia.lupu@yahoo.com

Abstract

Objectives. The aims of the study were to analyze the relationship between anxiety and metabolic syndrome and to investigate a possible role of inflammation in this relationship.

Material and methods. A number of 88 participants (48,3% female, 51,7% male) aged between 28-65 years, were enrolled in the study (between 2011-2012). The study group consisted in 58 persons with metabolic syndrome, which met ATP III (Adult Treatment Panel III) criteria. Another 30 apparently healthy persons (who did not met ATP III criteria), represented the control group. Anxiety was assessed using Spielberger's Anxiety Inventory (STAI). Plasmatic levels of Interleukin-6 were measured for inflammation assessment, in metabolic syndrome and non-metabolic syndrome participants (using a high sensitivity ELISA Kit).

Results. The mean value of anxiety score was significantly higher in patients with metabolic syndrome in comparison with controls (46.97 respectively 37.2, $p=0.000$). Mean anxiety score was different between participants with 0 respectively 3 metabolic syndrome components (37.483 respectively 44.500, $p=0.024$). Anxiety score was associated with the metabolic syndrome ($\chi^2 =7.01$, $p= 0.008$) but no significant association between interleukin-6 and anxiety was found ($p=0.290$).

Conclusions. The level of anxiety is different regarding the number of components of the metabolic syndrome. Anxiety was significantly associated with metabolic syndrome. Low-grade inflammation does not have a mediating role in the association between anxiety and metabolic syndrome.

Keywords: metabolic syndrome, anxiety, low-grade inflammation.

Introduction

The global prevalence of the metabolic syndrome is continuously increasing worldwide [1]. It is estimated that the prevalence of this multifactorial condition will increase also in the next decade [2]. This situation demands for identification of new risk factors associated with the metabolic syndrome X [3, 4]. Anxiety and depression affect all populations worldwide, but more than two thirds on the affected people live in developing countries [5]. Both diabetes and anxiety/depression are associated with premature morbidity and mortality, and when these conditions co-exist the risk of developing co-morbidities and complications escalates [6, 7]. Additionally it has been suggested that negative affectivity, psychological distress and inflammatory markers may predict incident coronary heart disease. Inflammatory biomarkers could be important mediators for the association observed between psychological factors and coronary heart disease [8].

We hypothesized that knowledge of inflammatory biomarkers and evaluation of systemic microinflammation might help to understand the association between metabolic syndrome and psychological factors. The purpose of the actual study is to test the hypothesis of the association between metabolic syndrome and anxiety and to evaluate the low-grade inflammation as possible mediator in this relationship.

Materials and Methods

The present cross-sectional study was conducted at the Emergency County Hospital from Cluj Napoca, between June 2011 and September 2012. A total of 146 individuals were initially recruited and evaluated for the metabolic syndrome components. To be eligible for the study, participants needed to be middle-aged and to meet ATP III (Adult Treatment Panel III) criteria for the diagnosis of

metabolic syndrome, conditions which represented the selection criteria. Participants were excluded from the study for the following reasons: major depression, dysthymia, bipolar disorder, anxiety-depressive disorder, acute or chronic psychosis, acute severe stress in the last six months (death in the family, divorce, job loss), acute infections, inflammatory bowel disease, collagenosis, malignancy. Finally after the application of selection criteria and exclusion of individuals with psychological and inflammatory conditions, 88 participants were eligible for the study. 58 participants (51,7% males, 48,3% females) who met ATP III criteria represented the test group. Another 30 apparently healthy individuals (50% males, 50% females) represented the controls. The study protocol was reviewed and approved by the Institutional Review Board of the University of Medicine and Pharmacy, from Cluj Napoca. All participants gave written consent.

Definition of Metabolic Syndrome

Metabolic syndrome was defined according to the National Cholesterol Education Program, Adult Treatment Panel III guidelines [9] Participants were considered to have metabolic syndrome if they met three or more of the following conditions: abdominal obesity (waist circumference >102 cm for men and > 88 cm for women), fasting serum triglycerides \geq 150 mg/dL; low fasting serum high-density lipoprotein (HDL) cholesterol (<40 mg/dL in men, < 50 mg/dL in women); systolic blood pressure \geq 130 mmHg, diastolic blood pressure \geq 85 mmHg; and fasting serum glucose \geq 110 mg/dl or use of diabetic medication [9].

Psychological instruments

Anxiety symptoms were assessed using validated standardized questionnaires. The levels of anxiety were measured using the state scale of the Spielberger State-Trait Anxiety Inventory (STAI) which has been validated in Romanian population samples. Questions from this twenty-item scale are scored on a scale from 1 to 4. Scores range from 20 to 80, with higher scores indicating greater anxiety [10].

Measurement of inflammation

The level of low-grade inflammation was assessed measuring serum concentrations of interleukin-6 for metabolic syndrome and non-metabolic syndrome participants. Fasting samples were frozen at - 80° Celsius until testing. Serum interleukin-6 concentrations were measured using a high-sensitivity Quantikine ELISA kit, Human IL-6 (R&D Systems, Minneapolis, MN).

Statistical analysis

Data resulted from the study were processed with SPSS (analytics software) and Microsoft Excel medical statistics. Statistical processing of data was realized using Shapiro-Wilk, Mann-Whitney U, Student T, analysis of variance (ANOVA), Scheffe, Welch tests.

The characteristics of the study participants are presented in the Table I.

Table I: Statistical indicators of centrality, dispersion and localization of the metabolic syndrome parameters, for the study group

INDICATORS	MIN	MAX	MEAN	STANDARD DEVIATION	95%CI	MEDIAN	STD. ERROR
Age	28	65	51.10	8.478	48.87;53.33	53.50	1.113
Waist circumference	97.00	155.00	117.017	10.378	114.29;119.746	115	1.363
Glycemia	80.00	280	118.379	42.957	107.084;129.674	106	5.64
Systolic blood pressure	110	250	157.76	24.282	151.37;164.14	155	3.188
Diastolic blood pressure	70	150	94.22	14.136	90.51;97.94	90	1.856
HDL- cholesterol	14.90	92.20	39.193	12.733	35.845;42.541	38.35	1.672
Triglycerides	61.00	1276	232.807	187.213	183.582;282.03	203	24.58

Results

The anxiety score and seric concentrations of interleukin-6, for the study group participants, are presented in Table II.

Table II. Statistical indicators of centrality, dispersion and localization of the studied indicators, for the study group.

INDICATORS	MEAN	STD. DEVIATION	STD. ERROR	95% CONFIDENCE INTERVAL FOR MEAN		MINIMUM	MAXIMUM
				Lower Bound	Upper Bound		
Anxiety score	46.97	11.478	1.507	43.95	49.98	27	75
IL-6	7.16	7.661	1.006	5.146	9.175	1.6	34.40

For controls, the mean values of the indicators are presented in Table III.

Table III. Statistical indicators of centrality, dispersion and localization of the studied indicators, for the control group

INDICATORS	MEAN	STD. DEVIATION	STD. ERROR	95% CONFIDENCE INTERVAL FOR MEAN		MINIMUM	MAXIMUM
				Lower Bound	Upper Bound		
Anxiety score	37.20	9.998	1.825	33.47	40.93	23	70
IL-6	2.3	0.789	0.144	2.02	2.6	1	5

The study demands the application of Mann-Whitney U test, for testing if the values of the indicators studied, differ in the test group compared with the control group. The results of this analysis are presented in Table IV.

Table IV. Comparison between the study group and controls

CONTROL-STUDY GROUP	CONTROL GROUP		STUDY GROUP		P-VALUE	STATISTIC TEST
	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION		
Age	48.43	8.776	51.10	8.478	0.098	U =682
Anxiety score	37.20	9.998	46.97	11.478	0.000	U=445.5
Interleukin-6 (IL-6)	2.30	.789	7.16	7.661	0.000	U =32.295

Participants with metabolic syndrome had higher anxiety scores (mean score 46,97±11,478) compared with non-metabolic syndrome participants (mean score 37,20±9,998) (p=0,000). Interleukin-6 plasmatic concentrations were higher in metabolic syndrome patients (7,16 ±7,661) compared with individuals without metabolic syndrome) (2,30 ±0,789) (p=0,000).

We have analyzed if there is an association between anxiety score and the metabolic syndrome in the actual study. The result obtained after applying the test $\chi^2 = 7.01$, $p = 0.008$ has indicated, that anxiety score was significant associated with the metabolic syndrome. In this study we have tested also the hypothesis of the association between anxiety and biomarkers of inflammation (interleukin-6). According to univariate Anova test, we could not conclude that anxiety scores were significant associated with interleukin-6 concentrations (F=1.180, p=0.290).

The Study of anxiety score depending on the number of components of the metabolic syndrome

Applying the Kruskal-Wallis test (Chi-Square=20.813, p=0.000) we found that the mean anxiety score was different depending on the number of components included in the study. Differences between the mean of groups have been tested with Mann-Whitney test and the results are presented in the Table V.

Table V. Comparison of the anxiety score, depending on the number of components of metabolic syndrome.

Components of metabolic syndrome	Mean	Standard Deviation	Mean	Standard Deviation	p-value	Mann-Whitney U
0 -2 components	37.483	9.899	43.250	7.544	0.159	U=67
0-3 components	37.483	9.899	44.500	11.437	0.024	U=293
0-4 components	37.483	9.899	48.833	11.489	0.000	U=404
0-5 components	37.483	9.899	44.818	12.592	0.035	U=191
2-3 components	43.250	7.544	44.500	11.437	0.820	U=29.5
2-4 components	43.250	7.544	48.833	11.489	0.362	U=43
2-5 components	43.250	7.544	44.818	12.592	0.852	U=20.5
3-4 components	44.500	11.437	48.833	11.489	0.114	U=171.5
3-5 components	44.500	11.437	44.818	12.592	0.904	U=85.5
4-5 components	48.833	11.489	44.818	12.592	0.249	U=125

We found significant differences of the mean anxiety score, between subjects with 0 components and subjects with 3,4,5 components of the metabolic syndrome. Mean anxiety score differs depending on the number of metabolic syndrome components. The values of anxiety score (indicated in Table VIII) show an increase of the mean anxiety score, from 0 to 4 metabolic syndrome components.

Discussion

Our study demonstrates an association between anxiety and metabolic syndrome, in a middle-aged Romanian populational sample. Most of the previous research conducted in European countries, have evaluated the relationship between depression and metabolic syndrome. Comprehensive data regarding the association between psychological factors and metabolic syndrome among Romanian population is missing. The results of different studies reported from European countries, regarding the association between these entities are inconsistent and sometimes conflictual. The findings of our study are in accordance with the results of other two studies which reported similar results [11, 12] but are in contradiction with other studies which did not find any association between these entities [13, 14]. The psychological instruments used, that varied between different studies, and the design of the study (longitudinal or cross-sectional) may explain the differences between the results of different studies. Additionally we did not find a significant association between anxiety and interleukin-6 concentrations, suggesting that microinflammation does not have a mediating role in the relationship between anxiety and metabolic syndrome. Our results indicate that the mean anxiety score tends to increase with increasing number of the metabolic syndrome components (from 0 to 4 components), suggesting that the level of anxiety in metabolic syndrome may increase in parallel with the progressive evolution of the metabolic syndrome X. This result is consistent with the findings of other studies which have shown a direct relationship between the severity of the psychological factors and the number of diagnosis criteria of metabolic syndrome [15, 16]. A contribution of our study is that this research has shown that anxiety represents an associative factor in metabolic syndrome patients and inflammation, particularly interleukin-6 does not explain the association between these entities. The limitations of the actual study are the moderate sample size and the cross-sectional design which did not permit us to examine the direction of causality in the relationship between anxiety and metabolic syndrome.

Conclusions

Our research has demonstrated that anxiety is an associative factor of the metabolic syndrome. Low-grade inflammation is not the link in this relationship. The levels of anxiety differ in different stages of the disease and increase with the progressive evolution of the metabolic syndrome. We hope that our intervention research suggests the importance of improvement in therapeutic measures that will address both anxiety symptoms and poor medical disease control.

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Constipation. Psychosomatic Causes and Apitherapeutic Remedies

Matran I.M.¹, Sârca L.N.²

¹ S.C. Expertarom Food Ingredients S.R.L. (ROMANIA)

² Cabinet medical individual Dr. Luminița – Natalia Sârca (ROMANIA)

E-mails: irina.matran@yahoo.com, lumisarca@yahoo.com

Abstract

Objectives: The increasing number of people suffering from gastroenterological diseases, e.g. various forms of constipation at younger ages than ever, requires the necessity of self-knowledge of suffering individuals and finding complementary methods of prevention or amelioration of this.

The purpose of this study is to identify the main psychosomatic causes of constipation and present preliminary evaluation results of an apitherapeutic product manufactured by engineer Irina Mihaela Matran in 2013.

Methods: In the clinical evaluation were included 15 patients aged over 18 years and suffering from the following conditions: biliary dyskinesia with chronic hypotonic cholecystitis and chronic constipation alternating with episodes of diarrhea and intestinal flatulence, chronic constipation with intestinal flatulence, alternations of constipation with periods of normal bowel and a monotonous state of fatigue.

The clinical evaluation was carried out in 2012-2013 for 2 months in Bucharest and will be continued this year and consisted in evaluation of a therapeutic attitude, by applying the analytical method. This started from observational study.

Results: After three weeks from starting the treatment with apitherapeutic remedy, patients adjusted their bowel and physical and mental tone improved, thereby improving the quality of their lives.

Within two months of evaluation of therapeutic attitude with the apitherapeutic product, no other drugs were needed to regulate bowel movements.

Conclusions: The favorable results obtained in the preliminary assessment of therapeutic attitude with the apitherapeutic product allow us to continue with a larger number of patients.

Keywords: Constipation, psychosomatic causes, apitherapeutic remedies.

Introduction

This study was made for presenting the psychosomatic causes of constipation and evaluation of results of a therapeutic attitude by applying the analytical method, of a apitherapeutic product manufactured by the engineer Irina Mihaela Matran.

The reason why it was rated this therapeutic attitude is that constipation may occur both by psychosomatic causes [1,2] or by adverse reaction to drugs such as anticholinergic parasympatholytics, A03B01 - atropine, or opioid analgesics, opioids, euphorizing O2 A N, or as interaction of certain drugs, or due to the fact that many patients rely on self-medication [3].

The apitherapeutic product for which the analytical method was applied, starting from the observational study has a composition made up of polyfloral honey, sea buckthorn berries (*Hippophae rhamnoides*), shelled common hemp seeds (*Cannabis sativa*) and chicory plant (*Cichorium intybus*). This has been manufactured "cold", heated at a temperature not higher than 35 ° C.

The administration of apitherapeutic product at patients suffering from chronic constipation with intestinal flatulence, alternations of constipation with periods of normal bowel and a monotonous state of fatigue led to the regulation of bowel movements and improved physical and mental tone, thereby improving the quality of their lives, in three months from the start of administration.

By phytocomplex content, the use of this apitherapeutic product is an effective treatment modality for patients with various forms of constipation, asthenia and biliary dyskinesia with chronic cholecystitis, which can be used both prophylactically and therapeutically. They also can be used

when there appear different conditions: colds, flu states, asthenia, or maintenance treatment or convalescence.

The apitherapeutic product presented in this study, is also energizing, remineralizing, osmotic laxative, antibacterial, immunoprotective and immunostimulatory.

Methods

The psychosomatic causes of constipation may have both organic and psychological causes, such as: feeling pessimistic, lack of trust in the people around them, the fear of being rejected or unloved, melancholy, depression [2].

Patient selection was selective, in the clinical evaluation being included 15 patients aged over 18 years and suffering from the following conditions: biliary dyskinesia with chronic hypotonic cholecystitis and chronic constipation alternating with episodes of diarrhea and intestinal flatulence, chronic constipation with intestinal flatulence, alternations of constipation with periods of normal bowel and a monotonous state of fatigue. Criteria for inclusion of patients were done regardless of gender, social status, or religion.

Clinical evaluation was carried out in 2012-2013 for 2 months in Bucharest and will be continued this year and consisted in evaluation of a therapeutic attitude, by applying the analytical method. This started from observational study and was conducted in outpatients.

All patients were informed about the product, the method of administration, precautions in case of new, unpleasant events and addressing physician to conduct clinical evaluation.

The apitherapeutic product for which was applied the analytical method, based on observational study composition is made up of polyfloral honey, minimum 85% and maximum 15% sea buckthorn berries (*Hippophae rhamnoides*), shelled common hemp seeds (*Cannabis sativa*) and chicory plants (*Cichorium intybus*).

The bioactive substances considered when manufacturing this apitherapeutic product were: 5-hydroxytryptamine, ascorbic acid, quercetin, serotonin, coffee acid, calcium, magnesium, phenylalanine, potassium, tryptophan, sodium, carbohydrates of vegetable origin that contain β link (1-4) glycosides between linkages glucose residues components: polysaccharides - cellulose, inulin, which increases absorption of Ca and Mg and promoting the growth of intestinal bacteria.

The honey used in the preparation of the apitherapeutic product was verified both from an organoleptic point of view as well as physical-chemical properties, the results being: in the food of bees there has been used no sugar; honey has not been falsified; high content of tyrosine and tryptophan, indicators given by the brown color of honey; also, high content of amylase of vegetable origin, this indication being given by the average value of pH 4.5; diastasis activity 01:00.75 and low humidity (15.49%), these values being determined in February of 2013, which shows beekeeping, harvesting and proper storage of honey, by the beekeeper evaluated and accepted.

The average value of pH was determined with a pH meter "Waterproof" series 1013962, produced by the company Adwa Ltd., Szeged, Hungary.

At the preparation of the apitherapeutic product, there has been analyzed the technological flow in terms of control points and critical control points, for food safety, respectively of the patients included in the clinical evaluation, traceability being ensured from raw materials to finished product.

Results

After three weeks from the administration of the apitherapeutic product, the health status of patients improved, only one patient recorded a more pronounced flatulence and discreet constipation relief.

Within two months of evaluation, there was no need of other medicines to regulate bowel movements and physical and mental tone of patients improved, thereby improving the quality of their lives.

Discussion

Our results confirm the beneficial role of the apitherapeutic product in the prevention, or amelioration of various types of constipation as well as to improve the quality of life of patients suffering from constipation.

The possible cause of more pronounced flatulence and discreet constipation improvement of the patient can be represented by defective metabolism of diglucides.

By the content of the apitherapeutic product in 5-hydroxytryptamine, ascorbic acid, quercetin, serotonin, coffee acid, calcium, magnesium, phenylalanine, potassium, tryptophan, the psychological status of patients improved, giving them a good feeling.

The product can be administered for a long period of time and can be used both prophylactically and therapeutically. It can be used even when there are different conditions: cold, flu states, asthenia, or maintenance treatment or convalescence, depression.

Conclusions

The apitherapeutic evaluated product had a beneficial role in preventing, or improving various types of constipation as well as to improve the quality of life of patients suffering from constipation.

The product presented was energizing, remineralizing, laxative-osmotic antibacterial, immunostimulatory and protector of mucous.

The results obtained so far allow us to continue with a large number of patients.

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Romanian Culture Specific Expression and Psychological Impact of Anxiety

Micluția I.¹

¹ "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, department of Neurosciences, discipline of Psychiatry and Pediatric Psychiatry (ROMANIA)

E-mail: imiclutia@umfcluj.ro

Abstract

Purpose of the study: To investigate if a Romanian sample of anxious subjects entirely fulfilled the current ICD-10 diagnostic criteria, if there were sub threshold panic attacks, to describe specific symptoms and the subjective impact.

Methods: Romanian 56 subjects consented to participate in the current study, diagnosed with panic disorder with/without agoraphobia, mainly as outpatients. Eligibility criteria were the presence of recurrent panic attacks associated or not with avoidant behavior and the absence of any organic cause or substance abuse that could mimic the psychiatric disorder. Prior to the application of the psychometric tools took place a discussion that allowed the description of the main complains. A semi-structured interview (ADIS-R) has been followed by STAI-S, STAI-T, HAM-A, CGI, GAF. Tools assessing anxious state were applied investigating two moments: during the panic attack and currently.

Results: Subjects were predominantly active women, mean age (38.2 years). Regarding the occurrence style, the majority reported spontaneous panic attacks (65.85%), while quit few experienced situation triggered panic attacks. Even though sub threshold panic attacks were present in 42.22% of patients more than five times/months, their subjective impact has been judged as moderate. Anxious symptoms, rated during the occurrence of the panic attack, have been appreciated as more severe than during the interview (STAI-S mean=64.9; SD=8.11) vs. 58.63 (SD=8.77) at $F=1.17$, $t=1$, 78. The description of the symptom fitted into the diagnostic criteria in a proportion of 61%. Those patients described bothering symptoms such as: cephalaea, occipital tension, attention difficulties, blurred vision, tinnitus, digestive and urinary symptoms.

Discussion: The predominance of somatic complaints fits into the so called "black box in somatisation" (Waitzkin & Magana, 1997). The first prospective research project, aiming at the description of anxiety in ethnic minorities, is ongoing (Weisberg et al., 2012).

Conclusions: Romanian anxious patients experiment the general symptoms of anxiety but are bothered by some specific symptoms, severe enough in order to impact their functioning.

Key-words: anxiety, culture specific, impact

Introduction

Current nosological criteria ICD-10 [1] and DSM-V [2] require the presence of somatic signs as well as cognitive distortions and misinterpretations of the first in order to diagnose different forms of anxiety disorders. Even somatic symptoms were associated with high levels of psychological distress, functional impairment, disability and health care facilities utilization [3, 4, 5]. In spite the high life time prevalence rates of anxiety disorders, ranging from 9 to 29% [6], increasing with age especially in women [7], they continue to be underestimated and sub/misdiagnosed [8]. Roth et al., 1992 [9] emphasized the issue of sub threshold anxiety as an event occurring years before full blown anxiety, equivalent to premorbid personality trait. The subclinical panic, labeled as near panic or symptom limited panic, may be still experienced once the diagnosis of anxiety has been set up, being responsible of concerns and prejudices in subjects and trivialized by health professionals [10].

Objectives

To investigate if a Romanian sample of anxious subjects entirely fulfilled the current ICD-10 diagnostic criteria, if there were sub threshold panic attacks, to describe specific symptoms and the subjective impact.

Material and Methods

Romanian 56 subjects consented to participate in the current study, diagnosed with panic disorder with/without agoraphobia, mainly as outpatients of the Psychiatric Clinic Cluj-Napoca during the time span 1992-1996. Eligibility criteria were the presence of recurrent panic attacks associated or not with avoidant behavior and the absence of any organic cause or substance abuse that could mimic the psychiatric disorder. Prior to the application of the psychometric tools took place a discussion that allowed the description of the main complains. A semi-structured interview –Anxiety Diagnostic Interview Schedule- revised (ADIS-R) [11] has been followed by Spielberger’s State and Trait Anxiety Inventory- STAI-S, STAI-T [12], Hamilton HAM-A [13], Clinical Global Impression Severity-CGI-S , Global assessment of functioning-GAF. Tools assessing anxious state were applied investigating two moments: during the panic attack (stated as STAI-SC, HAM-AC), and currently (stated as STAI-SN, HAMA-N).

Results

Subjects were predominantly active women, mean age (38.2 years). Regarding the occurrence style, the majority reported spontaneous panic attacks (65.85%), while quit few experienced situation triggered panic attacks (34,15%). Even though sub threshold panic attacks were present in 42.22% of the patients, more than five times/month, their subjective impact has been judged as moderate or mild on CGI-S, with a mean of GAF=62,32. Anxious symptoms, rated during the occurrence of the panic attack, have been scored as more severe than during the interview (STAI-S mean=64.9; SD=8.11) vs. 58.63 (SD=8.77) at $F=1.17$, $t=1,78$ (Table I).

Table I Anxiety evaluations during the panic attack (C), and in normal state (N)

Scale	range	mean	SD	Mean-etalon	SD
STAI-SC	46-74	61,913	8,847	47,74	13,24
STAI-SN	33-52	42,870	5,849	47,74	13,24
STAI-T	32-69	51,217	9,366	46,62	12,41
HAM-AC	17-44	30,261	7,066	18	
HAM-AN	2-27	15,652	6,499	18	

The description of the symptom fitted into the diagnostic criteria in a proportion of 61%. The rest of 22 (39%) patients described 34 extra bothering symptoms (Table II)

Table II Occurrence of special extra symptoms during a panic attack

Symptom	subjects	frequency
occipital tension	10	29,4%
dead ache	5	14,7%
blurred vision	5	14,7%
tinnitus	4	11,7%
hypertension	3	8,8%
diarrhea	3	8,8%
polakiuria	2	5,8%
attention difficulties	2	5,8%

While the somatic symptoms occupied the frontline of the anxious experience, cognitive aspects were rather neglected or were not experienced as threatening: depersonalization, fear of alienation and odd behavior [14]. ADIS-R facilitated to draw the history of previous panic attacks, their severity and onset, as well as number of symptoms, frequency (Table III).

Table III Frequency of symptoms during different severity patterns on panic attacks

Mean symptoms/panic attack	Limited	moderate	severe
Women (34)	6.1	9.6	10.3
Men (22)	6.7	8.5	9.7

The study of the occurrence type of the panic attacks identified three types: spontaneous, triggered by predisposing situations, and stimulus bound [14].

Discussion

The predominance of somatic complaints fits into the so called “black box in somatization” [15], claiming the fact that in spite the broad information brought up by semi-structured interviews and the psychometric measurement, the construct of narratives is still unsatisfying, missing important issues and nuances. Cultural diversity, special linguistic expression and acceptance may encourage the description of over 150 specific culture bound anxiety types, such as Koro [16, 17], Taijin Kyofusho [18]. Barlow et al., 1986 [19] suggest that some patients may avoid the unpleasant emotions connected to a panic attack by emotional constriction and focus on somatic complaints, that seem more tolerable. Data of the current study substantially differ regarding the number of symptoms encountered in limited, moderate and severe panic attacks to those of Margraf & Schneider, 1990 [20], which were described as 3; 3, 3; 4 in limited, moderate respectively severe panic attacks, raising the question of the fulfillment of diagnosis requirements, at least for the last two types. From a phenomenological point of view these panic attacks could not be strictly differentiated, but even limited panic attacks could be implied in the development of further avoidant behavior [10]. Due to technical limitations of the narrow narrative construct [15], investigation tools, the diversity of symptoms and, nevertheless the important subjective impact, broader prospective research projects are ongoing, aiming the description of anxiety in ethnic minorities [21].

Conclusions

Romanian anxious patients experiment the general symptoms of anxiety but are bothered by some specific symptoms, severe enough in order to impact their functioning. These panic attacks focus especially on somatic complaints (occipital tension, head ache, blurred vision), described as “culture specific”, with the neglect of the cognitive components. Patients experimented sub-threshold, moderate and severe panic attacks, with important subjective prejudice and functional limitation, due to the frequency and number of symptoms. There were recorded differences regarding the severity of symptoms, whether measured during the panic attack or afterwards, with a detachment and more reliable report post crisis.

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Study on the Correlation between Psychological Disorders, Clinical and Biological Parameters and the Evolution of Patients with Philadelphia Negative - Chronic Myeloproliferative Neoplasms

Mihăilă R.G.¹, Olteanu A.², Lienerth D.², Cătană A.², Flucuș O.², Buș C.², Cipăian RC.¹, Mihăilă R.³

¹ Faculty of Medicine, Lucian Blaga University of Sibiu (ROMANIA)

² Emergency County Clinical Hospital Sibiu (ROMANIA)

³ Public Health Direction Sibiu (ROMANIA)

E-mails: romeomihaila@yahoo.com, aolteanu@yahoo.co.uk, Dhorys@yahoo.com, alinabrabete@yahoo.com, ofelia.flucus@yahoo.com, CristinaGrandore@gmail.com, ccipaian@gmail.com, mihaila_rodica@yahoo.com

Abstract

Introduction: It is known that patients with Philadelphia negative - chronic myeloproliferative neoplasms (PnCMN) are prone to develop psychological disorders. We plan to investigate their presence and possible correlations with clinical and biological parameters and evolution in our patients.

Material and method: We studied all those 80 patients with PnCMN found in the records of the Hematology service of our hospital in 2013. We looked at their age, waist circumference, hemoleucogram, platelets parameters, triglyceridemia, cholesterolemia, blood pressure, thrombotic complications, and psychological disorders: anxiety, depression, psychasthenia. The results were statistically analyzed.

Results: Psychological disorders were present at 32 of 80 patients (40%). They were more common in patients with essential thrombocythemia (ET) (43.9%), compared to those with primary myelofibrosis (PM) (36.3%) and polycythemia vera (PV) (35,6%). In the entire group, the mental disorders have been correlated directly with thrombotic accidents ($r=0.282$) and JAK2V617F mutation ($r=0.288$). In patients with ET mental disorders were correlated directly with tryglyceridemia ($r=0.384$) and thrombotic accidents ($r=0.300$). In those with PV they were directly correlated with age ($r=0.300$), diastolic blood pressure ($r=0.300$) and thrombotic accidents ($r=0.305$). In patients with the PM they were directly correlated with age ($r=0.286$), waist circumference ($r=0.355$), systolic ($r=0.285$) and diastolic ($r=0.302$) blood pressure and inversely with the number of platelets ($r=-0.563$) and the average platelets volume ($r=-0.437$).

Conclusion: Psychological disorders are common in patients with PnCMN and correlated with the presence of JAK2V617F mutation (that favours thromboses), thrombotic accidents, and some thrombotic risk factors (in some subgroups of patients). The stress could be one of the factors that explain the mentioned correlation.

Keywords: Anxiety, depression, psychasthenia, chronic myeloproliferative neoplasms

Introduction

It has been known for a long time that patients with Philadelphia negative - chronic myeloproliferative neoplasms (PnCMN) are prone to develop psychiatric disorders. For example, the people with polycythemia vera (PV) have frequently depression, confusion, insomnia [1]. All those with chronic myeloproliferative neoplasms may have anxiety and fatigue. All these clinical manifestations interfere with the compliance to treatment and tend to decrease their quality of life. We plan to investigate their presence and possible correlations with clinical and biological parameters and evolution in our patients.

Material and Method

We studied all those 80 patients with PnCMN found in the records of the Hematology service of our hospital in 2013. We looked at their age, waist circumference, hemoleucogram, platelets parameters, triglyceridemia, cholesterolemia, blood pressure, thrombotic complications, and psychological disorders: anxiety, depression, and psychasthenia. We analyzed statistically the presence of these mental disorders and the possible correlations between them and biological and clinical parameters, using the arithmetic mean, standard deviation, Student's t test and Pearson test.

Results

The analyzed a group included 80 patients, 41 of whom with essential thrombocythemia (ET) (51.25%), 28 with PV (35%) and 11 with primary myelofibrosis (PM) (13.75%). The gender repartition: 43 females (53.75%) and 37 males (46.25%). The average values of clinical parameters are given in table I and those of biological parameters in table II. Of the entire group of studied patients, we could determine the presence of JAK2V617F mutation at 46 of them (57.50%): the molecular biology test was positive at 26 (58.7% of those from whom it has been determined) and negative at 20 of them. A number of 34 patients (42.5%) had thrombotic accidents in their history, especially before the moment at which the hematological disease was diagnosed: superficial or deep vein thrombosis, pulmonary embolism +/- pulmonary infarction, arterial thrombosis (including aortic ones), splenic infarction, ischemic stroke, myocardial infarction.

Table I: The mean values of clinical parameters

	AGE (years)	WAIST CIRCUMFERENCE (cm)	SISTOLIC BLOOD PRESSURE (mmHg)	DIASTOLIC BLOOD PRESSURE (mmHg)	THROMBOTIC COMPLICATIONS
ET	63.27 +/-12.74	92.16 +/- 16.72	13.21 +/- 3.75	7.78 +/- 1.69	0.63 +/- 0.62
PV	62.93 +/-14.21	98 +/- 23.87	13.48 +/- 2.44	7.95 +/- 2.09	0.39 +/- 0.63
PM	57.55 +/-15.21	95.64 +/- 12.77	12.7 +/- 2.62	7.0 +/- 1.05	0.27 +/- 0.47
TOTAL	62.36 +/-13.57	94.64 +/- 18.82	7.72 +/- 1.75	7.72 +/- 1.75	0.5 +/- 0.62

Legend: ET=essential thrombocythemia; PV=polycythemia vera; PM=primary myelofibrosis; thrombotic complications were noted: 0, 1, 2, or 3.

Table II: The mean values of biological parameters

	Hb	Ht	WBC	PLT	MPV	PDW	P-LCR	PCT	TG	CH
ET	12.83 +/- 1.77	38.13 +/- 4.95	8180.73 +/- 5873.3	448.22 +/-245.63	10.37 +/-1.12	12.76 +/- 3.24	27.52 +/- 8.09	0.46 +/- 0.26	125.23 +/- 57.05	178.18 +/- 41.93
PV	15.63 +/- 1.47	47.07 +/- 5.18	7294.1 +/- 2051.4	275.85 +/- 835.05	9.98 +/- 0.68	11.65 +/- 1.72	24.93 +/- 4.96	0.28 +/- 0.09	141.68 +/- 72.83	176 +/- 30.73
PM	10.86 +/- 2.24	33.45 +/- 6.84	6090.0 +/- 3930.76	226.8 +/- 115.4	9.73 +/-0.99	12.35 +/- 2.16	27.77 +/- 6.09	0.22 +/- 0.14	108.09 +/- 38.15	121.27 +/- 33.93
TOTAL	13.54 +/- 2.4	40.27 +/- 6.95	7650.8 +/- 4674.7	357.45 +/-208.88	10.2 +/-0.99	12.3 +/- 2.68	26.25 +/- 6.94	0.37 +/- 0.22	128.7 +/- 61.45	169.5 +/- 41.66

Legend: Hb=hemoglobin (g/dL); Ht=hematocrit (%); WBC=white blood cells (/mm³); PLT=platelets (/mm³); MPV=mean platelet volume (fL); PDW= platelet distribution width (%) – measures the platelet distribution width at 20 % relative height of the total height of the curve; P-LCR= platelet large cell ratio (%) – measures the percentage of platelets with a volume > 12 fL ; PCT= platelet crit (%) - the sum of platelet impulses which are individually detected by means of the impedance measurement; TG=serum triglycerides (g/dl); CH=cholesterol (g/dl); ET=essential thrombocythemia; PV=polycythemia vera; PM=primary myelofibrosis

Psychological disorders were present at 32 of 80 patients (40%) (table III).

Table III: The psychological disorders

Disease	No patients	Without PSD	With 1 PSD	With 2 PSD	With 3 PSD	Total PSD	% of PSD
ET	41	23	13	4	1	18	43.90
PV	28	18	8	2	0	10	35.71
PM	11	7	2	2	0	4	36.36
TOTAL	80	48	23	8	1	32	40.0

Legend: PSD=psychological disorder; ET=essential thrombocythemia; PV=polycythemia vera; PM=primary myelofibrosis

They were more common in patients with ET (43.9%), compared to those with PM (36.36%) and PV (35.71%), but this differences were not statistically significant ($p=0.360$ and, respectively $p=0.886$). Most patients (23) had just one of the studied mental disorders (anxiety, depression, psychasthenia) (28.75% of the entire studied group); 8 had 2 psychiatric disorders (10%), and only one had 3 (1.25%). In the entire group, the mental disorders have been correlated directly with thrombotic accidents ($r=0.282$) and JAK2V617F mutation ($r=0.288$). In patients with ET mental disorders were correlated directly with triglyceridemia ($r=0.384$) and thrombotic accidents ($r=0.300$). In those with PV they were directly correlated with age ($r=0.300$), diastolic blood pressure ($r=0.300$) and thrombotic accidents ($r=0.305$). In patients with the PM they were directly correlated with age ($r=0.286$), waist circumference ($r=0.355$), systolic ($r=0.285$) and diastolic ($r=0.302$) blood pressure and inversely with the number of platelets ($r=-0.563$) and the average platelets volume ($r=-0.437$).

Discussion

What may be the explanation of the correlation of the presence of mental disorders with the thrombotic accidents of patients that we have studied?

The patients who have the JAK2V617F mutation present an increased activity of the normal JH1 kinase activity of JAK2. There is a hypersensitivity of the mutated hematopoietic stem cells to erythropoietin, thrombopoietin, and other growth factors which conduces to a trilinear myeloproliferation [2]. We found the gene JAK2V617F in 58.7% of patients in which it could be determined. It is known that this mutation is present in 50-70% of patients with PM and ET [3] and in over 90% of those with PV [4]. The presence of JAK2V617F mutation is an important risk factor for thrombotic accidents (3, 5); the risk is over 20% [3] in the literature. We found thrombotic accidents in the history of 42.5% of the entire group of our patients (with and without this mutation) and of 46.15% of them with the gene JAK2V617F. Other risk factors are a history of thrombotic events, the age >60 years, and, accepted more recently, also the presence of cardiovascular risk factors [3]. The patients with chronic myeloproliferative neoplasms can have various deep splanchnic thromboses, including portal vein thrombosis [6], [7], [8] and mesenteric vein thrombosis [8], cerebral stroke, or myocardial infarction [6]. Some patients can also develop Budd-Chiari syndrome. JAK2V617F-positive myeloproliferative neoplasms has been represented only 5% of its etiology, according to a study made in China on a group of 145 incident cases of Budd-Chiari syndrome [9]. On the contrary, half of Budd-Chiari syndromes etiology in the mediterranean area was represented by chronic myeloproliferative neoplasms [8]. An adequate treatment can avoid these complications. For example low-dose aspirin has reduced fatal thrombotic events and all-cause mortality in a metaanalysis made on 630 patients with PV, without an increasing of major bleeding, but these lowering have not been statistically significant [10]. An acquired von Willebrand syndrome may occur, which explains the bleeding risk of patients with ET with over 1000000 platelets/mm³ [3].

Patients with myeloproliferative disorders have frequently a worsening emotional state [11]. Depression can be the first clinical manifestation of patients with PV [12]. They had more frequently lower quality of life and depression, compared to those with ET, according with a recent study [13]. Venesection can improve the psychiatric symptoms [12]. Patients with a longue hystory of PM had more often concentration problems, fatigue, and lower quality of life compared to those new diagnosed [13]. Interferon can exacerbate the psychological symptoms of patients with myeloproliferative disorders [11]. Before the treatment with interferon, a myelosuppressive and immunomodulatory cytokine [14], a frequent symptom of patients with ET or PV was fatigue, which augmented during treatment. Some patients can also have severe depression [15] and asthenia [14] induced by interferon [14], [15]. The treatment with pegylated interferon-alpha 2b can also produce anxiety, fatigue and depression [16]. A psychiatrist advice is useful for establishing the management strategies of patients with mood disturbances [11].

Due to the fact that the frequent follow-up appointments can produce inconvenience and anxiety in patients with myeloproliferative disorders, it was suggested to develop a nurse-led telephone follow-up system for those with stable haematological disease. The first patients which utilised it found that it was effective and convenient [17].

The JAK-STAT system is dedicated especially to the regulation of gene expression [18]. But it is highly expressed in the brain [19] and involved in the regulation of synaptic transmission [20]. It is possible that future research will establish the mechanisms by which the JAK2-STAT signaling might be involved in producing psychological disorders, including depression and anxiety of patients with chronic myeloproliferative neoplasias. About 70 to 84% of patients with PM and ET which are JAK2V617F negatifs have mutations in calreticulin gene [21]. It was showed that a mutation in calreticulin promoter can co-exist with major depressive disorder and psychotic features [22]. Although

the patients with calmodulin mutations have higher platelet count, they have lower risk of thrombosis comparing to JAK2- and MPL-mutated patients [23].

Conclusion

Psychological disorders are common in patients with PnCMN and correlated with the presence of JAK2V617F mutation (that favours thromboses), thrombotic accidents, and some thrombotic risk factors (in some subgroups of patients). The stress could be one of the factors that explain the mentioned correlation.

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The Influence of Psyche on the Evolution of an Acute Myeloid Leukemia

Mihăilă R.G.¹, Morar S.¹

¹ Faculty of Medicine, "Lucian Blaga" University of Sibiu (ROMANIA)

E-mail: romeomihaila@yahoo.com, silviumorar@yahoo.com

Abstract

Introduction: The connection between psychic and cancer is a controversial subject, but it is undoubtedly that the psychic can influence the evolution of associated somatic diseases, on which depends the survival of a patient with a malignant hemopathy.

Case report: We present the case of a female patient who was diagnosed with hyperleukocyte type of acute myeloid leukemia complicated with disseminated intravascular coagulation. The patient was informed of the diagnosis, according to the current legislation. In the 3rd day of treatment she presented an episode of paroxysmal atrial fibrillation, psychomotor agitation, and anxious-depressive reaction. Echocardiography, left ventricular ejection fraction, and electrocardiogram conducted baseline were normal. Blood ionogram and thyroid hormones were normal. In addition, she presented a diarrheal syndrome that evolved to toxic megacolon, followed by swelling that grew up at anasarca, on the background of hypoproteinemia and anorexia. Atrial fibrillation has been converted to sinus rhythm; disseminated intravascular coagulation, toxic megacolon and hypoproteinemia were treated. Edema did not disappear completely, which is why echocardiography has been repeated; it was showed a hypomotility to the anterior wall of the left ventricle and a lowering of its ejection fraction (probably induced by epirubicin therapy). The pairing of furosemide and candesartan (she had also high blood pressure) was effective. At the exit from aplasia acute leukemia was in complete remission. Subsequently, the patient has accepted the proposed treatment with tianeptine. The second polychemotherapeutic cure was very well tolerated, with no heart or digestive complications, which is why hospitalization was shorter. Even the news that she has FLT3-ITD mutation, a negative prognostic marker (which requires allogeneic graft for relapse prevention), did not longer induce an anxious-depressive reaction. The patient emerged from aplasia in complete remission, too and is looking for a compatible donor.

Conclusion: The psychological balance is essential for avoiding functional components of visceral disorders of patients with chemotherapy and long-term aplasia.

Keywords: Anxiety, cognitive impairments, depression, leukemia, oxidative stress, psychic, tianeptine.

Introduction

Over time it was suspected that stress may be involved in the occurrence or the development of different forms of cancer. In recent years, progress has been made in this regard. For example, it has been demonstrated that disruption of the hematopoietic microenvironment and of the function of immune cells through stress induced beta-adrenergic stimulation may contribute to the progression of acute pre-B lymphoblastic leukemia [1]. It is known today that oxidative stress favors depression [2].

The connection between psychic and cancer is a controversial subject, but it is undoubtedly that the psychic can influence the evolution of associated somatic diseases, on which depends the survival of a patient with a malignant hemopathy.

Last but not least, we note that the leukemic patient's psychic depends the quality of his life, from which we cannot be indifferent.

Case Report

We present the case of a 61 years old female patient who was diagnosed with hyperleukocyte type of acute myeloid leukemia complicated with disseminated intravascular coagulation.

The patient was informed of the diagnosis, according to the current legislation. In the 3rd day

of treatment she presented an episode of paroxysmal atrial fibrillation, psychomotor agitation, and anxious-depressive reaction. Echocardiography, left ventricular ejection fraction, and electrocardiogram conducted baseline were normal. Blood ionogram and thyroid hormones were normal. In addition, she presented a diarrheal syndrome that evolved to toxic megacolon, followed by swelling that grew up at anasarca, on the background of hypoproteinemia and anorexia. Atrial fibrillation has been converted to sinus rhythm; disseminated intravascular coagulation, toxic megacolon and hypoproteinemia were treated. Edema did not disappear completely, which is why echocardiography has been repeated; it was showed a hypomotility to the anterior wall of the left ventricle and a lowering of its ejection fraction (probably induced by epirubicin therapy). The pairing of furosemide and candesartan (she had also high blood pressure) was effective. At the exit from aplasia acute leukemia was in complete remission.

Subsequently, the patient has accepted the proposed treatment with tianeptine. The second polychemotherapeutic cure was very well tolerated, with no heart or digestive complications, which is why hospitalization was shorter. Even the news that she has FLT3-ITD mutation, a negative prognostic marker (which require allogeneic graft for relapse prevention), did not longer induce an anxious-depressive reaction. The patient emerged from aplasia in complete remission. The following two courses of polychemotherapy with high-dose cytosine arabinoside and mitoxantrone were also well tolerated, except for two episodes of gram-negative septicemia that were treated. She is still in complete remission and is looking for a compatible donor.

