Patient experiences and opinions on medication review : a qualitative study

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Abstract

Background

Medication reviews are a structured critical evaluation of a patient's pharmacotherapy, carried out by a healthcare professional, but are not yet a routine pharmaceutical service in Belgium. A pilot project to initiate an advanced medication review (= type 3 medication review) in community pharmacies was set up by the Royal Pharmacists' Association of Antwerp.

Aim

To investigate the experiences and opinions of patients who participated in this pilot project.

Method

Qualitative study through semi-structured interviews with participating patients.

Results

Seventeen patients from six different pharmacies were interviewed. The medication review process with the pharmacist was perceived as positive and instructive by fifteen interviewees. The extra attention that the patient received was highly appreciated. However, the interviews revealed that patients did not fully understand the purpose and structure of this new service or were aware of the subsequent contact and feedback with the general practitioner.

Medication reviews in the home setting put patients more at ease, were highly appreciated, and enabled also to address practical problems such as drug dosing or storage requirements.

Conclusion

This qualitative study analysed patients' experiences during a pilot project on the implementation of type 3 medication review. Although most patients were enthusiastic about this new service, a lack of patients' understanding of the whole process was also observed. Therefore, better communication to patients by pharmacists and general practitioners about the goals and components of this type of medication review is needed, with the added benefit of increased efficiency.

Impact of findings on practice

- Patient satisfaction with medication review type 3 was high, this information can be used to motivate more pharmacists to start providing this new service and convince patients to participate.
- Timely and clear communication with patients is needed to ensure patient understanding of the whole medication review type 3 process.
- Efforts to help patients prepare for the consultation with the pharmacists may improve efficiency.
- Incentives to perform medication reviews at the patient's home are needed.

Introduction

Medication review (MR) is a structured critical evaluation of a patient's pharmacotherapy, carried out by a healthcare professional. It leads to an evaluation with the patient of his/her treatment, optimising medication use, minimising medication-related problems and avoiding wastage [1, 2]. The Pharmaceutical Care Network Europe (PCNE) classifies medication reviews into three types: simple (type 1), intermediate (type 2) and advanced (type 3) medication reviews.[3] Advanced or clinical MR (type 3) starts from a complete medication history, takes medical data into account and includes a 30-60 minutes long consultation, together with reporting to and feedback from the physician [3]. A growing number of countries

are implementing medication reviews [4, 5]. In Belgium, until a few years ago, medication reviews were only sporadically carried out. Therefore, in September 2017, the Royal Pharmacists Association of Antwerp (KAVA) launched a pilot project to identify barriers and facilitators to support the local implementation of the type 3 MR [6].

In our previous qualitative research, we examined the opinions and experiences of general practitioners (GPs) and pharmacists regarding MR. Both types of healthcare providers were enthusiastic about the medication reviews and the implementation promoted interprofessional cooperation. In addition, important hurdles became evident, such as the considerable investment of time and the difficulty in gathering all the necessary information [6]. The experiences and opinions of patients are highly relevant, especially when envisioning a new pharmacy service. Nevertheless, there is a relative scarcity of data on the perceptions of patients about the type 3 MR [7, 8], as illustrated by the fact that we could only identify six such studies [9-14]. Four of these studies assessed Home Medicines Review (HMR) services [10-13], Geurts et al. studied patient beliefs in clinical MR, which is also a type 3 MR [14] and Petty et al. assessed a pharmacist-conducted medication review clinic, run in a general practice surgery setting [9].

In these type 3 MR studies describing patients' opinions, different methods were used. Three studies used a qualitative method by organising focus groups to explore patients' opinions [9, 12, 13]. The other three studies used a quantitative approach by using a questionnaire to map patients' opinions [10, 11, 14].

Three studies showed that most patients consider MR as a positive service that improved the understanding of their medicines [11, 12, 14]. The qualitative study by White et al. showed that patients felt valued and cared for [13]. Some patients were concerned that the recommendations of the MR would upset the GP. Other barriers were confidence issues with an unknown pharmacist and the lack of information about the MR itself [13].

