This item is the archived peer-reviewed author-version of:

Dutch midwives' views on and experiences with woman-centred care : a Q-methodology study

Reference:

Fontein-Kuipers Yvonne, de Groot Rosa, van Beeck Elise, van Hooft Susanne, van Staa AnneLoes.- Dutch midwives' views on and experiences with woman-centred care : a Q-methodology study
Women and Birth - ISSN 1871-5192 - 32:6(2019), p. E567-E575
Full text (Publisher's DOI): <https://doi.org/10.1016/J.WOMBI.2019.01.003>
To cite this reference: <https://hdl.handle.net/10067/1579790151162165141>

Dutch midwives' views on and experiences with woman-centred care – A Q-methodology study

ABSTRACT

Background: Woman-centred care is a philosophy for midwifery care management of the childbearing woman. There is no mutually recognised internalised way in midwifery to provide woman-centred care.

Objective: To reveal midwives' distinct perspectives about woman-centred care.

Methods: A Q-methodology study amongst 48 Dutch community-based midwives who rank-ordered 39 statements on woman-centred care, followed by semi-structured interviews to motivate their ranking. By-person factor analysis was used to derive latent views, representing midwives (factors) with similar attitudes towards woman-centred care. The qualitative data was used to aid interpretation of the factors.

Results: Four distinct factors emerged: (1) the humane midwife, containing two twinning factors: (1+) The philosophical midwife, who is the woman's companion during childbearing in being an authentic individual human being; (1-) the human-rights midwife, who is the woman's advocate for achieving autonomy and self-determination regarding care during the childbearing period. (2) The quality-of-care midwife, who regards good perinatal health outcomes, responsive care and positive maternal experiences as benchmarks for the quality of woman-centred care. (3) The job-crafting midwife, who focuses on self-organisation while seeking balance between the childbearing woman, herself as a professional and an individual and as a colleague.

Conclusion/ Implications: Each factor represented specific perspectives feeding into woman-centred practice. Although the humane midwife seems to represent the dominant and preferable perspective of woman-centred care, awareness and exploration of and reflection on the thoughts patterns represented by the four different perspectives, should be considered in education and professional development of (student)midwives of be(com)ing a woman-centred midwife.

Keywords: *humane; job-crafting; midwifery; q-methodology; quality of care; woman-centred care*

State of Significance

Issue

Midwives need recognisable key viewpoints towards woman-centred care for their daily practice.

What is already known about the topic?

Woman-centred care is widely recognised as the ideal approach for caring for the childbearing woman as it emphasises the responsiveness of midwifery care to women's needs.

What this paper adds

Woman-centred care is provided following on from distinctly different perspectives: as a humane midwife including a philosophical perspective and a human-rights perspective; the quality-of-care midwife and the job crafting midwife. Humanisation is the preferred attribute for being a woman-centred care midwife who relies on having a strong basic philosophy.

1. Introduction

Woman-centred care is a philosophy and a framework for midwifery care management of the childbearing woman. Woman-centred care shapes the collaborative and interactive relationship between the woman and the midwife where the woman's social, emotional, physical and cultural needs and values meet the midwife's professional knowledge, expertise and values.¹ Woman-centred care distinguishes midwifery from other disciplines within maternity services because it so clearly articulates the midwife's role - as woman-centred care has an obvious binary parallel dimension: Within the woman-centred care concept, midwives are appointed as exclusive executors of this care-model. Synchronically, midwives regard themselves as the guardians of woman-centred care. This parallel dimension emphasises the uniqueness of woman-centred care in the midwifery profession. In the context of current midwifery practice, woman-

centred care is regarded as authentic to midwifery,^{2,3} it is perceived as a core premise of the midwifery profession⁴, as ‘real midwifery’,⁵ and as the (moral) right thing to do.⁶ Despite these strong values, beliefs and attitudes, there is no mutually recognised internalised way in Dutch midwifery to provide woman-centred care, nor is it standard practice.^{7,8} It seems that woman-centred care seems somehow a fallacy of majority belief, suggesting a gap between midwives’ beliefs and their practice.^{7,8} Midwives’ subjective perspectives about woman-centred care play a substantial role in their woman-centred care provision⁷. Midwives would strengthen their individual authentic identity and role of the midwifery profession as a whole through adhering to the philosophy of woman-centred care and acting accordingly.^{4,9} Importantly, it will emphasise the responsiveness of midwifery care to women’s needs.⁸ There is a variety in how midwives view the concept of woman-centred care⁷ and there are various vignettes describing midwives’ woman-centred approaches, focusing on specific healthcare situations.¹⁰ These however, lack a contextual meaning and generalisability to the midwifery profession. Midwives need a wider perspective and guidance on how to approach and realise woman-centred care in daily practice, *i.e.* allow their midwifery woman-centred behaviour. In order to accomplish this, midwives do need a thorough understanding of the specific midwifery woman-centred care patterns and the related professional conduct to be(come) woman-centred practitioners.