Discussion

The diagnosis of acute leukemia was communicated to the patient, according to the current legislation. The explanations that were given pertaining to treatment, evolution and possible complications have been added to the initial stress. It is known that traumatic or psychological stress is present often in patients with acute leukemia. It is due to elevated serum levels of corticosteroid hormones, epinephrine, and prostaglandins [3], [4] and depends on the degree of physical suffering, psychological characteristics of each patient, and the impact of the relation with health personnel [5]. Moreover, the long-term treatment with COX inhibitors or beta adrenergic blockers increased even the survival of rats exposed to environmental stress [6].

Psychotherapy, which was followed by our patient, tried to alleviate her anxiety and depression. Our patient, as most of those with leukemia, had confidence in the medical team, thus she accepted easily the proposed psychotherapy. It was found that leukemic patients prefer to receive limited information about their disease and avoid discussions related to prognosis [3]. We believe that to the episode of paroxysmal atrial fibrillation that appeared during induction chemotherapy contributed the stress, too. We mention that thyroid hormone investigation and serum ionogram were normal. Diarrheal syndrome occurred during postchemotherapeutic aplasia, under the conditions in which the patient did not comply with the dietary indications (she ingested an yoghurt). It is possible that mental stress may have contributed to prolonged diarrhea, which has conducted to malabsorption syndrome (including severe hypoproteinemia) and anasarca.

Despite psychotherapy, the patient remained anxious and depressed. The complications that occurred have led her to become more cooperative and regret her mistakes. The obtaining of complete remission diminished the negative psychic impact of the news that she has FLT3-ITD mutation, which confers a negative prognosis (in the absence of peripheral stem cell transplantation she is prone to relapse).

The incidence of depression is high in leukemic patients: 47.83% in a study that included 92 patients with acute leukemia. The deterioration of antioxidant system is involved in its pathogenesis: depressed patients had low serum levels of total antioxidant capacity and superoxide dismutase and high of reactive oxygen species [6]. If leukemic patients present depression, oxidative stress increases. In leukemic rat cortex was showed a perturbation of antioxidant system and an activation of glycine sites existing of the N-methyl-D-aspartic receptor complex, suggestive of depression [7].

It was showed that depressed patients with acute leukemia had increased levels of IL-6 gene expression, which can be involved in depression appearance. They perceive more often the fatigability and the stress, compared with the patients without depression [8].

Depression is associated with perturbations of circadian rhythms, too. The patients with acute myeloid leukemia and lymphoma had reduced levels of Per2, a core factor of the circadian network, possibly involved in tumor progression [9].

To the next polychemotherapeutic cycle she agreed the treatment with tianeptine, under which the depression disappeared and postchemotherapeutic medullar aplasia was better tolerated. We considered that it was appropriate to treat depression because it was known that it can contribute to

the deterioration of the immune response, with impact on the survival of patients with neoplasia [10]. The relationship between leukemia and the patient's psychic is presented in Fig. 1.

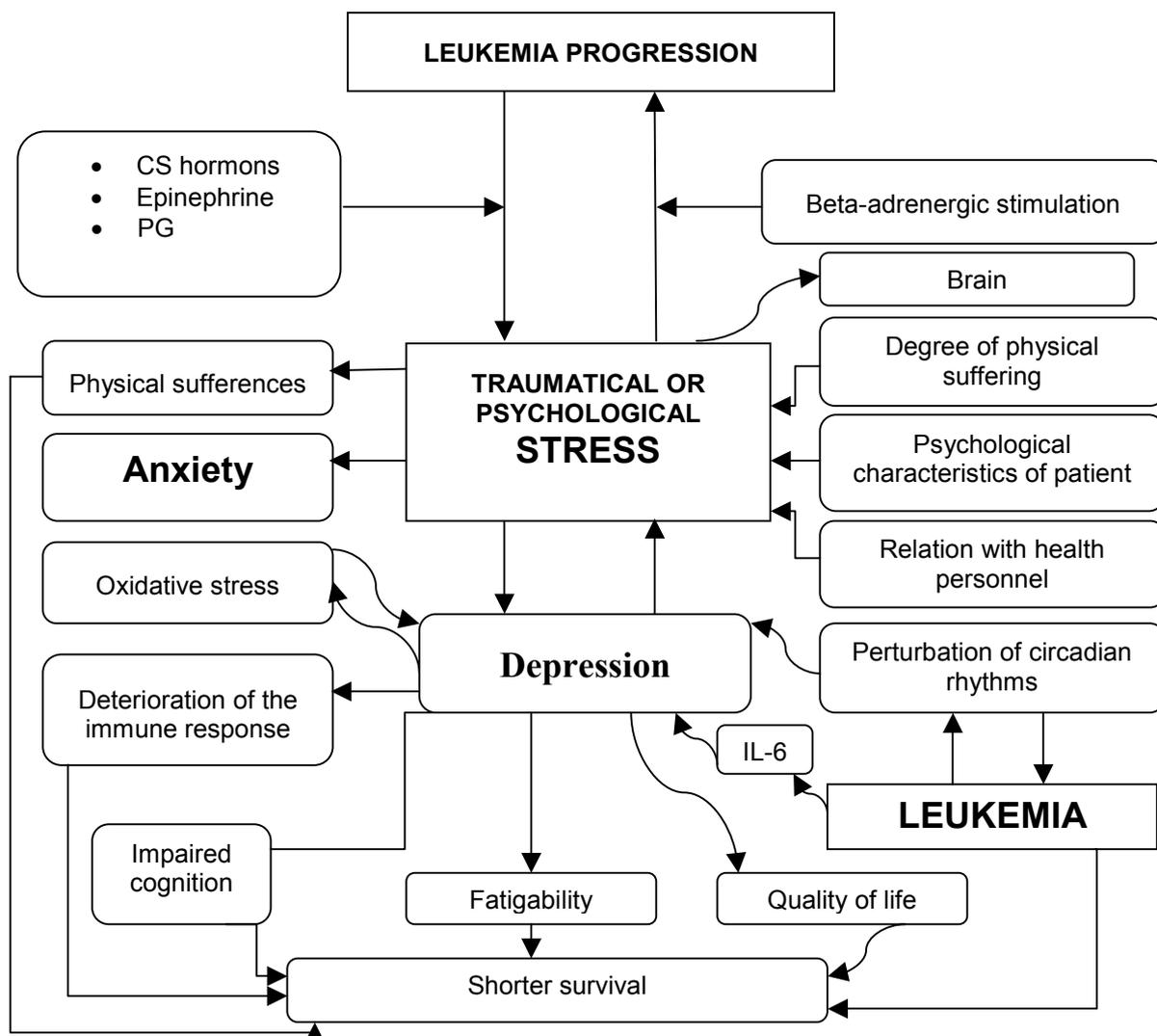


Fig. 1: Relationship between leukemia and the patient's psychic

Legend: CS=corticosteroid, PG=prostaglandins

The patient remained mentally balanced also during the next 2 polychemotherapeutic cures, made with high-dose cytosine arabinoside and mitoxantrone, although she went through 2 episodes of septicemia with gram negative bacteria, one of which with septic shock. She responded well to treatment and remained in complete remission.

Tianeptine is an atypical antidepressant drug that increases serotonin reuptake and protects the brain against the changes induced by stress. It is an enhancer of glutamate neurotransmission in the α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptors [11]. It is useful in patients with anxious depression [12] and also in some patients with treatment-resistant depression [13]. A meta-analysis on late-life depression showed that antidepressants were efficacious for the patients aged ≥ 55 years but there was a study heterogeneity which raised the possibility that the efficacy of antidepressant effect may be reduced in patients aged ≥ 65 years [14].

In experimental models tianeptine has a neuroprotective effect against neuronal injury induced by doxorubicin, which is caspase-3-independent and associated with reduced DNA fragmentation [15]. For this reason it is also appropriate for our patient who is treated with anthracyclines. It also has side effects, including a hepatotoxic potential: - it can induce especially hepatocellular type lesions and, more rarely, cholestatic or mixed types, so that aminotransferases need to be monitored [16].

Not just damage of physical function, but also quality of life/fatigue and impaired cognition were associated with shorter overall survival in patients ≥ 60 years with acute leukemia [17], [18]. Impaired cognition is an essential element of depression. It was showed that antidepressant

treatment, including that with tianeptine, contributed to the improvement of the cognitive impairments of depressive patients: attention, reaction time, short term memory, and learning [19], [20]. Tianeptine increased CREB and BDNF gene expression levels in the hippocampus of mice model exposed to chronic mild stress [19].

We recommended to our patient since the first admission to perform walks and physical exercises because it has been demonstrated that to the leukemic patients these physical activities increase cardio-vascular performance, diminish the fatigability, the depression [21], [22], the anxiety and stress-related events [22], and contribute to a good quality of life [21]. Therapeutic means indicated to leukemic patients are summarized in Table I.

Table I: Therapeutic modalities for the treatment of leukemic patients

No	Therapeutic means
1	Psychotherapy
2	Obtention of patient's confidence in medical team
3	Efficient leukemia treatment (CT, RT, IT, SCT, etc)
4	Efficient treatment of associated diseases
5	Antioxidant treatment
6	Psychiatric treatment (ex. anxiolytic, antidepressant drugs)
7	Walks
8	Physical exercises
9	Family support
10	Friends support
11	Examples of model patients who have surpassed the difficulties related to disease
12	Occupations that increase the psychic tone
13	Musicotherapy
14	Daily and on-demand discussion with health care professionals

Legend: CT=chemotherapy, RT=radiotherapy, IT=immunotherapy, SCT=stem cell transplantation

Conclusion

The psychological balance is essential for avoiding functional components of visceral disorders of patients with chemotherapy and long-term aplasia.

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Depressive Symptoms in Obese Diabetes Patients. Pilot Study

Mocan A.Ș.^{1,3}, Dumitraș D.E.², Iancu S.Ș.¹, Băban A.S.³

¹ Department of Diabetes, Nutrition and Metabolic Disease, Emergency Clinical County Hospital Cluj (ROMANIA)

² Department of Economic Sciences, USAMV Cluj (ROMANIA)

³ Department of Health Psychology, UBB Cluj (ROMANIA)

E-mail: andreiamocan@gmail.com

Abstract

Day to day living with diabetes mellitus (DM) can be overwhelming. Our aim was to investigate the association of Body Mass Index (BMI) with affective-somatic and cognitive symptoms of depression in obese diabetes patients. We investigated 175 inpatients with DM. Beck Depression Inventory was used for depression, physical activity (PA) and diet adherence were self-reported, A_{1c}, BMI and demographic data were collected from patients' medical charts. According to PA, patients with depressive symptoms were divided into three groups: sedentary, low to moderate PA and intense PA. In total 44.66% of all patients had low to severe depressive symptoms, 69.7% were overweight and obese, and 44.7% were sedentary. BMI was inversely associated with affective-somatic symptoms of depression only in obese patients who performed moderate PA (B= - 0.374, p= 0.003). A possible explanation can be that this group of patients have unrealistic expectation for their diabetes and weight outcome, even if they are adherent to recommended PA.

Keywords: depression, obesity, diabetes mellitus

Introduction

Depression is a common mood disorder affecting nearly twice as many diabetes individuals compared with those without diabetes [1]. Depression in patients with DM were found to be associated with lower adherence to diet [2], physical activity [3], glucose monitoring and intake of medication [4] and both micro and macro-vascular DM complications [5]. Weight loss is a key factor in the treatment of type 2 diabetes and is associated with reduced insulin resistance and glycemia improvements [6]. The coexistence of depression and obesity in DM patients may aggravate the course of the illness and predict dropout from weight loss [7]. Our aim was to investigate the association of Body Mass Index (BMI) with affective-somatic and cognitive symptoms of depression in obese diabetes patients.

Measurements and Statistical Analysis

A total number of 175 Romanian-speaking adult inpatients were recruited from the Diabetes, Nutrition and Metabolic Diseases Center at Emergency Clinical County Hospital in Cluj-Napoca, Romania. Of these, 9 did not complete the depression questionnaire and 16 did not report their physical activity (PA). Based on the patient medical record, a total number of 150 patients with type 1 and type 2 DM were enrolled in the study.

Depressive symptoms were assessed using the Beck Depression Inventory (BDI-II), which has a good psychometric properties for Romanian population [8]. BDI-II is a 21 items scale, with a maximum score of 63. The cut-off point for depressive symptoms was ≥ 10 [9, 10]. According to BDI cut-off point, individuals were categorized into 2 groups, with and without depressive symptoms (DSy). The total score of BDI-II is calculated from the sum of its two dimensions: affective-somatic and cognitive. We used the score of affective-somatic and cognitive dimension separately [11]. In Romanian population affective-somatic dimension was composed of 12 factors: Loss of Pleasure, Crying, Agitation, Loss of Interest, Indecisiveness, Loss of Energy, Changes in Sleeping, Irritability, Changes in Appetite, Concentration Difficulty, Tiredness and Fatigue, Loss of Interest in Sex and cognitive dimension was composed of 9 factors: Sadness, Pessimism, Past Failures, Guilty Feelings, Punishment Feelings, Self-Dislike, Self-Criticalness, Suicidal Thoughts, Worthlessness.

Physical activity (PA) was evaluated using two self-reported questions: "What kind of physical activity are you usually engaged in? How many days/week and many minutes/day?". Responses were categorized in 3 groups: sedentary (no physical activity, including < 15 min/day, 3days/week walking/gardening/house holding), low to moderate PA (walking/gardening/house holding for at least 30min/day, 3days/a week), intense PA (1 h/day, 1day/week playing tennis, football, aerobics). Diet was assessed using one question: "From 0 to 100% how much do you think you respect your recommended diet?". Demographic and clinical data were collected from patients' medical charts. BMI was calculated based on height and weight (kg/m²).

Descriptive statistics are presented as mean \pm standard deviation (M \pm SD) and frequency (%), as appropriate. To compare data between groups, t test and ANOVA was used for continuous variables, χ^2 for categorical variables and a p-value of < 0.05 was considered statistically significant. To evaluate the association between DSy and BMI, Pearson's correlation coefficient was calculated, in the first step. Second, multiple regression was used to determine baseline factors that contributed to DSy. The independent variables were socio-demographic data (age, education) and lifestyle-related indicators (BMI, diet) and DSy were the dependent variable. The analyses were done for each diabetic group, separately.

Results

Of the 150 patients with DM, 54.67% were man, age between 17-84 years old, high school graduated (49.33%), 44.66% had DSy, 69.7% were overweight and obese and 44.7% were sedentary. From the group with DSy, 46.26% patients reported performing moderate PA, 80.4% were overweight or obese and 43.29% were high school graduated. The group of patients with DSy included mainly older (p= 0.003) men (p= 0.038), sedentary or performing low to moderate PA (92.52%), with an increase in both depressive dimensions, affective-somatic (p<0.001) and cognitive (p<0.001), than in the group without DSy, mostly with type 2 DM (77.71%). Characteristic for diabetes groups are presented in Table 1.

Table 1. Characteristic for diabetes patients according to DSy and PA level

	All cases 150 (100%)	No DSy group 83(55.33%)	DSy group 67(44.66%)	p	DSy group Sedentary PA 31(46.26%)	DSy group Moderate PA 31(46.26%)	DSy group Intense PA 5(7.46%)	p
Sex								
Man	82(54.67%)	48(57.83%)	34(50.75%)	0.038	15(48.39%)	18(58.06%)	1(20.00%)	0.269
Age in years	51.01(15.34)	47.78(16.94)	55.07(11.99)	0.003	57.51(9.95)	53.76(12.41)	47.80(18.74)	0.177
Education								
Elementary	8(5.33%)	5(6.02%)	3(4.48%)	0.243	1(3.23%)	1(3.23%)	1(20.00%)	0.719
Secondary	29(19.33%)	10(12.05%)	19(28.36%)		9(29.03%)	9(29.03%)	1(20.00%)	
Highschool	74(49.33%)	45(54.21%)	29(43.29%)		14(45.16%)	12(38.71%)	1(20.00%)	
Undergraduate	7(4.67%)	4(4.82%)	3(4.48%)		3(9.68%)	2(6.46%)	-	
University	29(19.33%)	18(21.69%)	11(16.42%)		3(9.68%)	5(19.35%)	2(40.00%)	
BMI	28.07(5.50)	27.50(5.65)	28.83(5.25)	0.191	28.28(5.15)	30.15(5.53)	25.68(2.78)	0.181
Type 2	101(67.33%)	49(59.04%)	52(77.61%)	0.026	27(87.10%)	22(70.97%)	3(60.00%)	0.193
Diabetes years	10.75(9.02)	10.32(9.24)	11.29(8.79)	0.516	12.80(8.97)	10.79(8.53)	5.00(7.05)	0.168
A1c	9.50(2.15)	9.17(2.01)	9.96(2.89)	0.075	9.82(2.04)	9.74(2.35)	11.76(11.29)	0.295
Cholesterol	196.17(51.46)	190.49(45.11)	202.92(57.83)	0.196	212.00(66.16)	191.78(52.59)	208.80(26.95)	0.476
Triglycerides	253.84 (364.26)	247.33 (406.77)	261.20 (312.96)	0.840	309.40 (408.98)	234.13 (204.69)	144.80 (59.39)	0.491
LDL	108.72(38.91)	106.18(38.14)	111.52(40.19)	0.590	114.46(43.93)	103.46(44.06)	123.24(13.76)	0.630
Creatinine	1.10(0.64)	1.14(0.85)	1.05(0.27)	0.505	1.11(0.32)	1.02(0.22)	0.92(0.13)	0.335
BDI total	10.77(8.11)	4.95(2.88)	17.98(6.53)	<.001	18.90(7.38)	17.45(5.72)	15.60(5.85)	0.483
BDI affective	3.43(4.01)	1.12(1.43)	6.29(4.33)	<.001	6.61(4.99)	6.22(3.73)	4.80(3.76)	0.687
BDI cognitive	7.58(5.00)	4.14(2.51)	11.85(3.90)	<.001	12.61(3.76)	11.25(4.10)	10.80(3.27)	0.329

Note: Data are presented as n(%) or Mean(SD). Sample size may vary with 15% due to missing data.

Table 2. Pearson's correlation between BDI scores and BMI

Correlation	All data	DSy group	DSy group Sedentary PA	DSy group Low-Moderate PA	DSy group Intense PA
BDI affective-somatic and BMI	r= 0.020 p= 0.828	r= -0.107 p= 0.456	r= 0.219 p= 0.304	r= -0.599 p= 0.003	r = -0.696 p= 0.192
BDI cognitive and BMI	r= 0.153 p= 0.096	r= 0.049 p= 0.729	r= 0.287 p= 0.173	r= -0.147 p= 0.513	r= -0.669 p= 0.217

When considering the association between DSy and BMI, results from Pearson's correlation (Table 2) indicate that there is an indirect association between BMI and affective-somatic dimension of depression in low-moderate active diabetes patients with depressive symptoms ($p=0.003$). No significant association was found between BMI and cognitive dimension in either groups.

When both demographic (age, education) and lifestyle indicators (BMI, diet) were simultaneously introduced into the regression equation as independent variables, BMI made significant independent contribution to DSy as dependent variable while age, education and diet did not. When introduced alone in the regression analysis, BMI was significant predictor to affective-somatic symptoms of depression ($B=-0.374$, $p=0.003$), explaining 35% of the variance in depression. We found no association between affective-somatic depressive symptoms and A1c ($r=0.304$, $p=0.192$) in the diabetes depressive moderate PA or other group.

Discussion

From all the participants with DM, 44.66% had DSy, a higher percent than in other studies [12]. This can be due to the fact that we were interested not only in minor and major depression but also in non-clinical depressive symptoms and when screened with questionnaire and not diagnostic criteria are used, DSy are higher [13]. In our study, patients with DSy were mostly sedentary or performing low to moderate PA, with no significant difference in BMI between patients with or without DSy. Messier et al. [14] found that developing and maintaining depression was associated with inactivity in individuals with type 2 DM even if BMI was not associated with depression.

Consistent with other studies [15] that found that BMI was associated with both minor and major depression, in our groups, BMI was associated with affective-somatic symptoms of depression in low-moderate PA depressive symptoms group. Obese patients have a significant lower quality of life and are more likely to suffer from pain, experience mobility problems and have physical and social problems [16]. Beside obesity, day to day living with DM burden can contribute to depression in DM patients [17]. On the other hand, in DM patients, both BMI and adherence to treatment, contributed to depression indirectly, via self-efficacy and diabetes-related medical symptoms [18]. All these factors may lead to DSy, like loss of interest and pleasure in performing daily activities or DM specific behaviors, indecisiveness in keeping the behaviors individuals are engaged in, fatigue, tiredness and loss of energy. In our group, the association between BMI and affective-somatic depressive symptoms was inversely. Also, there was no significant difference in life-style and DM outcome between groups and there was no significant association between DSy and A1c [19]. A possible explanation for these results may be that even if the participant are trying to perform PA in order to improve their DM outcome and lose weight, at some point, when no improvement appears and their expectation are not meet, they became either indifferent to their health condition or more depressed and de-motivated [20] due to hopelessness and learned helplessness [21]. In our study, the groups were similar in BMI and medical outcomes, the majority of patients were overweight or obese, with poor medical outcome. This can be an explanation for the lack of association between BMI and DSy in other groups. In order to improve both, DM control and body weight, low to moderate PA in type 2 DM individuals it might not be enough and combined moderate – intense PA with healthful diet was suggested for these patients [22]. Although the presence of depression worsen treatment adherence, the lack of significant difference in DM outcomes and lifestyle factors between patients with and without depression implies that even if depression decreases, self-care activities and DM control does not necessarily improves [23]. This suggests that other mechanism may be implicated in adherence to treatment like illness perception, motivation, diabetes distress, and that treating depressive symptoms in DM is necessary but not sufficient.

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Effectiveness of media literacy in reducing internalization of the body shape model and body image dissatisfaction. A pilot study

Munguía L^{1.}, Raich R.M.¹, Mora M.¹, Espinoza P.¹, Roses R.¹

¹*Departament de Psicologia Clínica i de la Salut. Universitat Autònoma de Barcelona (SPAIN)*
E-mails: laarcreeed_lm@hotmail.com, rosa.raich@uab.cat

Abstract

The aim of the study was to ascertain the effectiveness of the use of a media literacy program to reduce internalization of the body shape model and body image dissatisfaction in adolescent Spanish population.

The sample was composed by 68 high school students, 28 men and 40 women, of 15 years old, which formed experimental and control groups.

The intervention consisted of an interactive multimedia program of five sessions of one hour-long. The main contents were: the development and review of the female and male aesthetic models throughout history and across cultures; analysis, comparison and review of the female and male models transmitted in Media, and activism.

It was found that girls were more dissatisfied with their body and with more internalization of the body shape model than boys.

After the intervention, there was a decrease in the mean scores of the variables evaluated in both, men and women, in the experimental group, with a higher decrease in women than in men, reaching statistics significance in some indicators. While in the control group, the differences between pre and post evaluations were not as substantial.

The results of this first pilot study suggest that the program can be successful in reducing the internalization of the body shape model and body image dissatisfaction, both risk factors for the development of eating disorders, therefore it can be used in the prevention of weight-related problems as well.

Keywords: Prevention, Media Literacy, Internalization of the Body Shape Model, Body Image Dissatisfaction.

Introduction

Eating disorders have been established as the third chronic disease in adolescents and young female population in developed and westernized societies (Pelaez, Labrador and Raich, 2006 [1]).

In a prospective study conducted by Stice, Marti and Durant (2011 [2]), body dissatisfaction emerged as the most powerful risk factor in the development of eating disorders. Adolescents who had more than 24% of body dissatisfaction showed a 4.0 times higher incidence of eating disorders.

Body image dissatisfaction is associated with several factors, including internalization of the thin ideal as an aesthetic and cultural beauty model transmitted by the mass media.

According to Bandura's social cognitive model (1986 [3]), there are socio-cultural bases on which the beliefs and pathological eating behaviors are built. Within these cultural bases, the female and male aesthetic model, legitimized and imposed by the industry and media plays an important role (Grace and Comelles, 2007 [4]; López-Guimerà, Levine, Sánchez-Carracedo and Fauquet, 2011 [5]), which is generally incompatible with healthy anthropometric and physiological parameters, and, by this utopian nature, is an endless source of frustration and dissatisfaction for whoever seeks it (Thornton and Maurice, 1997 [6]).

Therefore, it can be said that the most important negative effect of the messages of the mass media is the emergence or potentiation of body dissatisfaction and the anxiety generated by the discrepancy between the body image perceived and the aesthetic-body model internalized. This becomes an almost immediate predictor of eating disorders (Toro, 2006 [7]).

On this basis, it is necessary to carry out prevention programs that promote a widespread and sustainable opportunity to implement body image intervention, in response to the need for an early prevention of problems with body image and eating (O'Dea, 2012 [8]). The aim of these interventions should be to reduce the negative influence of the messages sent by the media, and the consequent reduction of the internalization of the aesthetic model that transmit.

Media Literacy is designed to train people to be critical thinkers in relation to the messages produced by the media (Bergsma and Carney, 2006 [9]). In the prevention of eating disorders, the use of media literacy can reduce the negative response to the messages transmitted by the media and increase satisfaction with body image, as well as reduce social comparison with figures exposed by the media (Cohen, 2006 [10]).

Therefore, the aim of the study was to ascertain the effectiveness of the use of a media literacy program to reduce internalization of the body shape model and body image dissatisfaction in adolescent Spanish population.

Methodology

Sample

The sample was composed by 68 high school students, 28 men and 40 women, with a mean age of 15.6 years (SD=0.5).

Instruments

Body Shape Questionnaire (BSQ). Taylor, Cooper y Fairburn (1987); Spanish adaptation of Raich, Mora, Soler, Avila, Clos y Zapater (1996 [11]). This instrument evaluates body image dissatisfaction and weight concern associated with eating disorders.

Questionnaire on Influences of Aesthetic Body Ideal-26 / Cuestionario de Influencias del Modelo Estético Corporal (CIMEC-26). Toro, Salamero y Martínez (1994 [12]). This instrument evaluates the impact that different social agents (advertising, verbal messages, social models and social situations) can have on the development of attitudes to one's body in adolescents and young men and women. It also has a subscale that evaluates body image dissatisfaction.

The Media Literacy Prevention Program was based on the following materials:

- © Raich, R.M., Sánchez – Carracedo, D. & López Guimerá, G. (2008). Alimentación, modelo estético femenino y medios de comunicación: Cómo formar alumnos críticos en educación secundaria ("Eating, feminine aesthetic beauty model and the mass media: How to train critical students in secondary school"). (2nd ed.). Barcelona: Graó. [13].
- Unpublished document: Raich, R.M., L. González M. & Rosés M. (2011). Modelo estético masculino. Evolución y crítica (Masculine aesthetic beauty model. Evolution and criticizes). [14].

Design and proceeding

Three public schools in Barcelona were selected; one of the groups already established in each was assigned to the experimental condition: Media Literacy prevention program, or a nontreatment control condition, by using a quasi-experimental design. All participants answered pre and post evaluations at the same period of time. The intervention consisted of an interactive multimedia program of five sessions of one hour-long. The main contents of the prevention program are: the development and review of the feminine and masculine aesthetic model throughout history and across cultures, analysis and review of the feminine and masculine aesthetic model broadcast media, and activism (analysis and critique of an advertisement and the realization of a video parody to it). Informed parental consent was requested, as well as the verbal consent of the students.

Data analysis

Data were analysed using SPSS 19. Baseline differences between groups were analysed using non-parametric analysis comparing independent samples with the U Mann-Whitney test. Nonparametric Wilcoxon test was used for valuing changes in pre – post evaluations in each group.

Results

The body mass index was within normal parameters reported by the World Health Organization for teenagers. The means were 21.47 (SD=2.2) for men and 21.39 (SD=2.3) for women.

There were no differences between control and experimental group in the baseline of IMC ($p=.218$), body image dissatisfaction ($p=.153$) and the internalization of the aesthetic model ($p=.289$).

Girls were more dissatisfied with their body (Mean=80.52 / SD=34.93) than boys (Mean=48.18 / SD= 19.66); and also present more internalization of body shape model (Mean=16.40 / SD= 10.2) than boys (Mean=7.36 / SD=6).

After the intervention, in the evaluation of Body Image Dissatisfaction the means of the experimental group decreased, being the difference between pre and post test statistically significant ($p=0.001$). While, in the control group, although there was also a reduction of means, these was not significant (Table 1).

Intervention		Mean	Std. Deviation	Z	Asymp. Sig. (2-tailed)
Experimental Group	BSQ Pre evaluation	62.38	30.843	-3.278	0.001
	BSQ Post evaluation	53.35	23.448		
Control Group	BSQ Pre evaluation	74.11	36.463	-2.453	0.014
	BSQ Post evaluation	67.82	30.952		

About the internalization of the body shape model, there was also a decrease in the means of the experimental group after the intervention in comparison to the control group. Even the differences were not statistically significant, there was an important reduction in the total punctuation of the *CIMEC* ($p=.016$) and in the first factor of the same questionnaire which evaluate body image concern ($p=.007$).

Intervention		CIMEC factor 1: Body Image concern	CIMEC factor 2: advertising influence	CIMEC factor 3: verbal massages influence	CIMEC factor 4: social models	CIMEC factor 5: social situations	CIMEC total punctuation: influences of aesthetic body ideal
Experimental Group	Pre evaluation mean (SD)	4.88 (4.4)	1.78 (2.5)	1.35 (1.6)	2.53 (2)	1.3 (1.1)	11.83 (10.1)
	Post evaluation mean (SD)	3.83 (3.6)	1.2 (2.3)	.98 (1.4)	2.23 (1.6)	1.18 (1.1)	9.4 (8.5)
	Z	-2,711	-1,855	-1,530	-1,337	-,567	-2,401
	Asymp. Sig. (2-tailed)	,007	,064	,126	,181	,571	,016
Control Group	Pre evaluation mean (SD)	5.57 (4)	2.21 (3)	1.07 (1.3)	3.07 (1.6)	1.96 (1.2)	13.89 (9.3)
	Post evaluation mean (SD)	5.39 (4.2)	1.57 (3)	1.29 (1.7)	2.75 (1.6)	1.89 (1.2)	12.89 (9.4)
	Z	-,115	-1,981	-1,100	-1,311	-,284	-1,341
	Asymp. Sig. (2-tailed)	,908	,048	,271	,190	,776	,180

Conclusions

Considering that the baselines of the both groups were similar is possible to affirm that the results of this first pilot study suggest that the program can be successful specially improving body image satisfaction. Also, it can reduce the internalization of the body shape model. Therefore it can be used in the prevention of weight-related problems as well.

These results are consistent with the literature. Several authors have mentioned that preventing programs which were most successful included the identify and criticise of the aesthetic beauty model, the develop critical thinking skills and to challenge the glorification of thinness for girls

and muscular ideal for boys; this means, interventions administered in schools that consider 'media literacy' or 'media advocacy' within their content; and, also, prevention programmes that promote the development of a healthy body image (Stice et al., 2008 [15]; Neumark-Sztainer, 2009 [16]; Neumark-Sztainer, Levine et al., 2006 [17]; Pratt & Woolfenden, 2002 [18]).

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Insights on postpartum mood: why childbirth is associated with depression and mixed feelings?

Mureşan-Madar A.¹, Băban A.¹

¹ Babeş-Bolyai University, Cluj-Napoca (ROMANIA)

E-mails: contact@andamadar.ro, adrianababan@psychology.ro

Abstract

The aim of the present study was to investigate the role of cognitive vulnerability in the development of postpartum depression and its relation to postpartum mood in general. Pregnant women were recruited antenatally (Time 1), and followed postpartum (Time 2). By online assessment, 133 women provided records at both times. Self-report instruments were used to assess dysfunctional attitudes and depressive symptomatology antenatally. Additional questionnaires for automatic thoughts and emotional distress were completed postpartum. Data analysis showed there were significant differences in depressive symptomatology over time, $t(132)=8.28$, $p<0.05$, with higher depressive symptomatology levels at Time 2. As expected, no significant differences were found in dysfunctional attitudes, $t(132)=0.53$, $p>0.05$. Dysfunctional attitudes were related not only to postpartum depressive symptomatology ($r=0.42$, $p<0.01$), but also to functional negative emotions ($r=0.30$, $p<0.01$) and to positive emotions ($r=0.33$, $p<0.01$). Overall, postpartum dysfunctional attitudes and automatic thoughts explained 47% of postpartum depressive symptomatology, $F(2,132)=58.78$, $p<.001$. Antenatal depressive symptomatology alone predicted 58% of postpartum depressive symptomatology, $F(1,132)=180.51$, $p<.001$. There appears to be a continuum of depressive symptomatology through the perinatal period, with higher postpartum rates. There is evidence for an underlying, cognitive vulnerability for postpartum depression, stable over the peripartum. This cognitive factors have an influence on the global postpartum mood.

Keywords: postpartum depression, cognitive vulnerability

Introduction

Postpartum depression (PPD) is broadly defined as a non-psychotic mild to moderate depressive episode, including subsyndromal depressive symptomatology, beginning anytime in the first postpartum year. Although it has not been recognised as a distinct nosologic category, it has received increasing research attention over the last decades. Not surprisingly, if are taken into account its correlates: the impairment in mother's functioning, the impact on her family and on the mother-infant interaction, the consequences on the cognitive, behavioural and emotional development of her infant [1].

Research on the etiology of postpartum depression has been focused on both biological and psychosocial factors. Fig. 1 shows an integrative theoretical model of postpartum mood disturbance built within a stress-vulnerability framework. As childbirth is accompanied by dramatic hormonal changes, biological factors have been extensively explored in relation to postpartum depression. Apparently, there is a vulnerability in a subgroup of women to the normal perinatal changes in gonadal steroid levels, but the genetic, neuronal and environmental mechanisms require further investigation [2].

The strongest predictors for postpartum depression are depression and anxiety in pregnancy and a lifetime history of depression [3]. Cognitive theories of psychopathology contributed to the understanding of the underlying mechanisms of depression and anxiety. Therefore, the hypothesis that cognitive factors can improve the understanding of the mechanism of postpartum depression has emerged. Two cognitive vulnerability theories have been tested in relation to postpartum depression: the reformulated learned helplessness model [4] and Beck's cognitive model of depression [5].

Initial studies on cognitive predictors for postpartum depression showed promising results for the attributional style [6], [7], while dysfunctional beliefs did not seem to have a significant contribution [6], [8]. More recent studies however, fail to reply the results for the attributional style [9], [10] and provide evidence for dysfunctional beliefs as a predictor for postpartum depression [10], [11], [12].

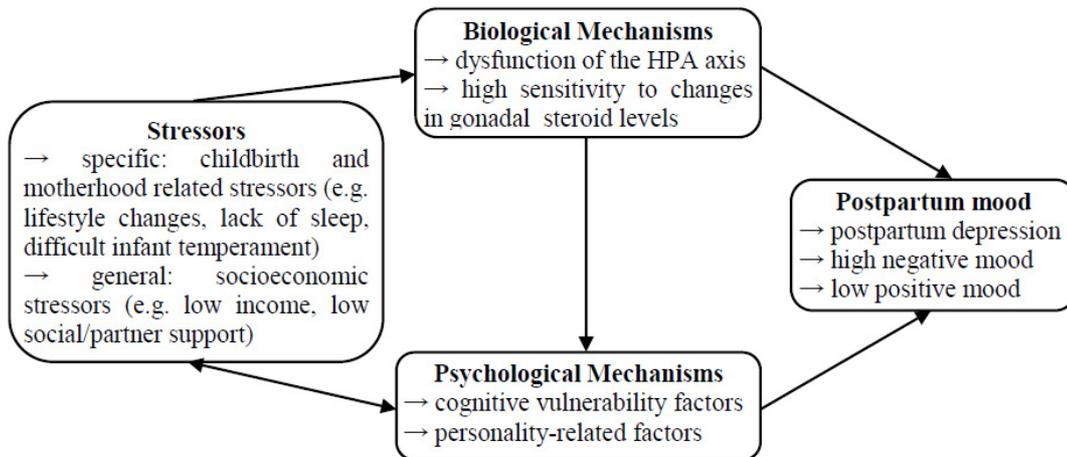


Fig. 1 An integrative theoretical model of postpartum mood disturbance

The main purpose of the present study was to investigate the role of cognitive vulnerability in the development of postpartum depression. Additionally, it aimed to test cognitive vulnerability in relation to postpartum mood in general. Cognitive vulnerability was addressed through Beck's cognitive model of depression [5]. Postpartum depression was defined as a high depressive symptomatology on the Edinburgh Postnatal Depression Scale (EPDS) [13].

Method

Participants and procedure

Pregnant women were recruited antenatally, in the last trimester of pregnancy (Time 1), and followed postpartum, in the first three months following childbirth (Time 2). By online assessment, 133 women provided records at both times. Self-report instruments were used to assess dysfunctional attitudes and depressive symptomatology antenatally. Additional questionnaires for automatic thoughts and emotional distress were completed postpartum. Participants were aged between 19 and 40 years (Mean=30.56 years, S.D.=5.5). 41.4% of the sample reported a significant level of postpartum depressive symptomatology if using 12 as the cut-off score on the EPDS [14], and 33.8% if using 13 as a cut-off score [13].

Measures

Postpartum depression symptomatology was assessed using EPDS [13], a well-validated 10-item screening questionnaire for postpartum depression (Cronbach's $\alpha=.87$) [13]. A cutpoint of >12 was established to balance sensitivity and specificity for the Romanian EPDS prenatal version [13].

Dysfunctional attitudes were assessed by the Dysfunctional Attitude Scale (DAS) [15], one of the most efficient instruments for measuring the cognitive distortions associated with clinical depression. DAS has high internal consistency and discriminative validity for Romanian populations [15].

Automatic thoughts were assessed by the Automatic Thoughts Questionnaire (ATQ) [16], a reliable instrument that indicates the frequency of negative automatic thoughts associated with depression [16].

Emotional distress was assessed using the Profile of Affective Distress (PDA) [17]. PDA is a 39-item scale addressing functional negative emotions and dysfunctional negative emotions (sadness/depression, worry/anxiety), as well as positive emotions. The authors report good psychometric properties and recommend its use in both clinical and non-clinical samples [17].

Results

Descriptive statistics

Table 1 displays the means, standard deviations, and correlation coefficients between

depressive symptomatology (at Time 1 and Time 2), and dysfunctional attitudes (at Time 1 and Time 2), automatic thoughts (at Time 2) and emotional distress (at Time 2).

Table 1. Summary of Means (M), Standard Deviations (SD), and Pearson Correlations between depressive symptomatology, dysfunctional attitudes, automatic thoughts, and emotional distress (N=133)

Variables (Time)	M	SD	Correlations					
			1.1.	1.2.	2.1.	2.2.	3	4
1.1. Depressive symptomatology (Time 1)	9.79	4.32						
1.2. Depressive symptomatology (Time 2)	12.16	5.03	.761**					
2.1. Dysfunctional attitudes (Time 1)	118.96	21.31	.394**	.280**				
2.2. Dysfunctional attitudes (Time 2)	119.86	22.57	.332**	.424**	.613**			
3. Automatic thoughts (Time 2)	26.41	7.95	.536**	.689**	.406**	.644**		
4. Emotional distress (Time 2)	72.56	16.62	.654**	.856**	.252**	.381**	.745**	

**p<0.01

Table 2 displays the correlation coefficients for Time 2 between dysfunctional attitudes and subscales of emotional distress: dysfunctional negative emotions, functional negative emotions, and positive emotions.

Table 2. Summary of Pearson Correlations between Time 2 dysfunctional attitudes and emotional distress subscales (N=133)

Variables	Correlations			
	1.	2.	3.	4.
1. Dysfunctional attitudes				
2. Dysfunctional negative emotions	.340**			
3. Functional negative emotions	.302**	.835**		
4. Positive emotions	.332**	.489**	.500**	

**p<0.01

Dysfunctional attitudes are related not only to postpartum depressive symptomatology ($r=0.42$, $p<0.01$), but also to functional negative emotions ($r=0.30$, $p<0.01$) and to positive emotions ($r=0.33$, $p<0.01$).

Regression analyses

Regression analysis was used to test if cognitive vulnerability explains participants' ratings of postpartum depression. Postpartum dysfunctional attitudes and automatic thoughts explained 47% of postpartum depressive symptomatology, $F(2,132)=58.78$, $p<.001$. Antenatal depressive symptomatology alone predicted 58% of postpartum depressive symptomatology, $F(1,132)=180.51$, $p<.001$.

Paired-Samples T Test analyses

Two Paired-Samples T Test analyses were computed to test differences over time in postpartum depression levels and in dysfunctional attitudes. There are significant differences in depressive symptomatology over time, $t(132)=8.28$, $p<0.05$, with higher depressive symptomatology levels at Time 2. As expected, no significant differences were found in dysfunctional attitudes, $t(132)=0.53$, $p>0.05$.

Discussion and Conclusions

The present study investigated the role of cognitive vulnerability in the development of postpartum depression and its relation to postpartum mood in general. Its results offer an insight on postpartum mood and its underlying psychological mechanisms. As expected, high postpartum depression rates are associated with a more dysfunctional cognitive style reflected in high dysfunctional attitudes scores and high frequency of negative automatic thoughts. This cognitive

factors also influence the global postpartum mood, including negative functional emotions and positive emotions. This study provides evidence for an underlying, cognitive vulnerability for postpartum depression, stable over the peripartum. Not surprisingly, as depression and anxiety in pregnancy and a lifetime history of depression are the strongest predictors for postpartum depression [3]. In regard to postpartum depression, there appears to be a continuum of depressive symptomatology throughout the perinatal period, with higher postpartum rates. This suggests that childbirth and motherhood can act as an activating event for psychological vulnerabilities, triggering postpartum depression in a subgroup of vulnerable women. It remains to be further investigated whether this cognitive vulnerability is general or motherhood-specific.

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Psychiatric Comorbidities in Bronchial Asthma

Nicoară M.D.

Dr. Gh. Preda Psychiatric Hospital, Sibiu, (ROMANIA)

E-mail: decembrie8@yahoo.com

Abstract

Bronchial asthma, the most enigmatic chronic disease, continues to raise interest amongst researchers in the 21st century. Research from past years advances the idea that psychological and psychopathological factors may be involved in the low compliance and poor control of asthma; therefore, resulting in a major impact over the patient's quality of life and causing an increased rate of the use of medical health services.

Objective: The evaluation of psychiatric morbidity among asthmatics who are admitted in the psychiatric facility.

Methodology: 52 consecutive patients diagnosed with bronchial asthma admitted to the psychiatric clinic in Sibiu were evaluated with Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) – clinical version.

Results: The rate of the patients with bronchial asthma that are admitted in the psychiatric clinic in Sibiu is 1%. The most encountered psychiatric diagnoses were major depressive disorder, dysthymia, organic mood disorder, panic disorder, alcohol use disorder, followed by generalized anxiety disorder and posttraumatic stress disorder.

Conclusion: Our findings are consistent with those found in the existing literature, highlighting the importance of recognizing and treating the psychiatric diseases in patients with bronchial asthma by a multidisciplinary team, consisting of doctors, psychologists and psychotherapists.

Keywords: asthma, psychiatric diseases.

Introduction

Very few medical conditions get the attention that pulmonary diseases claim, in particular bronchial asthma – the most enigmatic chronic condition which continues to spark the interest of researchers even in the 21st century.

Mainly characterized by the intermittent obstruction of the respiratory airways, inflammation and bronchial hyper - responsivity, bronchial asthma represents a field full of paradoxes because it can appear in childhood but also in adulthood. It can be exacerbated by emotional, physiological or environmental triggers and it also can vary greatly in severity, clinical evolution, in subsequent disability, and in treatment response. All of these, along with the increasing prevalence of the disease in recent years, have led to the growth of the burden of asthma on the patient, on the family, on society, and on the medical system, in primary and secondary care.

Even if the link between asthma and mental disorders is known from the 12th century (asthma is recognized as the oldest psychosomatic disease), the comorbidity of asthma and psychiatric disorders was less studied. In the last decade the interest for this comorbidity has seen an increase due to the increasing prevalence of asthma (235 asthma patients in the whole world [1]) and of mental diseases, especially of depression (over 350 millions of people worldwide [2]).