The patient's view on medications is an important aspect discussed in the MR process. Shared decision-making with patients is widely accepted as enhancing patients' interest in their treatment and improving treatment effectiveness [14]. The importance of the patient consultation during an MR should not be underestimated. One study showed that more than a quarter of all DRPs were identified at the time of the patient consultation and that these DRPs had high clinical relevance [15]. If patients are not involved, poor therapy control, nonoptimal medication use, and intentional or unintentional nonadherence may be overlooked [16].

Not much qualitative research is yet available on the type 3 MR, especially regarding patients' experiences and opinions during an implementation phase of a new service. In the present study, we used interviews to determine the opinions and expectations of the patients who participated in the MRs within this pilot project.

Aim

Our study examined the experiences and opinions of elderly patients and receiving more than five medications, who participated in this pilot project, about medication review (type 3), in order to further guide the implementation of this service in Flanders, Belgium.

Ethics approval

Ethical approval was granted by the UZA/University of Antwerp medical ethics committee in February 2019 with authorization number B300201939368.

Method

Study design

A qualitative research approach with individual interviews was chosen to evaluate the opinions and experiences of the patients [17]. The Consolidated Criteria for Reporting Qualitative Research (COREQ guidelines) were used to guide the reporting of the study findings[18]. In

this paper the word consultation is used for the conversation between pharmacist and patient and the word interview is used for the conversation between researcher and patient.

Sample

From January until October 2018, twenty-five pharmacists were trained to conduct MRs organized by KAVA. Out of these trained pharmacists, thirteen (52%) effectively carried out MRs. A sample of eight pharmacists was contacted for this study by telephone, as a convenience sample starting with the pharmacies within easy reach of the research team. They were asked if we could contact their patients and six pharmacies agreed. Patients were selected by the pharmacists and their coordinates were communicated to the research team. Patients were then contacted by a final year undergraduate female pharmacy student (L.V.L.) to make an appointment. There was no need to contact any additional patients as data saturation was achieved (see below). The research interviews were conducted in March and April 2019.

Design and content validity of the study

To guarantee the anonymity of the patients, they were represented by a specific number in the results list. Three researchers' took great care to formulate the interview guide in an unbiased way, so that the interviewees could freely express their opinions. We used the same grounded-theory approach as in our previous research [6]. Specific problems or proposed changes to the pharmacotherapy, discussed between the pharmacist and patient, were explicitly not questioned during the research interviews and were absent from the interview guide, which can be found in the supplementary material.

The research interviews were conducted in the pharmacy or at the patient's home. Participation in the study and the interview was voluntary and informed consent was required. The semi-structured interviews were recorded.

Data analysis

The audio recordings were transcribed and coded using Nvivo 12, a program for qualitative data analysis [19]. Thematic analysis was used [20] and contained the following phases: familiarisation with the data, generation of initial codes, search for the themes, review of the themes, defining and naming the themes, and production of the report including a selection of illustrative data and quotes from patients [20]. Several approaches were used to increase the trustworthiness of our qualitative approach: i) we used the same methods as in previous research [6], ii) patients were preferably interviewed without the presence of the pharmacist that performed the MR, iii) there were multiple debriefing sessions with the researcher doing the interviews, iv) we used existing literature to frame the findings and v) we recognize the limitations of the study [21].

Data consolidation and consensus seeking procedure for the results obtained

Codes were compared and differences in opinions between the researchers L.V.L. and A.R. were discussed with a third researcher H.D.L. to reach a consensus.

Results

A total of 17 research interviews were conducted with patients from six different pharmacies. The average age of the participating patients was 73 years. The youngest patient was 60, the oldest 85. Nine male and eight female patients participated. Three interviews were conducted with two patients at the same time, as they were each other's partners. The patient characteristics are represented in table 1.

Two of the seventeen interviews were conducted in a private consultation room in the pharmacy, at the request of the pharmacist. All the other interviews were conducted at the patient's home. At the patient's request, the pharmacist was also present during one of the interviews. The interviews lasted 31 minutes on average.

Data saturation was achieved as the last three interviews did not bring about new themes notwithstanding the fact that each patient evidently told their own unique story. The thematic analyses of the transcripts revealed the following topics: (i) general experience, (ii) preparation of the medication review, (iii) patient recruitment, (iv), data sharing, (v) consultation, (vi) cooperation with the GP, (vii) changes after the MR, (viii) frequency of the MR, (ix) patients' perception of the caregivers, (x) remuneration, and (xi) recommendations and tips from patients. The results will be discussed according to these topics. Examples of patients' quotations are referred in the text and additional quotes can be found in the supplementary material.