In this study, we aimed to understand midwives’ perspectives about woman-centred care by identifying the key viewpoints towards woman-centred care that are recognisable for midwives – to connect beliefs with practice. The basic premise of this study was to reveal the midwife’s woman-centredness and to reveal diversity regarding a concept that appears at first sight homogenous in nature.^{7,8} Midwives’ woman-centred care patterns, as experienced in real life, have not yet been systematically studied. In this paper we report the findings of a Q-methodological study which aimed to answer the following question: “What are midwives’ perspectives towards woman-centred care?” in order to reveal the different perspectives.

2. Methodology

Q-methodology is a mixed-methods approach allowing participants to express their subjective opinions and to understand their own internal frame of reference.¹¹ It allowed us to objectify midwives' subjective mechanisms and thoughts of woman-centred care in a sense-making exercise, and to uncover and analyse similarities and differences in their subjective viewpoints.^{12,13} Typically, in a Q-methodological study, participants are presented with a sample of diverse statements about some topic, called the Q-set. Participants, called the P-set, are asked to rank-order the statements from their individual point of view, according to some preference, importance or liking.¹³ The individual rankings are subjected to factor rotation, seeking to find groups of persons who have rank-ordered the statements in a similar way.¹²⁻¹⁴ The methodology consists of five sequential steps: (1) developing and constructing the Q-set; (2) sampling the participants (P-set); (3) sorting distribution; (4) post-sorting interviews; and (5) analysis and interpretation.¹⁴ The study was carried out between 27 April 2015 and 29 November 2016.

2.1. Developing and constructing the Q-set

A set of opinion statements was developed to create the Q-set. We reviewed the 'volume of discussion' on the topic of interest to cover all possible statements that the population of concern can make about the topic.¹⁴ The development of our Q-set, including collection and selection of items, formulating the statements and validation of the Q-set has been described in detail elsewhere.¹⁵ The Q-set in our study included 39 statements. We ensured the balance and representativeness of the statements by organising the statements using the theoretical structure of the Person-Centred Care (PCC) model.¹⁶ Woman-centred care derives from person-centred care and recognises the PCC levels and the interconnectedness between these levels.¹ We assured that the statements covered the PCC levels: Level 1 – *Base*: the core philosophy serving as a prerequisite for woman-centred care; Level 2 – *Action*, the level where woman-midwife

interaction takes place, including reciprocity, collaboration and partnership and; Level 3 - *Purpose*, the outcome(s) which the midwife strives to achieve by providing woman-centred care^{1,16} (Figure 1). To capture the complexity of woman-centred care¹ we formulated the statements according to the expanded Attitude-Social-influence-self-Efficacy (ASE) model,¹⁵ as behaviour is influenced by the determinants: *intention, attitude, self-efficacy, social and personal norm, perceived knowledge and barriers*¹⁷. This approach has shown its applicability to woman-centred care in an earlier exploration of the phenomenon.⁷ The statements were printed on A6-sized cards and were randomly numbered from 1 to 39.

Figure 1. Structure Person-Centred Care (PCC) model¹⁶

2.2. The participant group (P-set)

A sample of midwives who were potentially representative of the various issues of woman-centred care were recruited.^{13,18} The aim was to represent midwives of different-sized practices, from different age

groups, who varied in years of practice, levels of urbanisation, Dutch geographical areas and who differed in motherhood status (having children) and in religious attitudes to life. With regard to religious attitude to life, we asked participants if they identified themselves with a religion, spiritual tradition or belief system that influenced their view on, and way of life. Practice size, years of experience, level of urbanisation, (non)motherhood and (non)religious attitude to life are known elements to influence midwives' perspectives of woman-centred care.^{7,19,20} We also collected information about caseload (average cases per midwife per year), level of education and about midwifery-related extracurricular activities, *e.g.* education, sonography, research, committee membership. To assure a heterogeneous sample with equal representation of the influencing elements we needed to include 48 participants in our P-set. We used practice size as a cluster sampling frame (midwives working in practices with 1-2 midwives, 3-4 midwives and 5 or more midwives) and fixed sampling fraction for the strata: years of practice experience (< or ≥ ten years), urbanisation (sub-urban/ urban), motherhood (yes/ no), religious attitude to life (yes/ no).