All of these comorbidities can lead to misinterpretation of the common symptoms, to incorrect diagnoses, can increase the severity of both conditions with frequent exacerbations of both diseases and decrease the adherence, to the increasing prevalence of one's pathology as a result of the other one [3, 4].

Nevertheless, psychiatric comorbidities in bronchial asthma have been and continue to be overlooked, underdiagnosed and undertreated [5, 6].

Moreover, research focused on this comorbidity was conducted in pulmonary departments, emergency services and primary care.

In our study we aimed to assess psychiatric comorbidity present in asthmatic patients admitted to the Psychiatry clinic.

Materials and Methods

Participants

The research was conducted in the Department of Psychiatry in Sibiu, between 2009 – 2013. 52 consecutive patients were included in the study who needed hospitalization for a psychiatric disorder.

Inclusion criteria: patients aged 18 years, female or male, with asthma diagnosed by pulmonologist, who consented to participate in this research.

Exclusion criteria:

- Patients with asthma and with a psychiatric disease from the field of mental retardation, dementia or psychotic disorders
- Patients without bronchial asthma
- Patients who didn't consent to participate in research

Instruments

The instrument used to assess psychiatric disorders was the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) – clinical version (SCID-I).

The information on bronchial asthma along with socio-demographic data (age, gender, education, marital status, employment status) was obtained by interview and medical records of patients.

The degree of asthma control was assessed by Asthma Control Test – a self-assessment test with only five items.

Procedure

The patients were asked if they were suffering from bronchial asthma and if the disease was certified by a pulmonary doctor throughout a consult or an admission in a pulmonary clinic in the past year.

Also, a detailed medical history was obtained regarding the type of asthma, asthma age, the level of asthma control, smoking.

The main diagnostic tool was for the Structured Clinical Interview for Axis I Disorders DSM-IV-TR. Taking into account that the literature in this field shows that the main psychiatric comorbidities in asthma are anxiety and mood disorders, we focused mainly on the diseases that fall into these two categories, along with somatoform disorders and addictions.

Statistical analysis

The statistical analysis of the data was made using SPSS 20. First we used descriptive statistics of the data to define general characteristics of the lot, followed by bivariate statistical analysis. Values of significance $p < 0.05$ were accepted as a significant difference.

Results

The investigated group had 52 patients, of which 33 were females (63.5%) and 19 were males (36.5%). The age of the participants was between 24 and 73 years old, with an average of 49.79 years (± 12.17). Educational level was mainly 12 classes for 25 participants (48.1%), followed by the ones that had only primary classes - 20 participants (38.5%) and the ones with higher education, 7 patients (13.5%). On the occupational level in the group we've had 32 participants (61.5%) that were retired, 12 participants were employed (23.1%) and 8 patients (15.4%) were without a job or were dismissed in the last year. 29 of the patients that participated in our study were married (55.8%), 11 were not married (21.2%), 6 patients were divorced (11.5%) and 6 of them were widowed (11.5%). 71.2% of the participants were living in urban areas, and 28.8% in rural ones. From the point of view of asthmatic disease the group was composed of 44 participants (84.6%) that had allergic asthma and 8 participants (15.4%) that had intrinsic asthma. From the point of view of asthma control, 35 patients (67.3%) had partially controlled asthma, 11 (21.2%) of the participants had a controlled asthma and 11.5 % uncontrolled asthma (6 patients). Most of the patients the disease for more than 10 years – 27(51.9%), 17 (32.7 %) for 5 to 10 years, and for only 8 of the patients (15.4%) onset occurring in the last 5 years. Ratio between smokers and non-smokers was relatively equal (42.3 % smokers vs. 44.2 non-smokers), some of the patients (13.5%) declaring themselves former smokers. The comorbid psychiatric diagnostics of the asthma patients admitted in the psychiatric unit were: major depressive disorder (19.2%) – 10 patients, dysthymia (17.3%) – 9 patients, followed by the panic disorder, organic

mood disorder and alcohol use disorder – each of them being found in 8 (15.4%) of the patients, the generalized anxiety disorder was found in 7 of the patients (13.5%) and the posttraumatic stress disorder in 2 patients (3.8%).

Before admission to the Psychiatric clinic only 3 (5.76%) patients were receiving psychiatric treatment -2 (3.84%) with benzodiazepines and only one (1.92%) with antidepressants.

Discussion

The current results are partially consistent with the literature in this area, because in the conducted research the most frequent comorbidity between asthma and psychiatric disorders is depressive disorders (major depressive disorder and dysthymic disorder) and not anxiety disorders (as occurs in most of researched studies). These results are shown in Table 1.

Table 1: Prevalence of psychiatric diagnosis among asthma patients

	frequency	percent
valid		
major depressive disorder	10	19.2
dysthymic disorder	9	17.3
generalized anxiety disorder	7	13.5
panic disorder	8	15.4
posttraumatic stress disorder	2	3.8
alcohol dependence syndrom	8	15.4
affective organic disorder	8	15.4
Total	52	100.0

Thus, most studies that aimed at analyzing psychiatric comorbidity in asthma revealed the prevalence of anxiety disorders, particularly panic disorder and generalized anxiety disorder [7-11].

Panic disorder in asthmatics range from 9.7 % [12], 14 % [11], 16 % [8], and 20.9% [13], in our study representing 15.4 %.

Generalized anxiety disorder was found even in lower percentages (13.5%); although in a recent study from 2013, Ledford & Lockey [14] reported as being present in 23% of asthmatic patients.

The overlap of depression and asthma has been investigated in numerous studies in general as a symptom and not as a comorbid disease. Depression rates during the life time of asthmatic patients vary from 41% [15] and up to 55% [9].

In our research we observed in patients with asthma predominant comorbid major depressive disorder (19.2%), followed by dysthymic disorder (17.3%), both disorders summing 36.5%. High prevalence of major depressive disorder is found in other research. Thus, Brown, Khan & Mahadi [8] revealed the presence of major depression in 25% of patients and Van Lieshout et al. [16] in about half of patients with asthma who were evaluated in tertiary care centers. A cross-national study of mental health in adults with asthma (held in over 17 countries on about 85,000 patients) showed a prevalence of major depression in asthmatic patients that varies between 2.2% (Shanghai) and 25.5% (Ukraine) [17]. The same research reveals for dysthymia significantly lower prevalence ranging from 0% (Nigeria, Lebanon, and South Africa) and 16.8% (Ukraine). A possible explanation may be that the balance comorbidity between asthma and depression is in the favor of depression because of some interference of vulnerability not completely known yet.

In our research we also found a high proportion of asthma comorbidity with alcohol dependence. This comorbidity may be due either to the fact that many alcoholic beverages can trigger allergic reactions and symptoms (cough, facial sweating, eczema, red eyes with itching, nasal congestion, itching, upset stomach and wheezing) or because they may exacerbate existing allergies.

There is little evidence regarding the relationship between asthma and abuse or alcohol dependence. Vally et al. (2000), in a study conducted in Australia on 366 asthmatic patients (73% with mild or moderate asthma and 23% with severe asthma) showed that in 33% of the patients, alcohol was the trigger of asthma symptoms in at least two cases, in about 1 hour from the intake [18]. Scott et al. (2007) showed that alcohol abuse or alcohol dependence tends to meet more frequently in patients with asthma compared with those without asthma prevalence but with great variability (12.5 % in Columbia vs 5.1% in U.S.A.) [17].

Another explanation could be given by the fact that, in general, drinking alcoholic beverages, especially wine and spirits, is common in this region, because asthmatic patients are mostly retired (63,5%), neglected by social system, with limited activities because of the disease.

Last, but not least, the correspondence between psychiatric diagnoses and asthma may be different from the literature as research, being conducted in a department of psychiatry, allowed a much more extensive and detailed psychiatric observation and monitoring of patients during hospitalization than current observation within a psychiatric consultation, conducted at pulmonology clinics, in primary care or emergency departments.

Research limitations are given first that were observational, cross-sectional and were conducted in the absence of a control group. Also, we have no data on lung function at the time of the research, which requires careful interpretation of the results. Moreover, there were not analyzed information on the treatment of asthma, which can affect the results of the research, knowing that some asthma medications (oral steroids) can cause or exacerbate depressive symptoms.

Conclusions

Diagnosis of comorbid psychiatric condition of a patient with asthma can be a challenge, which is why the exploration, identification and successful treatment of depression and anxiety can reduce morbidity and improve the quality of life of these patients.

Not only should psychiatric comorbidities not be overlooked, underdiagnosed and undertreated, but on the contrary, they must be recognized, accepted and openly discussed by members of the therapeutic team in communication with an asthma patient and his family.

Multidisciplinary approach (doctors / psychotherapists / psychologists) appears more than obvious - if not mandatory.

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The Modulation of Preoperative Anxiety by the Cognitive Avoidance Mechanisms in Surgical Patients

Ones M.¹, Andercou O.²

¹ Master's program student in Psychosomatic Medicine, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca (ROMANIA)

² Surgical Clinic II, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca (ROMANIA)

Emails: o_ela@yahoo.com, andercou@yahoo.com

Abstract

Background: The aim of this study is to evaluate the associations between a low level of preoperative anxiety, defensive coping, and a heightened physiological arousal, which turns into a clinical risk factor. Each concept was approached from a psychological and neurobiological perspective, as well as from the perspective of its clinical implications, and was analyzed interactively. We investigated whether the cognitive avoidance mechanisms modulate preoperative anxiety, both in terms of subjective (self-reported) and objective (serum cortisol–anxious arousal marker) measurements, respectively.

Patients and methods: The data was collected from a sample of 46 patients (N=46), aged 20 to 60 and having a general surgery diagnosis, by applying questionnaires (one hour before surgery) and collecting the preoperative serum cortisol (in the operating room, before anaesthesia procedures). The design of the research is a correlative, transverse one.

Results: The results obtained did not allow the confirmation of the hypothesis (the use of defensive denial, intellectualization, projection, rationalization, repression) probably due to the methodological limitations of the study. The influence of the cognitive avoidance mechanisms on anxiety as a state is low, with qualitative differences from one type of anxiety to another (subjective vs. objective).

Conclusion: The study may be considered a pilot study. Future research may be based on the comparative measurement of anxiety, defensive coping, and the level of base cortisol in neutral and acute stress conditions, respectively.

Keywords: acute anticipatory stress, preoperative anxiety, defensive coping, cortisol, HPA axis.

Introduction

Preoperative anxiety has an incidence of up to 80% in adult patients [1].

Complex operations (conducted with general anaesthesia) have a high psychological impact, as they also involve the issue of facing death. Although general anaesthesia protects against the impact with the stress entailed by surgery, the anticipation of losing touch with reality under narcosis amplifies the feeling of *lack of control*.

Preoperative anxiety is a *global emotional reaction* caused by the confrontation with the surgical intervention. Janis (1958) describes three levels thereof: major, medium (relatively balanced individuals, with a realistic attitude towards the operation) and low (which involves the perception of a minimal threat or the denial of its presence) [2].

Operative stress is an acute stress of anticipation, defined as a state of tension generated by the disease and the imminence of the operation, perceived as endangering the integrity, biological existence, or psychological balance (feelings, beliefs, values, the need of self-fulfilment, etc.) of the individual [3]. Numerous studies have proven the neuroendocrinological and immunological alterations, and the intensification of the somatic symptoms induced by the stress of anticipation [4]. The action of the stress of anticipation is in a delicate balance with the defence forces of the body, which act in a homeostatic manner [5].

Extreme anxieties lead to demobilization or blockage and they integrate cognitive distortions

which result in irrational, catastrophic, or depressive automatic thoughts [6]. The medium level does not deform the significances (the patient remains mobilized).

Lazarus and Folkman (1984) [7] elaborate a typology of stress, with two main coping patterns, i.e. emotional focusing and problem-focusing, which, within their respective limits, are either vigilant (confrontational) or avoidance tactics [8], on a continuum with extreme poles (Confrontation-Avoidance) [9].

The defence mechanisms refer to the activation of the initiation of certain involuntary regulating processes that allow the individual to reduce cognitive dissonance and to minimize the sudden changes in the interior or exterior environment, via the alteration of the perception of these events [10].

On a continuum of the confrontation-avoidance of the coping mechanisms, the cognitive avoidance mechanisms can be placed in different locations. The degree of selectivity and/or distortion used in processing the negative information is different. It involves the partial processing, the ignoring or the blocking of the traumatic information, the overestimation of one's own resources, and the underestimation of the severity of the stressor or the probability of its occurring. The *role* of these non-confrontational mechanisms is to *mediate the relationship between the traumatic information and biological vulnerability*. If they function ineffectively, emotional disorders or distress will subsequently develop.

Patients and Methods

Research Design

The study presented here is a correlative, transversal, non-experimental one. Both the level of the patients' anxiety and their defence mechanisms were measured before the surgical intervention which these patients underwent. This type of design only allows the testing of the relation among the concepts in question, without allowing one to draw any conclusions connected with the existence of a causal relation among these concepts.

The scales were included in the format of a questionnaire and administered to the patients in a clinical context. The data collected in this manner was entered into an electronic database and processed with the aid of the SPSS 13 program.

Participants in the Research

The sample consists of patients hospitalized in the Surgical Clinic II of the Cluj-Napoca Emergency Clinical County Hospital. The sample was put together in a random manner, in the order in which these patients were scheduled for surgery. There were 46 participants, aged between 20 and 60, having specific general surgery diagnoses (cholecystitis, varices, hernia, eventration, etc.). Exclusion criteria: anxiolytic medication administered at least 24 hours in advance; difficulty in communicating in Romanian; confirmed psychological psychopathology; multiple associated comorbidity; emergency interventions; diagnosed neoplasia.

Investigation Instruments

The following instruments were used for measuring the concepts used in this research:

Anxiety. Two categories of instruments were used. The first category comprises the self-reported measures, which include the visual analogue scale for measuring anxiety as a state (VAS) [11] and the STAI-X1 scale [12]. In the second category we included the blood cortisol level measured before the surgical intervention (nmol/l).

Defence mechanisms. The Scale for Evaluating Cognitive Mechanisms of Defence against Stress (SEMCA) was used [9], which comprises 23 items covering 5 mechanisms: defensive denial (5 items), repression (5 items), projection (4 items), rationalization (5 items), and intellectualization/isolation (4 items), and which was validated on the surgical patients.

Research Procedure

We obtained the approval of the hospital management. Each patient signed an informed consent sheet for the purpose of this study. It was attempted to control certain possible confused variables (the presence of the menstrual cycle and the administration of contraceptives that interfere with the cortisol circadian rhythm).

The subjects were informed that the study is in regard to their feelings on the day of operation. The language used was adapted to the patients' level of education, and special attention was paid to the manner of communication, in order for the discussion not to become a supportive discussion in itself. The very nature of the surgical wards makes it impossible to conduct long tests and thus wear out the patients' energy, which is why we opted for short and easy methods.

The psychological evaluation was conducted 1 to 2 hours prior to surgical intervention and the collection of cortisol was carried out on the operating table, before anaesthesia procedures, during one and the same time frame, namely between 11:00 and 13:00 hours. The biological samples were processed in the Immunology Laboratory of the Medical Clinic II. All the information was kept confidential.

Results

The relation between the subjective and the objective measurements of anxiety

Before testing the explicative value of the defence mechanisms in relation to subjective and objective anxiety, respectively, we are interested in the relation between the two measurement categories. We present the matrix of the correlations among the three methods for measuring anxiety: the VAS scale, the STAI-X1 scale, and the blood cortisol level, respectively.

Table 1. The matrix of the correlations among the methods for measuring anxiety.

Anxiety measurement	1	2	3
1. STAI	1		
2. VAS	.57(**)	1	
3. Cortisol	-.07	-.07	1

Note. N=46, ** significant at $p < 0.01$, bidirectional test

One may note the existence of a positive statistically-significant high intensity correlation among the subjective measurements of anxiety ($r=0.57$ $p < 0.01$) and the lack of a relation among the subjective measurements and the objective measure of anxiety. Both the correlation of the blood cortisol level with the anxiety score on the VAS scale as well as with the score on the STAI-X1 scale are of no statistical significance ($p > 0.05$), having a magnitude close to zero ($r=0.07$).

The explicative value of the defence mechanisms in relation to the anxiety declared via STAI-X1

The first step in the analysis of the explicative value of the defence mechanisms in relation to anxiety consists in checking the bivariate relations between these and anxiety.

Table 2. The matrix of the correlations of anxiety (STAI) with the defence mechanisms

Variable	1	2	3	4	5	6
1. Anxiety – STAI	1					
2. Defensive denial	-.00	1				
3. Repression	-.02	.02	1			
4. Projection	-.08	-.14	-.08	1		
5. Rationalization	-.14	-.16	.01	.31	1	
6. Intellectualization/Isolation	.00	-.60(**)	.04	.34(*)	.40(*)	1

Note. N=46, ** significant at $p < 0.01$, * significant at $p < 0.05$, bidirectional test

If one follows the evolution of the critical values of the Pearson correlation [13], one notes that, in the case of a sample of 200 subjects and at a value of $p=0.05$, the critical value of the correlation is $r=0.13$. The correlation found in our study between rationalization and anxiety would have been a statistically-significant one for a sample of 200 subjects.

The explicative value of the defence mechanisms in relation to the anxiety declared via VAS

Table 3. The matrix of the correlation of anxiety (VAS) with the defence mechanisms

Variable	1	2	3	4	5	6
1. Anxiety – VAS	1					
2. Defensive denial	-.11	1				
3. Repression	-.22	.02	1			
4. Projection	.15	-.14	-.08	1		
5. Rationalization	-.06	-.16	.01	.31	1	
6. Intellectualization/Isolation	-.02	-.60(**)	.04	.34(*)	.40(*)	1

Note. N=46, ** significant at $p < 0.01$, * significant at $p < 0.05$, bidirectional test

None of the defence mechanisms correlate in a significant manner with the level of anxiety. Both correlation values would be statistically significant in the case of a sample of 200 subjects.

The explicative value of the defence mechanisms in relation to objective anxiety (cortisol level)

Table 4. The matrix of correlations of objective anxiety (cortisol level) with the defence mechanisms

Variable	1	2	3	4	5	6
1. Objective anxiety	1					
2. Defensive denial	.14	1				
3. Repression	.14	.02	1			
4. Projection	.04	-.14	-.08	1		
5. Rationalization	.27	-.16	.01	.31	1	
6. Intellectualization/Isolation	-.02	-.60(**)	.04	.34(*)	.40(*)	1

Note. N=46, ** significant at $p < 0.01$, * significant at $p < 0.05$, bidirectional test

No significant correlation was found between the defence mechanisms and anxiety in the case of the sample under observation, either. From the point of view of the explicative value of the three mechanisms, one can note, by calculating the coefficients of determination corresponding to each mechanism (R^2), that rationalization explains 7.2% of the variance of objective anxiety, and repression and defensive denial explain 2% each, independently.

The presented results first of all suggest that there is no relation between the subjective and the objective measurements of anxiety. The two categories of measurements do not involve the same anxiety concept. In this context, it is probably more adequate to speak of two independent concepts: the concept of objective (biological, physiological) anxiety on the one hand, and the concept of subjective (declared, reported) anxiety, on the other hand.

The hypothesis of the study was not confirmed. Defensive denial correlates negatively only with the anxiety measured on the STAI scale; however, the relation is of no statistical significance and its magnitude is very close to zero. Repression has the tendency to be negatively associated with anxiety, but only in the case of the anxiety measured on the VAS scale; also, the relation with objective anxiety is positive; however, in no situation does the value of the correlation reach the threshold of statistical significance. Projection does not correlate in a significant manner with any of the measurements of anxiety, and the association tendencies are contradictory. Rationalization does not exceed the limit of statistical significance in its relation with anxiety, regardless of the method of measurement. Moreover, the direction of the relation appears contradictory from one type of anxiety to another, and the explicative value, where it came close to the threshold of significance, was one contrary to the formulated hypothesis. Intellectualization/isolation did not prove to have a significant relation with anxiety, the magnitude of the association being very close to 0.

As was noted in the course of the research process, the explicative value of the defence mechanisms is very low throughout the entire study. However, in connection with this conclusion we

would like to add that, firstly, the role of the defence mechanisms needs to be analyzed separately for the two types of anxiety. In the case of subjective anxiety, rationalization, repression, and projection appear to have a relation with anxiety, the former two having a negative relation; however, the intensity of these relations is weak, so that in order for them to be brought to the fore, a study whose statistical power was relatively high would be required (involving samples of over 200 subjects).

As far as objective anxiety is concerned, the direction of the relation between rationalization and anxiety becomes positive, the process of rationalization actually raising the level of anxiety and explaining 7.2% of its variance.

Based on the results presented, the influence of the defence mechanisms on anxiety is a low one, with qualitative differences from one type of anxiety to another (subjective versus objective).

Conclusions and Discussions

The objective of the present study was to examine the relation among the cognitive avoidance mechanisms and the level of the patients' anxiety before surgical intervention. In a surgical context, the patients experience anticipatory anxiety, which can lead to perioperative complications. Incidence is over 80% in adult patients [1]. The effects of acute anticipatory stress are in a delicate balance with the homeostatic mechanisms [5] and with the allostatic mechanisms [14], and they become a trigger of or potentiating factor for certain pre-existing organic dysfunctions. The possibility to attenuate these effects depends on the diversity and plasticity of the coping mechanisms. In the present study, the evaluation of anxiety as a state was conducted along two lines, namely subjective anxiety (self-reported measures) and objective anxiety (the level of serum cortisol).

A marker of anxious arousal, cortisol has vital multi-system effects and an integrative role, being a neurochemical defence mechanism of the body [15], and is intensely used in psychobiological studies [16]. Its excess in terms of length of time or intensity can be harmful, with major clinical implications [17], [18]. In the present study we opted for the preoperative collection of serum cortisol, which is a more accurate marker than the salivary one.

The relation of the acute stressor (the imminence of the operation) with the reaction to stress (the neuroendocrinological activation) is mediated in a cognitive manner. Cognitive coping involves the information on stress and the mediation is accomplished via a cascade of evaluations and reevaluations. The primary anticipatory evaluation is the one that the activation of defensive coping depends on [19], it being a determiner of the cortisol response to stress (it explains 35% of its variance) [20]. The emotional reaction comes after the intervention of the psychological defence mechanisms, the intensity of distress being proportional to the effectiveness of coping [21], [19].

There is a positive correlation between the use of avoidance coping and the increase of basal cortisol [22], the denial of stress at an objective level being able to lead to physiological hyperreactivity [23].

The novel methodological element of the present research is the analysis of the patterns of association among all three variables, and, on a theoretical level, the multi-level treatment thereof. This may be considered a pilot study that was conducted in an ecological manner. Even though the results obtained do not allow one to draw any conclusions with regard to correlation, certain interesting aspects have been revealed:

- The lack of a relation between the subjective and the objective measurement of anxiety, although they are supposed to involve one and the same concept, namely anxiety (Munafò's study (2001) had similar results) [24].
- Although the explicative value of the defence mechanisms is very low, one may make the following observations: the role of coping can be analyzed separately based on the two types of anxiety (objective versus subjective); the positive tendency of the relation between rationalization and objective anxiety.

The following may be possible explanations for the discrepant results: the dynamism of the HPA axis or the inability to engage a cortisol response adequate to cognitive processing [4], but especially **the methodological limits of the study:**

- The small number of subjects and, implicitly, a low statistical power
- The very low internal consistency of the measuring scales for the defence mechanisms
- The clinical context and the proximity of the moment of measuring to the moment of surgical intervention.
- The incompatibility of the methods for formulating the items of the self-evaluation scales with certain patients' educational backgrounds.
- The very nature of the correlative study.

Future studies may focus on more viable clinical approaches, with a greater number of subjects and more complex research designs. As far as anxiety is concerned, the proofs also depend on the

interpretation in terms of the consistency of self-evaluation. The inclusion of the measuring of anxiety independently from self-evaluation would limit any possible biases [24], [20], [25]. The observational methods, including clinical interviews [26], [27], the coding of the narrative material [27], and the types of short questions [28], [29], [30], [27] allow free expression, providing a systematic evaluation plan for the presence of the defence mechanisms. An accurate knowledge of the psychological processes involved in preoperative stress aids the implementation and development of certain therapeutic interventions capable of reducing the physiological mechanisms of the allostatic load [31].

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Culture bound aspects and multidisciplinary approach of anxiety and depression

Păunescu R.¹, Dudea D.², Micluția I.¹

¹Department of Neurosciences, University of Medicine and Pharmacy 'Iuliu Hatieganu', Cluj-Napoca, (ROMANIA)

²Department of Prosthodontics and Dental Materials, University of Medicine and Pharmacy, "Iuliu Hatieganu" Cluj-Napoca, (ROMANIA)

E-mails: ramonaboia@yahoo.com, imiclutia@umfcluj.ro, ddudea@umfcluj.ro

Abstract

Purpose: to emphasize culture specific and different approaches of anxiety and depression in some somatic diseases, who seem to be from diverse spectra, apparently without any obvious connection.

Methodological procedures: Anxiety and depression are investigated in the following somatic diseases: digestive disorders and some specific invasive procedures, breast cancer women, postmenopausal women, persons to whom a bronchoscopic procedure is performed, dermatological diseases which may be triggered by life events, and the most typically expression of anxiety symptoms in Romanian patients. Tools: psychometrical scales, which assess the severity and dynamic of anxiety (STAI-S, STAI-T) and depression (HAM-A, BDI) were applied as other scales exploring global functioning, quality of life.

Results: Although the domain of the recorded studies are diverse, the degree and type of anxious/depressive complaints and their dynamics may be a common link. Correlations between the severity of anxiety/depression and the gravity of the somatic disease as well as the personal impact of these comorbidities will be explored.

Conclusion: Psychometric tools that assess anxiety and/or depression are quite simple to apply, do not require special training, are time sparing and offer also the opportunity for a more adequate multidisciplinary approach.

Psychological and psychotherapy management of some somatic diseases should not be overlooked, being considered as relevant and important. There is mandatory to outline the culture specific expression of anxiety and depression in diverse somatic disorders.

Keywords: anxiety, depression, somatic diseases.

Introduction

Anxiety and depression are among the most common psychiatric symptoms that accompany several somatic diseases. They can be sometimes associated with the onset of the disorder, in a relationship with a stressful life event, can occur on the course of the illness or they can accentuate or may be accentuated by the somatic disease. Those two symptoms may also play an important role on the outcome of somatic diseases as well as on the global functioning and quality of life of the patients. Research has proven frequent association of psychiatric symptoms with several somatic disorders, among which, the most common are: digestive disorders, endocrinological disorders, dermatological disorders, oncological disorders, cardiovascular disorders. This article reviewed data from recent literature emphasizing the most often retrieved association between anxiety, depression and somatic disorders as well as the psychometric instruments used to screen or to assess the degree of psychiatric symptoms.

Digestive disorders

Several studies had shown a relationship between gastrointestinal disorders and psychiatric symptoms such as depression and anxiety. Whether abdominal pain, irritable bowel syndrome, inflammatory bowel disease are involved, or invasive procedures such as endoscopy or colonoscopy are performed, anxiety and depression are very often retrieved.

Recent studies had focused on investigating the risk of association between specific digestive syndromes and psychiatric symptoms. Thus, the study of Bouchoucha et al. tried to evaluate levels of anxiety and depression in adult patients with functional gastrointestinal disorders such as: functional esophageal disorders, functional gastro-duodenal disorders <http://www.sciencedirect.com/science/article/pii/S2210740112003300> - bib0090, irritable bowel syndrome, abdominal pain syndrome, functional anorectal disorders. The study was conducted in France and included 385 patients with miscellaneous digestive complaints. The patients underwent clinical and imagistic (endoscopy or radiology) evaluation which ruled out an organic cause for the complaints. Also, metabolic, endocrinologic, neurologic or iatrogenic causes were exclusion criteria. Assessment tools included a standard clinical questionnaire based on diagnostic questions for functional gastrointestinal disorders and visual analog scales used to evaluate the intensity of four digestive symptoms: constipation, diarrhea, abdominal bloating, and abdominal pain. Psychometric evaluation was performed with Beck Depression Inventory (BDI II) for depressive symptoms and State and Trait Anxiety Inventory (STAI, form X1 and X2), for anxiety. The results of this study revealed levels of depression and anxiety related to the number of sites of complaint. Female patients tended to be more depressed, whereas male patients showed higher levels of anxiety. [1] Another study that included a large number of patients was conducted in Italy for 1997 to 2005. The authors assessed 1641 outpatients with gastrointestinal disorders. The questionnaires used were State and Trait Anxiety Inventory for anxiety and Zung self-rating Depression Scale for depression. The results concluded that 84.1% of the patients showed state anxiety, 67% showed trait anxiety and (27%) showed current depression. There was also a relationship between the number of gastrointestinal diseases and anxiety symptoms. Gender specific features included higher levels of psychiatric symptoms in women compared to men. Some gastrointestinal disorders (food allergies, Hp infection, ulcerative colitis in active phase, irritable bowel syndrome) were associated with more anxiety symptoms; others (celiac disease, irritable bowel syndrome) showed an association with depressive symptoms. [2]

Another study aimed to investigate the association between diagnosed gastritis and DSM-IV mood and anxiety disorders among adults in the general population, and to examine sex differences in these relationships. The study included 4181 adults aged 18–79. Anxiety disorders (27.0% vs. 15.3%) and affective disorders (20.1% vs. 11.5%) were significantly more common among adults with compared to without a diagnosis of gastritis. Lifetime and current physician diagnosed gastritis were associated with an increased prevalence of panic attacks, social phobia, any mood disorder and major depression, compared to those without gastritis. The diagnosis of gastritis appeared to be associated with significantly increased odds of mood and anxiety disorders among adults in the general population. The strength of this association was stronger when the two conditions occurred contemporaneously. The association between a diagnosis of gastritis and mood and anxiety disorders was evident among both females and males, being somewhat stronger among males.[3]

Oncologic disorders

Breast cancer

Breast cancer is one of the most frequent forms of cancer diagnosed in females patients, accounting for 22,9% of all cancers in women.[4] Because of advances in breast cancer detection and treatment, patients nowadays have better prognoses and longer disease-free survival. Therefore, maintaining their long-term physical and mental health becomes one of the most important goals of healthcare plans.[5] During recent years, an increased interest in detecting anxiety and depression at patients with breast cancer, and also in managing those symptoms and improve the quality of life for the patients, has been emphasized by researchers. An extensive study held in UK included 2208 women aged over 18 years with early breast cancer who had completed breast surgery, without reconstruction, undergone adjuvant chemotherapy, or had commenced endocrine therapy and had been prescribed radiotherapy. Psychiatric symptoms (anxiety and depression) were assessed using the Hospital Anxiety and Depression Scale. Body image was evaluated using the 10-item Body Image Scale (BIS) designed for use with cancer patients and Quality of Life was assessed using the EORTC QOLQ-C30 general cancer quality of life scale and the 23 item breast cancer module (BR23). The results showed that out of the 2208 participants recruited to the study, 35% reported clinically relevant levels of anxiety and/or depression before radiotherapy. However, 75% women with high baseline anxiety recorded further high scores over time whilst one in six had high scores at every follow-up point. Depression showed a similar pattern with lower frequencies at all time points; very few with initial normal scores developed clinically relevant anxiety or depression over time. [6]

A longitudinal study conducted in Belgium assessed the presence and outcome of anxiety during radiotherapy for non-metastatic breast cancer. The 213 patients included into the study, were asked to report their anxiety levels using a visual analog scale (VAS) before and after the radiotherapy

simulation. The results obtained indicated that anxiety levels decreased rapidly after the radiotherapy simulation and first radiotherapy session in most patients with non-metastatic breast cancer. A small minority of patients experienced clinically relevant anxiety, and their anxiety levels remained high throughout treatment. Patients' anxiety levels were highest before and after the simulation and first treatment session and decreased after the first radiotherapy session. Also, anxiety levels did not increase during the last days of radiotherapy and were overall lower than those measured during other treatments, such as chemotherapy. [7]

A study conducted in China recently investigated anxiety, depression and quality of life in women with breast cancer during and after treatment. The study included 269 women undergoing adjuvant therapy for breast cancer, and 148 women with breast cancer who had completed all treatment within the last year. Anxiety and depression were screened with the Hospital Anxiety and Depression Scale (HADS)-Cantonese/Chinese version and the quality of life for patients was assessed with the Chinese version of the Functional Assessment of Cancer Therapy – General (FACT-G (Chi)), scale that included four aspects related to quality of life: physical, emotional, social and functional well-being. The study found that the level of anxiety and depression were greater, with concomitant lower levels of QoL in all dimensions. The ongoing-therapy group showed higher levels of anxiety and depression and lower levels of all QoL dimensions than the post-therapy group. Both anxiety and depression were significantly related to physical and functional well-being, while depression was associated with social/family well-being in both groups. In the case of emotional well-being, anxiety had a strong significant association in both groups and depression a significant relationship only in the ongoing-therapy group. [5]

A prospective study was conducted to assess the long-term impact on anxiety and depression after attending a support for patients with breast cancer. The baseline assessment was made at patients' first attendance and the follow-up evaluation was scheduled after 1-year participation in the group meetings. To measure anxiety and depression, the Hospital anxiety and depression scale (HADS) was used [8]. The findings of this study indicated that participation in cancer support groups could have a long-term effect in reducing anxiety and depression in breast cancer survivors. This impact was more obvious on depression symptoms. In this study, the results indicated that women who have been diagnosed recently (less than 1 year) and those who have been diagnosed less recently showed similar levels of improvement. [9]

Lung cancer and bronchoscopy

Bronchoscopy, even if considered a minimal invasive procedure, was proven to cause different levels of anxiety among patients undergoing it. One of the first studies that focused on this aspect was the study of Poi et al., [10] who examined 104 patients who needed bronchoscopy. Out of these patients, 69 reported anxiety symptoms as following: 33 patients were afraid of pain, 11 patient were afraid of breathing difficulties, 5 patients expressed fear related to oropharyngeal irritation, 2 patients were afraid of the investigation's findings, 3 were afraid of sedation and other infections and 7 patients felt fear without a specific reason. Fear preceding bronchoscopy was independent of patients' demographic features except for age and gender.

In the study of Günay et al., 99 patients who were candidate for bronchoscopy were included. All patients were randomized into two groups: Multimedia information group (MIG) (N=49) and written informed consent group (WICG) (N=50).

Anxiety scores were evaluated with State & Trait anxiety inventory (STAI-S and STAI-T) and hospital anxiety-depression scale (HADS). The results showed no significant differences in STAI scores and HADS scores in the groups. Contrariwise, STAI-S score of MIG group was lower in patients both under 65 years-old and without previous history of endoscopic interventions. Anxiety levels of female patients were significantly higher than the male patients in both groups. [11]

A recent study conducted in Turkey by Tetikkurt et al. analyzed data from 94 patients. Bronchoscopy was performed for lung cancer in 54, pulmonary nodules in 26 and pulmonary infiltration in 14 patients. Hospital Anxiety Depression scale was used to assess the anxiety symptoms. The anxiety or fear profile of the patients before bronchoscopy was as follows: dyspnea (78%), malignant disease (74%), nasal, laryngeal or tracheal irritation (70%), bronchoscopic findings (68%), and hemorrhage (42%). Bronchoscopic examination was intolerable in 14 cases while there was great difficulty to perform the procedure in 18 patients. [12]

Menopause

The relationship between depression and menopause has been explored by several studies, but the study of anxiety remains largely neglected. [13] The systematic review of Bryant et al. [14]

aimed to investigate the association between anxiety and the menopausal transition, and to critically examine the role of anxiety in relation to hot flashes. The studies included in the review confirmed that the neglect of anxiety applied also to women in midlife. The review also concluded that the hypothesis according to which anxiety levels rise during the menopause transition and fall after menopause [15],[16] is not supported by the published literature. Another conclusion was that psychological symptoms during the menopause transition are associated with known risk factors for anxiety and depression, including stressful life events. [17]

Another systematic review focused on the association between vasomotor symptoms and depression during perimenopause. [18] The aim of this review was to determine if there is an association between depressive symptoms or major depressive disorder (MDD) and vasomotor symptoms (VMS). Vasomotor and psychological symptoms cause a significant burden for many women during menopause [19] impacting on their quality of life [20], work ability [21] and relationships (22). The major finding of this review was that there was a positive association between vasomotor and depressive symptoms during perimenopause. This association was bidirectional, with women with depressive symptoms more likely to develop VMS, and women with VMS more likely to develop depressive symptoms.

A large study conducted in three Asian countries wanted to examine the prevalence of screening-detected depression and the association of depression with QoL in 698 community-dwelling postmenopausal women. Depressive symptoms were assessed using a 15-item geriatric depression scale (GDS-15). For the assessment of QoL, the authors used the EQ-5D of the EuroQoL Group. The following five dimensions were assessed: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Subjects with depression had significantly lower levels of some dimensions of QoL than those without depression in all three countries. In all three countries, 29.2–39.0% of community-dwelling postmenopausal women had screening-detected depression, which was significantly associated with a lower level of some dimensions of QoL. These results suggest that clinicians should pay more attention to depression in community-dwelling postmenopausal women. [23]

Dermatological disorders

There are growing data regarding psychiatric comorbidities related to dermatologic problems. Skin disease can cause anxiety, depression and other psychological problems that have an impact on patients' lives. Among dermatological disorders, psoriasis, acne and atopic dermatitis seem to be more commonly associated with psychiatric symptoms.[24]

Psoriasis is an inflammatory immune-mediated disease that affects the skin and has pathogenic effects with systemic impact.[25] Its prevalence is estimated around 2-3% on the general population.[26] Psoriasis has an important effect on mental health and well being which is very often unrecognized by clinicians [27]. Psychological and psychiatric symptoms were thought to be correlated with the severity of the illness [28], but recent studies demonstrated significant improvements in psoriasis without changes in anxiety or depression [29]

Studies have commonly shown patients with psoriasis to be more depressed than controls on self-administered inventories.[30] Prevalence estimates of depression in psoriasis range between 10% and 62% and have been significantly higher in psoriasis than in other dermatologic diseases.[31] Several studies of the past few years have attempted to identify depression in patients with psoriasis. A recent study of 265 adults with psoriasis found that 33% of patients had a personal history of depression and that between 31.7% and 48.7% of patients screened positive for depression on the Center for Epidemiologic Studies depression scale (CES-D). This study also found that in the patients who screened positive for depression, 60% reported a positive personal history of depression, though only 23% were currently being treated. The temporal relationship between their depressive symptoms and psoriasis exacerbations was not reported. [32]

Cultural patterns of anxiety

Anxiety manifests itself in different forms, with some patients experiencing more psychological aspects of anxiety whereas others complain more of the somatic symptoms of anxiety. Clinical studies have tried to assess the differences in anxiety symptoms experienced by patients from different cultures and lifestyles. Thus, the study of Heinrichs et al. [34] emphasized that cultural differences between countries in social norms may relate to the extent of social anxiety. Their study investigated individuals' personal and perceived cultural norms and their relation to social anxiety and fear of blushing and included 909 participants from eight countries (Australia, Canada, Germany, Japan, Korea, The Netherlands, Spain and U.S.A) who completed vignettes describing social situations and evaluated the

social acceptability of the behavior of the main actor both from their own, personal perspective as well as from a cultural viewpoint. The countries were divided into two groups (collectivistic and individualistic) based upon a continuum of individualism/collectivism described by Hofstede [33] with USA, Australia, Canada, the Netherlands, and Germany in the individualistic included and Japan, Spain and Korea into the collectivistic group. Personal and cultural norms showed somewhat different patterns in comparison between types of countries (individualistic/collectivistic). According to reported cultural norms, collectivistic countries were more accepting toward socially reticent and withdrawn behaviors than was the case in individualistic countries. In contrast, there was no difference between individualistic and collectivistic countries on individuals' personal perspectives regarding socially withdrawn behavior. Collectivistic countries also reported greater levels of social anxiety and more fear of blushing than individualistic countries. These results provide evidence that social anxiety may be related to different cultural norms across countries. [34]

Another study compared traits of anxiety between Asian and Western culture. The study included 501 participants (Korean- $n=251$ and Euro-Canadian- $n=250$) who were assessed with four psychometric tools: Singelis Self-Construal Scale, McGill Self-Criticism Scale, Identity Consistency Index and Social Phobia and Anxiety Inventory. The study had a cross-sectional design meant to examine the relationship between ratings of social anxiety and beliefs and self-views, typically found in East Asian and Western cultures. Results indicated that independent self-construal and identity consistency views of the self that are typically associated with Western cultures, fully mediate the ethnic difference on self-reported social anxiety. Moreover, two indicators of East Asian views of the self in social contexts (interdependent self-construal and self-criticism) were partial mediators. Overall, the data from the study suggested an increased degree of social anxiety traits for individuals in East Asian cultures.[35]

Dental pathology

Even if the patients routinely treated in the dental office are not suffering from life threatening conditions, symptoms of the two most common dental conditions (dental decay and periodontitis) influence the general quality of life. Among the factors that influence the state of well-being, the facial aspect and, in this context, the aspect of the oral cavity and dental arches play an important role. The self-perception characteristics are important issue in decision regarding extensive rehabilitation of the dental arches. It is stated that perception of functions and appearance of the oral cavity is influenced by numerous factors including gender, ethnicity, age, education, previous life experience and individual characteristics regarding the mechanisms of processing the information. [36] However, subjects excessively preoccupied by their image, having self-assessed defects may be integrated among the group of body dysmorphic disordered patients. This group of patients develops obsessions on an imaginary or minor defect, these preoccupations influencing their social and professional life. Often, these symptoms are correlated with depression and anxiety. It is important for the dental practitioner to recognize the symptoms, since aesthetic dental treatment for such patients can be correlated with some risks. [37] It is paramount important to use multiple methods of communication with the patient (visual, spoken, written), in order to evaluate the particularities in the self perception of each subject and to understand his/her expectation in relation with the treatment.[38] Since major depressive disorder is linked with autoimmune/ inflammatory diseases, a recent study was conducted in order to evaluate the correlation between periodontitis and depression; no link was found between these two pathologic entities, since periodontal clinical parameters were not different between patients with MDD and control subjects.[39] However, there are studies that suggest that depressive symptoms may act as determinants of dental caries. In a study that aimed to examine the association of depressive symptoms with untreated caries Hugo et al. [40] found that depressive symptoms are, together with number of teeth and plaque accumulation, significant predictors of caries.

Conclusions

Data from literature shows a high prevalence of anxiety and depression symptoms associated with somatic diseases. This relationship imposes a multidisciplinary approach for the correct management of the patient. Psychiatric symptoms can be outlined with the help of several psychometric tools that assess anxiety and/or depression and which are simple to apply even without a special training. The screening and treatment of depression and anxiety may play a very important role on the global outcome of patients with different somatic disorders. Therefore, psychological and psychotherapy management of psychosomatic diseases should not be overlooked, being considered relevant and important.

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The anxiety of the patients in front of the dentist

Picoş A.M.¹, Picoş A.²

¹PhD Prosthetic Department of Dental Medicine Faculty, Iuliu-Hatieganu University, (ROMANIA)

²postgraduate student in Prosthetic Department of Dental Medicine Faculty, Iuliu-Hatieganu University, (ROMANIA)

E-mails: alinapicos@yahoo.com, andpicos@yahoo.com

Abstract

The objective of this study was to evaluate the anxiety of the patients in the dental practice and the influence of the environment comfort using relaxing music and aromatherapy on the psychological statement

Introduction. Patients anxiety in front of medical treatments is generally due to a structural excess sensitivity or anterior negative experience. The finality of dental treatment is not certain for these patients, they frequently renounce after few sessions. Their psychological lability may also influence treatment options of the doctor, who will choose the simplest therapeutical choice to protect the patient.

Method and material. Two groups of 24 patients each was evaluated with DAS index (Dental Anxiety Scale) and BAI (Beck Anxiety Inventory). First Index investigate the anxiety correlated to the dentist/medical treatment and the second one investigate the general anxiety statement of the patient in the moment of the evaluation. On the first group music and aromatherapy was used, before and during the medical procedures. Patients were also evaluated after clinical treatments. The control group 2 support medical procedures without music and aromatherapy benefits. The control group was also evaluated with DAS and BAI score before and after the medical procedures.