(i) General experience

Patients reported very positive experiences with their pharmacists regarding the consultation about their medications. Because the patients received more than five medications, obtaining additional information about their medication was of interest to them. Over the years, medication is often taken out of habit. The MR type 3 assisted patients in updating their knowledge of their medications, as shown by the interviews. The extra interest that the pharmacists showed for their patients by conducting the MR was appreciated by nearly all the patients.

> *"I appreciated the pharmacist's attention and care. The pharmacist is welcome to do this again, but I understand that there are more urgent matters." (Patient 2)*

Only two patients had a less favourable experience with the new service. The first patient took part out of curiosity, but the usefulness of an MR was not entirely clear to him. The second patient was displeased with the fact that the review outcome only contained negative elements.

(ii) Preparation of the medication review

A total of thirteen patients were unprepared for their consultation. Most assumed that the pharmacist would already have all the necessary information about their medication. Two

patients mentioned they had not been informed in advance about the purpose of the consultation.

> *"If I had known in advance what they wanted to discuss with me, I think my interaction would have been more productive, and maybe even more productive for him." (Patient 5)*

Only four patients had checked their medication at home. Two of them were also asked to make a list of the medications they were currently taking.

(iii) Patient recruitment

Fifteen patients were approached by their pharmacist about the MR. Of the other two patients, one was selected by both their pharmacist and GP; the other patient reported having taken the initiative themselves. From the fifteen patients, one believed the selection was agreed upon with the GP. Although patients readily agreed to participate, many felt a little overwhelmed by the invitation and some were a little apprehensive about why specifically they were chosen.

> *"Initially, I was surprised by the pharmacist's invitation, and I was wondering on what basis they had selected people. Perhaps they selected people who take a lot of medications, or of different ages..." (Patient 16)*

The interviews further revealed that not all patients understood the purpose of the MR. For example, five patients saw themselves primarily as helpers to the pharmacist and his/her trainee rather than as beneficiaries of a new service. One person initially found it terrifying. Others took participation for granted and did not hesitate. However, there were also patients who attached little importance to their participation.

(iv) Data sharing

Fourteen patients thought data sharing between GPs and pharmacists was normal to very good, with one patient being concerned that the data should definitely not be misused.

“Data sharing is not a bad thing. In emergencies, for instance, it can be extremely useful. However, it should not be used inappropriately." (Patient 15)

Two patients had mixed feelings about the data sharing and one patient had no opinion about this.

“It's difficult to tell. It's not clear to me if there's an added advantage. My GP doesn't see it either." (Patient 1)

Upon further questioning about being informed of data sharing, just over half of the patients were unsure. The patients who knew about the data exchange, thought that was mainly about medication. Some patients believed that the pharmacist and the physician additionally shared data on blood values and kidney function and appreciated that.

(v) Consultation

Sixteen patients reported that they clearly understood the context of the consultation. In case of questions or ambiguities, there was enough room for clarification.

"The pharmacist knows a lot and is able to explain everything without being too academic." (Patient 3)

Three patients expressed themselves as being highly educated or having experience in the medical field. Four consultations with the pharmacist took place at the patients’ home, three took place in the pharmacist's consultation room and ten consultations were held in a separate room of the pharmacy. All patients were satisfied with the length of the consultation.

“I don't remember exactly how long it took, but I think it took three quarters of an hour to an hour. They made time for it, as I expected." (Patient 1)

They reported that it felt like a calm conversation, and they liked that the pharmacist took time for them. One patient could not quite remember how long the conversation lasted, and another patient wound down the conversation themselves.

Twelve patients knew the names of their own medications. For four patients this was not the case , mostly because their partner or family prepared their medication weekly. One patient could not remember the names of her medications, but thought that she knew the indication.

There were no additional aspects to consider for thirteen patients. They were satisfied with the consultation the way it went. These patients indicated that the consultation was exclusively about their medication use. For a patient with depression, the conversation with the pharmacist took place in a relaxed manner. The patient was given the space to talk about things that sometimes caused them difficulties. Two patients stated that additional information would have been helpful. One patient diagnosed with diabetes regretted that the use of their medical device was not discussed during the consultation . Similarly, another patient wanted to discuss their kidney disease more and it was unclear to the patient why this was not discussed. Two other patients were not able to recall any additional aspects.