To recruit eligible midwives, we used purposive sampling techniques to assure that most distinct viewpoints of woman-centred care could be identified.²¹ We recruited participants by email through the clinical placement record from our faculty of midwifery education and via the midwifery networks on social media. Forty eligible midwives positively responded and received additional verbal and written information about the study. Three midwives could not be scheduled for an interview due to not being able to find a date that suited both the participant and the interviewer, thus 37 participants remained. During the data collection process, we asked these participants if they knew midwives with different or opposed opinions or ideas to their own. We additionally recruited 11 participants through utilising this snowball sampling technique. A structured division of midwives over three equal groups in relation to practice size occurred, as well as a balanced division of years of practice, level of urbanisation, motherhood status and religion. The participating midwives received accreditation for the professional quality register (*i.e.* continuing education credits).

2.3. Sorting distribution

The midwives were invited to participate in a one-on-one session with the first author and received step-by-step instructions for completing the task. We did not provide participants with a definition of woman-centred care but allowed them to freely construct their own ideas on the topic. Each participant received the 39 statement cards and a score sheet (Q-grid) (figure 2). The participants were asked to read the 39 statements carefully and then sort them in three piles: agree, disagree, or neutral/ doubtful/ undecided. They subsequently rank-ordered the different stockpiles with a forced-choice frequency distribution, according to how much agreement they attributed to each individual statement. The statements were placed along a continuum from 'most agree' at +5 to 'most disagree' at -5. Participants were instructed to first rank-order the 'agree' statements, selecting the two cards they agreed with most and placing these statements at +5 and so on, working their way to the middle of the score sheet, until the 'agree' pile was exhausted. This procedure was repeated with the 'disagree' statements in the opposite direction of the score sheet. The 'neutral' statements were ranked in between the 'agree' and 'disagree' statements. The Q-sorting process continued until all statements had been placed on the score sheet, allowing the relative positioning of statements. The researcher observed and noted (field notes) the participant's strong verbal (*i.e.* pitch, speed, tone and volume of the voice) and explicit non-verbal responses during the rank-ordering (*i.e.* gestures and facial expressions). Finally, the participants were asked to re-examine their sorting, to ensure that it truly represented their meaning and experiences. Once the Q-sorting was completed, the position of each statement (statement code) was recorded.

[illegible]

In a face-to-face interview, immediately after the sorting distribution, the participants were invited to elaborate on their most salient statements, *i.e.* the statements placed at both extreme ends on the Q-grid (statements ranked at +5 and -5), at random about other statements and based on the participant's verbal and non-verbal responses during the sorting. The participants were then asked if they had any further comments on a statement they thought was important, relevant or worth noting or elaborating on. The interviews took place either at the participant's practice, home or at a café; whichever was convenient for the participant. The interviews lasted between 17 to 55 minutes and were audiotaped after consent was obtained. Constant member checking was utilised throughout the interview to verify the participants' perceptions.²¹ The interviews were transcribed verbatim. Non-verbal responses were added to the transcripts.