Results. No significant differences regarding subjects anxiety were found using DAS score after environment modifications in the dental practice. There were significant BAI score results using music and aromatherapy which indicate a better psychological statement of some patients after increasing environment comfort

Keywords: dental anxiety, dental fear, aromatherapy

Introduction

Dental phobia also known as odontophobia, dentophobia, dentist phobia, dental anxiety or dental fear, refers to the fear of receiving dental care. According to Milgram [1] and other authors about 75% of American people are affected, excluding the individuals with post-traumatic stress disorder. The evaluation of dental fear degree use Corah's Dental Anxiety Scale and the Modified Dental Anxiety Scale [2,3]. An immediate consequence of dental anxiety is an inadequate dental care and prevention. Quality of life is also affected by dental fears in the field of psychological well-being, vitality and social functioning [4].

Death and oral infections are linked according to statistical data; serious medical problems as heart disease, stroke, and diabetes [4]. can occur due to dental or periodontal infection.

Regarding sex repartition women report a higher degree of dental fear than men [5]. Age repartition shows more frequent dental fear in young people than in adults and elders [6]

People are more anxious of invasive procedures, such as oral surgery, than they are of routine conservative treatments, such as bleaching or prophylaxis [7]

Dental anxiety causes

Patient's fear can be induced by vicarious causes as traumatic experiences of a friend or negative views of dentistry [8].

Mass media and cartoons may also induce dental anxiety, especially in young people [8]

Educational mistakes as painfully medical treatments reference as punishing method for bad behavior of the child can also improve dental fear for all life long.

Lack of control in dentist's chair is a difficult experience for some patients.

Office ambience can be also inadequate. For some people the intense noise of rotative instrumentation in dentist office is a very disagreeable experience, more difficult to support than pain.

For more than 2/3 of fearful patients an anterior negative personal experiences in dentist office is unforgettable

Other causes can be involved in third of dental fearful patients are:

- anxiety disorders,
- posttraumatic stress of war veterans,
- victims of domestic violence
- victims of childhood sexual abuse

Dental anxiety consequences

About 20% of american fearful dental patients [1] are so anxious that they will demand dentist treatment only when absolutely necessary. The direct consequences of dental anxiety are inadequate prophylactic dental care and higher level of the treatment cost.

Treatment's management in dental anxiety

Dentists and psychologists have to work together to help patients in managing their fear of dental treatment. A combination of behavioral techniques and pharmacological prescriptions are involved [9].

Pain control is extremely important, especially in children. The dentist have to pay attention to the patient comfort and begin the instrumentation only after anesthesia is installed. But few people have needle phobia and these cases need an extremely gently injection of anesthesia.

Pharmacological treatments regards anxiety-reducing medication

According to the patient, medicamentous treatment goes from mild sedation to general anesthesia. In children is frequently used nitrous oxide inhalation .Oral sedative, such as a benzodiazepine like temazepam (Restori), alprazolam (Xanax), diazepam (Valium), or triazolam (Halcion) are also effective

Behavioral techniques use relaxation methods such as:

- diaphragmatic breathing and progressive muscle relaxation
- rhythmic exercises improves the mental and physical health of depressed patients
- Zen Yoga exercises

Supportive attitude of all medical employments in the office is important. Optimistic, calm and sustained atmosphere encourage the patient to support the medical procedures. A combination of gentle dentistry and „ look, see, do ” technique can be successful in dental fear patients. Harold Addleston introduced a Tell-Show-Do technique to help children to control their fears exploring their curiosity in a new situation

A similar technique Explain-Ask-Show-Do is used for adults to overcome their dental fears

Some photographs taken pre-operatively, intra-operatively and post-operatively can complete the explanations of the needed medical procedures to the patient.

Online support groups can be another efficient possibility of anxiety control for certain individuals [10,11].

Office ambient seems to be important too in anxiety dissipation. Pleasant waiting room of a dental office, with comfortable colors, indirect lights, aromatherapy and relaxing music is agreeable and relaxing for the patients

In order to evaluate the efficacy of the relaxing ambience in the office we made a study on 48 anxious patients in a dental office from Cluj-Napoca. The aim of the study was the evaluation of aromatherapy with lavande and relaxing music effects in dental anxiety patients.

Material and method

Two groups of 24 patients each, was evaluated with DAS index (Dental Anxiety Scale) and BAI (Beck Anxiety Inventory). First Index investigate the anxiety correlated to the medical treatment and the second one investigate the general anxiety statement of the patient in the moment of the evaluation. On the first group music and aromatherapy was used , before and during the medical procedures. Patients were also evaluated after clinical treatments. The control group 2, support medical procedures without music and aromatherapy benefits. The control group was also evaluated with DAS and BAY score before and after the medical procedures.

Results

About 56% of 48 patients involved in the study presented low to medium dental fear. BAI evaluation in the first group show better psychical condition after ambience improvement with aromatherapy and music in (42,8%). DAS tests had no significant modification after ambience improvement.

Discussion

Many causes are involved in dental anxiety; a complete interview is sometime insufficient and the aid of the psychologist is necessary sometimes for discover the individual problems of the of the fearful patient. Sedative medication is generally recommended before dental treatments. Pain control and relaxing therapy (aromatic oils, relaxing music, yoga exercises) are efficient to prepare these patients for receving dental care.

Conclusions

Dental anxiety can seriously interfere dental care leading to local and general pathology wich affect the quality of life. Collaboration with the psychologist is necessary sometimes to understand anxiety causes for an aproiate therapeutic attitude .Combination of behavioral and pharmacological techniques is recommended in dental anxiety patients.Improved office ambience using aromatherapy and relaxing music can reduce treatment stress.

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The Impact of Cardiovascular Diseases on Late Life Depression

Podea D.M.¹, Pit I.², Ratoi F.³

¹“Vasile Goldis” Western University of Arad, Psychiatry Department (ROMANIA)

²Emergency Clinical County Hospital of Arad, Cardiology Department (ROMANIA)

³Emergency Clinical County Hospital of Arad, Psychiatry Department (ROMANIA)

E-mail: deliapodea@yahoo.com

Abstract

Objectives: evaluating the impact of cardiovascular diseases on the outcome of late life depression.

Material and methods: The study was conducted on 62 patients diagnosed with late life depression, admitted in the Psychiatric Clinic of Arad between 2011– 2013. 75% were diagnosed also with cardiovascular diseases.

The patients were evaluated (physical and from psychiatric point of view) at the admission, at discharge and after 6 months. The intensity of depression was quoted with Hamilton Rating Scale of Depression (HAM-D). Cortisolemia was also evaluated.

Results: 42 patients (67.7%) were diagnosed with moderate depression (n=42), only 6 patients had mild depression and 14patients severe depression. The average of HAMD scores was higher (19.8points) in the patients with cardiovascular diseases compared with patients without co-morbidity. 38.7%(n=24) of the patients present increased values of cortisolemia, especially the patients with severe depression and cardiovascular diseases. The evolution of the patients without co-morbidity was better (3.6vs.3.2points at discharge and 3.9 vs 3.3points after 6months) compared to those with co-morbidity. The period of hospitalization was longer to the patients with cardiovascular; the mean of hospitalization days was 19 vs17.

Conclusions: The cardiovascular diseases is a negative prognostic factor regarding the outcome of late life depression, this co-morbidity increases hospitalization period and the costs in consequence

Keywords: cardiovascular diseases, late life depression, cortisolemia, co-morbidity

Introduction

Late life depression is a complex, multifactorial disorder or a group of disorders, highly prevalent (affecting up to 15% of older persons), often undetected, untreated, or undertreated, and strongly correlated with a range of physical comorbidities and physiological and life adversity factors. Depression in later life, whether major or “minor”, is associated with worsened medical morbidity, disability, and increased health utilization¹.

Cardiovascular disease (CVD) and depression are common. Depression has been reported to be a risk factor for CVD. Patients with CVD have more depression than the general population. The prevalence of depression in patients with cardiovascular disease range from 16% to 23% (mean, 19%; median, 18%)². Presence of major depression disorder (MDD) in patient with cardiac diseases has a significant association with morbidity and mortality. Carney et al. found that major depressive disorder was the best single predictor of myocardial infarction, angioplasty, and death during the 12 months following cardiac catheterization³. Patients with a history of myocardial infarction and MDD are up to three to five times more likely to die within six months of discharge than non-depressed patients following infarction⁴. Severity of depression is proportional to increase medical comorbidity and decreased physical functioning.

Objectives

Our specific aim was to evaluate the impact of cardiovascular disease on the outcome of late life depression.

Material and methods

The study was conducted on 62 patients diagnosed with late life depression, admitted in the Psychiatry Clinic of Arad County Emergency Hospital, between 2011-2013. The patients were diagnosed using Structured Clinical Interview for DSM-IV-TR – Clinical Version (SCID-CV).

Patients included in study were divided in two groups: group A (75%) – patients with MDD and CVD (arterial hypertension, coronary artery disease) and group B - patients with MDD without any comorbidity

Demographic variables and associated disorders

Variables	Depression (N16)	MDD with Cardiovascular Comorbidity (N46)
Gender		
Male	3	9
Female	13	33
Age , mean (SD), (in years)	74.06.25(4.419)	73.98(3.693)
Education		
Primary School	10	24
High School	5	16
University	1	6
Marital status		
Never married	0	2
Married once	16	19
Divorced	3	7
Widowed	12	17
Mean (SD) no. of previous episodes	3.6 (4.9)	4 (4.3)
Dysthymia	3	6
CVD Comorbidity	0	46

Table 1

Treatment

According to prescribing guidelines, selective serotonin re-uptake inhibitors (SSRIs) are normally recommended as first line treatment in patients whose depression is of at least moderate severity. 50% of all will respond to antidepressant drug treatment⁵. The response in clinical trials is generally defined as a 50% reduction in depression rating scale scores. All antidepressants show a pattern on response where the rate of improvement is highest during weeks 1-2 and lowest during 4-6. In practice, an antidepressant effect in an individual is often seen by 2 weeks: if no antidepressant effect is evident after 2 weeks' treatment, a change in dose of drug may be indicated.

Selective serotonin re-uptake inhibitors (SSRIs) are well tolerated compared with the tricyclic antidepressants (TCAs) and mono-amine oxidase inhibitors (MAOIs). There is no evidence of any clinically meaningful difference in efficacy between SSRIs, although side-effect profiles differ. The most common side-effects are dyspepsia, nausea, diarrhea, sweating, agitation, anxiety, tremor, insomnia.

In our study, taking account of these we chose escitalopram (Ciprallex) in dose of 20mg/day (5mg/day for 1 week increasing up to 20mg/day). The treatment was prescribed during hospitalization (3 weeks) and 6 months after discharge.

Outcome measures

All patients were evaluated before treatment, at discharge and at follow-up after 6 months. To assess the level of Major Depressive Disorder, the patients were evaluated using:

- Hamilton Rating Scale for Depression** (HRSD; Hamilton, 1967), a 17-item, interviewer-based measure of depression severity. The Romanian version of the HRSD has very good psychometric properties (e.g., interrater reliability 89). Raters were not informed of the treatment condition of the patient or of which tapes were being assessed for reliability.
- Blood Samples**, the level of cortisol was measured four times in a day at 8, 12, 16 and at 23 a clock.

Safety Assessments

To ensure patient safety and evaluate the tolerability of treatment, we carefully monitored adverse events. An adverse event was defined as any unfavorable medical change occurring post treatment that was accompanied by functional or clinical impairment. This included harm and suicide-related adverse events, psychiatric adverse events (e.g., mania, agitation), and other adverse events (e.g., headache)⁶.

Results

Results for MDD

The obtained results have a statistically significant difference of the depression's intensity in pre-treatment condition, between the group A- patients with MDD and CVD and group B- patients with MDD without co-morbidity, ($t=-4.773$, at $p= <.001$). As follow we calculate univariate analysis of Variance (ANCOVA) for the post-treatment and follow-up condition. The descriptive values for each group and conditions are presented in table 2.

Table. 2 Descriptive Statistics of Depression Intensity for Each Group

	N	Minimum	Maximum	Mean	Std. Deviation
HRSDpre1	16	15.00	26.00	19.7500	3.66060
HRSDpost1	16	2.00	12.00	6.2500	2.84019
HRSDfollow1	16	2.00	11.00	6.7500	2.40832
Valid N(listwise)	16				
HRSDpre2	46	20.00	42.00	28.1957	6.71522
HRSDpost2	46	4.00	26.00	12.1522	6.18230
HRSDfollow2	46	5.00	26.00	12.8043	6.11235
Valid N(listwise)	46				

There are no statistically significant differences between the two groups concerning the depression intensity post-treatment and at follow-up (F post-treatment = 0.148 $p=.748$; F follow-up = 0.008 $p=.929$), even we can observe a lower intensity of depression in each group.

We compared the results within the three conditions (a) the pre-treatment, (b) post-treatment and (c) the follow-up level of depression for each group, using Anova Sheffe test. The obtained results demonstrated the efficacy of pharmacological treatment.

Table. 3. ANOVA Sheffe Test - Multiple Comparisons for Group B- MDD Without Comorbidity

(I) factortot1	(J) factortot1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1. Pre-Treat.	2. Post-treat.	13.50000*	1.06589	.000	10.8017	16.1983
	3. Follow-up	13.00000*	1.06589	.000	10.3017	15.6983
2.00	1.00	-13.50000*	1.06589	.000	-16.1983	-10.8017
	3.00	-50000	1.06589	.896	-3.1983	2.1983

*. The mean difference is significant at the 0.05 level.

Table. 4. ANOVA Sheffe Test - Multiple Comparisons for Group A- MDD and CVD

(I) factortot1	(J) factortot1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1. Pre-Treat.	2. Post-treat.	16.04348*	1.32247	.000	12.7702	19.3168
	3. Follow-up	15.39130*	1.32247	.000	12.1180	18.6646
2.00	1.00	-16.04348*	1.32247	.000	-19.3168	-12.7702
	3.00	-.65217	1.32247	.886	-3.9255	2.6211

*. The mean difference is significant at the 0.05 level.

The results at the multiple comparison show us that between the pre-treatment condition and the other two conditions (a) post-treatment and (b) follow-up, we have obtain a significant difference for each groups. The obtained results demonstrated the efficacy of pharmacological treatment.

Results for Cortisol

Because we haven't observed between the two groups ($t=-1.423$ $p=.160$) a significant difference regarding the pretreatment level of cortisol, we was able to calculate ANOVA 2 x 3 compares. In table 5 as follow, are presented the descriptive values for the two groups: pre-treatment, post-treatment and at follow-up.

Table. 5 Descriptive Statistics of Cortisol Level for Each Group

	N	Minimum	Maximum	Mean	Std. Deviation
Cortisol pre-treatment group1	16	8.20	31.20	20.9500	6.92339
Cortisol post-treatment group1	16	5.00	27.60	17.3750	6.87483
Cortisol follow-up group1	16	4.30	27.30	17.0500	6.92339
Cortisol pre-treatment group2	46	8.30	42.30	24.9304	10.38238
Cortisol post-treatment group2	46	5.10	39.10	21.7304	10.38238
Cortisol follow-up group2	46	5.20	38.90	21.6152	10.34464
Valid N (listwise)	16				

The results presented significant differences between the two groups ($F=30.756$ at a $p<.001$).

Table 6. ANOVA Interaction Between the Two Groups and the Three Assessment Conditions

Source	factor1	Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Linear	308.998	1	308.998	4682.166	.000
	Quadratic	79.396	1	79.396	3355.015	.000
factor1 * Factor	Linear	2.030	1	2.030	30.756	.000
	Quadratic	.054	1	.054	2.282	.136
Error(factor1)	Linear	3.960	60	.066		
	Quadratic	1.420	60	.024		

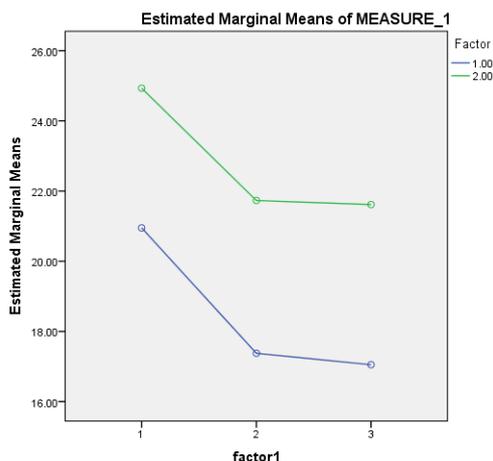


Fig. 1. Evolution of Cortisol Level for the Two Groups and the Three Assessment Conditions

A significant difference between the level of pre-treatment and post-treatment of cortisol in both groups means that the pharmacological treatment determinate a decrease of the cortisol level to normal (5 – 25 µg/dl). Even if in both groups the blood level of cortisol was decrease, we can observed that for the group A (MDD with CVD) the level was significant higher, so the CVD comorbidity have influence the treatment outcome.

Discussion and Conclusions

The rates of late-life mood disorders vary across studies due to medical morbidity, particularly cardiovascular disease. In order to understand the relationship between depression and medical illness in later life, it is necessary to consider depressive symptoms regardless of whether diagnostic criteria are met 7. In our study, 42 patients (67, 7%) were diagnosed with moderate depression, only 6 patients had mild depression and 14 patients had severe depression. The average of HAMD scores was higher (19,8 points) in the patients with CVD compared with patients without comorbidity. This comorbidity increased functional impairment, hospitalization period; the mean of hospitalization days was 19vs17, costs and profoundly affect the quality of life.

Comparing for each group the severity of depression within the three conditions, the pre-treatment, post-treatment and follow-up, we have obtained a lower intensity of depression in each group -0.05-with significant difference between the two groups ($F = 30.756$ at a $p = <001$). The obtained results demonstrated the efficacy of pharmacological treatment.

Most studies of the relationship between depression and medical comorbidity are cross-sectional and dynamic, depression being both an effect of medical condition groups (i.e., as a possible consequence) and a cause (i.e., as an antecedent). The life course framework provides a unifying approach to understanding how depression may act as an antecedent in one situation and a consequence in another, even within the same person's trajectory. Biological alterations such as inflammation and hypercortisolism are associated with atherosclerosis and insulin resistance, so the onset of CV and metabolic disease is associated with risk of depression and finally, depression is associated with increased risk of complications and mortality. In this manner the specific links between depression and medical comorbidity change over life course and may vary according to factors such as family history, environmental context, and culture⁷.

It certainly appears that having elevated cortisol levels raises the risk of developing depression. Depressed patients with or without CVD had greater cortisol levels than those without depression. Although the exact mechanism that causes depression is uncertain. Clinical studies suggest that chronically elevated cortisol may induce clinical depression by somehow affecting central serotonergic neurotransmission⁸. The results of our study confirmed this hypothesis, 38,7% (24) of the patients presented increased values of cortisolemia, especially the patients with severe depression and CVD. The outcome of the patients without comorbidity was better (3.6 vs.3.2 points at discharge and 3.9 vs. 3.3 points at follow-up) compared to those with comorbidity, therefore cardiovascular diseases is a negative prognostic factor regarding the outcome of late life depression.

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Biomarkers of Chronic Psychological Stress in Functional Gastrointestinal Disorders

Popa S.L.¹, Dumitraşcu D.L.¹

¹ 2nd Medical Department „Iuliu Hatieganu” University of Medicine and Pharmacology

Cluj-Napoca, (ROMANIA)

E-mails: popa.stefan@umfcluj.ro, ddumitrascu@umfcluj.ro

Abstract

Objectives: In recent years, a growing interest has emerged in clarifying the etiology of functional gastrointestinal disorders and the role of acute and chronic stress as a predisposing and contributing factor. Furthermore, a deeper understanding of these associations, surveyed by biological markers, reflecting the alterations in the stress response system is required.

Methods: Pubmed was searched through, June 2014, for human studies examining biomarkers used in quantification of chronic psychosocial stress. The result was a review of six biomarkers used for the quantification of chronic psychological stress.

Results: The initial search identified 319 articles, from which 121 potentially appropriate articles were reviewed. Of these 121 articles, 42 articles were included in the review. These studies were published between 1980 and 2014. Of these 22 studies, 4 analyzed cholesterol, 7 analyzed dopamine, 2 analyzed Glycosylated hemoglobin, 3 analyzed TNF- α , 3 analyzed interpersonal stress, 2 analyzed CRP.

Conclusions: The ambiguous results in the research on stress activity, linked with the functional gastrointestinal disorders may be explained by the interference of stress response structures and individual parameters.

Keywords: chronic psychological stress biomarkers.

Introduction

Stress is defined as a threat to the physiological or psychological integrity of an individual that results in physiological and behavioral responses [1]. Chronic psychological stress represents the response to emotional pressure suffered for a prolonged period of time. The current approaches to measure stress include biomarkers, wearable biomedical electronic systems, self reports, measures of stressor exposure

The challenge in the quantification of stress lies in finding a set of biomarkers that can grip the chronic stress and eradicate other confounding factors. This review was made for presenting six methods of quantifying chronic psychological stress.

Methods

Albumin

The synthesis rate for albumin is about 15 g per day, and the degradation rate is 4% per day. Hypoalbuminemia is the sequel of chronic stress exposure. Chronic stress, through neuroendocrine mediators, could reduce levels by increasing the rate of degradation, or by reducing the rate of synthesis. The transcription of the alb gene was suppressed by TNF- α , after exposure to stress for a long period of time [2, 3].

Because albumin captures also the nutritional state, it is more frequently used in animal studies where controls are used and confounding from existing pathologies can be excluded. After the stress exposure was stopped, the albumin levels increased [4, 5]. Albumin is useful in animal studies about associations between chronic stress and nutrition [5].

Glycosylated Hemoglobin

Glycosylated hemoglobin is a form of hemoglobin, that is measured to identify the average seric glucose concentration, over prolonged periods of time. Hyperglycemia is present in elevated levels in chronically stressed individuals [6].

The high level of circulating cytokines, especially IL-1, IL-6, TNF- α that interfere with the functioning of insulin was the explanation given for the hyperglycemia resulted after long time exposure to stress factors.

The glycosylated hemoglobin is very effective for the studies exploring the occurrence of diabetes after exposure to different types of stressor for a longer period of time [6].

A study made on diabetic patients at the time of the Great East Japan Earthquake, examined the relationship between psychological stress and the worsening of glycemic control in diabetic patients monitoring HbA1c levels before and after the event. The results suggested that psychological stress during a disaster and the post disaster period has independent effects on worsening of glycemic control [7].

Dopamine

Dopamine is a hormone and also a neurotransmitter and has a significant number of functions in the neural, gastrointestinal, endocrinal, immunological systems. The dysfunctions of the dopamine system is directly linked with frequent disorders like Parkinson's disease, schizophrenia, attention deficit hyperactivity disorder, restless legs syndrome, fibromyalgia, burning mouth syndrome.

Studies on rats established that the density of Dopamine D1 receptors in the prefrontal cortex region increase after exposure to chronic stress [8], moreover extraneuronal dopamine is reported to be reduced during chronic stress [9].

The dopamine levels is influenced by : feeding habits [10], obesity [11], emotional states, recreational drug use and later abstinence [12,13], exercise [14]. Alone is not reliable as a biomarker of chronic stress, but when other markers of chronic stress are used, it can be one of the genuine biomarker for quantifying stress response.

TNF- α

TNF- α is a pro-inflammatory cytokine, produced by activated macrophages. It is also involved in central nervous system disorders because it is associated with demyelination [15]. The mRNA of TNF- α is higher during chronic stress, which suggests *de novo* synthesis rather than the release of preformed inducible protein upon activation of lymphocytes and macrophages [16].

The levels of spontaneously produced TNF- α are also higher in persons suffering from chronic stress [17]. A dysfunctional HPA axis, unable to hamper inflammation explains the high levels of TNF- α .

CRP

It has the role of binding the phosphocholine expressed on the surface of apoptotic cells, activating the complement system [18]. Since chronic stress is known to induce chronic inflammation, CRP levels are used as for the inflammatory response due to chronic stress. Studies made on adolescents, established that CRP levels rise under chronic stress [18].

The Marine Resiliency Study, a prospective study of approximately 2600 war zone-deployed Marines, evaluated posttraumatic stress disorder (PTSD) symptoms and various psychological parameters and also stress biomarkers, before deployment and at approximately 3 and 6 months following a 7-month deployment. It resulted that CRP may be prospectively associated with PTSD symptom emergence, suggesting that inflammation may predispose to PTSD [19].

Cholesterol

Cholesterol covers pathophysiological parameters for immunology, endocrinology, metabolism, liver disorders, cardiovascular disease. Because it's inexpensive and easy to measure from blood, it was used in large epidemiological studies to establish associations between chronic stress, gastrointestinal disorders, cardiovascular disease, metabolic disorders.

Various studies have suggested that serum cholesterol levels are decreased under chronic stress. In a study about military training and the associated stress response, the serum cholesterol

concentration in trainees enrolled in the study decreased by 17.2% [20]. Low serum cholesterol levels have been noticed in persons suffering from depression, anxiety or posttraumatic stress disorder [21].

The suppression of cholesterol acetyltransferase, the endocytosis of lipoproteins by the action of ACTH can be responsible for this lowering in serum cholesterol [22].

Rats treated with chronic unpredictable mild stress (CMS) and/or a high-fat diet (HD) were evaluated for the development of atherosclerosis and the expression of hepatic ABCG8, ABCG5, SR-BI, CYP7A1, LXR α , and LCAT that were associated with reverse cholesterol transport (RCT). Chronic stress alone had promoted RCT while chronic unpredictable stress combined with a high-fat diet attenuated RCT but aggravated atherogenesis [23].

Results

The initial search made in June 2014, in Pubmed identified 319 articles, from which 121 potentially appropriate articles were reviewed. Of these 121 articles, 42 articles were included in the review. These studies were published between 1980 and 2014. Of these 22 studies, 4 analyzed cholesterol, 7 analyzed dopamine, 2 analyzed Glycosylated hemoglobin 3 analyzed TNF- α , 3 analyzed interpersonal stress, 2 analyzed CRP

Discussion

The biomarkers used for quantifying chronic stress we described, can be used in variatious disorders, beginning with functional gastrointestinal disorders, fatty liver disease, diabetes, psychiatric diseases as depression, bipolar disorder, posttraumatic stress disorder, cardiovascular diseases as hypertension, atherosclerosis, miocardial infarction and ending with immunonological disorders.

The reason for the selection of these biomarkers was the reasonable cost, the general use and the availableness.

Ambiguous results were found in studies that were analysing the level of cholesterol in subjects exposed to chronic stress. Most studies established that chronic stress is decreasing the cholesterol levels.

Conclusions

Chronic psihological stress level can be quantified only by using more than one biomarker. Individual parameters represented by genotype, phenotype, psychological background are responsible for different values of biomarkers obtained, using the same type of stressor and the same intensity.

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Resilience in academic settings: importance and predictive factors

Popa-Velea O.

University of Medicine and Pharmacy "Carol Davila" – Bucharest (ROMANIA)

Faculty of Medicine, Department of Medical Psychology

E-mail: ovidiu.popa-velea@umf.ro

Abstract

Purpose: Resilience is a key variable for academic success, as it allows not only overpassing difficult tasks inherent to academic life, but also the increase of self-esteem and the stimulation of personal growth. Both can have long-term implications for professional functioning, by integrating situations overcome with success into a winner life-scenario. This study aimed to realize a quantitative assessment of resilience in a sample of undergraduate medical students, and to correlate it with their attachment style and coping strategies.

Method: 320 participants aged 20-24 (126 men, 194 women) were administered, within a transversal study design, COPE Inventory (Carver et al., 1989), Adult Attachment Style – revised (Collins, 1996) and the Resilience Scale (Wagnild & Young, 1987). Beside the simple evaluation of resilience levels across study sample and by gender, a hierarchical regression was performed, to identify predictors of resilience.

Results: The resilience scores were moderate (132♂, 122♀). Predominant coping strategies were -in women- seeking of instrumental and emotional support, reinterpretation and planning, and -in men- planning, active coping and seeking of instrumental support. High levels of resilience were correlated to the secure attachment style ($p < .05$) and with the ability of re-assessment in stressful situations ($p < .03$). In contrast, low levels of resilience were correlated to the anxious and vigilant attachment styles ($p < .05$) and to the seeking of emotional support ($p < .03$) and denial ($p < .05$). A total amount of 42% of resilience was explained by factors considered in this analysis.

Conclusion: These results could have implications in constructing better strategies to understand and address low resilience in academic settings.

Background

Resilience represents a concept which was intensively studied in the last decades and multi-dimensionally defined as:

- the ability to adapt to or bounce back from extremely unfavorable circumstances [1,2];
- a personality trait that protects well-being during stressful conditions [3];
- the ability to "thrive in the face of adversity" [4];
- competence in the face of significant challenges to achievement or development [5];
- „bouncing back" e.g. from depression through social support [6];
- the ability to extract a „personal growth" [7] following traumatic events (resilient people would undergo a transformation, that would make them to perceive themselves as being psychologically stronger and have a clearer assessment of personal priorities and relationships);
- the pattern of psychological activity consisting of the motive to be strong in the face of inordinate demands and the energy to produce goal-directed behavior, emotions, and cognitions [8].

The origins of resilience lie in Kobasa's description of hardiness [9], defined as a combination of psychological traits that would facilitate coping with stress, via strong commitment, exerting control and perception of negative life events as challenges rather than fatalities. Hardiness is constantly considered by literature data a marker of optimism and mental strength, and represents a well-known protective factor against illness [10-13], by delaying the direct pathogenic effects of stress [14-15] and the likelihood of physical disorders and mental problems [16]. In contrast, resilience represents a fairly complex concept which is even harder attainable, as it, apart from the hardiness component, includes close attachment, patience and adaptability to change [17].

Intuitively, a series of factors such as age, gender, cultural background and context may

influence resilience. Research however identified numerous other variables that can be grouped in two distinct categories:

- "risk factors", which are consistent with a stressful development (e.g. chronic poverty, child abuse, neglect, minority status, language fluency, living in violent communities, acculturation, and racism);
- „protective factors" (individual: average to high I.Q., internal locus of control, high self-esteem; familial: cohesion, the presence of caring adults; extra-familial supportive factors: school, community organizations and churches [18].

Objectives

This study aimed two main objectives:

(a) to realize a quantitative assessment of resilience in an extensive sample of undergraduate medical students (including Romanian and foreign students);

(b) to investigate the associations between resilience and two psychological variables:

- one stemmed from early childhood, but potentially relevant in stressful conditions and in unfamiliar circumstances (such as getting adjusted to first year academic requirements) - *attachment style*;
- the second, reflecting the experience of confrontation to daily stressors - *coping strategies*.

Our hypothesis was that secure attachment style and more functional coping strategies (such as planning, seeking of support) are correlated to higher resilience.

Methods

320 participants (table 1) aged 19-24 (126 men, 194 women; mean age 20.61) were included in a transversal study design with a single administration of the study instruments. Participants were both Romanian (ROU) and international (Int.) undergraduate medical students, who expressed informed consent to participate in the study and were mentally and physically healthy at the time of the administration of the questionnaires.

Table 1. Demographic data

		Gender		Total
		Male	Female	
Country	ROU	104 (mean age 20.80)	135 (mean age 20.23)	239
	International	22 (mean age 21.74)	59 (mean age 20.43)	81
Total		126	194	320

Instruments administered were:

1. *COPE Questionnaire (19)*: is a 60-item test, that comprises 15 scales: positive reinterpretation, mental disengagement, focus on and venting of emotions, use of instrumental social support, active coping, denial, religious coping, humor, behavioral disengagement, repression, use of emotional social support, substance use, acceptance, suppression of concurrent activities and planning. Answers are provided on a scale from 0 to 4.

2. *Adult Attachment Style – revised (20)*: is a 18-item test, that comprises 3 subscales: CLOSE (measures the extent to which a person is comfortable with closeness and intimacy); DEPEND (measures the extent to which a person feels he/she can depend on others to be available when needed); ANXIETY (measures the extent to which a person is worried about being abandoned or unloved). Answers are provided on a scale from 1 (not at all characteristic of me) to 5 (very characteristic of me).

3. *Resilience Scale (21)*: is a 25-item global measure of resilience. Items are scored from 1 (strongly disagree), to 7 (strongly agree). Scores can range from 25 to 175 (high: 147-175; medium: 121-146; low: less than 121).

Statistical analysis: SPSS 21[®] software was run to realize the statistics in this study. This included a quantitative assessment of resilience made across the whole sample, with separate t-tests run to assess the resilience differences across gender and nationality. Later, a hierarchical regression was performed, to identify the best predictors of resilience scores. All tests were performed at the .05 significance level.

Results

Resilience scores by study groups

Across the whole sample, the resilience scores were moderate (132.05 ♂, 122.17 ♀), with significant differences by gender ($F = 20.40$, $t = -6.73$, $p < .007$). The scores were strongly influenced by nationality, with Romanian students having much poorer scores (mean = 85.14, SD = 19.18) than foreign students (mean = 142.67, SD = 25.29) (fig. 1).

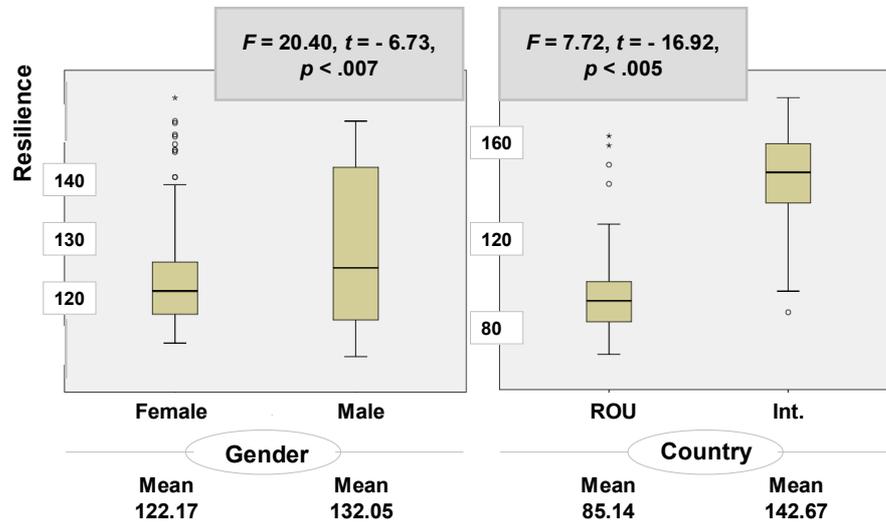


Fig. 1. Resilience differences by gender and nationality

Preferred coping strategies

They were - in women - seeking of instrumental and emotional support, reinterpretation and planning, and - in men - planning, active coping and seeking of instrumental support. Significant differences by gender were met in the preference for the use of four coping strategies: positive reinterpretation, active coping, seek for the emotional social support and focus on and venting of emotions (table 2).

Table 2. Preferred coping strategies across the whole sample

Coping strategy	Descriptor	Male (n = 126)		Female (n = 194)	
		ROU (n = 104)	Int. (n = 22)	ROU (n = 135)	Int. (n = 59)
Positive reinterpretation	Mean (SD)	4.31* (3.42)	4.98* (4.26)	8.56* (3.78)	8.36* (1.93)
Instrumental social support	Mean (SD)	7.32 (2.66)	7.73 (1.62)	7.62 (1.41)	7.94 (2.50)
Active coping	Mean (SD)	8.02* (1.83)	9.52* (2.01)	5.72* (3.79)	5.24* (3.22)
Denial	Mean (SD)	4.25 (2.72)	4.94 (3.66)	4.12 (1.56)	4.75 (1.74)
Religious coping	Mean (SD)	3.21 (1.66)	4.02 (1.42)	4.55 (2.85)	4.73 (1.56)
Humor	Mean (SD)	4.77 (1.13)	3.64 (1.76)	5.58 (1.12)	5.04 (1.87)
Mental disengagement	Mean (SD)	4.38 (2.56)	4.02 (2.33)	3.52 (1.23)	4.22 (2.11)
Repression	Mean (SD)	4.45 (3.64)	4.33 (2.54)	4.93 (0.87)	4.36 (1.74)

Emotional social support	Mean (SD)	5.34** (2.67)	4.43* (1.45)	9.17** (2.30)	7.85* (1.84)
Substance abuse	Mean (SD)	2.76 (1.44)	2.03 (2.01)	2.01 (0.60)	2.85 (1.32)
Acceptance	Mean (SD)	5.33 (2.66)	5.24 (2.22)	5.12 (1.89)	4.87 (2.36)
Suppression of concurrent activities	Mean (SD)	5.32 (3.42)	4.43 (2.34)	4.59 (2.42)	4.34 (2.58)
Planning	Mean (SD)	8.75 (2.52)	8.00 (2.86)	7.02 (1.61)	7.17 (2.33)
Behavioral disengagement	Mean (SD)	3.86 (1.03)	4.12 (1.97)	3.15 (1.77)	3.27 (1.23)
Focus on and venting of emotions	Mean (SD)	4.11** (2.44)	5.99** (1.62)	10.42** (2.88)	10.01** (2.04)

* $p < .05$, ** $p < .01$

Correlation between resilience and attachment style scores

In women, irrespective of their country of origin, high resilience was correlated to the use of secure attachment style ($p < .05$), and low resilience to the anxious and vigilant attachment styles ($p < .05$). In men these correlations remained non-significant.

Correlation between resilience and coping style

In *women* (the whole sample), resilience scores were positively correlated to positive reinterpretation and growth ($p < .036$), seeking of instrumental social support ($p < .001$), active coping ($p < .0005$) and religious coping ($p < .021$), and negatively to substance abuse ($p < .007$), behavioral disengagement ($p < .003$) and with the ability of re-assessment in stressful situations ($p < .03$). In Romanian resilient women substance abuse was replaced by planning ($p < .022$) and focus on and venting of emotions ($p < .011$), whereas in the international group, high resilience scores were correlated positively to seeking of instrumental social support ($p < .0005$) and suppression of concurrent activities ($p < .003$) and negatively to denial ($p < .005$).

In *men* (the whole sample), resilience scores were positively correlated to active coping ($p < .007$), humor ($p < .005$) and seeking of emotional social support ($p < .014$), and negatively to mental disengagement ($p < .003$), substance abuse ($p < .0005$) and behavioral disengagement ($p < .011$). In Romanian resilient men, a supplementary contribution was brought by religious coping ($p < .002$) and focus on and venting of emotions ($p < .004$), whereas in the international group, resilience scores were correlated positively to focus on and venting of emotions ($p < .022$) and negatively to suppression of concurrent activities ($p < .014$).

One can notice that, irrespective of the country of origin and gender, there are a quite few commonalities between the preferred coping strategies and those strategies that are correlated to resilience. This can lead to the presumption that at least in this particular study group of youngsters, they could reach resilience rather by overcoming their personal preferences and routines.

Comparative contribution of study variables to the resilience scores

The hierarchical linear regression revealed a comparatively important contribution to resilience of coping strategies (23%) and, more modest, of attachment style (10%) (in women, it reached 15%). Demographic factors accounted for 6% of variance. A total amount of 42% of resilience was explained by factors considered in this analysis (table 3).

Table 3. Hierarchical regression analysis for predictors of resilience (all participants)

Block of predictors	Predictors	β	p	R^2 adj.
Demographic	Age	.08	.13	.06
	Gender	-.22	.07	
	Country	-.09	.08	
Attachment style		.10	.05	.11
Coping strategies		.20	.03	.25

Discussion

1. In the study sample, the resilience scores were moderate, with lowest scores obtained by Romanian youngsters (women). This could be reflective of:

(a) a genuine low resilience of Romanian participants: in this case cultural reasons could be involved, as passive coping strategies, common in Romanian culture, could have been already internalized to this age by Romanian participants. The international students participants in the study could have been equally a self-selected group, in terms of higher resilience, as they, by enrolling in the Romanian university, have already done the leap from their original culture to a new unfamiliar one, where they have adapted quite well (being healthy, both mentally and physically).

(b) a bias of reporting resilient behaviors by Romanian participants (on the background of dominating non-resilient Romanian cultural values, especially prevalent in the southern part of the country).

2. There were gender differences regarding preferred coping strategies, with men seeking more towards active strategies, such as planning or seeking for instrumental social support and women towards positive reinterpretation or seeking for emotional social support. However, resilience correlated positively to those coping strategies that were not necessarily the most preferred ones, but rather the most useful ones. Mastering preferred strategies in combination with new (unfamiliar) ones seem to be a better predictor for resilience than the exclusive use of one or more preferred strategies.

3. Resilience was correlated to attachment style only in women. In this case, all attachment styles (secure, anxious and avoidant) were important, probably via stable patterns of emotional involvement in critical life situations, originating in early attachments.

4. Coping strategies bring a more important contribution to resilience scores than demographic factors and attachment styles. This is a powerful argument in favor of psychotherapy and counseling, in order to strengthen resilience in youngsters and particularly in academic settings.

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Consonantist Psychosomatics. Contribution of Doctor Ștefan Odobleja to the Concept of Psychosomatics

Popescu N.¹, Popescu G.A.²

¹ Individual Medical Practice, Drobeta Turnu-Severin (ROMANIA)

² Timisoara City Hospital, Department of Surgery (ROMANIA)

E-mail: npopescu_mf_kt@yahoo.com

Abstract

This paper on *Consonantist Psychosomatics* is intended to highlight the contribution of Doctor Ștefan Odobleja to the psychosomatics concept which was already underlined in antiquity by Hippocrates.

In his work entitled „Consonantist Psychology”, with the aid of nine universal laws, based upon the resonance phenomenon and energetic psychological processes, the creator of generalized cybernetics designs a new model for a psychosomatic approach rendering a cosmic side to the bio-psycho-social model.

Key words: psychosomatics, consonance, resonance, multidisciplinary, psychological energy, law of reversibility.

Introduction

The title is a syntagm composed of two words: psychosomatics and consonantism, these being connected by subordination as well as by correlation of meaning. We may state they may be considered a stable syntactic unit.

From this point of view, the place and role of the great scientist Șt.Odobleja in the history of psychosomatics may be established.

Psychosomatics is a medical approach connecting psychological and somatic aspects.

Consonance is defined by Odobleja as a „physical phenomenon characterized by similitude, selectivity and movement (or vibration) ... a reversible excitation. A reversibility, a reciprocity, a mutual classification. The identity principle (similitude) and the excluded third party (selectivity) reduced to the physical phenomenon of resonance, a complex phenomenon, caused by sense and frequency similitude with effects of: selectivity, excitation, fusion. The totality of selectivity, amplification, dynamogenics and fusion phenomena produced by superposition of two movements, vibrations similar or related by their direction and frequency” [3].

Among the multiple classes of consonance, Odobleja denominates a physico-psychological and a psychological-physical consonance, i.e. psychosomatic and somatopsychologic.

Brief history

The psychosomatic unity was underlined as early as Antiquity by Hippocrates, being a concept regarding the human being as a whole, somatic and psychological components being closely interdependent and disease being considered as an individual reaction to the environment.

Anaxagora (504-428 B.C.) was among the first to speak about psychological-somatic dualism (mind-body relation) which was developed by the great Greek antique philosophers Plato and Aristotle: „the soul gives shape to the body and becomes its vital principle”...

The psycho-somatic unity is also found in the Middle Ages in philosophers (XVIIth – XVIIIth centuries) such as Descartes, Hobbes, Berkeley, Leibnitz.

The first to talk about psychosomatics in modern times is Heinroth (1818) who was also the one to introduce the term of „somatopsyché” in 1828.

In 1890, Sommer introduces the term of psychogenesis which will be adopted and fundamented by the great creators of psychogenesis theories (P.Janet Freud).

In 1899, Pavlov describes the influence of emotions on physiological processes, conditional reflexes.

In 1912, Adler argued in favour of holism, analyzing the individual rather from the perspective of the entire psychological existence.

In 1922, Deutsch presents the organ nevrosis [1].

Psychosomatics was introduced as a medical term in the period between 1936-1938 when the first psychosomatic societies emerge and the first specific journals are published.

It is worth mentioning that during the same period, i.e. in the year 1938, the first volume of the French version of consonantist psychology was published in Lugoj and distributed through „Librairie Maloine” in Paris and in 1939 the second volume was published, both volumes being distributed to great universities in the world [4].