(vi) Cooperation with the GP

It turned out that some patients, depending on the pharmacist, were much better informed or remembered more about the structure and components of the MR than others. One patient thought there had been no meeting between both healthcare providers. Fifteen patients did not attend the meeting between their GP and pharmacist. This was due to their confidence in their healthcare providers or their discomfort with not being able to contribute anything to this discussion. The other two patients were eager to attend out of interest.

"Yes, I would find that interesting. Just to know what they think about it. I don't think it's a necessity, but I would find that interesting. I will let them know." (Patient 16)

(vii) Changes after the medication review

Significant medication changes occurred in two patients. Eight patients experienced a change in their medication use, of which two were uncertain whether this was really because of the review.

> *"I needed to go to the toilet every night due to a certain medication. The pharmacist told me to take it at another time, and that problem was fixed. So I have already experienced more benefits than drawbacks." (Patient 9)*

In the last seven patients, medication had been changed since the medication review, but this was due to a new diagnosis, for example. During the consultation with the pharmacist, the timing and manner of taking the medication were also discussed.

Most patients trust their GP and don't want to have doubts about their prescriptions. The reasons for the various medication changes were clearly explained by the pharmacist during the consultation, which was appreciated.

> *"I could see the value of it. As someone who doesn't take any medications, unless it's necessary and clearly explained to me why I need to take them...." (Patient 7)*

(viii) Frequency of the medication review

Six patients believed that such an MR was a single one-time service, four other patients had no idea about the frequency.

> *"Whenever I visit the pharmacy, I get an opportunity to ask a question. I usually receive a helpful answer. Therefore, a repeat is not necessary for me." (Patient 2)*

For one patient the review lowered the threshold for asking questions to the pharmacist, for example about minor medication changes. Therefore, a repeat consultation was not required. Three patients would like to see it repeated every year, two felt it could be repeated if there

were several changes to their medication, and two patients felt a repeat would be useful if the pharmacist or GP thought that it was necessary.

"Repeating a medication review seems useful to me if there would be an adjustment within the medication, such as adding one which is known to have the potential to cause problems." (Patient 15)

(ix) Patients' perception of the caregivers

The patients' perceptions toward their GPs were unchanged in fourteen patients after the MR. Most of them had a long running trust relationship with their GP. The patients were very pleased with the way their pharmacist worked and described having the same excellent relationship as with their GP.

"Similarly to our family physician, our relationship was good from the start. The pharmacist is very spontaneous and helpful. Any help that she can provide is greatly appreciated. That's the reason why I participated." (Patient 3)

Twelve patients did not perceive the pharmacist in a different way than before the consultation. However, three patients indicated that they felt less like customers. The MR gave them the opportunity to get to know their care providers better.

"It was nice to learn a little bit more about the pharmacists at my pharmacy. They were familiar to me, but now after that consultation, they address me in a more personalised way." (Patient 2)

Opinions were divided on the patients' views of the GP-pharmacist collaboration as a team. Five patients indicated that they were not aware what this collaboration entailed. There were also eight patients who assumed that the cooperation between the two professions had improved partly as a result of carrying out the MR. One patient felt that nothing had changed, and three patients did not answer the question.

“I always felt that both the pharmacist and GP were a bit out of touch with their patients. That they were elevated to a higher status. But that seems to have improved now and they are now a lot more in touch with their patients." (Patient 5)

(x) Remuneration

There was an equally divided opinion about reimbursement. On the one hand, performing an MR was seen as an additional service for which compensation should be given. On the other hand, patients saw it as part of the pharmacist’s duties and did not consider it necessary to provide compensation for each performance. Seven patients did not find reimbursement necessary. While one patient stated that reimbursement was unethical, the others thought it was unnecessary because it should be part of their job or should be provided as a free service. One patient categorically refused to even take into consideration that they should pay for this service.