2.5. Q-analysis and interpretation

The data were analysed by using the PQ method (V2.35).²² After all statements had been entered in the computer program, the correlation within each sorting was weighted in relation to each other. In this study, we assessed the fit of solutions ranging from 2 to 8 factors, in terms of providing the maximum number of distinct interpretable viewpoints. The analysis process resulted in a correlation matrix where only factors with (i) Eigenvalues of 1.00 or above (Kaiser-Guttman criterion), (ii) a factor loading of 0.41 or above ($p < 0.01$) and, (iii) factors of which the cross-product of its two highest loadings exceeded twice the standard error (Humphrey's rule),^{13,14} were found eligible for by-person analysis. We performed a centroid factor analysis with varimax rotation (by-person analysis). We included the Q-sorts with correlations of at least 0.6 on any one factor and no more than 0.41 on any other factor.²³ Q-sorts that sorted in a statistically similar way did so because they had similar sorting patterns, suggesting shared viewpoints about woman-centred care. Factor arrays were calculated by the weighted averaging of the Q-sorts in that factor. Each factor with at least three exemplar Q sorts loading highly and significantly at $p < 0.01$ on that factor only, was considered sufficient for further interpretation.²⁴ The factor arrays were interpreted and described as preference factors/ profiles, so called prototypical exemplars.¹⁴ We categorised the sorts per factor. Per factor, we inspected the individual transcripts in detail with focus on the salient statements (those with a factor score of +5, +4, -4 and -5), the distinguishing statements (those with a statistically significantly and/ or different factor score as compared to all other factors; $p < .05$), profound statements (statements with distinct higher and lower ranking between the factors) and item alignment (similar patterns). Per factor, we labelled and categorised the text fragments related to the salient, distinguishing and profound statements (e.g. Factor 1, score +5). In case of item alignment, we connected the text fragments corresponding to the individual statement. Meaning was distilled and quotes were chosen to illustrate the factor scores. For validation purposes the factors and the

categorised text fragments were discussed by the authors and with a team of 23 midwifery lecturers to verify the interpretation and try to get a deeper understanding of the factors.¹³ Additionally, the participants (sorts) with the highest loadings on the factors were emailed a copy of the respective preference perspectives for feedback.¹¹ The participants agreed with the description of the factors.

2.6. Ethical considerations

Ethical approval was not required according to Dutch ethical research standards (reference WC2016–055; <http://www.ccmo.nl/en/your-research-does-it-fall-under-the-wmo>). We obtained written consent from all the participants in our study.

3. Results

3.1. Participants

The 48 participants were female and practised as independent midwives in community-based settings distributed over the 12 Dutch provinces. The participants had a mean age of 41 (SD 11.2; range 22–69) years and on average 14 (SD 10.3; range 1–34) years of practice experience. Two participants had secondary positions as hospital-based midwives and one participant also worked as an ambulance driver. Three participants were locum midwives. Most of the participants held a bachelor degree. Thirty-one of the total sample of 48 participants (65%) were included for analysis. Sixteen Q-sorts (33%) were confounded, *i.e.* loaded significantly on more than one factor and one Q-sort (2%) did not load on any of the factors. The characteristics of the included participants are presented in Table 1.

Table 1. Characteristics participants (n = 31) significantly loading on factors

	Factor 1		Factor 2		Factor 3	
	N = 22		N = 4		N = 5	
	Mean (SD; range)	N	Mean (SD; range)	N	Mean (SD; range)	N
Age (in years)	44.6 ($\pm$ 12.3; 26-69)		37.6 ($\pm$ 8.24; 26-50)		41 ($\pm$ 6.2; 36-48)	
Practice experience (in years)	17 ($\pm$ 11.8; 1-41)		11.4 ($\pm$ 8.7; 1-27)		13 ($\pm$ 8.0; 9-25)	
Practice size:						
1-2 midwives		11		-		2
3-4 midwives		6		3		1
5 or more midwives		5		1		2
Caseload:	87 ($\pm$ 23; 40-110)		120 ($\pm$ 8.2; 110-130)		106 ($\pm$ 16.7; 80-120)	
Urbanisation:						
Sub-urban		11		4		3
Urban		11		-		2
Education:						
Diploma		3		-		1
Bachelor degree		15		3		3
Master degree		4		1		1
Motherhood:						
Children		17		2		3
No children		5		2		2
Religion/ spiritual tradition/ belief system ^a:						
Yes		10		2		1
No		12		2		4
Extracurricular activities	Lactation consultancy; coaching; parenthood education; tongue-tie division; ultrasound scanning; external cephalic version; research		Committee/ board functions on local and national level; research and education; ultrasound scanning		Preconception services; intra/ inter-professional training; local board committee; ultrasound scanning	