We further mention the personalities who contributed to the field of modern psychosomatics: 1943 - Helen Fl. Dunbar with specific personality profiles for each psychosomatic disorder; 1946 - Hans Selye with the general adaptation syndrome; 1950 - Alexander with conflict specificity; 1957 - Hinkle, Wolff with the determinant role of environmental factors and others such as von Uexkull, Schafer, Sifneos, Batson, Basedovsky, etc.

The encyclopedic dictionary describes Ștefan Odobleja as „...author of the first variant of the generalized cybernetic concept, trying to explain natural phenomena, and especially those of biology and psychology, by inverse connexion (law of reversibility)...notices and highlights the phenomenon of adaptation of living organisms to environmental conditions”, aspect introduced by Hans Selye in 1946. These aspects may be considered a proof of his connection to psychosomatics.

Discussions

As a synthesis, we may state that this concept has passed through several distinct stages in time.

The first Hippocratic stage describes the relation between mind (psyche) and body (soma).

The second stage begins in 1890 with Sommer, who introduces the term of psychogenesis in this relation.

The third stage starts with the modern era when the existential ecological environment is integrated into the psyche-soma unit, i.e. the bio-psycho-social model of Engel - 1974. But in order to establish the starting point of this stage we must go back to the year 1939 when Odobleja, with his work „Consonantist Psychology” and by the law of reversibility (feedback) brings an essential contribution to the psycho-somatic unit by establishing a mutual psycho-somatic relationship. By pluri- and interdisciplinary arguments, he expands the psycho-somatic approach of the human being in the universe. He, thus, creates a novel model, connecting the bio-psycho-social model to the universe by the nine universal laws (equivalence, equilibrium, compensation, reaction, oscillation, inertia, transformation, consonance, reversibility) which he harmonized into a consonance/resonance based upon the law of reversibility and psychological energetical processes for all human life phenomena. He performs an in-depth analysis of the connection between mind, body and universe, rendering a cosmic side to the model. The psychosomatic approach from a consonantist psychology perspective is demonstrated by Ștefan Odobleja by defining psychological and physical components.

Thus, the physical component is described as the nature, the outside world. „The physical component is the source of psyche and its ultimate expression, cause and, often effect, the fabric of which psyche is made. It is one of the first opposing categories of psyche. From a logical point of view, the physical component is one of the halves of the universe, the other one being the psyche; quantitatively, it is by far the largest part of the universe.

The physical component is the exterior, the periphery, the larger sphere; psyche is the inside, the centre, the smaller but the most important portion of each being's universe” [3].

By describing the physical divisions the author analyzes the physical as the exterior, i.e. the universe but also the human being, with mutual influences between them.

„Psychologically, the physical component is classified as:

- transformable, pre-psyche, excitants;
- transformed, post-psyche, reactions and acts...

Biologically, the classification includes:

- the inert nature: the lifeless objects, the physical component per se;
- the living nature: the beings, the biological”.

Further, Odobleja states that the physical component is studied by natural sciences:

- for lifeless nature (cosmological sciences) he describes static sciences (chemistry, geography, mineralogy, astronomy, etc.) and dynamic sciences

(physics, mechanics, sky mechanics, etc. – quantum mechanics might be added here)

- for living nature (biological sciences) he similarly describes static sciences (anatomy, histology) and dynamic sciences (physiology, evolution)"[3].

Also, the author considers that any psychology must include an introductory study on physics for the following reasons:

1. The physical always precedes and determines the psyche, thus constituting its cause:

- static causes: - anatomo-histological substrate (the brain)
 - chemical composition of the substrate
- dynamic causes: - physical excitants
 - physiological excitants

2. The physical follows the psyche: it represents its effect, we are thus obliged to study it:

- as a material, static effect: - anatomical, structural
 - chemical, constitutional
- as an energetical, dynamic effect: - psychically determined physical phenomena
 - determined physiological phenomena.

3. The physical resembles the psyche which confounds with it in several aspects: statically, the psyche may be attributed to a biological structure and to a chemical constitution; dynamically, psychological phenomena are reducible, as a whole, to physical phenomena [3].

Odobleja describes the psyche as being the soul, the spirit, the inner universe, as a biological function located in the brain. „As any other function, the psyche serves life; it is correlated to each of the other functions of the organism (psycho-physiological correlations). It is strictly dependent to a system of organs. Psychological phenomena are very strictly dependent on circulation and on the physiological status of the organism at a certain moment. Psychological activity is influenced by physical, chemical and biotic agents" [3]. To conclude, Odobleja is the first physician to state that „the true elements of psychological phenomena are invisible – as are the elements or material substrate of physical energies – and analogic, if not identical with the latter. The psychological process is no longer such a rudimentary phenomenon as the presumed mechanical vicinity and removal of neuronic fibers – but an extremely fine, energetic process" [3]. This invisible, energetic, vibrational element, intuitively described by Odobleja, is called „string" by some contemporary physicists.

In subchapter on psycho-physiology, the author defines it as a study of „reciprocal repercussions (interactions) between centre and the periphery, between physical and physiological, between moral and body, between brain and the other viscera, between general and local, between the whole and its parts; the science of psycho-physical reactions. Each organ has relations with all the other organs, including the brain...The brain is, undoubtedly, a privileged organ but it does not hold the monopole on interorganic communications" [4].

He also describes the influences of psyche upon the psychological component, which are: „reversible (functional – in fact, psychosomatic disorders) or irreversible (organic – in fact, psychosomatic diseases); normal (physiological) or abnormal (pathological); and the influences of the physiological components upon the psyche (somato-psychic action) which also classifies them into reversible and irreversible; normal or pathological, durable or transient".

Odobleja also mentions that between the physical component and the psyche, between body and soul, there is a mutual influence: each is in its turn cause and effect and he introduces the more accurate notion of reciprocal influence between each body part and each part of the psyche.

We may state that the work of the scientist has opened a new perspective for the development of the psychosomatic concept.

In the bibliography studied by Odobleja for his work, which includes 700 papers, we find names of authors cited during the history of psychosomatics such as: Janet P.(1891), Adler (1924), Pieron (1927), Pavlov (1932), Marinescu (1910), Descartes, Freud.

After the "Consonantist Psychology" was published in 1939, in his manuscripts, titles of works on the psychosomatic concept and the atomic universe were found, such as: „Psychosomatic medicine – insights in medical enigmas", Bonneton Andre, Paris, Librairie Maloine, (1964) and „Man and the atomic universe,"Coudures E, 1951. This demonstrates that he continued to be concerned and studied the way the physical and psychological components influence one another. Odobleja considers that "the true elements of psychological phenomena are invisible – as are the elements or the material substrate of physical energies – and analogic, if not identical with the latter".

Nowadays, a lot is said on the psychology of order – quantum psychology (POQP), which is an interdisciplinary synergistic science, built on information from philosophy, psychology, informatics, medicine, physics, biology, cybernetics. POQP seeks the systemic-holistic knowledge of the human psyche universe by means of original measurement instruments and methodologies, based on the

generalized quantum theory, in order to optimize human condition from the perspective of the existential purpose and of psycho-somatic and psychological health. Other fields are also mentioned such as quantum medicine, quantum neuroscience and, if all these were to be based on quantum psychology, we might state another syntagm i.e. **quantum psychosomatics** [2].

Among the few who mention Stefan Odobleja and his contribution in this area of quantum enigmas, Prof. Ion Mânzat, president of the Romanian Association of Transpersonal Psychology, defines psychological resonance (intuitively described by Stefan Odobleja) as a transpersonal energy vibration explained by expanded psycho-synergy.

Conclusions

The main merit of Odobleja is that of intuitively describing the fundamental structure connecting humans to nature (that invisible, energetic, vibration element which physicists describe as "string". His work radiates a cosmic thinking on life dynamics and is a true resource for ideas in the third millennium.

The value of his work on the psychosomatic concept passed unnoticed during his time. Hopefully, from now on, by our actions, we shall restore the well deserved place in the history of national and international medicine and continue to study his published work and manuscripts kept by the State Archives.

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Quality of life in patients with type 2 diabetes mellitus

Porojan M.¹, Poanta L.¹, Dumitraşcu D.L.¹

¹University of Medicine and Pharmacy "Iuliu Hatieganu" Internal Medicine Departament, Cluj Napoca (ROMANIA)

E-mail: porojan78@yahoo.com

Abstract

This is a prospective study looking for the quality of life in patients with non-insulino-dependent diabetes. Quality of life was measured with the SF-36 questionnaire in two groups: one with type 2 diabetes mellitus, one of healthy controls. The study showed that diabetes mellitus type 2 affects the patients' QOL with or without major complications of the disease. Therapeutic regimens used does not appear to affect QOL. The control of diabetes (HbA1c levels) and disease duration correlates with some QOL parameters of SF-36. Diabetic retinopathy affects quality of life in both physical and psychological aspect. These data are important for a comprehensive management of diabetes mellitus according to the biopsychosocial paradigm.

Keywords: quality of life, diabetes mellitus, non proliferative retinopathy.

Introduction

The number of people with type 2 diabetes mellitus (DM) is increasing due to population explosion, population aging, urbanization and increased prevalence of obesity and sedentary lifestyle. Worldwide, prevalence of DM in adults was estimated at 4% in 1995 and is expected to increase to 5.4% by 2025. [1] Diabetes irreversibly affects patient's life. Specific complications, patients' self-care consisting of daily administration of insulin or oral hypoglycemic agents, glucose monitoring and specific diet have a major impact on quality of life.

Several studies that have examined the effect of insulin therapy on quality of life (QOL) showed a significant improvement of QOL in patients treated with insulin. Impact of complex therapies consisting of monthly visits, self-control and medication adjustment is reflected in improving QOL scores of patients who use insulin. Other studies have shown that the use of insulin decreased, increased or had no effect on QOL [2, 3, 4, 5]. QOL and glycemic control caused more controversies, some studies have shown improved QOL while others have shown no effect on QOL scores [6,7].

Diabetic retinopathy is one of the complications of diabetes that makes a major impact on QOL, patients being affected physically and mentally [8]

Objectives

The aim of study was to analyze QOL in a group of patients with DM with and without retinopathy, but with no other major complications of the disease, and correlation with glycemic control and types of therapy (diet, oral therapy or insulin therapy).

Material and method

The study group consists of 50 patients with type 2 DM, with and without retinopathy, and a control group of healthy subjects. Patients with DM were evaluated by laboratory methods, including glycosylated hemoglobin (HbA1c), with normal chest radiography and normal ventricular systolic function on echocardiography. In all cases, resting electrocardiogram was normal. None of the patients had impaired renal function. Patients' treatment was: diet, oral agents or insulin therapy. Retinopathy was revealed by ophthalmoscopic examination.

Romanian version of the questionnaire SF-36 was used as a study of QOL in selected patients. For all scales of questionnaire, scores were calculated and variables expressed as means (SD). Statistical significance was calculated using Student t test. 95% confidence interval was

calculated for each variable using bilateral Student t-test (two tailed). Results obtained in the study group were compared with the general population in Romania [12]. A p-value less than 0.05 was considered statistically significant. Pearson correlation coefficients was used to explore the linear relationship between the variables. Statistical analysis was performed using SPSS for Windows, Version 10.0. Cronbach's coefficient alpha was calculated for all scales of the SF-36 questionnaire to test the validity and safety.

Results

The characteristics of the study group are shown in Table I. The Cronbach's alpha coefficient was higher than 0.7 for all scales of the questionnaire (Table II). For all parameters of questionnaire, QOL scores for the entire study group was significantly lower than those of the general population in Romania ($p < 0.05$).

Tabel I. The characteristics of the study group

Parameter	Study group
Number	50
Sex	M: 24 (48%) W: 26 (52%)
Age	60.00 (± 6)
Disease duration (years)	10.22 (± 9.67)
Insulin therapy	12 (24%)
Oral therapy (sulfoniluree)	14 (28%)
Oral therapy (biguanide)	24 (48%)
Cholesterol (mg%)	236.88 (± 66.93)
Triglicerydes(mg%)	183.45 (± 93.07)
Fasting glucose (mg%)	159.42 (± 53.63)
HbA1c (%)	7.20 (± 1.59)
Retinopathy	25 (50%)

Table II: QOL scores for the study group and Alpha Cronbach coefficient

Parameter	Par. (no)	Alpha Cronbach	Mean	SD
Physical function	10	0.95	68.50	26.44
Limitation of social function due to physical health	4	0.85	49.50	41.18
Limitation of social function due to emotional problems	3	0.75	67.33	38.39
Energy / fatigue	4	0.85	50.70	25.09
Emotional function	5	0.83	62.48	22.22
Social function	2	0.67	58.25	23.91
Pain	2	0.86	64.30	22.30
General health	5	0.79	51.90	14.63

* Par – Parameter, SD- standard deviation

No statistically significant differences were found between QOL scales and age, gender or fasting glucose in the study group. There were no statistically significant differences between patients with insulin therapy versus other therapies for all QOL scales of the questionnaire (Table III)

Analyzing disease duration and QOL scales, "Limitation of social function due to emotional problems" was the only significantly correlated parameter ($r = 0.29$, $p = 0.038$). (Table IV). The relationship between QOL scales and glycemic control was studied correlating all parameters with HbA1c level. Statistical analysis revealed significant differences for the "Energy / fatigue" parameter and HbA1c level ($r = -0.35$, $p = 0.043$) (Table V).

Comparing QOL parameters of patients with retinopathy, significant differences were found for "Emotional function" and "Social function" parameters ($r = -0.38$, $p = 0.023$; $r = -0.42$, $p = 0.041$) (Table VI).

Tabel III. QOL parameters and insulin-therapy

QOL parameters	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Physical function	1.379	.246	.077	48	.939
Limitation of social function due to physical health	3.136	.083	.064	48	.949
Limitation of social function due to emotional problems	.000	.986	.930	48	.357
Energy / fatigue	.014	.906	.848	48	.401
Emotional function	.759	.388	.999	48	.323
Social function	.045	.832	1.583	48	.120
Pain	.674	.416	.067	48	.947
General health	.740	.394	.516	48	.609

Tabel IV. QOL parameters and disease duration

QOL parameters	N	r	p
Physical function	50	0.12	0.423
Limitation of social function due to physical health	50	0.13	0.373
Limitation of social function due to emotional problems	50	0.29	0.038
Energy / fatigue	50	0.19	0.189
Emotional function	50	0.17	0.251
Social function	50	0.21	0.138
Pain	50	0.07	0.626
General health	50	0.09	0.528

Tabel V. QOL parameters and HbA1c level

QOL parameters	N	r	p
Physical function	50	-0.21	0.148
Limitation of social function due to physical health	50	-0.17	0.228
Limitation of social function due to emotional problems	50	-0.22	0.133
Energy / fatigue	50	-0.35	0.043
Emotional function	50	-0.07	0.652
Social function	50	-0.21	0.152
Pain	50	-0.10	0.491
General health	50	-0.04	0.772

Tabel VI. QOL parameters and retinopathy

QOL parameters	N	r	p
Physical function	25	-0.234	0.102
Limitation of social function due to physical health	25	-0.107	0.458
Limitation of social function due to emotional problems	25	-0.134	0.354
Energy / fatigue	25	-0.094	0.517
Emotional function	25	-0.38	0.0023
Social function	25	-0.42	0.041
Pain	25	-0.072	0.621
General health	25	-0.043	0.765

Discussion

Glycemic control of DM, measured by HbA1c level, has become an important parameter that prevents long-term complications, including retinopathy, providing a better QOL of diabetic patient. Our study found some correlations, but only for parameter "energy / fatigue" they were statistically significant. On the other hand, we could not establish cause-effect relationship between increased HbA1c and this parameter.

From a clinical perspective, QOL ensures a better monitoring of patients with diabetes and can be included in the routine clinical evaluation of these patients. Treatment of non-physical aspects of chronic diseases should be considered as part of diabetes management. Patients with DM have a statistically significant decline in all aspects of QOL, not only physical function. DM has a substantial influence on health and affects physical, psychological and social aspects of QOL. All diabetic patients in our study had lower scores on all scales of the SF-36 compared with the control group and the general population. These results are convergent with other studies of quality of life in diabetic patients [9,10].

Comparing QOL according to the type of therapy used, it seems that there is no decline of QOL on insulin use, probably explained by better glycemic control and a lower rate of symptoms occurrence. Progressive evolution of type 2 DM and real and permanent risk of developing chronic complications certify that insulin is a therapeutic reality for most patients with diabetes. Physicians should develop and adopt strategies to overcome the psychological effect of insulin therapy, and provide adequate support for this therapy. This approach may decrease negative effects on QOL [11,12,13,14].

Patients with diabetic retinopathy describe inevitably a decline in QOL. Parameters influenced in relation to retinopathy are "emotional function" and "social function", this paper work proving the impact of diabetic complications on patients' QOL.

The limitations of the study: using a questionnaire that is not disease-specific, and can interfere with the accuracy of the results. The number of subjects included in the study could be a limitation. In a larger group of patients the results may be more significant.

Conclusions

Diabetes affects patients' QOL with or without major complications of the disease. Therapeutic regimens used does not appear to affect QOL. The control of diabetes (HbA1c levels) and disease duration correlates with some QOL parameters of SF-36.

Diabetic retinopathy affects quality of life in both physical and psychological aspect.

The logical conclusion is: controlling the disease, requiring a fair treatment should be the main goals in patients with diabetes, insulin is not a cause of decreased QOL.

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Specific Patterns of Psychosomatic Disorders in Older People

Prada G.I.^{1,2}, Alexa I.D.³

¹ "Ana Aslan" National Institute of Gerontology and Geriatrics, Bucharest (ROMANIA)

² "Carol Davila" University of Medicine and Pharmacy, Bucharest (ROMANIA)

³ "Gr.T.Popa" University of Medicine and Pharmacy, Iasi (ROMANIA)

E-mails: giprada@gmail.com, ioana.b.alexu@gmail.com

Abstract

Psychosomatic disorders are often encountered in older people. It is most obvious in case of depression: an older person will not declare that "I feel sad", "I am hopeless", but will rather report symptoms of a somatic disease: headache, dizziness, various types of pain with different locations. This poses difficult diagnosis problems because older people often might have chronic diseases that could explain their complaints. The process is known as "somatization" and it is a usual way of presentation of depression in older people, unlike younger age groups. Another important aspect is the impact of depression on somatic conditions, and the link to psychosomatic disorders especially cardiovascular diseases (essential hypertension, myocardial infarction), gastrointestinal (peptic ulcer disease), neurologic (anorexia nervosa), respiratory (asthma) and dermatologic diseases. Several studies demonstrated that a person with depression would develop myocardial infarction more often than a person without that condition; moreover, a patient with myocardial infarction and depression will develop more often a new infarction if the psychiatric illness is not addressed. The connection is even between psychiatric diseases themselves: an older person with depression will develop more often and earlier dementia as compared to a person without that disease. In fact depression was even named "pseudodementia". In older people there are many sources of depression and this disease is much more often encountered than diagnosed, especially immediately after retirement. These calls for special attention in this age group and for an active screening and diagnosis follow up in combination with complex multidisciplinary and interdisciplinary management.

Keywords: older people, psychosomatic disorders, depression, anxiety, pain, environment, housing.

Older People and Psychosomatic Disorders

Older people represent an increasing segment of population. The phenomenon is termed demographic ageing and has been observed all over the world. There are several factors that explain this trend, amongst them being a higher life expectancy and decreased birth rate. The proportion of older persons is estimated to more than double over the next half century [1]. In Europe there are higher proportions of older people as compared to the rest of the world and the older population is growing faster than the total population in all regions. Consequently, conditions affecting this section of population will be more and more important and will have an increasing impact on society at large.

Physical, emotional and social factors play an important role in every illness. Especially in the case of older patients it is extremely important for a doctor to recognize both organic components and psychosocial aspects characteristic to every disease. Nervous, endocrine and immune systems are interdependent and react to any stressor in order to cope with various kinds of injury or distress. A psychosomatic disorder is a disease that involves both body and mind. Psychosomatic disorders are amongst the most prevalent diseases in old ages. Specific psychosomatic symptoms reported by older people are pain, depression and anxiety. They might be considered as a common language of human suffering[2].

Prevalence of current pain in older people ranged from 20 to 46% in community dwelling subjects and were higher in those living in residential care: 28 to 73%[3]. The prevalence of chronic pain is significantly higher reaching 83 to 93% in older people living in residential care. Most available data show that women have a higher prevalence of pain as compared to men. Despite this high frequency of pain in older adults, there are relatively few studies in older populations with pain[4]. The

three most common sites of pain in older people are the back, knee and hip. The attitudes and beliefs of older people influence all aspects of their pain experience. Stoicism is particularly evident within this cohort of people[3].

One important aspect seen in older people with pain is the difficulty of assessing this condition in subjects that are unable to communicate or to understand, such as the case of older adults with dementia and with aphasia following stroke. In older age groups prevalence of cognitive impairments is very high reaching almost 50% in people over the age of 85 years[5]. This creates a problem when attempting to establish an etiologic description of pain in older adults. Moreover, in many developing or less developed countries older generations had a lower access to formal education and this further affects their capacity to interact with a physician during clinical examination and assessment of pain.

Pain is one of the most often complaint of older people and is most frequently reported as a manifestation of somatization, the latter condition being often associated with depression in older age.

Depression is another psychosomatic symptom often encountered in older people. It was formerly called "pseudodementia" because it resembles very much a cognitive disorder. The patients appear to have difficulties remembering various things but they are not caused by real memory problems. Instead they have a dominant depressive ideation that will decrease their capacity to focus and to direct their attention to real-time environment. Depressive ruminations will "flood" their cognitive life and will reduce patients' ability to interact with persons and to cope with various situations. Pseudodementia might well be the only stress-related disorder that is peculiar to the elderly. Physical complaints, such as arthritis pain or worsening headaches, are often the predominant symptom of depression in the elderly. This is termed "somatization". An older person will not declare that "I feel sad", "I am hopeless", "I feel down", but will rather report symptoms of a somatic disease: headache, dizziness, various types of pain with different locations. Older people often deny feeling sad or depressed but they may still have major depression. There are some clues that lead to the diagnosis of depression in older adults: loss of interest in maintaining their social network, unexplained or aggravated aches and pains, memory complaints, slowed motility and speech, neglecting personal care. As one can notice some of these manifestations are similar to clinical picture of dementia and this complicates further the diagnosis. Moreover, older adults might have concomitantly a series of chronic disorders that might as well explain their somatic manifestations. It is important to identify depression in older persons because it is implicated in a series of other conditions characteristic of older adults. Firstly, depressive symptoms in midlife or in late life are associated with an increased risk of developing dementia[6]. Depression that begins in late life may be part of a prodromal Alzheimer's disease, while recurrent depression may be etiologically associated with increased risk of Vascular Dementia⁶. Secondly, depression is also involved in cardiovascular diseases[7]. In recent years there is a growing body of scientific literature that supports the role of depression in occurrence and sometimes aggravation of cardio-vascular diseases[8][9]. Moreover, patients with cardiovascular have a higher risk of developing depression[10][11].

There are many factors that favor occurrence of depression in older people. Some of the most frequently encountered are represented by loneliness and isolation. More and more older people live alone because the classic model of extended family is disappearing. Younger generations need to relocate, sometimes even in different countries, in order to find suitable jobs. The older a person becomes, the higher is the risk to have a shrinking social network. This is also caused by a reduced mobility due to various diseases including depression, dementia and several invalidating conditions. Another important aspect is generated by low self-esteem due also to a reduced sense of purpose. This is caused partly by a system of compulsory retirement age. Even though many people declare that they are looking forward to the retirement years, when they actually become pensioners the new situation is perceived as a shock. The income is reduced, many times significantly, and also the social status is lost. There is a bias in community that when a person retires, he or she will not be considered a professional any more. This situation was demonstrated during a census in Romania when the occupation of the interviewed persons was recorded as "pensioner". Actually "pensioner" is not a profession, it is a contractual relationship between an employer and an employee. When this relationship is terminated, it does not mean that the employee loses all his/her professional skills. But because of the pressure generated by this bias present in the community older people will have a reduced sense of purpose and will lose sense of identity. One interesting aspect is the beneficial effect produced by interactions of older adults with very young generations. This phenomenon was noticed when elderly homes were located together with kindergartens. This approach created a sort of therapeutic environment where older people were able to interact with young children. A lower frequency of depression was noticed in these older persons.

Health problems are other important factors that contribute to depression in old age. Some of most often seen in older persons are: chronic diseases and disability, cognitive decline, altered body

image produced by surgery or various diseases. One important aspect is represented by chronic or severe pain, a very often complaint in older adults. The presence of afflictive events closes a vicious circle: pain generates depression and depression can present clinically as pain in a psychosomatic disorder.

Other factors that generate depression in older people are fears and recent bereavements. Some older persons are afraid of death and/or dying and have a prevalent ideation connected to their "imminent disappearance". Sometimes it becomes obsessive and interferes with daily life in these subjects. There is also anxiety over financial problems and/or health hazards and chronic invalidating diseases, especially dementia. Cognitive disorders are often feared by older people because of their very high frequency in this age group and also because of general bias that dementia is almost always encountered in older people, some persons associating advanced age with a severe and implacable cognitive decline. Bereavement is an often situation associated with older age because the older a couple becomes, the higher is the risk that one of the spouses will disappear. The greatest impact is generated by the loss of children that sometimes might die before their very old parents, due to various reasons including accidents. Bereavement is amplified by the lack of a family or social support network, very often seen with advanced age.

Depression could be considered a risk factor, a prodrome, a correlate or an outcome of dementia. Depression occurring at any age is associated with an almost two-fold increase in the risk of developing dementia[12]. There are a series of biopsychosocial factors that also may contribute to depression in old age. Substance use disorders, especially alcohol abuse, are associated with depression in older people. This aspect is not very easily identifiable since majority of older people, especially women, do not declare alcohol consumption mainly due to socio-cultural taboos.

Anxiety is one of the basic human experiences. Patterns of anxiety accompany all emotional and physical illnesses, either openly or disguised. The disposition to feel fear guarantees individual survival, similar to the capability of feeling pain. To have no fear at all may be just as unusual or remarkable as having too much fear[13]. Anxiety occurs more frequently in patients with chronic disease and these chronic illnesses are more often encountered in older people. There are several causes that induce anxiety symptoms such as: general medical conditions (cardiovascular diseases, lung disorders, gastrointestinal diseases, anaemia, endocrine and metabolic disorders); neurological conditions (seizures, encephalopathy, dementia, delirium); psychiatric diseases (as major depression); various medicines and substances (neuroleptics, bronchodilators, anti-hypertensives including diuretics, anticholinergics, steroids, alcohol, caffeine)[14]. Medication is involved in anxiety mainly due to several transformations that occur later in life. Drugs absorption is affected by a decrease in lean body mass in older people with a net increase in adipose tissue. Hydrophilic drugs will have a higher peak concentration. Such a medicine is acetaminophen that is very often used in older people for treating pain especially due to osteoarthritis[14]. This will increase the risk of adverse effects including occurrence of anxiety. Renal function is also impaired in older adults. Lipophilic medicines will have a longer duration of action because they will be distributed in larger amount of fat. A serum creatinine concentration of 1mg/dl reflects a Glomerular Filtration Rate of 120 ml/min in a 20-year-old and 60 ml/min in an 80-year-old[15]. This augments the risk of side effects for medicine that are excreted by renal route. Several other drugs are metabolized in the liver. Hepatic function declines later in life. Age-related reduction in hepatic microsomal cytochrome content may compromise efficient drug metabolism in the elderly[16].

Psychosomatic disorders also include a number of physical conditions made worse by psychological factors[17]. Psychosomatic disorders are characterized by symptoms of physiological dysfunction in specific organs such as: heart, lungs, stomach, muscles, and nervous tissues. Such dysfunction is caused or aggravated by psychological factors as for example: emotions, stress, personality traits, and lifestyle[17].

The main types of psychosomatic disorders include: cardiovascular (stress cardiomyopathy, arrhythmias, essential hypertension), respiratory (asthma), gastrointestinal (peptic ulcer disease), dermatological, neurological disorders (anorexia nervosa)[17]. There are two main factors that impact on the incidence of psychosomatic diseases. They are represented by stress and the underlying personality variables.

Housing arrangements of older individuals is a very important issue for their mental health. Living in their own homes together with family members has a beneficial effect on their psychological wellbeing and for the prevention of depression. On the contrary, living in a nursing home will have a great negative impact on older adults' physical and mental health. For some older people, the reason for their housing problem is not their dwelling but its environment. Many of those who lived in the city centres when they were first married have seen the neighbourhood change. Some feel that the area has 'gone down', that those who now live there do not have the same standards as they do and that

they are now aliens in a hostile environment in which they once felt at home.

Several studies highlight significant differences in life expectancy in individuals that live in regions that are geographically situated in close proximity but have different circumstances¹⁸. One clear example of this situation is seen in Scotland, where the life expectancy in a poor suburb of Glasgow, Calton, is only 54 years whereas in a nearby small town, Lenzie, it is 28 years higher reaching 82 years. A similar situation was noticed in Washington, DC, where blacks have a life expectancy of 63 years compared to whites living in nearby Montgomery County, MD, whose life expectancy is 80 years. In Canada, people living in poor neighbourhoods have a higher prevalence of obesity, osteoarthritis, hypertension, congestive heart failure, diabetes mellitus, chronic obstructive pulmonary disease and depression than those living in rich regions[19]. In older adults, the external aspect of the dwellings they lived in and the condition of their houses were closely correlated to lower body functional limitations¹⁸. Perception of crime in neighbourhoods limits older persons' desire to walk outside of their houses. In developed and developing countries older adults in city centres and areas of urban deprivation have serious problems and they are difficult to alleviate because often the best remedy is a move to another area in which the person may feel equally alien, although the majority of those who move do settle well and happily[18].

Frequently, the main reason for older person's burden is represented by the poor condition of their habitat. Some authors underline the fact that one of the serious problems influencing health in later life is the inappropriate housing environment for this vulnerable group[20]. There is a close relationship between their health and housing environment[21].

Nursing home residents experience more stress in comparison with elders who live with their families because of: loss of previous social contacts, loss or reduction of family safety network, unemployment, loneliness, changes in the lifestyle.

A series of studies demonstrate that older persons who live with family or among their children have a more positive self-perception and fewer symptoms of depression[22].

The lack of roles is a stress-producing experience for older people[23]. As shown before, depression is one of the most widespread conditions amongst older people – as many as 20% of people experience depression at some point through old age[24]. However, it rises much higher among aged persons who live in nursing homes[25]. Moreover, multimorbidity (multiple diseases present concomitantly in the same individual) in later life demonstrates higher prevalence being over 76% after the age of 75 years[26].

Age interplays with other factors to determine mortality and one important aspect is represented by a relatively recently described condition termed Frailty Syndrome. It represents a state of high vulnerability to various risk factors, including extreme temperatures and health conditions. The factors that interplay with chronological age include: presence of comorbidities (that alter clinical presentation of a disease, impact on therapeutic scheme and increase the risk of adverse events), previous functional status, diminished functional reserve and risk for the development of complications known to be associated with outcome (i.e., delirium). Thus, age should not be used alone to determine treatment decisions.

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Cognitive Impairment in Parkinson Disease

Prodan L.¹, Drăghici A.², Roman-Filip C.³

¹ Clinical Hospital County Sibiu, PhD in medicine, department of Neurology, (ROMANIA)

² University "Lucian Blaga" Sibiu, PhD in psychology, Faculty of Social and Human Sciences, Psychology, (ROMANIA)

³ University "Lucian Blaga" Sibiu, PhD in medicine, Faculty of Medicine, (ROMANIA)

E-mails: prodan_liiana@yahoo.com, aurelia.draghici@ulbsibiu.ro, corina.roman@ulbsibiu.ro

Abstract

The aim of this research is to present the cognitive impairment at the patients with Parkinson's disease (PD). We evaluated the mild cognitive impairment (MCI) using MMSE Scale, and the interaction with sex, stage Yahr and Hoehn in PD. We evaluated 46 patients with PD. During last years it was an increasing importance of mild cognitive impairment in Parkinson's disease.

Keywords: Parkinson's disease, cognitive impairment, Hoehn-Yahr Scale, MMSE Scale

Introduction

The spectrum of non-motor disturbances in PD is large and it comprises sleep disorders, cognitive impairment, pain, olfactory disorders and gastrointestinal disorders.

In this area, cognitive dysfunctions and dementia are the most important. Together with the increase of life expectancy, the prevalence of PD and dementia are also increasing. In the last years, a lot of studies have been published, which helped us to understand clinically, genetically, epidemiologically, and also imagistic these facts [1].

The cognitive impairment at the patients without dementia in PD was defined:

1. PD with cognitive impairment without dementia [2],
2. Mild cognitive impairment. MCI is a syndrome defined as cognitive decline greater than life expectancy and level of education of the individual, but it does not interfere with daily activities [3].

MMSE Scale is the most commonly used tool to assess the cognitive function. Folstein's MMSE was developed in 1975 to assess the mental state of psychiatric patients and to differentiate the organic or functional origin of their pathology [4].

The experience of using this test has increased over time, reaching its major function is the detection and evaluation of cognitive impairment associated with the progression of neurodegenerative disorders and Alzheimer's disease (AD) [5].

MMSE Scale is structured in a series of questions that sums up 30 points, grouped in the following categories: orientation in time and space, register, attention and concentration, reminder, language, visual construction.

The MMSE performance was found to be significantly correlated with a variety of tests: Wechsler Adult Intelligence Scale (WAIS), Wechsler Memory Scale, Clock Drawing Test Score, Activities of Daily Living, Clinical Dementia Rating Scale [6], [7].

Material and Methods

We evaluated prospective and observational 46 patients with PD being between 55-75 years old. The Parkinson's disease diagnostic was established according to the Parkinson's disease criteria. The patients who agreed to participate in this evaluation signed the informed consent. These patients had a complete neurological examination and a structured questionnaire interview which was performed by neurologists. Patients with atypical parkinsonian disorders, drug induced parkinsonism, vascular pseudoparkinsonism, and those with parkinsonism after dementia were excluded from this study.

The assessment included the Hoehn and Yahr scale [8] and the mini mental state examination (MMSE) [4].

The statistically analyzed was processed with Med Calc. The results were explicated by percent and the items correlation was identified by correlation rate.

Results

We evaluated 46 patients, 45.6% female and 54.4% male with age between 55-75 years old; 40% being between 55-65 years old and the rest of 60% between 66-75 years old.

Using Hoehn Yahr, the 46 patients were defined: 8 (17.4%) patients in the first stage, 10 (21.7%) patients in the second stage, 12 (26.1%) patients in the third stage, 16 (34.8%) patients in the fourth stage.

Tab no 1: The distribution of the patients according to Hoehn Yahr Stage and age group.

Hoehn Yahr Stage/ age group	55-65 years	66-75 years
1 st stage	4 (8.7%)	4 (8.7%)
2 nd stage	6 (13.0%)	4 (8.7%)
3 rd stage	5 (10.9%)	7 (15.2%)
4 th stage	3 (6.5%)	13 (28.2%)

MCI was presented at 19 (41.3%) patients of the study. The patients with MCI had the following distribution: 1 (12.5%) patient in the Hoehn Yahr's first stage, 4 (40%) patients in the Hoehn Yahr's second stage, 5 (41.7%) patients in the Hoehn Yahr's third stage, 9 (56.3%) patients in the Hoehn Yahr's fourth stage.

Tab no 2: The distribution of the MCI patients according to the Hoehn Yahr Stage and age group.

Hoehn Yahr Stage/ age group	Patients with MCI	55-65 years	66-75 years
1 st stage	1 (2.2%)	0	1 (5.3%)
2 nd stage	4 (8.7%)	1 (5.3%)	3 (15.8%)
3 rd stage	5 (10.9%)	2 (10.5%)	3 (15.8%)
4 th stage	9 (19.6%)	1 (5.3%)	8 (42.1%)

Discussion

In 2012, we saw the publication of new criteria for the definition of MCI in Parkinson's disease (PD), based on a literature review and expert consensus [9]. PD-MCI, previously defined by the use of SDs below normative values, seems to be common in non-demented patients with PD (mean prevalence: 27%; range: 19%–38%) [10], [11].

The clinical profile of PD-MCI is heterogeneous, affecting a range of cognitive domains, almost certainly reflecting a range of different underlying pathophysiologies [12]. Epidemiological studies suggest that the point prevalence rate of dementia in PD is about 40% [13].

Mild cognitive impairment in PD is frequent, occurring in about 25% of PD patients, though studies differ in methodologies used. Cognitive impairment in PD is not only a late-stage feature of the disease, but may be evident in about 20-30% of early or newly diagnosed PD patients [14].

In our study, MCI is met at the patients with all Hoehn Yahr Stage, with different distribution depending on stage and age, 41.3% of the patients presented MCI. The distribution of the MCI patients is increasing together with the increase of the Hoehn Yahr Stage. For the first stages of Hoehn Yahr scale, we found MCI at 10.9% of the patients, and in the late stage we found MCI 30.4% of the patient. The age group has an important and significant impact on the incidence of MCI, the highest percentage is met, in our study, in the Hoehn Yahr's fourth stage at the patients between 66-75 years old.

Risk factors for PDD include mild cognitive impairment and cognitive dysfunction at baseline [15], [10].

Conclusions

The mild cognitive impairment is found at the patients of our study in all the Hoehn Yahr Stages. In our study, the MCI incidence increases in the same time with the age group at PD patients. The cognitive impairment at patients with Parkinson's disease recognizes progressive increase of the incidence at the same time with the stages of PD.

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Assessment of Stress Level in Psychiatry Ward Medical Personnel

Rogozea L.¹, Constantin D.¹, Grigorescu S.¹, Badau D.², Nedelcu L.¹

¹Transilvania University Brasov (ROMANIA)

²UMF Tg Mureş (ROMANIA)

E-mails: r_liliana@yahoo.com, danconstantin@englober.com, simo.grigorescu@yahoo.com, danabadau2011@gmail.com, laurnedelcu@yahoo.com, Corresponding author: *Simona Grigorescu*: simo.grigorescu@yahoo.com

Abstract

Objectives of the study: The evaluation of the stress level and the perception of stress in medical personnel from a psychiatry ward

Method: The study was performed on a group of 86 employees (physicians, resident physicians, nurses and auxiliary personnel) from a psychiatry ward of the Psychiatry and Neurology Hospital from a medium size town from Romania. Stress level was evaluated by means of the ISMA questionnaire devised by the International Stress Management Association (UK), and the perception of stress perception was evaluated by Sheldon Cohen's Perceived Stress Scale. For each item of the questionnaire we have analysed stress distribution and stress perception in the studied personnel groups.

Results: The stress level of the medical personnel from the psychiatry ward shows that 15.20% of personnel have a low stress level, 63.95% have a medium stress level and 9.35% have a high stress level. The level of perceived stress is high in 30.23% of the personnel and very high in 29.06%, most which were nurses and auxiliary staff.

Conclusions: The psychiatrists and psychiatry ward personnel have a higher stress level and perceive stress more acutely than their colleagues from other medical specialties. The causes of stress emergence are linked more to the work environment than to individual characteristics.

Keywords: stress, psychiatry, medical personnel

Introduction

International studies have demonstrated that medical personnel is exposed, more than other categories to a high stress level, facing an increased risk of developing chronic organic diseases and many other stress disorders.[1, 2, 3]. More so, it appears that medical staff from psychiatry hospital wards is strongly affected by very high stress levels, with an ensuing negative influence on the quality of their work and life.

Psychiatric hospitals, are also known as mental hospitals or psychiatric wards when they are a sub-unit of a regular hospital, specializing in the treatment of serious mental disorders, such as clinical depression, schizophrenia, and bipolar disorder. Some hospitals may specialize only in short-term or outpatient therapy for low-risk patients. Others may specialize in the temporary or permanent care of residents who, as a result of a psychological disorder, require routine assistance, treatment, or a specialized and controlled environment. Another type of psychiatric hospitalization is medium term, which provides care lasting several weeks. In the United Kingdom, both crisis admissions and medium term care are usually provided in acute admissions wards. Long-term care facilities aim at treatment and rehabilitation back into society within a short time-frame (two or three years). Another institution for the mentally ill is the community-based halfway house.

Critics such American psychiatrist Thomas Szasz have insisted that psychiatric hospitals are like prisons, not hospitals, and that psychiatrists who subject others to coercion function as judges and jailers not physicians. Franco Basaglia, a leading Italian psychiatrist who inspired and was the architect of the psychiatric reform in Italy, also defined the mental hospital as an oppressive, locked and total institution in which prison-like, punitive rules are applied [4, 5].

The aim of the study is to identify the level of stress on medical staff of a psychiatric ward.

In this study it is important for all the medical personnel involved in the treatment and nursing

of psychiatric patients to undergo a specific evaluation of their stress level. Equally important is assessing the perception of stress in all categories of medical personnel from a psychiatry hospital ward, in order to identify means of preventing the effects of stress.

Setting, Subject and Instrument

The study was performed on a group of 86 employees (physicians, resident physicians, nurses and auxiliary personnel) from a psychiatry ward of the Brasov Psychiatry and Neurology Hospital. Stress level evaluation was performed on 10 psychiatrists, 16 resident physicians in psychiatry, 10 resident physicians from other specialties working in the department at the moment of the study, 29 nurses and 21 auxiliary personnel, by means of the ISMA questionnaire devised by the International Stress Management Association (UK); stress perception was evaluated by means of Sheldon Cohen's Perceived Stress Scale. Both evaluation scales are validated scales [6]. The data were statistically processed with IBM SPSS Statistics 20 for Windows software. In order to analyse the reaction time, we calculated: the arithmetic mean (M), standard deviation (SD), and correlation index (r-Pearson).

Results

The results obtained upon administering the ISMA questionnaire are the following (Fig.1)

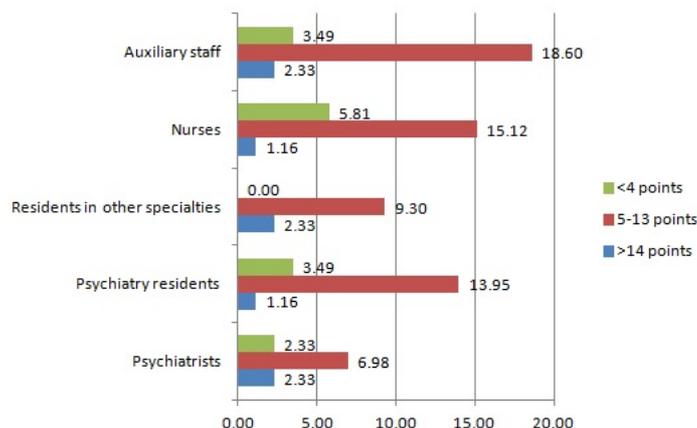


Fig.1. ISMA questionnaire results

A percentage of 15.20% from the medical staff displayed a low stress level, 63.95% displayed a medium stress level and only 9.31% displayed high stress level, facing an increased risk to develop stress-related diseases like diabetes, migraines, thoracic and cervical vertebral pain, hypertension and other cardiovascular diseases (heart attack), mental diseases, depression, and anxiety. (fig.1)

From the respondents, 30.33% admitted that they ignore their problems hoping that they will disappear, nurses being more frequently in this situation. The same result was obtained related to the lack of self-confidence and self-respect.

It was observed also that the subjects feel guilty in the situation when they are relaxing or doing nothing (29.07%), are tired at waking-up (68.60%), are limiting their feelings when somebody is really annoying them (41.86%), lack of concentration capacity, have decision making difficulties and experience alteration of memory (29.07%).

From the subjects of the study, 74.42% declared that in the last month they noticed they were no longer able to fulfil their tasks, 27.91% were addicted to psychoactive drugs and 54.65% discovered that they lacked time for hobbies or other leisure activities.

The results obtained upon applying the Stress Perception Scale in order to measure the level of stress perception are shown in figure 2. Table 1 reveals a low level stress perception in 9.31% of the medical staff (most which were nurses), a low-medium stress level in 13.96% (most which were nurses), a medium stress level in 17.45% (most which were psychiatrists), a medium-high stress level in 30.23% (most which were nurses) and, finally, a high stress level at 29.06% (most which were nurses and auxiliary staff).