"If you ask me whether the doctor or the pharmacist should be reimbursed by the government or another organisation, then I would answer 'no' across the board.” (Patient 15)

The remaining half of patients considered the new service worthy of remuneration. The question was whether remuneration should be provided for the GP and/or pharmacist. Most of the answers focused on the pharmacist. Less was said about remuneration for the GP. An MR was an extra time commitment, an extra service for which remuneration may be provided. The opinions were again equally divided on the willingness to pay for this service. Half of the patients felt that they already had to pay enough in health costs. The other half of patients found it no problem to pay for this.

“In my opinion, they should be reimbursed for the time they spent on it." (Patient 13)

(xi) Recommendations and tips from patients

Thirteen patients would recommend a medication review to other people, and one patient already did and another mentioned that they would suggest it in the case of polypharmacy.

Among the remaining four patients, two would not recommend it as they had not personally benefited, and the other two had a neutral perspective.

> *“Anyone who needs to take medication will find it very useful. It doesn't matter if it is for blood pressure or cholesterol. It's always useful to know what you're taking and what its purpose is. I know several people who also take medications, but they don't realize why they are taking the medication." (Patient 11)*

Patients were asked at the end of the interview about suggestions for any improvements that could be made. Their responses included the desire to be more informed about the whole concept of the MR, to be better prepared and to make the consultation more productive.

> *“An invitation to participate in an MR should provide enough information for the patient about its purpose. As for my pharmacist, he asked me how I felt about the medication. If you don't prepare, it's overwhelming. I've only been told now.” (Patient 5)*

Another recommendation was to also include specialist physicians in the process.

Discussion

Interpretation of the findings

General experience

This qualitative study raised some issues that need to be taken into consideration in future implementations. Patients generally appeared to be very satisfied with the new service, as reported previously [11, 12, 14, 22, 23], considered this new service to be informative and appreciated the time-investment of the pharmacists, as also previously reported [13, 23]. But there were a few dissenting opinions as patients felt that their GP's professionalism and knowledge should not be questioned by the pharmacist.

Preparation of the medication review

The patients were not adequately informed about the whole process of the medication review and for many there was only minimal preparation before the consultation with the pharmacist. We note that the precise language describing and defining the outcomes of a medication review is not fully settled [24] and standardisation my allow help the uniform communication among all involved in this new pharmaceutical service. Our previous research had already suggested that this is an aspect that needs to be improved [6].

Patient recruitment

Patients who agreed to participate in the MR were originally recruited by their pharmacist and this resulted in mixed reactions [6]. Some patients found it rather worrisome that they were singled out, but others did not question it further. They participated out of self-interest and curiosity, but sometimes also because they wanted to help their pharmacist indicative of not being adequately informed about the goals of an MR and doing this should avoid unnecessary anxiety [25].

Data sharing

Patients agreed on the necessity and desirability of data exchanges between physicians and pharmacists. Although it was taken for granted by many, some patients questioned this in the

context of confidentiality and privacy, as was also previously reported [13]. The type of data shared should therefore be clearly communicated to the patient from the outset.

Consultation

The usefulness goals and different steps of an MR were not clear to all patients as also found in other studies which showed that clear communication about the goals of the MR improved trust in the pharmacist's MR [22, 23, 26].

In this pilot project, some consultations with the pharmacist took place at the patient's home, whereas most of the consultations took place in a separate room in the pharmacy. Different studies have shown that a home visit by a pharmacist can produce beneficial results [27-29]. In addition, the pharmacist can supervise the storage method immediately when the patient has all their medication within easy reach [28].

The majority of patients were satisfied with their consultation and the willingness of their pharmacist to provide additional explanations to their patients, as has been described previously [22, 23, 26]. Depending on factors such as education, interest and age, not all patients appeared to have sufficient knowledge of, for example, the medication names. This could be overcome by asking patients to bring their medication(s) to their consultation as a visual aid.

Changes after the medication review

For some patients, pharmacotherapeutic improvements were suggested as a direct result of the MR. An MR also provides a better understanding of the medication use, which is similar to previous findings [11, 12, 14].

Patients' perception of the caregivers

The pharmacist-GP collaboration was valued by half of the patients who were aware of the collaboration, which is in line with results from Kempen et al.[23] The lack of communication

described above reduced the understanding of the GP-pharmacist collaboration in some patients. Previous studies have indicated that, in general, caregiver cooperation needs to be optimized, but that introducing this new service may actually catalyse that [6].