^a Western Christianity, Islam, Buddhism, Taoism, (religious) humanism

3.2. Women-centred perspectives

The centroid factor analysis with varimax rotation resulted in a factor solution of three distinct factors, with an explained total variance of 61%. Twenty-two midwives defined Factor 1, four midwives Factor 2, whereas five midwives defined Factor 3 (Table 2). Correlations between factors 1 and 2 were moderate ($r = .42$), factor 2 and 3 showed a moderate negative correlation ($r = -.43$) and factor 1 showed a strong negative correlation with factor 3 ($r = -.95$). Interpretation of the factors was facilitated through

additional reference to the existing interview transcripts. The three factors have been labelled as: The *humane midwife*, the *quality-of-care midwife* and the *job-crafting midwife*. The statement codes are reported between square brackets. Consensus (*i.e.* statements whose rankings do not distinguish between any pair of perspectives)¹³ was found on five statements. In all three factor perspectives, women-centred care is not bounded to caring for specific subgroups of women [8, 10]. The midwives were neutral about legal consequences of their care provision [17], about the use of statistical analysis to measure woman-centred care [18] and if woman-centred care can be learned and developed while practising [37] (Table 3). Consensus among the factors did not necessarily imply agreement between participants about a statement. For instance, all factors showed neutral attitudes on the legal consequences of their care provision, but reasons differed: the humane midwife regarded legislation as self-evident, ‘part of the job’, and therefore not noteworthy and the quality-of-care midwife regarded this as avoidable and therefore not considered as relevant. The description of the respective factors includes the perspectives of the extreme ranked statements per factor, the significant factor scores (* p .01; ** p .05) and the distinct higher and lower ranking between the factors.

Table 2. Q-sorts defining the three factors

Factor	Q-sorts loading on the factor*	Total number of Q-sorts loading per factor	Eigen values	% explained variance
1	2,3,4,6,12,14,17,18 ^a ,21,27,28 ^a ,30 ^a ,31 ^a ,32 ^a ,33,35,36,38,39,43,44 ^a ,45	22 of which 6 ^a	14.91	39%
2	23,34,37,47	4	2.50	9%
3	5,8,11,20,29	5	1.77	13%
Confounded	Factor 1 with 3: 1,10,13,15,19 Factor 1 with 2: 9,16,22,24,25,40,41,42,46 Factor 2 with 3: 26 Factor 1 with 2 and 3: 48	16		
Non-significant	7	1		

* Each Q-sort number represents an individual respondent ^a Significant negative factor loading (Profile 1-)

Table 3. Q-set statements and factor array

Statement		Factor array		
		1 ^{+/-}	2	3
1	Woman-centred care should be a quality label in maternity care services	0	-1 ^b	2 ^a
2	Woman-centred care determines the future existence of the midwifery profession	2	3 ^a	-1 ^{*b}
3	Because of woman-centred care maternity care services become cheaper	1 ^{*a}	-2	-2
4	I find it difficult to provide woman-centred care in daily practice	-3 ^b / 3 [*]	2 ^{*a}	-1 [*]
5	Because of woman-centred care women have a positive recall of their pregnancy and of the birth of their baby	5/-5	5	0 ^b
6	Women-centred care causes dilemmas between the woman and her midwife	-1	3 ^{*a}	0
7	Woman-centred care causes dilemma amongst healthcare professionals in maternity care	1 [*]	4 ^{*a}	-2 ^{*b}
8	Women in urban areas have a higher need for woman-centred care compared to women in rural areas	-3/3	-3	-3
9	I am willing to prefer the woman choices over my own, even when I don't think these are the best choices	3 ^a /-3 [*]	-1	-1
10	Only women with severe problems need woman-centred care	-5 ^b /5	-4	-4
11	The relationship between the woman and the midwife is <i>the key to success</i> for providing woman-centred care	2 ^a	0 ^b	1
12	When I have never met a woman before, I can't provide woman-centred care to her	-2 [*]	-5	-5
13	I am willing to provide woman-centred care when my colleagues are willing to do the same	-2 ^{*b}	0	3 ^{*a}
14	Woman-centred care demands an emotional investment from the midwife	0 [*]	-2 ^{*b}	5 ^{*a}
15	When I provide woman-centred care, it makes me feel good	1 ^b	2	4 ^{**a}
16	I am willing to prioritise the woman's wishes and needs over protocols	3 ^a /-3 ^{**}	-1 ^{*b}	2 ^{**}
17	I am willing to accept the legal consequences of the choices that I make during midwifery care	1	1	0 ^b
18	Woman-centred care can be statistically measured	0	0	-1 ^b
19	Woman-centred care can only be provided in a community-setting	-2 ^{*a}	-4 ^{**}	-5 ^{*b}
20	I feel insecure when a woman says <i>no</i> to the midwifery care that I offer her	-2 ^{*b}	0	0
21	I experience that providing woman-centred care is feasible way of providing midwifery care	2	0 ^{*b}	3 ^a
22	I have the necessary skills that are needed to provide woman-centred care	2	-1 ^{*b}	3
23	Woman-centred care increases women's satisfaction about midwifery care	5/-5	5	2 ^{*b}
24	Woman-centred care is a promotional marketing technique	-1	3 ^{*a}	-2
25	To provide woman-centred care requires extra efforts for reflection	1	1	5 ^{**a}
26	I am willing to provide woman-centred care when my colleagues share this perspective	-3 ^b /3 [*]	1	1