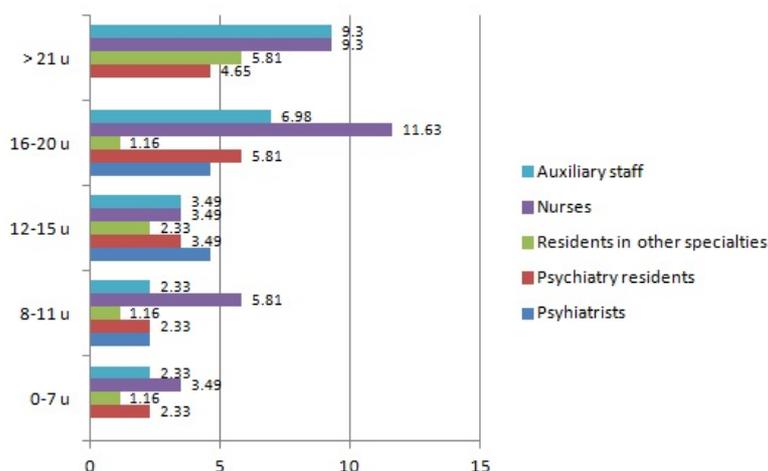


Fig.2. – Graph of the Stress Perception Scale questionnaire results

The arithmetic mean computed for the physicians' group (n=36) was 16.4167, and 16.8400 for the nurses' group (n=50), revealing a medium stress level of the nurses' group by 0.04233% higher than that of the physicians.

A weak statistical correlation could be established between the stress levels of the physicians' and nurses' group, respectively: r-Pearson = -0.093, *p<.05. level (2-tailed).

Table 1. Stress level - Descriptive Statistics

	Mean	Std. Deviation	N	Pearson Correlation	Sig. (2-tailed)
Physicians	16.4167	7.22842	36	-.093	.588
Nurses	16.8400	6.45031	50		

*p<.05

Therefore it is not a surprise that nurses have the highest level of health concern.

As conclusion, we can say that more than half of the medical personnel (59.29%) are characterized by a high and very high stress level perception, entailing a high and very high level of concern related to their health condition.

From the data obtained in this questionnaire, we consider some to be undoubtedly relevant.

It was observed that the subjects only sometimes feel that they are unable to control the important things in their lives (32.34%), they feel extremely nervous and stressed often and very often (36.05%), they experience anger caused by unexpected situations (51%), and feel overwhelmed by usual tasks (37.21%).

From the subjects of the study, 6.98% declared that they almost never feel confident in their ability to control their personal problems, 11.63% felt that almost never things happened as well as expected, and 10.47% felt that often enough that they had difficulties which they were unable to overcome.

Almost 20% of the medical staff is not able to control the unpleasant situations in their lives and more than 25% become nervous often and very often.

Discussion

The importance of these results is emphasized by the fact that in 2009, Cinzia Bressi and others obtained similar percentage figures (60%) for the stress level in a psychiatry ward in Milano [7].

From the answers obtained in this study, we found interesting information related to the way in which the stress level affected the subjects.

Almost 14% of the medical staff work from home for the hospital (physicians and nurses), probably because they are often predisposed to stress caused by the impossibility to accomplish their activities in time. In our study the physicians are less predisposed than nurses to such stress, as opposed to the situation in England [Route, 1999].

The obtained data suggest that the psychiatrists and other categories of medical staff develop significantly higher stress levels than their colleagues who work in other specialties, and are more likely to develop diseases caused by stress.

Conclusions

The main causes of stress occurrence in medical staff from psychiatric departments are much more connected to the professional environment than to their personal clinical and psychological characteristics. This is the argument for appropriate measures to be taken such as to improve working environment characteristics and identify the stress generating factors in order to reduce their effects.

The highest level of stress was identified in nurses and auxiliary personnel. These categories have an increased risk of developing diseases caused by stress like diabetes, migraines, thoracic and cervical vertebral pain, hypertension and other cardiovascular diseases (heart attack), mental diseases, depression, and anxiety.

The majority of the medical staff members are characterized by a medium level of stress, nurses being the most exposed to the risk of developing diseases caused by stress.

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«Mirror, mirror...»: psychopathology in a sample of patients with facial dermatoses

Rukavishnikov G.V.¹, Petrova N.N.¹, Smirnova I.O.²

¹ Saint Petersburg State University, Faculty of Medicine, Department of Psychiatry and Narcology (RUSSIA)

² Saint Petersburg State University, Faculty of Medicine, Department of Infectious Diseases, Epidemiology and Dermatovenerology (RUSSIA)

E-mails: grigory_v_r@mail.ru, petrova_nn@mail.ru, driosmirnova@yandex.ru

Abstract

Objectives: The lesions of the face significantly impacts on dermatological patient's level of self-esteem and can severely alter social and interpersonal engagements. The aim of our study was to investigate the impact of facial dermatoses on psychological status. **Methods:** Sixty-five patients with acne, rosacea and rosacea-like dermatitis were enrolled into the study and evaluated by dermatologist and psychiatrist. The Russian version of the Symptom Checklist-90-R was used for evaluation of the psychopathological symptoms. **Results:** 30 % of the patients had the comorbid psychiatric pathology represented mostly by disorders of the anxiety and depressive spectrum. The patients mostly had such psychiatric symptoms as somatization, anxiety, depression and sensitivity. The mental disorders were represented by the disorders of the 2 groups: Mood (Affective) Disorders (F30-39) and Neurotic, Stress-related, and Somatoform Disorders (F40-49) - according to ICD-10 classification. The patients had higher scores than the general population sample in somatization, interpersonal relations, anxiety, phobia and psychoticism SCL-90-R items. The patients with facial dermatoses had significant correlations of the SCL-90R scores with the severity of the dermatoses in such scales as somatization, phobia, additional symptoms and the General Severity Index. **Conclusions:** Our results indicate that it would be reasonable to screen for psychiatric distress while examining the patients with facial dermatoses. Special modifications in the treatment of such patients should be provided to improve the outcome in dermatological treatment.

Keywords: Anxiety disorders; facial dermatoses; mood disorders; psychodermatology; psychometric studies; somatoform disorders; stress.

Introduction

Skin diseases are proven to have high levels of comorbidity with psychological distress and often show a severe impact on quality of life [1-10]. This impact is especially significant in patients with facial dermatoses because the subjective perception of the condition in such cases can be very different from the dermatologist's clinical evaluation [7]. The patients with skin diseases often suffer from anxiety and depressive disorders and have significantly impaired quality of life [4,6,7,10-14]. However, psychiatric pathology in patients with specifically facial dermatoses has seldom been investigated.

The group of dermatitis, primary affecting the skin of the face, includes acne, rosacea and rosacea-like perioral dermatitis (POD). Although facial dermatoses usually are usually not life-threatening conditions and their symptoms are relatively mild, they can cause the severe disability [6-8]. Lesions on the face can significantly impact the patient's self-esteem and can severely alter social and interpersonal engagements [13-18].

The aim of our study was to research the impact of facial dermatoses on psychological status and to determine the factors related to a psychiatric distress.

Subjects and Methods

All new patients with facial lesions, who were diagnosed with acne, rosacea and rosacea-like dermatitis in the Department of Dermatology of the Medical Faculty of Saint Petersburg State University in the Central Dermatovenerological Clinic between February, 2013 and September, 2013 were enrolled into the study. The ethical approval for the study was obtained. Informed consent was

obtained from all subjects included. Clinical data including the age, sex, social status, disease-related characteristics and associated pathology were obtained in every case. The study participants had no history of other skin disorders. Examinations were performed by a single dermatologist. All patients were further interviewed with their consent, by the department's psychiatrist.

The Russian version of the Symptom Checklist-90-R (SCL-90-R) was used for evaluation of the psychological problems and psychopathological symptoms. It consists of 90 items, yielding nine scores in the range of primary symptom dimensions and three scores among global distress indices. The primary symptom dimensions that are assessed are somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, and a category of "additional items". The results were compared with the Russian community population norms for SCL-90R developed by the Bechterev Research Institute [19].

The discovered psychiatric disorders were classified according to the 10-th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) [20]. The ICD diagnoses were assessed on the basis of a structured interview.

The t-test was used for means comparison, the Spearman correlation was used for correlation studies. Data were analyzed with SPSS 17.0; $p < 0.05$ was considered to be statistically significant.

Results

Sixty-five patients were included in the study. The mean age was 29 years (SD – 12,15), with a minimum of 14 years and a maximum of 75 years. There were 2 males and 63 females. As to occupation, most worked ($n=43$ (66%)), others were students ($n=20$ (31%)), whereas some were unemployed ($n=2$ (3%)). 35 had permanent relationships, 19 were married, 7 were divorced, 2 were single and 2 were widowed.

29 patients were presented with adult acne, 24 with adolescent acne, 10 with rosacea and 2 with the rosacea-like dermatitis. Duration of the diseases ranged from 6 months to 60 years with the mean of 10,75 (SD - 6,81). 4 patients were diagnosed with the mild form of acne, 24 with the moderate form, 16 with the severe form and 5 had the very severe form of acne according to a global facial acne severity scale. As for rosacea 3 patients were diagnosed with the severe papulopustular form of rosacea and 7 with the moderate papulopustular form - according to Standard grading system for rosacea by the National Rosacea Society Expert Committee. 2 patients were classified with the moderate POD according to the POD Severity Index.

Only three patients were previously evaluated by a psychiatrist due to the histories of moderate to severe depressive episodes. One patient reported that her mother suffered from a paranoid form of schizophrenia. All other patients denied any history of mental disorders.

The patients usually presented complaints about their physical appearance. They were dissatisfied with the look of their face and reported that facial lesions made them feel shy and uncomfortable in communicating with other people. Complaints about other aspects of the lesions such as feelings of tingling, burning, etc. were less common. Other complaints include the different symptoms of disturbance of bowel habits, joint and back aches. However all latter complaints did not have any proven somatic basis.

Psychological complaints most often included feelings of permanent nervousness without any specific reason, inability to relax, irritability, extreme emotional instability and disturbances of sleep.

A psychiatric evaluation showed moderate frequency of psychiatric distress represented mostly by the anxiety disorders and falling along the depressive spectrum. According to our study 30 % of the patients had the comorbid psychiatric pathology. 7 patients were diagnosed with Generalized Anxiety Disorder (F41.1), 3 with Somatisation Disorder (F45.0), 3 - with Adjustment Disorder (F41.2), 4 - with the Combined Anxiety and Depressive Reaction (F43.22), 2 patients reported that they suffered from a moderate depressive episode in the past (F32.1) and 1 reported about a severe depressive episode in the past (F32.2).

With regard to the SCL-90 scores of the patients with facial dermatoses compared with the results obtained from the general population, patients with facial dermatoses presented higher mean scores in such items of SCL-90R as somatization, interpersonal relations, anxiety, phobia, and psychoticism (Table 1).

Table 1. The SCL-90R scores for Patients with facial dermatoses and Russian community population norms.

Items of SCL-90R	Patients with facial dermatoses	Russian Community Population Norms
SOM	0,61±0,05	0,44±0,03
OC	0,58±0,04	0,75±0,04
INT	0,71±0,05	0,66±0,03
DEP	0,56±0,06	0,62±0,04
ANX	0,57±0,05	0,47±0,03
HOS	0,49±0,04	0,60±0,04
PHOB	0,31±0,04	0,18±0,02
PAR	0,39±0,03	0,54±0,04
PSY	0,34±0,03	0,30±0,03
ADD	0,48±0,04	0,49±0,03
GSI	0,54±0,04	0,51±0,02
PSI	35±1,86	21,39±2,02
PDSI	4,28±1,07	1,17±0,05

Statistically significant positive correlations were observed between the severity of dermatoses and SCL-90R scores for somatization ($r=0,264$, $p=0,034$), phobia ($r=0,246$, $p=0,048$), additional symptoms ($r=0,302$, $p=0,015$) and GSI ($r=0,315$, $p=0,011$) (Table 2).

Table 2. Correlations of SCL-90R scores with the severity of skin disease and patients age.

Items of SCL-90R	Correlations with the severity of skin disease, r	Significance, p	Correlations with patients age, r	Significance, p
SOM	,264	,034	-,043	,731
OC	,179	,153	-,051	,687
INT	,135	,291	,014	,913
DEP	,115	,363	,021	,867
ANX	,173	,168	,031	,806
HOS	,139	,269	-,168	,181
PHOB	,246	,048	-,158	,209
PAR	,242	,052	,027	,829
PSY	,191	,127	-,178	,157
ADD	,302	,015	,018	,884
GSI	,315	,011	-,124	,323
PSI	,215	,086	-,117	,354
PDSI	,082	,517	,373	,002

Statistically significant positive correlations were observed between the age of patients and SCL-90R scores for PDSI ($r=0,373$, $p=0,002$).

Discussion

Chronic dermatoses such as acne vulgaris and rosacea are associated with psychiatric morbidity and can result in anxiety and depression [13-18]. However different studies showed variable presentations of psychopathology in chronic disfiguring skin disorders. Pathological skin conditions can severely impair daily functioning because of the significant social embarrassment which they produce [1,6-8,13,18]. Kamal Abdel-Hafez et al. reported in their study of acne impact on psychological status, that patients with multiple sites of involvement were affected more severely than those with a single site of involvement [16]. However, emotional stress that facial dermatoses patients develop can be more severe than in patients with other sites of involvement because of the permanent exposure of the lesions to other people.

The results of our study show a moderate comorbidity of psychiatric pathology with facial dermatoses. In our work it was found that facial dermatoses patients mostly had such psychiatric symptoms as somatization, anxiety, depression and sensitivity. The mental disorders in patients with facial dermatoses comprised disorders from 2 categories: Mood (Affective) Disorders (F30-39) and

Neurotic, Stress-related, and Somatoform Disorders (F40-49) - according to ICD-10 classification. These results are generally in line with other studies of mental disorders in patients with chronic dermatoses, that have also reported a strong association between dermatological pathology and anxiety and depressive disorders [6-8,13-18]. The patients in our study most often were present with anxiety and somatization symptoms rather than with depressive symptoms. Nevertheless, there are very few studies concerning the questions of psychiatric pathology in patients with rosacea, and the psychological sequelae of perioral dermatitis are not well documented. Moreover, although our patients often complained about their dissatisfaction with their facial appearance and their subsequent difficulties with interpersonal relations, none of them showed the criteria for the diagnosis of Body Dimorphic Disorder.

In our sample patients had higher scores than the general population sample in somatization, interpersonal relations, anxiety, phobia and psychoticism SCL-90-R items than the general population sample.

Our results support those of other researchers who have addressed the relationship between acne, rosacea and psychological distress. However, the results of the previous studies on the correlations between the severity and duration of dermatological pathology and the levels of psychological distress are very controversial. While some studies showed higher scores in all items of SCL-90-R in severe acne groups, with a statistically significant positive correlation [21], Smulevich A.B. and Dorozhenok I.U. reported no significant correlations between the severity of chronic dermatoses (including acne and rosacea) and the severity of psychological pathology [6,7]. Gupta and Gupta in their study reported the highest depressive scores in patients with mild and moderate forms of acne [13,14], while Niemeier et al. reported that the psychiatric impairment was not correlated with the objective severity of the acne [21]. We have found that patients with facial dermatoses had significant correlations of the SCL-90R scores with the severity of the dermatoses only in such scales as somatization, phobia, additional symptoms and the General Severity Index. Also we do not find any significant correlations between the SCL-90R scores and the age of the patients. Therefore, our findings can be indicative of the complex etiology of the psychopathological symptoms, which include not only the distress owed to the high nature of exposure of the skin pathology but also depend on various personality and psychological aspects.

In the future, we hope to evaluate the psychiatric distress in the samples of the patients with the higher rates of male patients and with patients present with rosacea and perioral dermatitis.

Conclusions

Our results indicate that special attention is needed to address the psychiatric pathology in patients with facial dermatoses. It would be reasonable to screen for psychiatric distress while examining the patients of this group. Further investigation into the relationship of facial dermatoses and psychological distress is likely to determine the effects of psychiatric treatment on the outcome of the dermatological disease and find the best complex approaches in treatment of these patients.

The authors have no competing interests to report.

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Intervention cognitive strategies in neurosurgical patients. Case study

Săceleanu V.¹, Mara D.², Săceleanu A.³, Roman Filip C.¹

¹Neurosurgery and Neurological Department, County Clinical Emergency Hospital Sibiu (ROMANIA)

²Faculty of Law, Department of Private Law and Educational Sciences, Lucian Blaga University Sibiu (ROMANIA)

³County Clinical Emergency Hospital Sibiu (ROMANIA)

E-mails: vicentiu.saceleanu@gmail.com, danielmara11@yahoo.com, teascu.adriana@yahoo.com, corinaromanf@yahoo.com

Abstract

Purpose: Rehabilitation of people with different disabilities resulted after some diseases represents an objective pursued by specialists from many areas like medicine, psychology, pedagogy, psychopedagogy, sociology.

Methods: Instrumental Enriching Program (Feuerstein method) is made up of a set of exercises divided into 14 instruments, which are used as means for developing mental abilities. The instruments do not have disciplinary contents, because they do not target specific knowledge acquisition but they aim at acquiring mental abilities and concepts useful in different situations. Each instrument is focused on specific cognitive functions and offers the pre-acquisitions needed for developing necessary cognitive capacities to solve the task which requires a high level of abstractization. During the activity, two or more instruments will be used, in order to avoid the monotony which may occur after using the same type of exercises for a longer period of time and to avoid the feeling of failure resulted from certain difficulties in solving the exercises of an instrument. Moreover, the instruments are studied, so that the acquisitions obtained through an instrument are strengthened while using the other instruments.

Results: Results from cognitive area were also accompanied by results obtained in the relational and emotional field. The subject recorded a high level of self-esteem because he was permanently aware of his ability to concentrate to solve the tasks, as well as the fact that he can resume his physical and intellectual activity. Towards the end of the exercises, the patient differentiates more accurately between the appropriate and inappropriate solutions, there occurs the transfer of the solutions presented in images to real-life solutions (focusing on situations of loss - health and passion for driving).

Conclusions: After the ongoing activities with the subject, activities which consisted in instrument application from the Instrumental Enrichment Program, a series of significant positive changes were ascertained in his behaviour: active partaking in solving tasks, a rise in concentrating ability, centring on the essential tasks, coherent expression.

Keywords: Disability, cognition, normality

Introduction - Instrumental Enrichment Program

Instrumental Enrichment Program (Feuerstein method) is made of a set of exercises divided into 14 instruments, which are used as means for developing mental abilities. The instruments do not have a disciplinary content, because they do not target specific knowledge acquisition but they aim to acquire mental abilities and concepts useful in different situations.

Each instrument is focused on specific cognitive functions and offers the pre-acquisitions needed for developing necessary cognitive capacities to solve the task which requires a high level of abstractization.

Instrument exercises, apart from Temporal Images and Relations, which are organized differently, imply a gradual rise of difficulties in order to favour gradual acquiring of pre-acquisitions needed for solving successive exercises, strengthening, in this way, the feeling of competence, autonomy in organizing tasks and intrinsic motivation. It is recommended to grant a greater attention on reflecting upon mechanisms which led to solving tasks, so that the subjects would be aware of the importance and necessity of talking about performed work and to make transfers based on the principles formulated during the activity.

Developing principles and making transfers are very important elements. Finding a valid principle means synthesizing, in a concise and significant phrase, of all details seen in the analyzed page. The principle can underline and overcome difficulty, a newly learned information, a particular reflection which the exercises have generated, or a necessary element to solve the specified page. Transfer represents the creation of a connection between principle, result of necessary reflection for understanding and solving tasks and daily life.

During the activity, two or more instruments will be used, in order to avoid the monotony which may occur after using the same type of exercises for a longer period of time and to avoid the feeling of failure resulted from certain difficulties in solving the exercises of an instrument. Moreover, the instruments are studied, so that the acquisitions obtained through an instrument, are strengthened while using the other instruments. A particular line is followed at the Image instrument, which is formed by humoristic stories, independent one from the other. Each page contains a story which can be chosen based on the exigency of the working group and can be introduced in any moment of the activity, after the Point Organization Instrument was ran.

Each instrument begins with an illustrated page (the cover or the first page), which is used to introduce the instrument, in order to create an expectation horizon and to develop the motivation to go over the respective page.

The cover pages have certain characteristics which remain unchanged from an instrument to the other, in order to underline the continuity of the work and, in return, every instrument is different from the others. The mediator guides the subjects to analyze the symbol from the cover in order to deduce the content of the exercises which they will solve and the tasks which they will debate.

Case study

Subject: H.S.

Age: 48 years old.

Department: Neurosurgery – Clinical County Hospital of Sibiu;

Main diagnosis: Hemorrhagic stroke with right temporoparietal intraparenchymatous hematoma

Secondary diagnosis: Essential hypertension. Type 2 diabetes, Hyperlipidemia.

Neurological examination:

- GCS = 10;
- Motor deficit of left hemibody;
- Vomiting;
- Positive Babinski's sign on the left side.

Pathological personal antecedents: essential hypertension, type 2 diabetes.

CT scan: right temporoparietal intraparenchymatous hematoma (Fig. no. 1,2).



Fig. no.1. Right temporoparietal intraparenchymatous hematoma

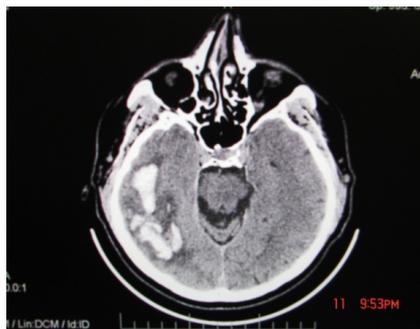


Fig. no.2. Successive image; the same case

Surgical intervention: the approach is conservative with neurosurgical monitoring, with favourable neurological evolution.

Intervention strategies:

The patient underwent complex psychological examinations, as well as tests relevant to the psychological profile configuration (Fig. no. 3), tests of memory, attention. The results obtained allowed the identification of the key characteristics based on which the subsequent intervention was planned.

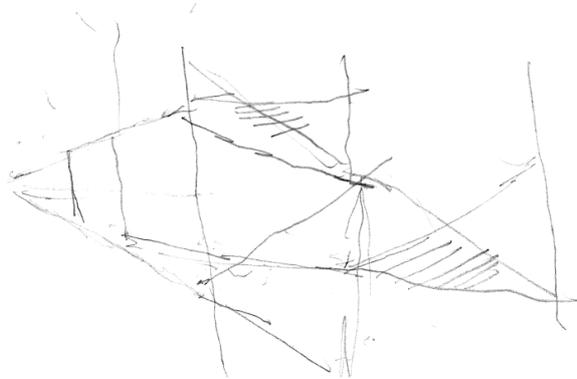


Fig. no. 3. Rey complex figure test filled out by the patient

Point Organization Instrument

Date: 04.03.2011

Subject: H.S.

Cover (Fig. no.4)

Objective:

- Creation of expectations;
- Introducing the concepts related to the word “ to think” to get to also talk about cognitive functions;
- Directing the patient to understand the idea that man holds the world.



Fig. no.4. Point Organization Instrument, Cover

Mediation:

- intentionality and reciprocity;
- transcendent;
- significance.

Working strategies:

The cover is presented to the patient who is asked to look at it carefully, and then try to find all important information. It aims to identify images.

Point Organization Instrument

Date: 10.03.2011

Subject: H.S.

Page 1 (Fig. no.5)

Objectives:

- Create virtual relations through the reproduction of the model figure;

- Learning how to develop and use coping strategies;
- Developing organizational skills and spatial orientation (Fig. no. 6).

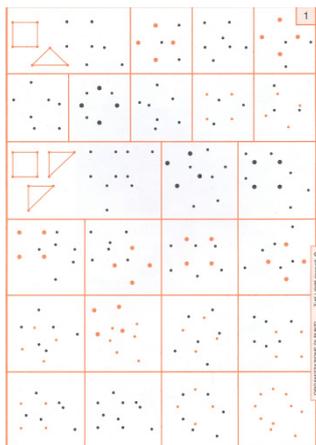


Fig. no.5. Point Organization strategies, Page 1

Mediation:

- braking impulse;
- eliminating trial and error type executions;
- cultivate a sense of trust in each other;
- stimulating the patient to carefully observe the page;
- recommendation to use the time to understand what he has to do.

Working strategies:

The patient is presented page 1 and he is asked to look at it carefully, then try to find all important information.

The attention is focused on the important data (square and triangle characteristics);
The need for precision and accuracy in the reproduction of figures are stressed upon.

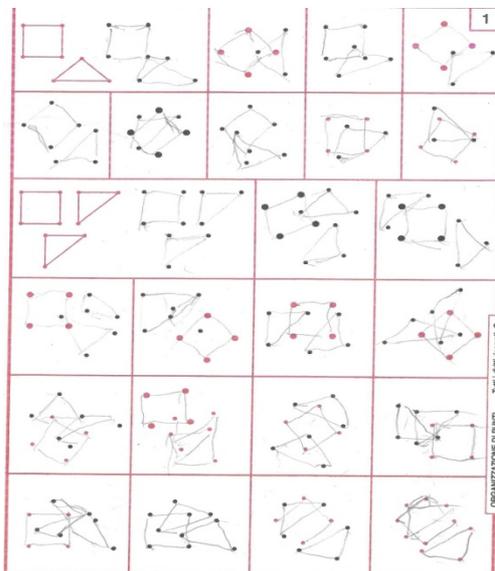


Fig. no. 6. Page 1 filled in by the patient

Principles:

- Such a model helps us to solve a task, thus helping us to learn.
- Such a model helps us to solve a task and, so we must exploit it.

Comparisons Instrument

Date: 15.03.2011

Subject: H.S.

Page 2 (Fig. no.7)

Objectives:

- Comparing the geometric shapes based on the parameters of direction, number and structure;
- Introducing the concept of essential element.

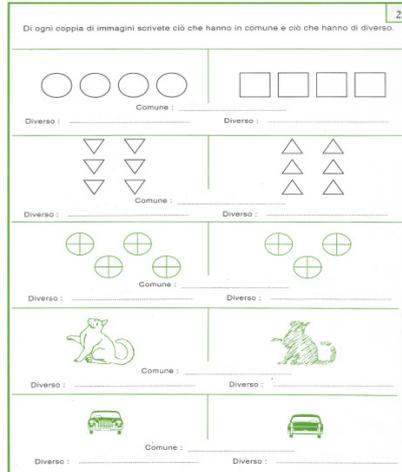


Fig. no.7. Comparisons Instrument, Page 2

Working strategies:

- In resolving this page, it is envisaged to raise the level of abstraction highlighting the most abstract terms: number, shape, size;
- Elements to be compared are similar in all characteristics except one, which is the essential component to perform differentiation;
- Both relative and absolute differences can be compared (e.g. large - small circle - square).

Principles: The confrontation action leads us to be aware of what might remain unnoticed.

Spatial Orientation Instrument I

Date: 20.03.2011

Subject: H.S.

Page 2 (Fig. no.8)

Objectives:

- Problem definition in the absence of the written requirements;
- Differentiation between the stable (fixed) and relative elements (variables) of the problem;
- Recognizing the fact that changes in orientation bring about changes in relations.



Fig. no.8. Spatial Orientation Instrument I, Page 2

Mediation:

Working strategies:

- Requirements are implicit. If this term has not been acquired yet, it can be introduced now.
- In the absence of the written requirements, it is possible to introduce them through an exercise analysis in search for the implicit information.

- The boy on one side and the objects on the other are constant, they remain equal, *what changes is the relation between the boy and the objects* when the boy changes his position.

Principles:

It is always necessary to control all the data provided, but when you need to act based on the implicit information, this is indispensable.

The analysis of a phenomenon from one point of view does not allow the collection of all data on that phenomenon.

Objectives:

- Problem definition in the absence of the written requirements;
- Differentiation between the stable (fixed) and relative elements (variables) of the problem;
- Recognizing the fact that changes in orientation bring about changes in relations.

Comparisons Instrument

Date: 28.03.2011

Subject: H.S.

Page 2 (Fig. no.9)

Objectives:

- Comparing the geometric shapes based on the parameters of direction, number and structure;
- Introducing the concept of essential element.

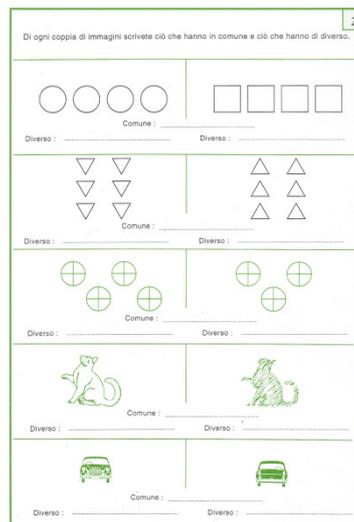


Fig. no.9. Comparisons Instrument, page 2

Working strategies:

- In solving this page, one has in view to try to raise the level of abstraction highlighting the most abstract terms: number, shape, size.
- Elements to be compared are similar in all characteristics except one, which is the essential component to perform differentiation.
- In some exercise, the number is not essential in describing the common characteristics, although it may be included in the description as an auxiliary parameter (e.g. four geometric shapes, three triangles, etc.).
- The number can become essential when all the other aspects are the same.
- In the penultimate exercise, the right model or cat form is the same as the cat form on the left side. This would not be obvious if either of the two cats were not in the plan (not space): comparison allows better visualization of what is confusing.

Principles:

- The confrontation action leads us to be aware of what might remain unnoticed.

Image Instrument

Date: 28.03.2011

Subject: H.S.

Page 1 Frogs (Fig. no.10)

Objectives:

- Generalizing the information drawn from the parables then transferring them in human experiences;
- Extracting the significance of the useful signs and identifying the thoughts, perceptions and attitudes;
- Recognizing the constant of some characteristics under the changes that occur;
- Distinguishing between an accomplishable aspiration and a non-accomplishable ambition.



Fig. no.10. Image Instrument, page 1

Mediation:

Mediation of transcendence intentionality and significance are indicated in interpreting the actions and reactions of the two frogs. The necessity of controlling behaviour becomes obvious from the conclusion drawn from the previous sequence.

Working strategies:

Watch the four successive images. It is necessary to understand the relationship between various events in order to understand the story: even particular things can be essential for a correct interpretation.

Guide the students to infer some conclusions looking at images. Signs are an economical and universal method to communicate.

Figure 1

The frog on the left is not only looking at the elephant, but it also evaluates the “victim”. Supporting elements: the line running from the frog’s eyes encompasses the elephant from front to back.

The elephant is riding, he is not stopped, which explains that he does not appear in other figures. The frog on the right is not involved. We cannot draw any conclusion regarding her relation with the character.

Figure 2

The frog on the left thinks that she is as big as the elephant in order to give him orders. The frog on the right sees what is happening, but she does not understand; she probably gets alarmed. Supporting elements: perplexity, changing position from sitting to standing.

Figure 3

The frog on the left continues to grow. She seems to be a threat. Supporting elements: the frog’s finger positioned as a sign of warning.

Figure 4

The first frog has grown so much that it explodes. The other frog is sad. Supporting elements: frog’s annoyance expression and the tears that fall.

Principles:

An event cannot be considered as isolated but it must be seen within that particular context with what precedes and follows it.

We have to differentiate between daydreams and reality, between what is possible and what is impossible.

We should be aware that our goals worthwhile investments we make and the risks which may occur.

Analytical Perception Instrument

Date: 02.04.2011

Subject: H.S.

Page 1 (Fig. no.11)

Objectives:

- Recognizing that each part is in turn a whole;
- Emphasizing the usefulness in labelling the figures in order to identify them and facilitate the communication with others;
- Emphasizing the importance of the systematic work;

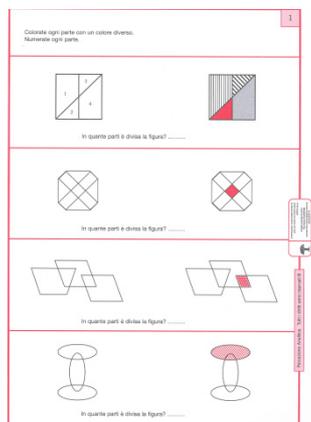


Fig. no.11. Analytical Perception Instrument, page 1

Working strategies:

Each exercise is made up of a couple of geometric shapes divided into parts. We have to colour the parties and count them. Except for the children with deficiencies, it is avoided to effectively use the colours, preferring a symbol or strategic. The colours facilitate the differentiation of various elements (e.g. electrical wires are isolated in different colours).

Principles:

When it is necessary to use a substitution element instead of the original, the first should have relevant characteristics.

A number can be used to label, in order to indicate quantities or to indicate the sequence.

There are occasions in which our goal is to be incisive, occasions in which we need to be economic.

Independent of the system followed, it is more indicated to proceed in a systematic manner than in casual manner.

Conclusions

After the ongoing activities with the subject, activities which consisted in instrument application from the Instrumental Enrichment Program, developed by Reuven Feuerstein, a series of significant positive changes were ascertained in his behaviour: active partaking in solving tasks, a rise in concentrating ability, centring on the essential task, coherent expression etc.

The subject recuperated a lot from the expression point of view, of organizing a work space and of acquiring an elevated level of self-esteem and autonomy.

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The Role of Worry and Related Psychological Constructs in Predicting IBS Symptoms in Clinical Population

Ștefan S.¹, Dumitrașcu D.L.²

¹ Babes-Bolyai University, Cluj-Napoca; University of Medicine and Pharmacy Iuliu Hatieganu (ROMANIA)

² University of Medicine and Pharmacy Iuliu Hatieganu (ROMANIA)

E-mails: simonastefan@psychology.ro, ddumitrascu@umfcluj.ro

Abstract

Irritable bowel syndrome (IBS) is a highly prevalent functional somatic syndrome, characterized by persistent abdominal pain, disrupted bowel habits and abdominal distension unexplained by organic pathology. IBS tends to become chronic and it is associated with high levels of distress and a decreased quality of life. Also, there is a high comorbidity between IBS and emotional disorders, especially in the anxiety spectrum. Worry and related psychological factors (i.e., anxiety sensitivity, experiential avoidance, general distress) have been consistently associated with IBS symptoms in the general population; however, no study has examined such relations using prospective designs, especially in clinical populations. The objective of the current study refers to investigating the specific relations between worry, related psychological constructs (i.e., anxiety sensitivity, experiential avoidance, general distress) and IBS symptoms in clinical population (N = 38), using a prospective research design. The results show a consistent pattern of inter-relations among psychological factors and IBS symptomatology.

Keywords: Irritable bowel syndrome, worry, experiential avoidance, general distress

Theoretical Background

Irritable bowel syndrome (IBS) is a highly prevalent functional somatic syndrome, characterized by persistent abdominal pain, disrupted bowel habits and abdominal distension unexplained by organic pathology [1]. Its prevalence has been estimated at 8-20% in the general population [2], [3] and about 30% of gastrointestinal patients suffer from IBS [4]. Along with the other functional syndromes, IBS tends to become chronic, it is associated with a decreased quality of life [5], and costs for the medical services and for society [6], [7], [8].

The Etiology of IBS – the Role of Psychosocial Factors Subsection

IBS is a multifactorial disorder, determined by an interaction between genetic, environmental and psychosocial factors [9]. With regards to the etiology of IBS, it can be conceptualized as a multi-determined disorder of the brain-gut function, emotional and cognitive brain areas influencing bowel functionality, visceral hypersensitivity and inflammation [10]. Research has indicated that psychosocial stressors and negative mood affect the gut function and IBS symptoms [11], and that psychiatric conditions like mood and anxiety disorders are highly prevalent in IBS patients [12]; these may constitute reasons why gastrointestinal medication may not be enough to reverse IBS symptoms [10].

Several models have been proposed to explain the psychological roots of IBS, some models emphasizing the role of psychological stress as an exogenous factor (i.e., stress is considered a nonspecific factor, external to IBS, such as daily hassles) while other models point to endogenous psychological factors specifically related to IBS. On the one hand, research data have shown that mundane stress is associated with an increase in IBS symptoms [13] or that there is a high comorbidity between IBS and anxiety and depressive disorders [14], [15]. The nature of this causal relationship is however still unclear since data have not yet been conclusive enough [16]. On the other hand, endogenous models support the role of visceral anxiety – cognitive, emotional and behavioral responses resulting out of fear towards visceral sensations and symptoms and towards the context in which they may occur - , as a main factor in the onset and maintenance of IBS [17].

With regard to treatment procedures, antidepressive medication, both tricyclic and selective serotonin reuptake inhibitors have shown to be efficient when compared to placebo interventions, and psychological treatment, particularly cognitive-behavioral therapy (CBT) has shown similar efficiency when compared to standard care [18]. CBT was shown to be efficient also when administered in group [19], or when using internet-based interventions [20]. However, CBT protocols for IBS usually comprise several sessions (e.g., 10 sessions for affective cognitive behavior therapy; [21] 12 sessions for cognitive behavior therapy; [22]) and are mostly administered in outpatient settings, and this aspect might limit the access of patients to treatment. In this context, implementing short interventions, which can be also applied in inpatient settings, would bring significant benefit for IBS patients who cannot afford standard CBT. Implementing brief and effective procedures implies identifying highly relevant psychological factors which play a role in the development and maintenance of IBS, and targeting them in intervention. One such relevant factor refers to the concept of worry, as research findings have evidenced its connection to functional somatic symptoms (e.g., [23], [24]).

Worry and its relation to functional somatic symptoms

Worry has been defined as “a chain of thoughts and images, negatively affect-laden and relatively uncontrollable; it represents an attempt to engage in mental problem solving on an issue whose outcome is uncertain but contains the possibility of one or more negative outcomes “ ([25], p.10).

The field literature differentiates normal and pathological worry. Normal worry is experienced by most individuals, it is mild, transient and triggered by specific life-events [26]. In contrast, pathological worry is excessively frequent, it is characterized by a sense of uncontrollability, it is more pervasive and interferes with daily functioning. Pathological worry has been considered the core diagnostic feature of generalized anxiety disorder (GAD) since the publication of the revised, third edition of the Diagnostic and Statistical Manual of Mental Disorders.

Worry was also shown to be a relevant predictor of somatic complaints ([27], [28],[29]), and functional somatic syndromes, like irritable bowel syndrome (IBS) ([23], [24]). Studies have indicated that people diagnosed with IBS according to the ROME II criteria show a higher level of worry, anxiety, and experiential avoidance when compared to non-diagnosed participants [24], and that 37% of people diagnosed with GAD also meet criteria for IBS [30].

Considering the relation between worry and somatic complaints, data have shown that worry levels prospectively predict somatic symptoms, and that diminishing worry levels via cognitive techniques leads to significant decreases in somatic complaints [31]. The reason why worry is relevant to somatic symptoms lies in the fact that worry is considered to mediate the relation between stressful life events and personality traits, on the one hand, and somatic symptoms on the other hand, due to the prolonging of physiological activation [29]. Along with rumination, worry relies on perseverative cognition, [32], which has detrimental effects on health since it prolongs psychological and physiological responses to life events, and, consequently, physiological systems associated with stress become chronically activated.

However, despite the large number of studies that have addressed the relation between worry and somatic symptoms, so far, there are no prospective data on the specific relation between worry and IBS symptoms. That is, the fact that worry is associated with IBS symptoms ([23], [24]) does not necessarily indicate a causal role of worry in the onset and maintenance of IBS; worry could have a role in triggering IBS symptoms, but worry itself may also be triggered by the presence of the IBS symptoms. Investigating this relation using a prospective design could therefore shed light on this matter.

Overview of the present research

The purpose of the current study refers to highlighting the role of worry in predicting IBS symptoms in clinical IBS population by using a prospective research design. So far, data have shown that worry is associated with somatic complaints in student populations and that a brief psychological intervention leads to a significant decrease in reported symptoms [31]. Also, studied using ex-post-facto designs have highlighted the association between worry and experiential avoidance (one factor considered to be etiologically related to worry; [33]) and IBS symptoms [23]. Another possibly relevant factor in the onset and maintenance of IBS symptoms could be anxiety sensitivity, as studies have shown that it is related to somatic complaints. However, the predictive value of worry and related constructs specifically for IBS symptoms remains yet unknown. Investigating worry and associated concepts (i.e., anxiety sensitivity, experiential avoidance) in relation to the development of IBS

symptoms would bring clarifying information in terms of possible predisposing and maintenance factors of IBS symptoms in clinical population. Also, by extending the findings to clinical population with a diagnosis of IBS, we can obtain more theoretically-valid and relevant results, which can further inform treatment practices.

Methods

Participants

Participants (N = 38) were recruited from a tertiary medical center with emphasis on functional gastrointestinal disorders from Cluj-Napoca. In order to be included in the study, participants had to meet the ROME III criteria for IBS. In the current sample, participants were aged 25 to 75 (m = 48.18, SD = 13.73), 84,2% were females and 15.8% were males. Participants varied in education level from primary education to masters degree, with the majority (68.4%) reporting high school education, with or without graduation.

Design and procedure

The study employed a prospective design. Initially (Time 1), participants completed measures of worry, experiential avoidance, anxiety sensitivity, general distress, and IBS symptoms, and, after three weeks, they were contacted (via telephone) and asked to fill three of the questionnaires (i.e, measuring IBS symptoms, worry, and general distress) again (Time 2). Questionnaires were delivered by mail. The predictive role of worry and associated concepts should be evidenced if these concepts associate with IBS symptoms (measured at Time 2) even when controlling for initial levels of IBS symptoms measured at Time 1. Since patients' return to the clinic was difficult to predict and impossible to control (in terms of time and location), data collected at Time 2 relied on reported IBS symptoms.

Measures

Predictor and criterion variables were measured using psychometrically sound instruments; Worry was measured by The Penn State Worry Questionnaire, PSWQ, [34]; experiential avoidance was measured by The Acceptance and Action Questionnaire, AAQ, [35]; anxiety sensitivity was measured using the Anxiety Sensitivity Index; ASI, [36]; general distress was measured using the Profile of Mood States, Short Version; POMS, [37]; and IBS symptoms were quantified using the Gastrointestinal Symptom Rating Scale – IBS version, [38].

Results

Descriptive and correlational data for the investigated variables at Time 1 and Time 2 are displayed in Table 1.

Table 1. Descriptive statistics and Pearson correlation matrix for the investigated variables

Variables	Mean (SD)	1	2	3	4	5	6	7	8
1. IBS symptoms T1	46.68 (13.09)	-							
2. Worry T1	49.28 (13.94)	.182	-						
3. Experiential avoidance T1	34.92 (12.66)	.253	.691**	-					
4. Anxiety sensitivity T1	31.07 (15.36)	.357*	.634**	.710**	-				
5. General distress T1	63.65 (31.50)	.368*	.643**	.807**	.596**	-			
6. IBS symptoms T2	39.40 (11.71)	.559**	.218	.304*	.187	.259	-		
7. Worry T2	51.68 (13.50)	.478**	.837**	.667**	.751**	.681**	.315*	-	
8. General distress T2	58.56 (33.70)	.352*	.663**	.744**	.464**	.842*	.398**	.618**	-

*p < .05; **p < .01

Data indicate that IBS symptoms at T1 are significantly associated with anxiety sensitivity, $r(38) = .357$, $p = .014$, general distress at T1, $r(38) = .368$, $p = .012$, worry at T2, $r(32) = .478$, $p = .012$, and general distress at T2, $r(32) = .352$, $p = .024$. On the other hand, IBS symptoms at T2 are significantly related to experiential avoidance, $r(32) = .304$, $p = .045$, worry at T2, $r(32) = .315$, $p = .040$, and general distress at T2, $r(32) = .398$, $p = .012$.

None of the aforementioned variables predict IBS symptoms at T2 when controlling for the T1 level of IBS symptoms, all p s $> .05$. On this sample, it seems that worry at T2 is prospectively predicted by IBS symptoms at T1, even when controlling for worry level at T1, $R^2_{change} = .038$, $F_{change} = 4.20$, $p = .049$. The reverse relation, with worry at T1 predicting IBS symptoms at T2 is not significant as initially predicted, $R^2_{change} = .001$, $F_{change} = .021$, $p = .887$. When considering subcategories of IBS symptoms however, diarrhoea symptoms at T2 seem to be associated with worry levels at T1 (when controlling for diarrhoea symptoms at T1), but the results do not reach statistical significance, $r(32) = .242$, $p = .095$.