Remuneration

Opinions on the need for reimbursement were split ‘fifty-fifty'. As most patients were addressed by their own pharmacist, who also conducted the consultation, reimbursement for the physician did not immediately came up. Moreover, the healthcare providers themselves did find it necessary to be reimbursed for an MR [6].

Recommendations and tips from patients

Except for receiving additional information about the use of medical devices, such as blood glucose meters few extra suggestions were offered by the patients . The majority of patients would recommend the MR service to other patients, certainly polymedicated patients or those with limited understanding of their medications. However, they thought that the general practitioner or pharmacist should select these specific patients. The patients with a clear outcome from the MR, e.g., discontinuation of a certain medication after the consultation, were full of praise for this new service. Suggestions for optimizing the consultation, or enhancing collaboration, were not raised. However, an interesting suggestion that was made was to involve the physician-specialist as an additional partner, as many patients receive treatment from more than one healthcare provider.

Strengths and limitations of the study

Due to the qualitative nature of this study, only a limited number of patients were interviewed. Any transferability will therefore be tentative. There was a patient sample bias as the pharmacists were very enthusiastic and involved benevolent patients who were eager to learn more about a completely new service. Nevertheless, qualitative research with patients is important as this may improve the quality of an MR by informing the implementation process.

Pharmacists were allowed to choose which patients to include in their MR, rather than patients just being chosen at random [6] and this bias was therefore also present in the assessment of the patients' opinions. There was period of approximately one year between the MR and the research interview, which potentially could have introduced some recall bias. Lastly, this study did not focus specifically on the individual pharmacotherapeutic content of the MR, but rather on its process. This is a more difficult topic for patients who are not yet familiar with this new type of service.

Similarities and differences with other studies

The current literature encompasses six studies describing patients' opinions about type 3 MR [9-14]. None of these however used individual interviews, as we did in our study, but instead used focus groups [9, 12, 13]. One study revealed that patients' opinions about the service varied greatly, as most patients understood the purpose of the review, but some had suspicions about its real objective [9]. Another study also showed that experience with MR, and to a lesser extent, prior knowledge of MR, increased willingness to participate in an MR [10]. Our study also demonstrated the need for better communication between healthcare providers and patients about this new service. Two quantitative surveys showed that patients had positive opinions about medications and that an MR provided them with increased medication knowledge [11, 14].

Future research

During this study, new questions arose for further research. How can the quality of MR be secured in an objective way [30] and what quality parameters are necessary in this endeavour [31]. Another question focuses on how to measure the clinical impact of type 3 MR because of the diversity of the population and the complexity of the intervention [31]. Finally, it would be interesting to learn what non-participating healthcare providers think of this new service [34]. Conclusion

Many patients greatly appreciated the pharmacists' attention and time invested. Nevertheless, some patients were not adequately informed about this, for them, new service. An adequate description and rationalisation of the purpose and goals of the MR type 3, tailored to the individual patient, should therefore be mandatory. For patients, this would also likely counteract any potential anxiety caused by the invitation to participate in an MR and for the additional questions posed about their medication. In conclusion, our results show that patients are overwhelmingly positive about this new service and provide constructive input for its further development and implementation. Better communication to patients by pharmacists and general practitioners about the goals and components of this type of medication review is needed, with the added benefit of increased efficiency.

Acknowledgements

We would like to thank all patients and local pharmacists who participated in this study and Bronwen Martin for her critical reading of the manuscript.

Funding

This work was supported by the Royal Pharmacists Association of Antwerp (KAVA).

Conflicts of interest

The authors declare that they have no conflicts of interest related to this study.

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Table

Table 1: Patient characteristics

Patient number	**Gender**	**Age at the interview (years)**	**Note**
1	M	68	
2	F	79	Interview was conducted in presence of local pharmacist
3	M	72	Interview was conducted with his wife (patient 4)
4	V	71	Interview was conducted with her husband (patient 3)
5	M	81	
6	M	69	
7	V	85	
8	V	77	
9	M	68	
10	M	74	Interview was conducted with his wife (patient 11)
11	V	64	Interview was conducted with her husband (patient 10)

12	M	73	Interview was conducted with his wife (patient 13)
13	V	70	Interview was conducted with her husband (patient 12)
14	M	74	
15	M	60	
16	V	75	
17	V	83	

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