27	When a woman requires high-risk care, the midwife still supports her during pregnancy and birth	3 ^a /-3 [*]	-1 ^b	0
28	I need to <i>hit it off</i> with a woman to provide woman-centred care	-1	-3	-3
29	Women are not that eager to receive woman-centred care	-5 ^b /5 ^{**}	-3	-4
30	Woman-centred care reduces the number of interventions	4 ^a / -4 [*]	2	0 ^b
31	Woman-centred care is a rather vague concept	-4 ^b / 4	1 ^{*a}	-3
32	It takes time to provide woman-centred care	0 ^{*b}	4	4
33	Woman-centred care is trendy	-4 ^b /4 [*]	1 ^{**a}	-2 ^{**}
34	Woman-centred care is a skill to be learned by looking at other midwives	0	2 ^a	0
35	Woman-centred care does fit your personality or it does not	0	0	2 ^a
36	Woman-centred care is a skill to be learned during basic midwifery education	-1	-2 ^b	0 ^a
37	Woman-centred is a skill to be learned and developed while practising	0	0	1 ^a
38	For me, woman-centred care is self-evident	4 ^a / 4 [*]	-2 ^{*b}	1 [*]
39	The input of the woman's experiential knowledge and the midwife's professional knowledge both equally contribute to care – 50:50	-1	-5 ^{*b}	-1

^a Ranked higher than by any other factor; ^b Ranked lower than by any other factor (factor 1+,2,3)

* $p = <.01$; ** $p = <.05$

For profile 1- ranking 3 to 5 and -5 to -3 are presented

3.2.1. Factor 1. The humane midwife

The term humane was chosen as the ranking of the Factor 1 midwife represents the authentic relationship between woman and midwife with a mutual recognition and respect for one another's humanity. Factor 1 is 'bipolar' which means that this factor has Q-sorts that are positioned near to both its poles, creating two opposite viewpoints (*i.e.* a positive loading participant would place a statement on +5, a negative loading participant would place this statement on -5).¹⁴ In our case, six Q-sorts (defined as Factor 1-) exhibited a near reverse configuration of the statements when compared with the other 16 Q-sorts (defined as Factor 1+). The ranking showed a dichotomy in the rankings 3 to 5 and -3 to -5. However, the post-sorting data (interviews) showed that in our case Factor 1- was superlative of Factor 1+ but not *per se* paradoxical. We considered a 180 degrees rotation of the six Q-sorts¹⁴ but decided against this, as the participants seemed to represent a subgroup in its own rights within Factor 1 as a whole. Therefore, this factor is presented into two separate narrative accounts, 1+ and 1-.¹⁴

3.2.2. Factor 1+. The philosophical midwife

This midwife bases her care on the one-to-one connection with the woman, woman-midwife interaction and collaborative elements. She looks at a woman from the existentialist philosophical approach; respecting her as an individual human being, her freedom of choice and authenticity and acknowledges the experiential knowledge of self (midwife) and of the childbearing woman. This midwife perceives joint accountability for the woman's experiences and meeting her needs [5,23]: *As a midwife I want to 'be with women', to be involved, to be trusted, facilitate her in wishes and choices (...) to help her in achieving positive experiences, irrespective of the outcomes...* The midwife is willing to guide and navigate the woman in her choices [9,16]: *Protocols should be adjusted to the woman, not the other way around (...) sometimes all it requires is fine-tuning of protocols, expand or deviate...* She is quite happy to discuss the woman's ideas and thoughts even when these differ from hers [20] - appreciating and willing to meet the woman's personal care needs [29]: *If necessary, I give her my opinion, share my knowledge and expertise, we discuss the consequences of decisions (...) At the end of the day, it's her call, she is accountable too...* The midwife's own moral boundaries in negotiating care, derived from own norms and values, define the boundaries of her woman-centred care provision: *Setting boundaries is important, I draw the line when I am being intimidated as an individual (...) as a human being...* This midwife invests time and effort to assess the woman's needs and expectations [12] and to offer continuity of care [12,27]. She is positive that these efforts are compensated later during the childbirth process [32] by means of the reduction of interventions [3, 30] and in positive maternal experiences [5,23]: *Spending time with each individual woman is worth it, staying with her after referral (...) I do get worthwhile payback, and I'm not only talking money...* This midwife has a coherent notion about woman-centred care [4,31] which heartens her practice [14]. She regards woman-centred care as midwifery authentic [38] - as it always has been and always will be [33]: *You think "Calling the midwife" is old-fashioned... I might not get around on my bike anymore but still deliver the same individualised, respectful, personalised care and continuity as in those days...* This midwife delivers woman-centred care in an independent and autonomous way, simultaneously accepting that other