Discussion and Conclusions

Data have generally shown that IBS symptoms were significantly related to psychological constructs like worry, anxiety sensitivity, experiential avoidance, and general distress either at Time 1 or Time 2. These results further support research data indicating that negative emotions and distress are consistently associated with somatic symptoms [39], [40], [41]. However, IBS symptoms at T2 were not prospectively predicted by any of the psychological variables, although previous data conducted on general population showed such a pattern [31]. IBS symptoms were instead found to predict future worry levels when controlling for initial worry levels; that is, people with more severe IBS symptoms will worry more in the future regardless of their current worry level. This is to be expected given the fact that IBS symptoms are difficult to manage and cause significant distress; interestingly, the pattern was not found for general distress. Among the IBS clusters, only diarrhoea symptoms seemed to be predicted by initial worry levels, probably because diarrhoea is a more common somatic symptom associated with anxiety [42], that bloating or satiety for example.

On the whole, IBS symptoms were consistently associated with psychological constructs such as worry, anxiety sensitivity, experiential avoidance, or general distress, even if prospective prediction relations were not evidenced. One possible explanation refers to the small number of subjects, which surely limits the generalizability of the results. Investigating these patterns of relationships using larger samples would shed more light on this matter and would allow more sound conclusions to be drawn. It is also possible that some participants did not fully understand the content of certain items, despite the researchers' efforts to explain the purpose of the study and the nature of the constructs. Designing more intuitive measures in the future would provide access to measuring psychological constructs in less educated samples.

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Accentuated personality traits in patients with functional dyspepsia

Svintsitsky A.¹, Revenok K.¹, Malyarov S.², Korendovych I.¹

¹Department of Internal Medicine #3, Bogomolets National Medical University (UKRAINE)

²Department Social, Judicial and Child psychiatry, National Academy of Postgraduate Education named after P.L.Shupik (UKRAINE)

E-mails: sasnmu@mail.ru, s.malyarov@gmail.com, ira-korendovych@yandex.ru

Abstract

Personality is the backbone of the individual that determines its development, adaptation and mental health. Accentuated traits - are individual traits that tend to become pathological, however, this can't be considered as abnormal. The concept was introduced by German psychiatrist Karl Leonhard. These traits may underlie comorbid psychiatric conditions (anxiety, depression or somatisation) seen in patients, especially with resistant functional gastrointestinal disorders.

Our aim was to assess personality traits of patients with functional dyspepsia from the concept of "accentuated personality traits" before and after the treatment using eradication therapy (ET) plus escitalopram or ET only.

Methods: Adult patients (18 - 65 years) with confirmed diagnosis of FD were eligible to participate. To assess accentuated personality traits we used validated Leonhard questionnaire (adapted Shmishek version, 1970). To avoid bias one independent rater-psychologist, blinded to clinical diagnosis and affiliation to the treatment group, made all calculations of questionnaires. All patients were randomly allocated to the treatment group. Patients of the first group received ET according to Maastricht 4 (2010) plus escitalopram in a initial dose of 5 mg/day. The second group received ET only for 10 days. Personality traits were assessed on the 1st and 30th day of treatment.

Results: Of 75 randomized patients (mean age 40.3±3.9; males – 26 (34.7%)), 43 were allocated to the first group and 32 to the second one. When assessing patients before treatment combined type of accentuation was determined, mainly due to emotive (17.5±0.56), hyperthymic (17.4±0.54), cyclothymic (16.2±0.56), demonstrative (13.1±0.43) and affect – exalted (16.1±0.58) traits. Polar distribution of accentuated traits was not observed. There was no statistically significant difference between groups. When assessing the traits on the 30th day of treatment, patients of the I group had statistically significant decrease in scores of emotive (14.1±0.52), anxious (from 10.4±0.79 to 8.3±0.43), hyperthymic (14.7±0.47), excitability (from 12.3±0.41 to 9.7±0.43) and demonstrative (10.3 ± 0.43) traits comparing to the II group (p<0.05 in all cases).

Conclusion: Our study did not detect specific personality profile for FD, but we received very promising data that require further profound studies of a possible role of psychopharmacotherapeutic agents in correction of disadaptation in "functional" patients.

Keywords: Functional dyspepsia, accentuated personality traits, escitalopram.

Introduction

Personality is the backbone of the individual that determines its development, adaptation and mental health. Excessive unbalanced biological, psychological and social stimuli together with the presence of a genetic predisposition often result in so-called "functional disorders". The peculiarity of functional gastrointestinal (GI) disorders is that in most cases they appear with multiple symptoms: pain, nausea, vomiting, bloating, diarrhea, constipation and are less amenable to explanation and effective treatment [1]. One of the first who paid attention on characteristics of a personality as a possible "mediator" in the development of psychological disorders and introduced the concept of "accentuated personalities" was German psychiatrist Karl Leonhard. A model of "accentuated traits" that he developed contains ten types of possible accentuations: four of which refer to the accentuations of character (demonstrative, pedant, excitable, stuck (paranoid), and six – to the accentuations of temperament (hyperthymic, dysthymic, anxious, emotive, cycloid (affective-labile), affective-exalted). Accentuated traits - are individual traits that tend to become pathological, however,

this can't be considered as abnormal. It is not always easy to make a clear distinction between accentuated traits and traits that determine the variation of individuality. Variations of accentuated traits may have both positive and negative trends. In general "accentuation" always means a certain degree of enhancement of a trait. The development of neuroses is often associated with the presence of accentuation [2]. Accentuated traits may also underlie comorbid psychiatric conditions such as anxiety, depression or somatisation that may be frequently observed in patients, especially with resistant functional gastrointestinal disorders.

So the **aim** of our study was to assess personality traits of patients with functional dyspepsia from the concept of "accentuated personality traits" before and after the treatment using eradication therapy (ET) plus escitalopram or eradication therapy only.

Methodology

This was a part of a randomized prospective superiority trial which aim was to assess the superiority of combined treatment using ET plus antidepressant (selective serotonin reuptake inhibitor-escitalopram) by comparison with ET for patients with functional dyspepsia (FD). Patients >18 and < 65 years, with dyspeptic complaints, who were admitted to the tertiary level of care, in the period of January 2013 – January 2014, were eligible to participate in this study. Inclusion criterion was the presence of functional dyspepsia due to the Rome III criteria (2006). Exclusion criteria were the presence of "red flag" signs and other comorbidities that could explain the symptoms. Due to the protocol of the study all patients were tested for H. pilory using two methods (rapid urease test and by morphological examination of mucosa); the presence of anxiety and/or depression was assessed by Hamilton Anxiety and Depression Rating Scales and the quality of life – by WHOQOL-BREF questionnaire.

Accentuated personality traits assessment

To assess accentuated personality traits we used validated Leonhard questionnaire (adapted Shmishek version, 1970). The questionnaire consists of 88 questions to be answered "yes" or "no." To avoid bias one independent rater-psychologist, blinded to clinical diagnosis and affiliation to the treatment group, made all calculations of questionnaires. Scoring for each type of accentuation was made according to the key, with the maximum score of 24 points for each type. The trait was considered to have a tendency to become accentuated in case the total score is above 12. In case the total score is above 19 – the trait was considered to be truly accentuated. To allocate patients randomly to the treatment group, a numbered series of sealed envelopes containing group assignments were used. Patients of the first group received ET according to Maastricht 4 (2010) for ten days plus escitalopram in a initial dose of 5 mg/day for the first two weeks; depending on individual response the dose was increased to 10 mg/day – for 30 days. The second group received ET only for ten days. Personality traits were assessed on the 1st day before treatment and on the 30th day of treatment.

Statistical analysis

Continuous variables were compared using Student's t test and are presented as mean \pm standard deviation. Categorical variables were compared using Pearson's chi-square test (both 2-sided) and are presented as counts and percentages. A p-value <0.05 was considered to be significant. This methodical approach provided a sufficient level of statistical power of the study (not below 80%). Statistical analysis of data was performed using Stata 11 and Statistica 6 software packages.

Results

Out of 75 randomized patients (mean age 40.3 ± 3.9 ; males – 26 (34.7%)), 43 were randomly allocated to the first treatment group and 32 to the second one (Fig.1). The groups were statistically comparable in age and sex. Baseline characteristics of the patients within two groups (including dyspeptic symptoms) are shown in table 1. When assessing the traits of patients of two groups before treatment combined type of accentuation was determined, mainly due to emotive (17.5 ± 0.56), hyperthymic (17.4 ± 0.54), cyclothymic (16.2 ± 0.56), demonstrative (13.1 ± 0.43) and affect – exalted (16.1 ± 0.58) traits (Fig.2). Polar distribution of accentuated traits was not observed. There was no

statistically significant difference between groups. Assessing dyspeptic symptoms such as postprandial heaviness and epigastric pain, the results showed statistically significant reduction of the above mentioned symptoms within the patients of the first treatment group who received ET + SSRI escitalopram (I-40/43 (93.1%); II-15/32 (46.9%); P=0.0001). When assessing personality traits on the 30th day of treatment, patients of the I group had statistically significant decrease in scores of emotive (14.1±0.52), anxious (from 10.4±0.79 to 8.3±0.43), hyperthymic (14.7±0.47), excitability (from 12.3±0.41 to 9.7±0.43) and demonstrative (10.3 ± 0.43) traits comparing to the II group (p<0.05 in all cases) (Fig.3).

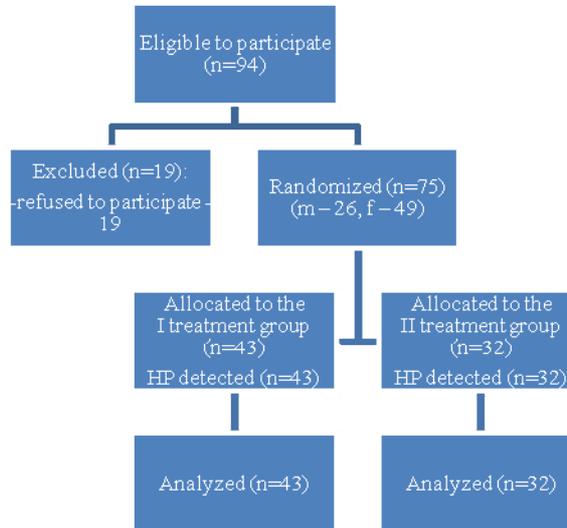
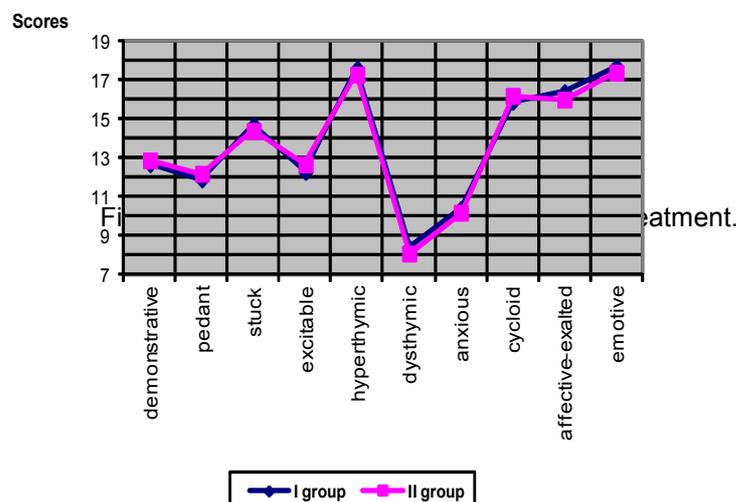


Fig.1 . Flow diagram of patients enrolment and randomization

Table 1 Baseline characteristics of patients within two groups

Characteristics	I group (n=43)	II group (n=32)	P value
Males	18 (41,8%)	12 (37,5%)	0,70
Females	25 (58,2%)	20 (62,5%)	
Age, years	40,9±4,1	39,6±3,8	0,49
H. pylori	43 (100%)	32 (100%)	
Postprandial distress	23/43 (53,5%)	15/32 (46,9%)	0,57
Epigastric pain	20/43 (46,5%)	17/32 (53,1%)	



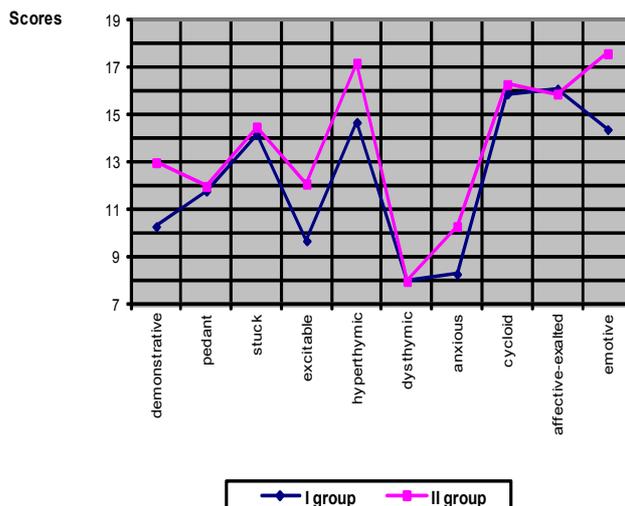


Fig.3. Accentuated personality traits on the 30th day of treatment.

Discussion

Our study did not detect specific personality profile for functional dyspepsia. The lack of up to date randomized controlled studies with the personality profile assessment makes it difficult to make a general interpretation of the results in the context of current evidence. Chronic abdominal pain or discomfort can result in elevated scores on personality assessment [3]. The data that we received allows us to designate some kind of a possibility to effect on intensity and severity of gastrointestinal symptoms through the influence on affective manifestations of personality traits called “accentuations”. The factor that could limit our study was the recruitment of patients only of the tertiary level of medical care, so we didn’t manage to make the analysis of an average population.

To our opinion we received very promising data that require further detailed studies of a possible role of psychotropic agents, in particular, antidepressants in correction of disadaptation in “functional” patients.

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Building resilience on adolescents with cancer: a psychoeducational program

Vâjâean C.¹, Băban A.¹

¹ Babes-Bolyai University, Department of Psychology (ROMANIA)
E-mails: vajaeancristina@gmail.com, adrianababan@psychology.ro

Abstract

Purpose: To develop a psychoeducational program in order to increase resilience in adolescent with cancer (AWC).

Methods: A needs assessment was initially conducted in order to identify the most important psychological issues that teenagers with cancer have to deal with. Based on the results and literature review a booklet for participants was developed. The content of the booklet incorporates the cognitive-behavioral principles and resilience protective factors.

Results: The main topics were information about disease and treatment; emotion management; communication with friends and family and bodily changes management. Among the most effective coping strategies used by AWC were: instrumental actions performed during hospitalization, such as reading, watching movies, internet or activities in the playroom, optimism and positive thinking. We noticed that AWC from this study had weak strategies for emotion management, often used avoidance as a coping mechanism and didn't use friends as a source of social support. The implications of these strategies are being discussed below.

Discussion: A resilience program tailored to the needs of AWC can be an efficient tool for adaptation to disease.

Keywords: psycho-oncology, resilience, adolescence

Background

Cancer in adolescence

Adolescence is considered a period between childhood and adulthood. Middle adolescence begins around the age of 14 years and late adolescence between 16 and 18, 19 years of age [1]. In this period, cognitive abilities are characterized by an increase in capacity of abstraction, systematic and critical thinking, meta-cognitive skills and in the capacity to address alternatives for problem solving [2].

Cancer is one of the main health problems among children and adolescents both in Europe and in Romania [3], [4]. In Romania, the incidence of cancer has increased among children in 2008, compared to the year 2000 [5]. The types of cancer that can occur in children are different from those of adults as frequency, histology, treatment, but also as psychological problems that may arise with the disease. In a time of major development changes, adolescent with cancer (AWC) have to adapt to stressors like hospitalizations or clinic visits, treatment and related side effects, bodily changes like hair loss, maintaining social relationships in conditions of illness, family communication and developing relationships with the medical staff [6]. There is increasing recognition of the special needs of AWC [7].

Informational needs

Information about the disease and treatment helps teenagers to develop an effective adaptation to events with a high level of distress [8]. More than that, understanding of the information is facilitated if there are opportunities to discuss the information received [9]. However, little is known about the types of information that AWC want to receive during treatment. According to the literature AWC are only partially or not informed about the illness during hospitalization [10]. They need information about side effects, dying or treatment [8], [11], information about coping strategies [12] in

order to promote resilience and to reduce psychological distress [13]. Informational programs for adults with cancer can significantly reduce depression [14] and anxiety [15] and lack of information can increased emotional distress [16].

All these studies suggest that we need to addressed the unique needs of AWC through the development of educational programs specifically designed for adolescents [17], due to the poor adherence to treatment and poor psychological adjustment compared to children and adults with cancer [8], [18].

Effectiveness of psychoeducational programs based on knowledge about the experience with the disease and coping strategies has been demonstrated for chronic diseases such as diabetes in children and adolescents [9].

Building resilience on adolescents with cancer

Resilience refers to successful adaptation despite risk and adversity [19]. According to the Protective Factor Model of Resilience [19], [20], the presence of protective factors can reduce the intensity of the relationship between stressful events and negative outcomes that can occur. Among the protective factors are optimism, perceived control, self-efficacy, healthy coping strategies [21] and social support [8]. Positive affect can increase the resilience [22], maintaining a proactive attitude towards illness (active involvement in the treatment process). Also realistic optimism it's important [23] because correlates positively with engaging in coping strategies focused on the problem, acceptance or humor [24].

Self-efficacy is defined as the perception of the individual to achieve their goals through their own actions [25], and we proposed to enhance self-efficacy for coping strategies through vicarious learning and verbal persuasion [26]. The process of coping is defined as the person's constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as exceeding the person's resources [27]. Coping strategies were categorised as problem or emotion-focused and as approach or avoidance-focused [28]. Problem-focused strategies refer to instrumental actions aimed at solving, redefining or minimizing stressful situations through instrumental activities like support seeking. Emotion focus strategies, or coping indirectly, is used in order to reduce or control the emotional response to stress. In this program, we intend to increase the frequency of cognitive and behavior coping strategies among AWC, especially cognitive restructuring, acceptance [29], problem solving [30], seek and use of social suport. Effective coping strategies are important to decrease distress on short-term and to promote social and cognitive adaptation and development on long-term [32].

Stressful events and protective factors are conceptualized in cognitive-behavior paradigm. Under this approach, any factor or situation becomes aversive when it is evaluated and interpreted in this direction [33]. Cognitive-behavioral strategies focused on cancer patients problem solving has been found to be effective for reducing anxiety and depression [33] and emotional distress [34].

Through this booklet and related meetings we aim to increase healthy coping skills, self-efficacy, optimism and positive affects in order to decrease psychological distress and on the long term to improve quality of life for the adolescent with cancer. In this article we illustrate the development of the self-help booklet.

Methodology

The aim of this study was to identify the main psychological needs of AWC during treatment and to develop a self-help booklet in order to increase the frequency of adaptive coping strategies, self-efficacy, optimism and positive affects among AWC.

Need assessment for adolescents with cancer

Sample

Participants on need assessment were 13 adolescents undergoing cancer treatment, aged between 14 and 18 years (min. 13, max. 21, m = 17). Parents provided written consent for adolescents who participated in the study. The study was approved by the Ethics Committee of Babes-Bolyai University and of Institute of Oncology "Dr. Ioan Chiricuța".

Procedure

Adolescents completed an interview with open questions through which we tried to find the information they consider important for the booklet and the coping strategies they used during treatment. One of the questions was: *“What kind of information do you consider important for a teenager to know at the beginning of the treatment? What information would be useful for teens to communicate more easily with friends and family about their situation? Emotions are everywhere in our lives. To what extent do you consider that information about how to deal with emotions during treatment are helpful? Specifically, how to deal with emotions such as fear, anger etc.”*

Data analysis

To analyze the data obtained through interviews, we used content analysis [35]. The information was organized into pre-defined categories in order to see the information that adolescents recommend for the booklet content more clearly and to understand which coping strategies are most commonly used by AWC.

Results

The main topics were information about disease and treatment, emotion management, communication with friends and family and bodily changes management. Among the most effective coping strategies used were cognitive reappraisal, optimism or positive thinking and the use of family as a veritable source of support, instrumental actions performed during hospitalization, such as reading, watching movies, internet or activities in the playroom, wearing a wig and seeking information on the internet especially. Healthcare was not mentioned as a source of information. We noticed that AWC from this study had weak strategies for emotion management, often used avoidance as a coping mechanism and didn't use friends as a source of social support. Even if it was not the purpose of this study, the data obtained shaped a pattern of emotion, characterized by feelings of hope, but also fear, anxiety, insecurity or sadness.

Booklet content

The booklet was developed based on literature and data collected from the needs assessment. The main themes were: general information about cancer and treatment, emotions and thoughts about cancer, communication with friends and family, time spent in hospital and bodily changes. The booklet is part of the psychoeducational program REZI, in which we intend to conduct group meetings to discuss this topics, for a better understanding of the information. The information contained in the booklet has been reviewed by the head of the Pediatric Oncology department and the department's psychologist. The booklet has 5 chapters. More specifically, the first part of the booklet contains general information about the disease, treatments, medical procedures and side effects of the treatments. All this information shall be age-appropriate, stimulating the desire for knowledge of adolescents. Children who are well informed about the disease and treatment have lower levels of distress and anxiety, especially in terms of psychological distress caused by medical procedures [36]. Also, throughout the booklet, teenagers are encouraged to learn more information about their situation from healthcare professionals.

Chapter 2 of the booklet was written in order to understand the connection between events, thought and emotion. We also discussed specific emotions such as anxiety or sadness and emotion regulation strategies. Chapter 3 addresses the bodily changes, because a negative bodily image is often associated with avoidance of social situations, a decrease in activities with friends and feelings of depression or anxiety [37]. The information received is focused both on the re-evaluation of the situation and on the problem solving. Once the teenager knows that her hair is expected to fall, he or she may begin to adopt a plan starting from cutting the hair shorter to minimize the psychological impact. Both in literature and in the needs assessment it was observed that communication with friends about the disease, treatment and side effects was a real problem for adolescents [8]. In chapter 4 we discuss techniques for revaluation of social situations and problem solving strategies.

Chapter 5 addresses the problem of hospitalization and the time spent in hospital, based on coping strategies such as acceptance [38] and problem solving strategies to increase adaptation and realistic optimism. Throughout the booklet self-efficacy regarding the coping strategies is increased through verbal persuasion and modeling (examples from other teenagers who have had this

experience). It is recommended that the booklet content should be discussed in the group meetings for a better understanding of the content and for identification of potential barriers.

Conclusions

According to literature [8], [18] it emphasizes the need for research from the scientific community in this area of expertise, due to the special needs of AWC, low adherence to treatment and poor psychological adjustment to illness, compared with children and adults with cancer. According to the needs assessment, we observed that teenagers have few strategies for emotion management. Moreover, emotions such as fear, anxiety, sadness or insecurity were frequently encountered. In the brochure, we discuss all these emotions and their management strategies. Also, the internet was mentioned as the main source of information, although the information provided is not accurate. Teens are encouraged to address questions to the medical staff.

The booklet also contains information about communication with parents about personal problems, adaptation to bodily changes or relationships with friends, because peer group is very important for social development of adolescents [39]. Also, this booklet is written from a cognitive-behavioral perspective. Effectiveness of this approach was demonstrated in many studies that addressed psychological problems experienced by cancer patients [40]. It is important that information from this booklet should be discussed in group meetings, with focus on how this knowledge can be applied. In future studies we will test the effectiveness of this booklet, with related meetings, in order to see if the program REZI (booklet and meetings) can increase protective factors of resilience.

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Affective underpinnings of the clinical relationship

Veríssimo R.¹

¹ *Medical Psychology & Psychosomatics, University of Porto Faculty of Medicine (PORTUGAL)*

E-mail: rave@netcabo.pt

Abstract

In western cultures today, the way clinicians tend to deal with emotions may be exemplified with the systematic logotherapy decrease in mainstream psychiatry. Thus the impending need of getting rid of the outdated Cartesian dualism, while adopting psychosomatics as a counterbalance to adequately deal with the bio-psychosocial aspects involved both in health and disease. And this simply stresses the importance of training, not only on the affective dimension of the doctor-patient relationship, but also on the idiosyncrasies of the individual patient, in what concerns his affect regulation ability; in order to properly deal with its implications in terms of health and disease, while conducting the clinical/therapeutic interview. In fact, logotherapy essentially relies upon the ability to communicate; and many difficulties that stand out during the clinical interventions arise precisely from the patient difficulty to communicate feelings.

On the underpinnings of Affect Regulation and its disorders — alexithymia and repression —, the author also jots down the different potential pathways for the involved health risk. Just to conclude on how clinical practice demands must be met under the integrative umbrella of the bio-psychosocial model, by bringing up some implications of emotionality within the therapeutic nature of doctor-patient relationship, while also leaving some general guidelines to approach conditions marked by affect dysregulation.

Keywords: Psychosomatic Medicine, Affect Regulation, Affect Regulation Disorders, Alexithymia, Repressive Coping, Therapeutic relationship

Background

Our cultural tradition leads us to believe that human beings are essentially rational, and that emotions are opposed to rationality. And this is reflected in a scientific speech in which emotion has been considered as too subjective and elusive as compared with the "harsh methods" that, focused on much more concrete and objective aspects, only recently started addressing the issue of complexity. In fact, in a mind envisaged under a Cartesian light and especially post-Kantian, emotion is somehow seen as the very antithesis of something good and positive: reason. In other words, until very recently, priority was given to study models of reason; while emotions escaped in an almost absolute manner to a scientific approach. One can even say that with few exceptions, from behavior to cognition, emotions have been merely regarded as noise while a disturbing factor within research work; and culturally even as something shameful that should be concealed.

However the main problems in Western cultures today outcome from emotional states; to a point that the so called distress 'nervous trinity' – anxiety, fear and stress – take the top spot. So that recently, an interest in our understanding of well-being within the context of competition and cooperation has re-emerged within the biological and neural sciences. Given that we are social animals, our well-being is tightly linked to interactions with others. Social sensibility is an essential feature of our central nervous systems, and what have evolved are elaborate behavioral ways in which to sustain and maintain the physiological and endocrine systems that underlie behavioral adaptations. While emotional states have starting points deeply rooted in evolution, they are unchained by actual concrete cultural situations. And this implies a clinical approach that not only cannot ignore the cultural dimension, as it has to recognize itself conditioned by that very same culture.

Psychosomatic approach

Prescribing as the mainstay of Psychiatric practice today, is thus the result of different converging factors; and among them the medical specialization as an absolute need, after the exponential growth of medical knowledge. In such context we have but to recognize that this self-confinement came to hinder the holistic approach required to adequately deal with the psycho-

behavioral aspects involved both in health and disease. As an alternative, as contrasted by Joseph Henry Woodger epistemological analysis in the 50s, Psychosomatic began by considering that either the body or the mind, are abstractions of what we know as a person. Not to say that psychological phenomena are more important or causal than the somatic ones; or vice versa. But only that both types of phenomena are different aspects, or modes of abstraction, of the same reality – the human being –; which is and reacts as a unit.

Unity is inherent to the human condition as a person. When we talk about psyche or soma in reference to certain symptoms, we should keep in mind those are but different aspects of the same reality. Incidentally the expression of one aspect may stand out to the clinician eyes; but despite one may seem meaningless while "overshadowed" by the other, which stands out more at some point, one cannot nor should he ignore the counterpart of his unapparent or less apparent slope. When we talk about mental symptoms, or organic instead, within a 'reductionist mainstream' way of putting things, we should bear in mind that this is but a 'second-order reality', as proposed by Paul Watzlawick [1]; that is, mental and organic refer to two ways to conceptualize and communicate about the same, first order, reality; which we call psychosomatic.

Moreover, one must accept that either way, although both approaches complement each other, the model remains infirmed by Cartesian dualism; and this brain-ghostly mind dissociation still is probably the major handicap to be overcome by psychosomatists: may they be clinicians, researchers or philosophers. This being the case, Psychosomatic Medicine has to find its way between physicalism and panpsychism; which has been paved somehow in the past two decades by developments in neurosciences that allow us today to inform a more effective psychotherapy. All being said, we have but to acknowledge that, while an important factor triggering and/or modulating the progression of a disease, emotion must be taken into account. The same way as it cannot simply be ignored as a crucial element in therapeutic doctor-patient relationship.

Affect Regulation

This is precisely what we can infer from the exponential increase in the interest in the broad area of emotional regulation; which comes out rather evidently looking into the ever growing number of Emotion Regulation citations in PubMed along the last 30 years; yet there are still many questions unanswered.

To approach the topic of Affect Regulation within Health Care, we may well start by evoking the *infantile personality* as proposed by Jorgen Ruesch [2] in mid twentieth century, while observing that many of his patients with chronic medical conditions, or the so-called "classic psychosomatic" diseases. They manifested marked difficulty in verbally and symbolically express affects, with characteristics completely different from those apparent in neurotic patients. He considered this as a crucial deficit resulting from a detained personality development. McLean [3], in its turn, also described by that time a marked social conformity among patients with inability to express emotions; these, as he puts it, when disturbing come to find their way to come out through autonomic activation. Later, in the sixties, French psychoanalysts Pierre Marty e Michel de M'Uzan [4] — who came to found the Parisian Psychosomatic School —, published their clinical observations on somatic patients who manifested a cognitive-affective structure very similar to the construct of alexithymia; which they defined as *operative thinking*: with a utilitarian and literal style of thinking together with a marked affective impoverishment.

The elaboration of the construct, which came out from the observation of patients with so-called 'classic psychosomatic' diseases, remained as such for long as if synonym; conviction was that there was a specific connection with those pathologies. Concerning the clinical characteristics of these patients, Sifneos, who coined the word alexithymia in the seventies [5], enunciated the core features of the alexithymia construct [6]:

- Marked difficulty mentalizing and describing emotions;
- Stimulus-bound cognitive style (thereafter unable to further elaboration):
 - Difficulty differentiating feelings from bodily sensations;
 - Accentuated concern with factual aspects and external environment details;
- Paucity of mental activity related with fantasy and imagination; and
- Social conformity

The *11th European Conference on Psychosomatic Research* [7], held in 1976, was mainly devoted to the alexithymia construct. Accepted for the first time in a meeting among researchers, the recently introduced construct became officially recognized by the scientific community; what promoted its further development. In the middle '80s the 'Toronto group' gave birth to a big mutation in the construct panorama with the publication of the first assessment scale empirically validated [8]. In fact, the emergence of TAS, first, and of TAS-20 [9] afterwards, promoted a tremendous development in research.

Summarizing one can say that, while logotherapy essentially relies upon the ability to communicate, cases have been reported in which some difficulties have arisen during the intervention. Namely due to difficulty communicating feelings; which difficulty has been immediately described as very prevalent among patients with the so-called psychosomatic disorders. Within this context Affect Regulation – which includes processes that amplify, attenuate, or maintain an emotion –, came to embody a broad new field of intervention for vulnerable populations at-risk of faulty regulation of negative emotions. Be it with difficulties related with the ability to cognitively elaborate emotions, considered as a basic factor of the regulation processes.

To understand the essential core of the affect regulation it is crucial to start by making a conceptual clarification between two polysemic words, trying to preserve their meaningful complexity: emotions and feelings. That is, before going any further talking over emotions and the mechanisms and circuits that uphold them, assuming a crucial role of cognitive elaboration on affect regulation, we must clearly bear in mind the distinction between emotional arousal, on one hand, and cognitive subjective feelings, on the other; keeping the first to refer to the closely intertwined physiological and motor-active reactions to any source of stimulation. *Emotions* are inborn biological phenomena, genetically programmed, mediated by sub-cortical and limbic systems, upon whose function relies the species survival and outcomes non-verbal signs such as the facial mimicry, the pantomime — gesture —, the body posture and phonics — voice tone—. In its essence they form the biological component of the affect. *Feelings* are, in turn, individual psychological phenomena that imply the cognitive elaboration and the subjective experience mediated by neocortical functions. This psychological component of affect grants the assessment of the emotional reaction to stimuli, such as upcoming from interpersonal contact, and to communicate them intentionally by means of symbolization through the verbal and extra-verbal linguistic function. This way, these feelings depend upon the cultural belonging, the representations of the self and of the others, the memories, fantasies and dreams.

The basic requirement of the alexithymia construct is then as follow: how can *emotions* get symbolically represented so as they can be consciously perceived as *feelings*, thus being characterized, named, regulated and expressed through functions of mentalization and imaginary realization? Elaborate within a utilitarian theoretical framework such as the one provided by Wilma Bucci's cognitive-affective model [10], or Lane and Schwartz developmental model [11], alexithymia came to be conceived today as a personality dimension predisposing to disorders of affect regulation.

Disorders of Affect Regulation

The concept of affect regulation does not only indicate control of emotions, but the ability to deal, in an autonomous way, with intense and/or prolonged negative feelings — loss, emptiness, anxiety, depression, irritability, bitterness —, balancing them with positive nuanced ones; in other words, without turning to external objects or behavioral actions — suicidal gestures, self-mutilation, substance abuse, eating disorders, disorganized behavior, etc. —. Thus implying the activation of several reciprocally interconnected systems, responsible for the elaboration of the affective reaction, in its biological — neurophysiological and motor — and psychological — experiences and cognitive elaborations — components. It also involves, furthermore, an inter-subjective dimension, seeing that relationships with others provide an interpersonal affect regulation, either in a positive sense — for instance, inducing calm and relaxation —; or else negative — tension, aggressiveness —. This way, disorders of affect regulation refer to all clinical conditions in that the individual is not in a position to properly use affects as motivational systems and/or while information related with his/her own emotional status or relative to the relationships with others. In this context, amidst the various constructs that have been forwarded, remain at present essentially two — alexithymia and repression —; which may be accommodated nowadays within the modern theories of emotion.

The previously mentioned characteristics of alexithymia, as referred to a deficit in the cognitive processing and regulation of emotions, have borders with various psychopathological syndromes — major depressive disorder, obsessive-compulsiveness, dependent personality —; from which they differ because in this particular case there is an impairment in cognitive elaboration of emotions. Which may result in an exacerbated and/or sustained physiological expression.

Another way people fail to recognize their own affective responses is having a Repressive Coping Style — type C —; that is, who consider maintaining low levels of negative affect central to their self-concept and are likely to employ a variety of strategies to avoid conscious knowledge of their 'genuine reactions'. Repressors as a group — 10-20% of the general population, up to 50% in some patient and elderly groups — seem actively engaged in keeping themselves, rather than just other people, convinced that they are not prone to negative affect [12]. During potentially stressful situations, repressors report low levels of subjective distress, although they exhibit high physiological and behavioral arousal [13, 14]. The Repressive Coping Style relates with low scores on psychological

symptoms' self-report [15], on physical symptoms/QoL self-report [15-17] and on alexithymia assessed through self-report instruments [15. 16. 18]. Unlike repressors, in alexithymia the non-expression of emotions is not due to any sort of cognitive hindrance. In fact alexithymics are expected to have all the regular emotional manifestations; although eventually a bit slower – at least for some of them according to the stimuli nature –, and in a sustained – unregulated – manner. What they do lack – by virtue of their cognitive-emotional dissociation –, is the cognitively moulded attuned expression of it. Alexithymia, in other words, does not allude to individuals without emotions – what would be impossible – but to persons with a deficit of the psychological component of affect – feeling –; that is, who do have emotions expressed through the bio-behavioral dimensions of affect, but with scarce or no chance to resort to psychological means – imagery, thoughts, fantasies – to represent them.

Alexithymia relates negatively with Inhibition/control: emotional control, defensiveness – repression, denial – [15.16.18], Internal Locus of Control [19], Emotional Intelligence [20-22], Quality of Life (QoL) [16. 23]. And positively with Negative Affects: Dysphoria – anxiety, depression – [24-28], Physiological arousal, stress, burnout [29-31]. Alexithymia also relates with a Communication Style characterized by 'concretism', spontaneous aprosody and somatosensory amplification [30, 32-34]. And negatively with Coping Mechanisms involved in gathering Social Support, and perception of family good functioning [22. 35-37].

When connections are conspicuous by their poor development, we are confronted with a deficit that has been conceptualized as alexithymia – implying deficiency in recognizing and properly expressing emotions –. Whereas interrupted, be it while affected by a traumatic process – as is the case of dissociative syndromes –, the paucity of the emotional expressiveness results instead from an active repressing process; but the possibility to somehow recover, while regaining awareness, remains preserved. And this is precisely is addressed in Wilma Bucci's *Multiple Code Theory* [10], a theory of mental elaboration of afferent stimuli – input – that has many issues in common with the alexithymia construct. In Bucci's model, the sub-symbolic elaboration is referred to all non-verbal stimuli – feelings, motor afferent, sensory stimuli – that are processed simultaneously in parallel. For example, to recognize emotions in facial expressions of others, or a familiar voice amidst the confusion in a party, or, within the field of our profession, intuit the right moment – timing – for the patient to interpretation. The nonverbal symbolic elaboration involves in turn imagery – an elusive figure, a song, an expression – which, also conscious, cannot be put into words. And finally the verbal symbolic modality refers to the very powerful mental tool that allows the individual to communicate his own inner world to others, and knowledge and culture to be transmitted from one individual to another. The three systems, according to Wilma Bucci, although governed by different principles, are nevertheless connected. Bucci defined as referential activity or process such complex bi-directional connection from emotions unto words and vice-versa; and also developed assessment tools for Referential Activity. The referential activity is not a simple linear transformation of emotions from one modality into the other, but the connection of the separate components of an emotional scheme which allows changing meaning. Alexithymia, under the MCT model, is a deficit of referential connections between the three modalities of input elaboration. In alexithymia, the emotions –sub-symbolic nonverbal modality – are only weakly connect, or not connected, to the images – symbolic nonverbal modality – and words – verbal symbolic modality –. And so, they are experienced as poorly differentiated somatic sensations – with physical manifestations prevailing within the associated symptoms – or impulses urging into action –psychological manifestations also prevalent within the associated symptoms –.

The structures that are uniquely responsible for emotion generation – which are subcortical – operate implicitly. The structures that preferentially participate in the conscious processing of emotion – which are cortical – are not unique to emotion but are domain-general. The maturational process of their interconnections may vary, establishing differences in psychological mindedness. On the other hand, at a cortical level, emotions compete with other inputs for conscious processing; what sets the stage, in its turn, for individual differences in the conscious processing and/or repression of emotions [38]. Today there is a considerable amount of work being done and we already have accumulated evidence on these aspects involved in emotional processing:

- Poor integration of referential connections [39]
- More difficulty to select words adequate to emotional situations [40]
- Poorer memory recollection of words referred to emotions [41. 42]
- Attention bias oriented to words referred do illness situations, valued as emotional stimuli instead of words referred to negative affects [43, 44]

Health Implications

Alexithymia prevalence in general population is 10-12% [26, 45-48]. Although not very

meaningful, low levels of Scholarship / Socioeconomic level have been reported among alexithymics [16, 36, 49-51]. It has also been described a slightly, but meaningful, higher level of so called 'Normative Alexithymia' among men [9, 45, 48]. Finally alexithymia also relates with unwanted pregnancy, bigger families and educational environment markedly rural [52]; as well as with early (1st year) verbalization of words [53].

Numerous reports account for relationships with various constructs in a wide variety of clinical situations. What not only allowed a gradual clarification of the alexithymia construct – sometimes accentuating disparities, other times recognizing overlapping areas –, but also the recognition of a high prevalence, although in a very diverse rate, not only among the so called 'classic' Psychosomatic Diseases [54], but also in other Medical and Surgical Conditions, and Psychiatric Disorders.

All things considered, pathogenic pathways may be equated as follows:

- Affect dysregulation as an unspecific vulnerability for somatic disease
While negatively related with survival and longevity, controlling for all other well known risk factors [55], alexithymia constitutes by itself a risk factor deserving consideration in health care.

- Physiologic changes

There's a common agreement today upon alexithymia as a predisposing factor influencing the installation and/or the course of many medical-surgical conditions. Considered in a context of affect regulation, it is accepted that the limited subjective awareness and cognitive processing of emotions is associated with a failure of the ability to regulate negative emotions; which in turn leads to states of autonomic arousal, and endocrine and immune imbalance. Thereby giving rise to the emergence of somatic disorders; although the specific organ or function targeted is determined by factors of a different sort [43]. In fact, in terms of empirical evidence, we have studies on the psychophysiological activation, as well as some other involving the immune function [29].

- Unhealthy behaviours

Another approach to the prejudice that alexithymia may involve in health issues results of what may be seen as deleterious behavioural changes. One hypothesis is that the deficit in affect regulation is the basis of actions that ultimately aim to down-regulate a somehow aversive emotional arousal. Within this context high levels of alexithymia were equally found among several types of patients of this sort — eating behaviour disorders and related with alcohol or psychoactive substances consumption —, when compared with controls; suggesting that these disruptive behaviours may result from certain levels of depression determined by dysregulation due alexithymia. However, beyond these compulsive and/or dependency behavioural changes, there are also some other maladaptive and possibly harmful to health — such as the level of nutrition, hygiene or safety — that may well stem from a failure of the ability to identify feelings such as fear, guilt, or pride, which usually provide warning signals or alert for potential risks.

- Affect dysregulation and Illness Behaviour: symptom report

It is clear that, under normal conditions, symptoms accompany the disease; and it is precisely this effect that, in some studies, one has tried to isolate. That is, on one hand the contribution of alexithymia to the symptoms, and on the other, in contrast, what the contribution might be to the disease itself.

- Somatization

And this is the way why alexithymia, rather than with actual somatic illness, appears to be mainly related with symptomatic complaints. What comes to stress instead its role in medical settings in terms of influence on abnormal illness behaviour. What is easily understandable since the experience, the physical symptoms report and seeking treatment outcome here from the amplification of somatic sensations related with emotional arousal; with subsequent misinterpretation in terms of symptoms. The theoretical framework will be that the undifferentiated physiological aspects of emotion, while lacking a subjective labelling that would contribute to their down-regulation, come to give rise, not only to a high and sustained physiological arousal, but also to a consequent experience reported as physical symptoms. What can even be further boosted by a somatosensory amplification related with the often associated negative affects. And this is precisely what is also known as somatization.

In these very same situation repressors resort instead to denial, thus not reporting symptoms of the arousal they in fact are going through.

- Health Care seeking

Which makes us to also assume, and is gaining evidence, that through this same path alexithymia enhances health care seeking [56-59]. This approach whereby alexithymia, rather than disease, leads to a accented experience of symptoms and consequent health care seeking, may even allow to better understand the identical incidence that some authors find both among patients with "medically explainable symptoms" and those with "medically unexplainable symptoms".

And here again, in contrast, repressors are characterized in diametrically opposite direction, by a totally negligent attitude concerning their health. As originally described concerning malignant melanoma, in terms of type-C coping style [60].

Treatment Implications

Psychosomatic Approach

When considering a model to explain certain phenomena, as composed of a finite and controllable number of variables, we are adopting a pragmatic approach that allows us to understand and eventually to control these phenomena. But we cannot and we must not mistake the model for reality itself. It turns out that in nature there are no closed systems; what may prove of an extreme complexity in most conditions that can affect humans — "the human being his circumstances", as Ortega y Gasset puts it —. The same causes, apparently under the same circumstances, no longer give rise to the same consequences. In the same way as the same consequences can result from very different initial conditions. Hence the available methods always refer to probabilistic approaches; otherwise we would be ignoring reality and remitting instead, in an oversimplified mechanistic delusion, to "laboratory" deterministic models — closed, entropic —.

These assumptions of the *General Systems Theory* [61] that would be recognized in mental activity by Bateson [62] persist equated as the biopsychosocial model [63-65]. And so, any attempt to explain and/or intervene at the level of the person as a system, can never ignore the circularity of bi-univocal influence towards the organic subsystems on which it builds; as also not in relation with the above social systems, starting with the dyad, since it opens to them the very same way. Even in those in which it is possible to clearly identify a primary cause, since this, despite consisting in a more or less well defined pathogenic pathway, will necessarily affect the systems in which it is incorporated. And that is yet another aspect that lays stress on the absolute need of a 'psychosomatic approach'. On this matter I would only bring up, merely as an example among many others, the so-called *type A* behaviour pattern, as observed by Meyer Friedman and Ray Rosenman [66]; which is clear and unambiguously associated — throughout randomized controlled clinical trials — with a much poorer prognosis in men with Coronary Heart Disease [CHD]. Or the more recent work by Janice Kiecolt-Glaser [67] showing that behaviour, such as in hostile marital interactions, can influence health outcome and its immunological substrate. After this way, the required 'psychosomatic approach' is nothing else than the bio-psychosocial integrative model, as postulated back in 1977 by Engel [63-65], both for research and medical intervention.

Therapeutic Interventions challenge

Although alexithymia has no relation with compliance [68], it is related with worst outcomes in medical treatment such as of GI disorders [69].

Once recognized the negative implications of health —through physiological changes, in reporting symptoms, reinforcing compulsivity or unhealthy behaviours, or even interfering with some therapeutic interventions —, the question that arises is whether or not it is possible to reduce — treat — alexithymia. As it is clear since the first descriptions that led to the concept [2-4, 32, 70], the deficit in mentalizing ability and consequent scarcity of the *Theory of Mind*, are natural obstacles for interventions resorting to intellectual insight [5, 71-73]. Besides, it may involve a negative counter-transference as a fundamental difficulty, as warn several case reports of psychotherapy with these patients [74-75]. But on the other hand, since this is a problem that goes back to the pre-Oedipal period, prior to the development of symbolic communication, helping these patients to metabolize their aggressive drives, not only cannot rely on inducing verbal expression of those emotions — given their acknowledged inability —, as this can even be a formal contraindication, given the risk of worsening the patient's situation [76]. It is precisely in this sense that goes some recent studies with alexithymic patients, clearly indicating a prolonged emotional arousal — stress, if you will, as assessed through salivary cortisol — induced by the therapeutic relationship established during the medical interview itself [30, 77]. While assuming that it is not because the patient does not want to, that he does not introspect, experience, or confides, but else because he cannot, that other externally oriented interventions have been exploited — other than defensiveness and avoidance that he tends to adopt — in the sense of teaching him to resort to alternative strategies more adequate to deal with the emotional arousal; thus obviating to some of the postulated deleterious consequences for health. In fact the prognostic of structured cognitive-behavioural approaches doesn't seem to be impaired; it may even benefit, given that compulsion and externally oriented thinking may facilitate compliance with structured prescriptions and behavioural recommendations. This is the case of counselling, support techniques, or well-structured cognitive-behavioural prescriptions, such as cognitive restructuring, and anxiety management techniques: ergotropic reconnaissance training — identification of emotional stimuli and emotional signs of arousal —, reinforcement of the trofotropic tone — training coping skills

as breathing control and relaxation, eventually assisted by biofeedback; planning pleasurable and recreational activities, scheduling circadian work-rest cycles —, communication skills training, etc..

Conclusions

What psychosomatic theorizing assumes with enthusiasm nowadays is that while emotional changes are accompanied by physiological changes, in case these become in turn very frequent and/or sustained, they may lead to somatic structural changes. But it is also assumed that once produced the anatomopathological lesion, the influence of psychological factors may contribute to its perpetuation, worsening or reappearance. Hence the assumption that, somatic conditions of such etiopathogenic type, could somehow benefit from psychological interventions. Psychosomatics is thus referred to a natural sciences research integrative domain, specifically oriented to investigate the relationships among biological, social and psychological phenomena, considering these three levels as different aspects abstracted from the human person. It includes a psychophysiological dimension, a psychoneuroendocrinologic, and one other concerned with psychosocial aspects of stress. Psychosomatic Medicine, in line, is referred to a praxis that takes into account biological, psychological and social aspects of the patient, from diagnosis to treatment and prevention of each and all health problems. Psychosomatics is, in short, the discipline that deals with the integration of biological, psychological, and social phenomena, thus regarded as three modes of abstraction. This integration can take place at a research level, involving correlations among three types of variables; and then we have psychosomatics as a scientific field. Or it may take place as an approach in medical practice, and then we have a psychosomatic attitude known as Psychosomatic oriented Medicine.

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Towards An Anthropological Conception of Emotions in Psychosomatic Medicine

von Boetticher D.¹

¹ Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Göttingen (GERMANY)

E-mail: dirk.vonboetticher@med.uni-goettingen.de

Abstract

Emotions are historically and epistemologically of central concern in psychosomatic medicine and philosophical anthropology for the understanding of the embodied self. Yet, depending on the field of study, the term is imbued with distinct and often unrelated meanings. Drawing on historical and current concepts and empirical findings of emotions applied in psychosomatic medicine and considerations of emotions developed in philosophical anthropology, the article pleads for the development of an anthropological conception of emotions as necessary and appropriate for a medicine of living persons (Weiner).

Keywords: emotion, multi-causality, bio-psycho-social model, hermeneutics

Introduction

“The feelings are the true inhabitants of human life-courses”(A. Kluge 2000, p.7)¹

Currently, there is a strong and growing interest in emotions across various disciplines. Regarding philosophical research for instance some scholars speak of a *Renaissance of the emotions* within philosophy (Döring 2009). But also within other fields of the humanities and social sciences research in the emotions is very active – as in the fields of neurobiology, developmental and cognitive psychology or psychosomatic medicine. This might be because of specific difficulties in understanding this phenomenon: “Although emotions punctuate almost all the significant events in our lives, the nature, causes, and consequences of the emotions are among the least understood aspects of human experience. It is easier to express emotions than to describe them and harder, again, to analyze them. Despite their apparent familiarity, emotions are an extremely subtle and complex topic” (Ben-Ze’ev 2000, p.1).

Emotions in the History Of Psychosomatic Medicine And Philosophical Anthropology

In the Hellenistic period of Greek antiquity, the invention of the concepts of mind, soul and body highlights a fundamental change in human self-conception (Snell 2011). Historically, by the discovery of the mind/soul-body-dualism the concept of emotion (the passions, *pathoi* (greek), *passiones* (latin)) has got a central role in medical psychosomatic thinking. As distinguished historian of medicine E. Ackerknecht has stated: “It [...] has never been fully realized that for 1700 years there has been in existence a continuous tradition of psychosomatic under the label of ‘passions’” (Ackerknecht 1982, p. 18). This view was mainly shared by Herbert Weiner (1921-2002), who argued that the “central conceptual issues that pervade current psychosomatic medicine [...] are as old as the study of sickness, as awareness of the bodily correlates of feeling states. For several thousand years keen medical observers have noted the role of the passions (i.e., emotions) as antecedents or fellow-travelers of disease [...] Until it became evident that the emotions were psychological (mental) experiences, no psychosomatic medicine could exist.” (Weiner 2008, p. 487). From antiquity in various historical concepts the cause and cure of many diseases were ascribed to the agency of emotions (“passions”). Physicians, influenced by the ideas of Hippocrates, have postulated that passions like temperament descended from organs in the body. The Galenic system developed an elaborated

¹ My own translation of: „Die Gefühle sind die wahren Einwohner der menschlichen Lebensläufe.“

conception of the role of the 'passions' in pathogenesis and therapy. For Galen passions could both cause and cure diseases; and they could be treated and altered by passions.

Yet, since the discovery of the mind-body-dualism emotions are of central significance in philosophical anthropology as well. Plato and Aristotle considered the pathos (emotion) of astonishment to be the reason and inception of philosophy itself. And since its foundation in greek antiquity most of the great classical philosophers like Plato, Aristotle, the Stoics, Spinoza, Descartes, Hume, have developed specific theories of emotion – even they have claimed the commitment to reason and rationality the right criterion to guide agency.

There are in the fields of both psychosomatics and philosophy, on the one hand, those theories that consider emotions to be primarily bodily feelings or perceptions of bodily feelings; and, on the other hand, those theories that are based on ideas going back to Aristotle and the Stoics, postulating that emotions are also cognitive and intentional states. Those of the latter tend to regard emotions to be integrated with *rational* cognition, or to be independent of, or opposed to rational thought. According to Fonagy et al., Aristotle was the first philosopher, who “postulated a theory of affect regulation” (Fonagy et al. 2002, p. 68). According to Aristotle, affects “are fundamental for the pursuit and attainment of a good and happy human life. He regards affects as beliefs [...] [and] judgements about the world that can be justified or not. This means that, by themselves, affects are neither harmful nor opposed to reason. As Aristotle sees it, affects become harmful only insofar as our characters are too weak to counteract and moderate them. [...] he stresses that through practice we can learn to have them in the appropriate way – that is, at the right time, in the right way, and toward the right people. [...] He appreciates the values of affects, and he particularly stresses how integrally connected pleasure is with affective experience” (ibid., p. 67 f.). Unlike Aristotle, the Stoics denied the possibility to modulate affects. Considering them as false judgements, they recommended to distance ourselves from them in order to be able to act on the basis of rationality alone.

What is an Emotion?

Plato described twelve different emotions, Aristotle seventeen, Chrysippos later seventy-nine (Krajczynski, Rapp, 2009). Currently, Ekman argues that there are seven primary affects, resp. basic emotions (happiness, anger, contempt, disgust, fear, sadness, and surprise) that are universal and can be recognized cross-culturally through facial expressions (Ekman & Friesen, 1986). Primary affects are to be distinguished from structural affects like shame, pride or guilt (Krause 1998).

Early modern psychology developed different psycho-somatic theories of emotions: W. James in his famous article *What is an emotion* (1884) claimed that the stimulus-induced physiological arousal and change is primary and the experience of an emotion secondary due to a reaction of the brain: “My thesis [...] is that *the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion* [...] the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble” (James 1884, p. 190 f.). Contrary, Freud, Alexander and Schur e.g. postulated mainly psychogenic approaches in their concepts of conversion, actual neurosis, specific unconscious conflict, and resomatization with a basically linear-causal impact of emotions on the body.

The introduction of the bio-psycho-social model (Engel 1977) and the concept of multi-causality, which constitute basic postulates of present psychosomatic medicine, replaced ideas of a unidirectional impact of emotions on bodily changes or bodily changes on emotions. But the bio-psycho-social model might imply not only a change of ideas of the emotions' function and direction, but also of their character and composition, thus entailing an opening of research to the emotions' biological *and* socio-cultural formation. Empirical research has so far generated a plenty of neurobiological, physiological and epigenetic facts and considerably enriched our understanding of the emotions' nature (Damasio 2013). In recent years hermeneutic research has developed a wealth of anthropological considerations just as well, concerning mainly the meaning of emotions for ethics, identity- and self-formation and intersubjectivity (Döring 2009).

Yet, the question of James remains: What is an emotion? How to differ emotions from feelings, affections, agitations, moods, appetites, sensations, motives, thrives. M. Phillips has recently noted that “there is at present no generally accepted theoretical framework for human emotion” (Phillips et al., 2003). P. and A. Kleinginna published 1981 a paper with 92 definitions and 9 skeptical statements (claiming that a definition would not be possible) compiled from various sources in the scientific literature of emotion. Reviewing the different types of definition they suggested as a working model the following definition: “Emotion is a complex set of interactions among subjective and objective factors, mediated by neural-hormonal systems, which can (a) give rise to affective experiences such as feelings of arousal, pleasure/displeasure; (b) generate cognitive processes such as emotionally relevant perceptual effects, appraisals, labeling processes; (c) activate widespread

physiological adjustments to the arousing conditions; and (d) lead to behaviour that is often, but not always, expressive, goal-directed, and adaptive” (Kleinginna, Kleinginna 1981, p. 355).

In Frijda's (1986) process model, emotion begins with the appraisal of a situation as out of the ordinary. The appraisal is fundamentally evaluative, as it relates probable outcomes to the individual's concerns. The evaluation creates an action readiness that is specific to the situation, and may be combined with typical physiological, expressive, and experiential reactions. Frijda (1986) and Krause (1998) consider that each emotion has an underlying cognitive structure which follows the rules of a proposition. There is a subject, an object, and an intended interaction between both. In showing the affect signal, the subject indicates which interaction is intended or desired. For example, anger implies the wish that the object would go away; fear indicates the subject's wish to flee. By use of this propositional structure one can relate the subject's wish, and the object's reactions of the narrative structure, to the affect shown in the face of both protagonists. According to Ben Ze'ev a "major reason for the complexity of emotions is that they often consist of a cluster of emotions and not merely a single one. Thus, grief may involve anger, guilt, and shame; guilt may be associated with fear; love may incorporate jealousy, hope, and admiration [...]. An emotional term usually refers to a highly complex and interactive cluster of emotional states rather than to a single and isolated entity" (Ben-Ze'ev 2000, p. 4 f.)

Emotions in Current Empirical And Hermeneutic Theories

Currently there are coherent and conclusive biological models like that of Damasio: "Feelings are mental experiences of body states. They signify physiological need (for example, hunger), tissue injury (for example, pain), optimal function (for example, well-being), threats to the organism (for example, fear or anger) or specific social interactions (for example, compassion, gratitude or love). Feelings constitute a crucial component of the mechanisms of life regulation, from simple to complex. Their neural substrates can be found at all levels of the nervous system, from individual neurons to subcortical nuclei and cortical regions" (Damasio, Carvalho 2013, p. 143). Damasio's conception of the feelings and emotions is influenced by James. Yet Damasio, unlike James, distinguishes an emotion, i.e., "a collection of changes in body state connected to particular mental images that have activated a specific brain system" (Damasio 1994, p. 145) from the feeling of an emotion. He sees "the essence of emotion as the collection of changes in body state that are induced in myriad organs by nerve cell terminals, under the control of a dedicated brain system, which is responding to the content of thoughts relative to a particular entity or event" (ibid., p. 139). Emotions and drives form the two main types of action programmes. "Feelings are mental experiences that accompany a change in body state. [...]. Note that an action programme and the respective feeling are often referred to by the same name, although they are distinct phenomena. Thus 'fear' can refer to either an emotion (the set of programmed physiological actions triggered by a fear-inducing stimulus) or a feeling (the conscious experience of fear)" (Damasio, Carvalho 2013, p. 144).

A coherent and conclusive hermeneutic concept of emotion is that of strong evaluation of Charles Taylor (Taylor 1985, 1989). He sees humans as beings that come to identity through a process of self-interpretation, that is, they do not merely find an identity, but constitute it: "[...] human beings are self-interpreting animals: there is no such thing as what they are, independently of how they understand themselves. To use Bert Dreyfus' evocative term, they are interpretation all the way down" (Taylor 1985, p. 191). For Taylor, the critical element is that human self-understanding becomes possible only within a framework of intersubjectively constituted meanings and values. Humans are beings to whom things matter. The term Taylor uses to describe what matters most to people and shapes people's identity is *strong evaluations*. Strong evaluations contain specific notions of the good, by which the individual and the society must orient themselves. They are experienced as a given and form a moral topography. They are expressed not only in thoughts and ideas, but also in social institutions and practices, in language as irreducible social reality; in the individual they are embodied in the emotions, gestures and bodily attitudes: „strong evaluations [...] are woven into our emotional experience [...] are anchored in feelings, emotions, aspirations; and could not motivate us unless they were" (ibid., p. 123 ff.). In Taylor's view the experience of an emotion depends on an intersubjectively constituted interpretation and articulation. Situation, emotion, interpretation of the emotion and language are mutually dependent: "[...] our subject-referring feelings are given their character by the sense of the import they incorporate; when this sense alters in an important way, then the feeling changes. [...] We do not experience the same things, we do not have the same feelings. We can even say that we cannot have the same feelings before and after such breaks" (ibid., p. 70 f.). „Thus for us language-animals our language is constitutive of our emotions [...] as the medium in which all our emotions, articulate and inarticulate, are experienced. Only a language-animal could have our emotions" (ibid., p. 74).

Damasio's and Taylor's theories stand side by side and are, if any, not easily to be connected. The current conception in psychosomatic medicine is dominated by empirical and naturalistic facts. A consideration of hermeneutic ideas like those of Taylor may provide a more comprehensive conception of the emotions' functions and meanings in psychosomatic theory and clinical practice, in which historically and epistemologically emotions are of central concern, because they are "both paradigmatically mental, and paradigmatically bodily" (Goldie 2010, p.1). In my view the bio-psychosocial model refers to a bio-psycho-cultural model and therefore implies the necessity of different and complementary methods for both an empirical and hermeneutic research of emotions. The clinical relevance of a hermeneutic theory like Taylor's depends on aim and object of the intended clinical practice. In psychosomatic medicine the practice's object turns out to be a subject (V. v. Weizsäcker). Therefore, a medicine of living persons (H. Weiner) is in need of a theory that is meeting humans as persons, resp. embodied subjects – not as psyches, bodies, brains, or functions. An anthropological medicine (V. v. Weizsäcker) is in need of an anthropological theory, that could integrate these various dimensions of human existence. Such an anthropological theory is not achievable by empirical means alone, but reliant on the knowledge of the humanities and on hermeneutic reflection. With a view to emotion a medicine of living persons should take into account not only physiological, neurobiological or epigenetic facts, but also hermeneutic considerations about the emotion's meaning for ethics, identity-formation and intersubjectivity. According to Ben-Ze'ev (2000) emotions are probably the most complex and subtle human phenomena. An easy answer to James' question about what an emotion really is will not be achievable, because: "For every complex problem, there is a solution that is simple, neat, and wrong" (Henry Louis Mencken).²

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² Quoted from Ben-Ze'ev 2000, p. 3.

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On The Use of Conceptual Research for Psychosomatic Medicine in a World of Rapid Cultural Change

von Boetticher D.¹

¹ Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Göttingen (GERMANY)

E-mail: dirk.vonboetticher@med.uni-goettingen.de

Abstract

The article presents conceptual research as a specific form of basic research in the field of psychosomatic medicine. First, it outlines anthropological reasons for the formation of concepts referring to Cassirer's notion of man as *animal symbolicum*, and claims a primacy of conception over cognition. Thus, scientific research proves to be based on and guided by prescientific experience, which always is accompanied by emotional motives. Further it refers historically to the invention of the mind-body-dualism in Greek antiquity, since then emotions are of central concern both within psychosomatic medicine and philosophical anthropology. Referring to Weiner's term of psychosomatics as a *medicine of living persons* the function of conceptual research in psychosomatic is further outlined: a medicine of living persons is not achievable by empirical facts alone – even if illuminating the brain's functioning – , but based on an anthropological theory that always represents a form of human mind's self-interpretation.

Keywords: Animal symbolicum, conceptual research, prescientific experience, affective formation

Introduction

“What disturbs and alarms man, are not the things, but his opinions and fancies about the things.”³ (Epictetus)

According to Epictetus it is not reality itself, that strikes and matters most for us, but our conceptions of reality. This implies a possibly insurmountable difference between reality and our conceptions of reality, if any there is such a thing like “the” reality. Cultural anthropology and cultural history show that various cultures at different times and places correlate to various and partly incompatible concepts. This means that our conceptions are not biologically invariant, but cultural, i.e. man-made phenomena. Against this background this article reflects primarily on two questions: What are conceptions for? And: Why might conceptual research be significant for psychosomatic medicine?

Anthropological Reasons For The Formation of Concepts

The Concept of Functional Circle (J. v. Uexküll)

The biologist Jakob von Uexküll (1864–1944) criticised the assumption of an uniform and homogenous reality which would be the same thing for all living beings. By contrast, he considered reality to be highly diversified and consisting of as many different environments as there are different organisms. He postulated that every organism lives within a world of its own and that the environments of two different organisms are incommensurable with one another. In the world of a fly, said Uexküll, we find only “fly things”. He stated that every organism is not only adapted to (*angepasst*), but completely fitted into (*eingepasst*) its specific environment and has to be studied not as independent being but only in coexistence with his special ambient conditions. Due to its

³ Cited from Cassirer 1944, p. 25

anatomical structures every species is provided with a certain receptor system (Merknetz) and a certain effector system (Wirknetz) which are in all species closely interlinked in one and the same chain, a kind of feedback-loop, that Uexküll termed as the functional circle (Funktionskreis) of the organism. Uexküll distinguished the surrounding, external world (Umgebung) from an organism's specific environment (Umwelt) as the part of the surrounding area which an organism can partake in by his receptor system and contribute to by his effector system and which is the only world known to the organism.

Man as Animal Symbolicum (E. Cassirer)

In his *Essay on Man* (1944), the philosopher Ernst Cassirer (1874–1945) applied these ideas of Uexküll's theoretical biology to the conception of the human world. Yet he postulated the functional circle of man not only to be quantitatively enlarged, but also qualitatively changed: "Man has [...] discovered a new method of adapting himself to his environment. Between the receptor system and the effector system, which are to be found in all animal species, we find in man a third link which we may describe as the *symbolic system*. This new acquisition transforms the whole of human life." (Cassirer 1944, p. 24) Cassirer claimed "an unmistakable difference between organic reactions and human responses. In the first case a direct [...] answer is given to an outward stimulus; in the second case the answer [...] is interrupted [...] by a [...] complicated process of thought" (ibid.). Human's prime mental activity starts with a process of conception that is inextricably accompanied by symbolic expression. The symbol, Cassirer argues, is not accidental to human conception, but the medium through which all conception takes form. A symbol is both sensory and intellectual; the spoken word, for example both physical and meaningful. Symbols allow to create a meaningful synthesis with respect to the perceptual variety and multiplicity, resp. the perceptual chaos. They aren't isolated entities, but build up a connecting universe. Man, Cassirer maintains, "lives in a symbolic universe" (ibid.). No longer can he live in an only physical nature and confront reality immediately. Following Cassirer, one can hold that man only realizes his anthropological nature by transcending his biological nature through the medium of culture, that is constituted by symbolic forms and can be referred to as second nature (McDowell). Myth, language, art, religion, science, ethics, and technology are parts of the symbolic universe: "They are the varied threads which weave the symbolic net, the tangled web of human experience. All human progress in thought and experience refines upon and strengthens this net [...]. Instead of dealing with the things themselves man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms, in artistic images, in mythical symbols, or religious rites that he cannot see or know anything except by the interposition of this artificial medium. [...] instead of defining man as an animal rationale, we should define him as an animal symbolicum. By so doing we can designate his specific difference" (ibid., p. 25 f.).

Thus, concepts might be considered an essential part of the symbolically constituted cultural universe. As part of the symbolic system they represent the third link of human's specific functional circle. They both connect and shape our perception of reality and attitude towards it, not only within everyday life, but also within the field of science and the scientifically informed practice of medicine.

The Primacy of Conception over Cognition

In Cassirer's theory symbolic formation is prior to rationality. Rationality derives from language (the logos) when transcending the realm of myth. According to Cassirer, myth and language are culture-historically the two basal symbolic forms, from which the other forms like art, religion, science, technology have been emerged during the course of human cultural development. Arguing that myth and language are at first symbolic expression of human feelings, Cassirer claims a constitutive emotional basis of the substantial mental activity of symbolic formation. Human conception starts with symbolic formation, that implies basal emotional motives as well. Besides Cassirer, who was strongly influenced by Neo-Kantianism, various philosophers of different schools of thought like Phenomenologist M. Heidegger, Marxist G. Lukacs or Pragmatist J. Dewey likewise claimed man's impossibility of a neutral stance toward what he conceives as reality (Honneth 2005). But also from a psychodynamic point of view the process of symbolization underlying human thinking and conception is anything but neutral.

Recently, in their seminal study *Objectivity* (2007), historians of science Lorraine Daston and Peter Galison have analyzed thoroughly, how since about 1850 *objectivity* established itself across the different disciplines as cardinal epistemic virtue in the sciences. Reflecting on scientific image making in diverse fields like anatomy, physiology, botany, paleontology, astronomy, X-rays, they argue that the practical realization of an epistemic ideal like objectivity is inevitably linked to a specific *affective stance*. Before learning how to 'see' correctly, scientists must be educated on how to 'feel' correctly –

right through to affective neutrality. Daston and Galison undermine the seemingly obvious identification of objectivity with affective neutrality, speaking of specific scientific '*affective cultures of objectivity*' (Daston et al. 2012). Thus, both from a philosophical, a psychodynamic and a science-historical perspective it might be argued that there is anthropologically a primacy of conception over cognition.⁴ Scientific research is based on conceptions, that themselves are not object of this research, but guide the direction of it. Therefore, scientific activity is anything but self-evident and not constituted by an immediate, neutral and objective stance towards reality. The work of science is not mere fact collecting, but is socially constructive and symbolically inventive work mediated by specific symbolic forms and their corresponding concepts. These are basically rooted in culturally shaped prescientific subjective and intersubjective experience.

Some remarks on the Concept of Psychosomatic Medicine: Toward a Medicine of Living Persons (H. Weiner)

In Western cultural history psychosomatic thinking emerged by the transition from myth-dominated ancient belief-systems to early "naturalistic" rational considerations in Greek antiquity. Mythical thinking basically considers disease as resulting not from natural bodily or psychic alterations, but from supernatural forces and agencies like gods, demons, ghosts or spells. In Homer, both psyche and soma were not applicable to the living human organism (Snell 2011).⁵ In the Hellenistic period of Greek antiquity, the invention of the concepts of mind, soul and body highlights a fundamental change in human self-understanding. Hellenistic thinking developed a plenty of ideas concerning dichotomous and trichotomous associations of mind, body and soul. Historically, by the invention of the mind-body-dualism the concept of emotion – i.e.: the passions, pathoi (greek), passionnes (latin) – has got a central role in both medical psychosomatic thinking and philosophical anthropology. As historian of medicine E. Ackerknecht has stated referring to medicine: "It is not clear why it has never been fully realized that for 1700 years there has been in existence a continuous tradition of psychosomatic under the label of 'passions'" (Ackerknecht 1982, p. 18). This view was mainly shared by Herbert Weiner (1921-2002), who argued that the "central conceptual issues that pervade current psychosomatic medicine have preoccupied thoughtful physicians for centuries; they are as old as the study of sickness, as awareness of the bodily correlates of feeling states. For several thousand years keen medical observers have noted the role of the passions (i.e., emotions) as antecedents or fellow-travelers of disease [...] Until it became evident that the emotions were psychological (mental) experiences, no psychosomatic medicine could exist. Locating the source of the emotions was a crucial first step in assuming that one mental faculty could be associated with altered bodily function or disease." (Weiner 2008a, p. 487). Weiner coined the felicitous phrase of Psychosomatic Medicine as a *Medicine of Living Persons*: "We have two medicines; one is the predominant form — for mindless bodies — and the other is for disembodied minds. In the last 50 years the attempt to bridge the gap between these two forms of medicine has been called psychosomatic medicine" (ibid., p. 485). He further claimed that the mentioned gap results not only from the mind-body-dualism, but also from science's adherence to "a limited view of biology — a quantitative, structural, and reductionistic perspective on life and living matter that is basically static" (ibid., p. 486). The mind-body-dualism would remain "as insoluble as it ever was [...] because it is fundamentally a *metaphysical*, not a scientific, issue" (ibid., p. 485). "The actual dualism in medicine is not between mind and brain–body but between the study of sick persons and the study of corpses spread out on the pathologist's table" (ibid., p. 486).

Since the invention of the mind/soul-body-dualism in Greek antiquity emotions might be both historically and epistemologically considered to be of central concern for psychosomatic medicine, as they are "both paradigmatically mental, and paradigmatically bodily" (Goldie 2010, p.1). Therefore, a medicine of living persons is a medicine focusing on the concept of emotion, so that the concept of emotion might play a key role in a future medicine of living persons, too; because, as A. Kluge put it: "Feelings are the true inhabitants of human life-courses" (Kluge 2000, p. 7).⁶

On the Use of Conceptual Research

Conceptual research might be considered to be a specific form of basic research. It examines concepts as part of man's symbolic universe, and provides a systematic reflection and clarification of

⁴ Cf. Honneth who argues "that recognition enjoys both a genetic and a conceptual priority over cognition" and that "empathetic engagement precedes a neutral grasping of reality" (Honneth 2005, p. 113).

⁵ *Soma* meant corpse, and *psyche* the breath, whose leaving led to man's death.

⁶ My own translation of: „Die Gefühle sind die wahren Einwohner der menschlichen Lebensläufe.“

the fundamental explicit and, above all implicit concepts and their underlying assumptions. These concepts are seen as guiding the direction of empirical research and clinical practice. Psychosomatic medicine's aims, contents, topics and methods are constituted by specific concepts at different levels of abstraction. These concepts represent not only a specific perspective on reality, but also on science itself, which might be primarily considered not as a scientific, but conceptual construct, too.

The history of psychosomatic medicine consists of the history of her specific concepts. These concepts build up the identity of this field of medicine. In a world of cultural change conceptual research might be of use for both grappling with the change and maintaining psychosomatic medicine's identity. No other field of medicine claims and represents such a wide range and breadth of themes and methods from molecular and biological to psychological, social and cultural topics, referring to various methods in order to reach a comprehensive and anthropological understanding of the singularly embodied human subject.

A medicine of living persons is not a medicine of living psyches, bodies, brains, functions, relations or molecules, but a medicine, that could integrate this various dimensions of human existence. Therefore, a medicine of living persons requires not only a biological, psychological or systemic theory, but a corresponding anthropological theory. Such an anthropological theory is not achievable by empirical means alone, but reliant on the knowledge of the humanities and on hermeneutic reflection.

These days, many neurobiologists claim, a better understanding of the brain would imply a better understanding of human experience and agency. Some argue, that the brain's functioning might teach us how to attain a good, healthy and meaningful life. But this argument represents an error in terms of category, because it is above all the better understanding of the human *mind*, that provides a better (self-)knowledge of our human existence. Our mind includes symbolically generated concepts. And the concept of the human brain is only one of these (historically emerged – cf Hagner 2000) concepts. Conceptual research not only clarifies the meaning of this concept, but also investigates in its impact upon our self-conception as human persons. Besides an improved empirical knowledge of our brain's structure and functioning, we therefore need an improved hermeneutic knowledge of the implications of our changing concept of brain. Sometimes it seems, that the notion of mind is being replaced by coloured pictures of the brain. These pictures and their corresponding notions are increasingly pervading our self-conception. Yet, conceptual research aims at an improved understanding of the human mind. In my view, a medicine of living persons is in need of the reflection of the human mind, informed by facts about the brain, but not replaced by them.

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Laxative and diuretics misuse in liver transplant recipients

Zimbrea P.¹, Emre S.¹

¹Yale University (USA)

E-mails: Paula.zimbrea@yale.edu, Sukru.emre@yale.edu

Abstract

Purpose: to describe laxatives or diuretics misuse (LDM) in liver transplant recipients.

Keywords: liver transplantation, eating disorders, quality of life

Method: 135 patients who received liver transplantation at our center between 1/1/2007 and 9/1/ 2011 were surveyed. The questionnaire included demographic information, Eating Assessment Test (EAT), Hospital Anxiety and Depression Scale (HADS), Relationship Style Questionnaire (RSQ), and Short Form Health Survey (SF 36).

Results: 32 questionnaires were returned (response rate of 30.1%). Average time since transplant was 2.5 ± 2.4 years. 21.9 % (7) respondents were within the first year post transplant; 65.6% (21) were male, 40.6% (13) had anxiety and 25% (8) had depression on HADS.

LDM was present in 18.7% (6) of the subjects. It was equally found in men and women (19% versus 18.2%), in married or divorces subjects (22% versus 20%). LDM was more common in whites (33.3%) than non white (18.5%), and more common in the unemployed (40% versus 20 % in the unemployed or retired). 33.3% of subjects with hepatitis C, 28.6% of those with hepatic carcinoma, 25% of subjects with fulminant hepatitis and 25% of subjects with alcoholic cirrhosis reported LDM. Presence of LDM did not correlate with presence of depression, anxiety, positive screening on EAT or a history of addiction. LDM correlated with being overweight ($p=0.03$) and worse physical health of the SF 36 ($p=0.04$).

Conclusion: LDM is present in a significant proportion of liver transplant recipients. It may correlate with worse physical health and being overweight. More information is needed regarding psychological and medical factors which predispose patients to LDM.

Background

Laxative and diuretics misuse (LDM) are key symptoms of eating disorders, however they have been increasingly described in patients without a formal diagnosis of anorexia, bulimia or binge eating. LDM is often associated with medical complications such as gastrointestinal symptoms and disturbances in electrolyte that acid-base balance [1]. A recent review outlines four groups of individuals in which laxative abusers fall into: 1. Individual suffering from an eating disorder (prevalence of laxative abuse between 10 and 60%); 2. Middle-aged or older who begin use laxatives when constipated and continue to use them; 3. Individuals engaged in athletic training, especially sports with set weight limits. 4. Patients with factitious disorder, use laxatives in order to obtain and maintain the patient's role [2]. In community samples, the lifetime occurrence for laxative abuse is reported at 4.18% [3].

The presence of laxative or diuretic misuse is associated with more severe psychopathology. For patients with eating disorders laxative misusers or score higher than non-misusers on measures of anorexic behaviors and cognitions, restraint, weight and shape concerns, depression and self-directed hostility [4]. Another study looked at 1021 individuals with eating disorders involved in the International Price Foundation Genetic Studies; in this group, laxative misuse was associated with higher risk of co-morbidities including Anxiety disorders ($p=.042$, OR (95% CI)=1.44 (1.09–1.89), Posttraumatic Stress Disorder ($p=.020$, OR (95% CI)=1.70 (1.18–2.46)) and Borderline Personality Disorder ($p= .001$, OR (95% CI) 2.18 (1.45–3.29) [5]. In a community sample of women, individuals who misuse laxatives were older, had poorer physical health and were less likely to have sought treatment compared to individuals who engaged in other purging behaviors.[6]

Eating disorders are rare in the general population (prevalence 0.5 - 3.5% [7]), however behaviors displayed by patients with eating disorders may be more present in patients with severe

medical illness. Anorexia for instance a common symptom in transplant recipients. Among all gastrointestinal complications post liver transplant, anorexia is the symptom that affects daily activities most frequently [8]. In our clinical experience, some liver transplant recipients continue to have significant anorexia even after their physical status improves; at the same time, patients were noted to develop anorectic-like behaviors (such as denial of the symptom, overestimating their nutritional intake). Other patients develop bulimia or eating binges, which may be replacing prior addictive behaviors, since the literature suggests that addiction and eating disorders share similar underlying pathophysiology [9], [10]. Overweight and obesity correlate with a lower physical quality of life in liver transplant recipients [11]. There is no information available about the presence of specific symptoms of eating disorders (e.g. anorexic cognitions, purging activities) in liver transplant recipients.

Considering the paucity of information about the presence of symptoms of eating disorders in liver transplant patients, we performed a survey of liver transplant recipients at our center.

Methods

We performed a retrospective pilot study designed to assess presence of symptoms of eating disorders in liver transplant recipients. After excluding non English-speaking patients (N=14) and deceased patients (N=8), 106 eligible patients received the study questionnaire. For non-responders, the questionnaire was mailed again 4 weeks later.

The study questionnaire included demographic information and the following measures:

- i. *Hospital Anxiety and Depression Scale* (HADS) is a 14-item, self-report questionnaire to detect states of anxiety and depression in medical hospital or clinic settings [12].
- ii. *Relationship Style Questionnaire* (RSQ)-30 item scale designed to measure attachment style in adults [13]
- iii. *Eating Attitudes Test 26* (EAT) a 26 item survey designed for measuring behaviors and attitudes characteristics of anorexia nervosa [14]
- iv. *Short-Form 36* (SF-36), measures seven domains of physical and social functioning and overall health [15], [16].

Laxative and/or diuretics misuse (LDM) was defined as a positive answer to the B3 item on the EAT: "In the past 6 months, have you ever used laxatives, diet pills, or diuretics (water pills) to control your weight or shape?"

The following medical information was collected from the medical record: type of transplant, history of addiction, Body Mass Index (BMI) at the time of the study, current medications.

We used Statistical Package for the Social Sciences (SPSS) 16 for the descriptive analysis of the returned answers. Due to small numbers of subjects in most of the subgroups, we used Fisher test for statistical analysis. A p value of less than 0.05 was considered statistically significant.

Results

128 adult patients received liver transplantation at our center between 1/1/2007 and 9/1/ 2011. Fourteen English speaking and 8 deceased transplant recipients were excluded. The study questionnaire was distributed to 106 eligible subjects.

Thirty-two questionnaires were returned (response rate of 30.1%). Average time since transplant was 2.5 ± 2.4 years. Severn (21.9 %) respondents were within the first year post transplant. The demographic information of the respondents is presented in Table 1.

Table 1: Demographics

Demographic variable	Category	N (%)
Genre:	Male	21 (65.6%)
	Female	11 (34.4%)
Ethnicity	Caucasian	27 (84.4%)
	African American	3 (9.4%)
	Other	1 (3.1%)
Education	High school	10 (31.3%)
	Some college/degree	15 (46.9%)
	Postgraduate	5 (15.6%)
	Other	2 (6.3%)
Employment	Full time	7 (21.9%)
	Part time	5 (15.6%)
	Disabled	10 (31.3%)
	Retired	10 (31.3%)
Living situation	Alone	3 (9.4%)
	With significant other	10 (31.3%)
	With family	19 (59.4%)

LDM was equally found in men and women (19% versus 18.2%), in married or divorces subjects (22% versus 20%). LDM was more common in whites (33.3%) than non-white (18.5%), and more common in the employed (40% versus 20% in the unemployed or retired). LDM was more common in patients living alone (33%), than in those living with their significant other (10%) or with extended family (21.1%). None of the differences between demographic groups was statistically significant.

In our group, 11 (34.4%) scored positive on the EAT (Fig. 1).

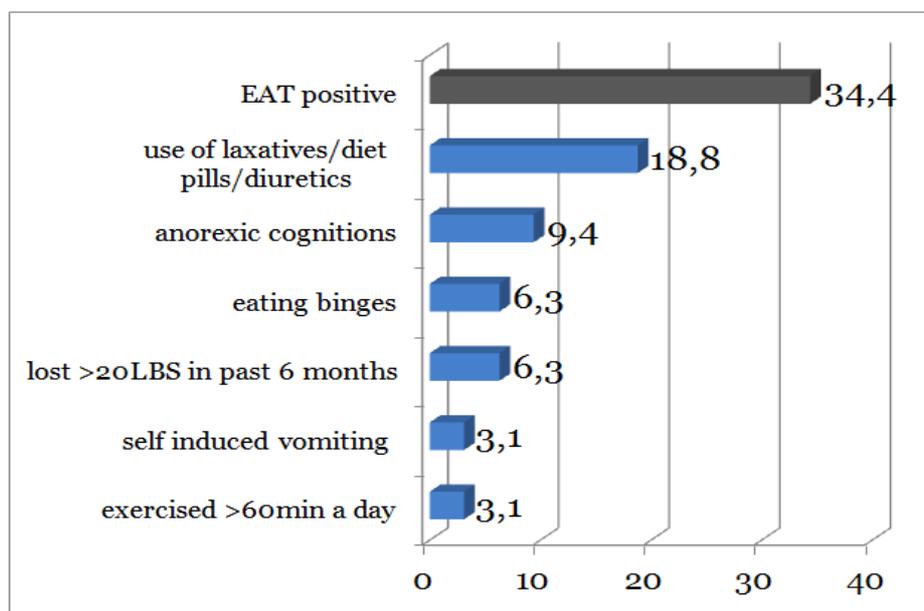


Fig. 1: Results of the Eating Attitude Test (EAT)-%

Laxative or diuretic misuse (LDM) was the most common behavior reported and was present in 18.7% (6) of the subjects. None of the patients who reported LDM was prescribed laxatives and only one was prescribed diuretics (for treatment of hypertension, not edema) at the time of the study.

When considering the nature of the liver disease, LDM was more common in subjects with hepatitis C (33.3%) and in those with hepatic carcinoma (28.6%) compared with other types of liver disease, however these differences were not statistically significant (Table 2).

Table 2: Presence of LDM by diagnosis

Type of liver disease		LDM absent	LDM present	p
Acuity	Fulminant 4	3 (75%)	1 (25%)	1
	Chronic 28	23 (82.1%)	5 (17.9%)	
Alcoholic liver disease	present 4	3 (75%)	1 (25%)	1
	absent 28	23 (82.1%)	5 (17.1%)	
Hepatitis C	present 9	6 (66.6%)	3 (33.3%)	1
	absent 23	20 (87%)	3 (13%)	
Hepatocarcinoma (HHC)	Present 7	5 (71.9%)	2 (28.6%)	0.59
	absent 25	21 (84%)	4 (16%)	
Primary Biliary Cirrhosis (PBC)	present 5	5 (100%)	0	0.55
	absent 27	21 (77.8%)	6 (22.2%)	

Thirteen (41%) of respondents were obese (BMI>30), 11 (37%) were overweight (BMI 25-29.9) and only 8 (21%) had a normal weight (BMI18.6-14.9) at the time of the study. LDM was present more often in patients overweight or obese ($p=0.03$).

Presence of LDM did not correlate with presence of depression ($p=0.2$), anxiety ($p=0.3$), positive screening on EAT ($p=0.06$) or a history of addiction ($p=0.06$). LDM was more common in patients with a fearful attachment style on RSQ (50%) and least common in patients with a dismissive attachment style (14.3%), without reaching statistical significance.

In relation to the quality of life, patients who reported LDM had slightly higher average scores on all domains of SF-36 (Table 3).

Table 3: Quality of life in patients with and without LDM.

Quality of life domain on SF 36	Average score		
	LDM absent	LDM present	Total
Physical health (PH)	53.5	56.6	56.0
Physical functioning(PF)	39.8	58.3	45.3
Emotional problems(EP)	66.2	100	71.5
Energy/Fatigue(EF)	44.0	44.1	44.4
Emotional well being (EWB)	69.2	89.3	72.4
Social Functioning(SF)	64.8	72.9	66.4
Pain(P)	59.4	73.3	62.7
General Health(GH)	48.7	65.8	52.2

On the categorical analysis (SF 36 scores categorized in positive (>50%) and negative (<50%)), the presence of LDM correlated weakly with lower score on the Physical Health domain ($p=0.04$, Fisher test, one sided) (Table 4).

Table 4: Presence of LDM in patients with negative QOL

Quality of life domain on SF 36 (score <50%)	LDM absent	LDM present	p
Physical health (PH)	12 (92%)	1 (8%)	0.3
Physical functioning(PF)	17 (94.4%)	1 (5.6%)	0.04 (one sided)
Emotional problems(EP)	10 (100%)	0	0.1
Energy/Fatigue(EF)	16 (88.9%)	2 (11.1%)	0.3
Emotional well being (EWB)	5 (100%)	0	0.5
Social Functioning(SF)	11 (91.7%)	1 (8.3%)	0.3
Pain(P)	12 (92.3%)	1 (7.7%)	0.3
General Health(GH)	15 (93.8%)	1 (6.3%)	0.1

Discussion

To our knowledge, this is the first report describing symptoms of eating disorders in liver transplant recipients. From behaviors associated with eating disorders assessed by EAT, LDM was

the most common and present in almost 1/5th of the population, more than 4 time higher than in general population [5]. This is important to notice, since LDM can cause significant metabolic abnormalities which may complicate the post-transplant course. Not surprisingly, overweight and obese patients appear to be at risk of reporting LDM.

The reasons for such a high prevalence of LDM in liver transplant recipients are not clear. One possibility is that in the pre-transplant setting patients become accustomed to diuretic and laxatives use by prescription and aware of their effect upon their bodies. Post-transplantation, they continue to use them as a learnt behavior to adjust their weight.

LDM did not correlate with the psychiatric variables that we assessed (depression, anxiety, attachment style, history of addiction). This suggests that clinicians should not rely on mental health providers to screen for this behavior, since most of these patients will not be likely to be in treatment for psychological issues.

The impact of LDM upon quality of life is not clear; patients with LDM had higher average scores on SF 36, but presence of LDM correlated with lower scores on the Physical Health domain. It is possible that patients who are feeling better post transplant end up using LDM as an extra step towards a healthy weight and worry less about the consequences of this behavior upon their medical status.

Our study has several limitations. Its retrospective, cross sectional design does not provide any information about the evolution of LDM in time pre and post transplantation. Another limitation of the study is the low response rate and the fact that included subjects form a single center, which diminishes its generalizability. It is important to note that EAT is a screening method for eating disorders has not been tested for reliability and validity in patients with liver disease. EAT has acceptable specificity and sensitivity in general population and tends to be more specific in population with eating disorder [17]. Since gastro-intestinal symptoms are common in liver disease, it is possible that eating related behavior might have different meaning and specific instruments to measure eating disorder in this subgroup of patients should be developed.

Conclusions

LDM is present in a significant proportion in liver transplant recipients. Clinicians should consider screening for this behavior during the post-transplant routine visits, especially in overweight and obese patients. More information is needed about medical and psychological factors associated with this behavior and about the impact of LDM upon quality of life post liver transplantation.

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