midwives and/ or obstetric practitioners might not share her view or thoughts [7,13,26]: *It might be at some point, I'll be discussing one of my practice cases during an audit (...) that obstetricians or other colleagues will criticise my practice, my decisions, my responsibilities, so be it...* Community-based midwives are considered to be best-suited to provide woman-centred care as it is the optimal pragmatic setting to 'be with women' [19]: *In the community, us midwives... we can schedule visits around a woman, do home visits, we know women, know their families, their backgrounds, circumstances...*

3.2.3. Factor 1-. The human-rights midwife

This midwife's view on care is strongly interwoven with being the women's advocate, to empower her and to make sure the woman's choices and decisions are being met, defending and promoting the woman's self-determination and respecting her rights to do so. She somehow distances herself from the content of the woman's choices but assigns herself a strong position in supporting the woman to accomplish goals and choices. This midwife acknowledges the woman's autonomy and responsibility in the childbearing process, in the care process and in having the primary responsibility for herself and the child; pursuing the woman's personal needs and values: *The woman herself is responsible for her decisions, she decides if she wants me to auscultate, for internal examination, how to give birth and where to give birth (...) it is ultimately up to her [woman] and I need her explicit consent to everything I do (...) she is allowed to refuse or delay...* The midwife perceives no need to control the woman's decision-making and assigns herself a modest role in influencing the woman's feelings of satisfaction or her experiences [5,15,23]: *She [woman] is the only one who can decide, not me, what makes her birth a satisfactory or good one... it is not about me (...) I am only her advocate if need be...* The midwife, however, equally respects her own individuality and her own opinion [9]: *I am a person in my own rights...* This midwife thinks that all women should receive woman-centred care, including women from all socio-demographic backgrounds, with varying psychosocial aspects [8, 10] and irrespective of care setting [27]: *All women are entitled to be*

empowered.... The Birth Movement, a Dutch consumer organisation protecting the interest and rights of childbearing women, has raised midwives' and woman's awareness of woman-centred care [33], stressing that women do not need to consider whether a maternity practitioner offers woman-centred care – women are simply entitled to receive it [29]. For this midwife it is a very conscious act to commit to the philosophy of woman-centred care and to practice accordingly, distinguishing from, what she regards as, mainstream midwifery [38]: *You really have to want this (...) I have consciously chosen this particular way of practice...* Although providing woman-centred care is a conscious choice and act, it is sometimes perceived as lonely, requiring great effort to remain committed [4]: *Being a minority within a majority (...) not always easy (...) being an outsider in an established system...* Sharing the philosophy with like-minded midwives or being at least respected by colleague practitioners, helps this midwife to stay passionate about providing woman-centred care, to feel respected and to sustain practising [26]. This midwife is critical about the content of accepted midwifery guidelines [30] as these might intervene with her provision of true woman-centred care [16,31]: *I am aware that giving information is an intervention, giving my professional opinion is an intervention, touching a woman is an intervention, checking her blood pressure is an intervention, using the doptone is an intervention, even talking is an intervention (...) and I do those things a lot...* This midwife's boundaries of woman-centred care are defined by human and ethical standards.

3.2.4. Factor 2. The quality-of-care midwife

This midwife perceives the desired perinatal health outcomes and responsive care to maternal health needs as the benchmarks for the quality of woman-centred care [5,23]: *Evidence-based care, counselling, shared-decision making (...) these things are key to exercise the art of midwifery, to achieve positive outcomes (...) when there is a healthy baby there is a happy mother (...) poor health outcomes lead to no good and have to be avoided...* This midwife uses quality standards and standards of conduct to assign meaning to woman-centred care [31]. This becomes obvious in her strong focus on the organisation of

woman-centred care: time management, effective communication, regular and frequent team meetings, shared booking visits between community and hospital-based maternity care providers, intra and interdisciplinary learning and successful collaboration on practice level and on local level to provide continuity of information and organisational continuity to the woman [7,19,32,34]: *We discuss care management on team and on an integrated care level with other practitioners (...) to deliver coherent care to women and to learn from each other...* These aspects need to be present in daily practice, otherwise it is difficult for this midwife to provide sustainable and quality of woman-centred care [2,4,21,22,38]: *Ten minutes for a prenatal visit is just not long enough (...) time is essential to counsel, to talk about the birth plan, providing information, shared-decision making, detailed documentation, thorough referrals, evaluation of care...* Simultaneously, this midwife wants to give room to women that do not want detailed information or don't want to be involved in decision-making and who are quite happy to assign decision-making to the midwife [29]: *It's not everybody's cup of tea...* The woman-midwife relationship has gained more media attention and is attractive to women [24,33]. This midwife appreciates that the woman-midwife relationship might be an attractive property, but to her opinion woman-centred care is regarded as best practice when one assigns equal importance to the woman-midwife relationship as well as to evidence-based care, the midwife's knowledge and professional judgement [1,11,12,39]: *The whole of woman-centred care is greater than the sum of its parts (...) the relationship does not stand on its own (...) part and parcel...* Within woman-centred care, the relation between the woman and the midwife is characterised by its professional character [11,14]: *I am not her best friend, I am a professional...* This midwife seeks collaboration within and across disciplines when she is unable to conform to women's wishes, when she thinks interventions are unnecessary or when women's choices are irresponsible [6,9,16]: *When there is no underpinning evidence for extra scans, for a caesarean or for other requests out with guidelines, I will listen and explain why I can't support her in this (...) I will discuss the more suitable alternatives or options with others...* Boundaries of woman-centred care are defined by the midwife's perception of standards of professional

conduct and risk perception: *I am supposed to guard safety (...) when I think we're doing something irresponsible here, that's where I draw the line...*

3.2.5. Factor 3. The job-crafting midwife

This midwife strives to self-manage her woman-centred role to achieve satisfying and fulfilling work outcomes, a good work-life balance and an optimal emotional balance while practising: *It allows me to manage my time (...) I am the organisation and the organisation is me....* She achieves this by structuring her woman-centred practice in a tailored 'way of life' during which she experiences positive emotions and can assign a special meaning to her professional activities, to her life in general, to relationships with others, and to herself as a person [35, 38]: *This is who I am, what I believe, how I want to live my life and want to be a midwife...* This midwife is constantly aware that because of her intimate relationship with the woman during such an important life event as childbirth, her involvement and support requires a high emotional intelligence, which can only be facilitated by an ongoing discourse with colleagues, family and friends [14,25]. Finding a good balance between own heart and mind, wishes of women, own knowledge and expertise, work and private life, personal and professional responsibilities, own view on childbirth, womanhood, motherhood, ethics, professionalism, ambitions and motivation leads to fulfilment and pleasure in life in general [15]: *My work, doing what I aspire, caring about women (...) woman's wishes should never be a dilemma (...) it's a balancing act...* Therefore, it is important for this midwife, almost a requirement, to have woman-centred care like-minded colleagues [13] in order to make woman-centred care a way of practice to achieve positive relationships with others, to be resilient in professional and personal life [21] and to be positively involved in the woman's childbearing process [23]. She trusts other professionals to be able to provide woman-centred care, regardless setting, context or situation [7,12,19]: *When a woman meets one of my colleagues, or needs more specialised care, or has wishes that require collaboration with the obstetrician, I trust them [the other professionals] to provide seamless care (...) I need*

others to make it [woman-centred care] happen... This midwife listens to the wishes and the underlying reasons of women's wishes to establish what is important in care, in a woman's life and how she can give meaning to care management [4,6,16]: *We'll find a way together (...) allowing her to actively contribute, listening to her, asking her to collaborate with me, asking what she thinks is sensible, important, wise or responsible, what feels okay for her, acting in line what has been agreed with her before, (...) being transparent, honest, nudge (...) than it is even possible to work according protocols...* Boundaries of woman-centred care are defined by the midwife's sphere of value of her own feelings and of her conscious experience sensations: *If it doesn't feel right, I can't do it...* Woman-centred is rather a practice-based learning achievement than an in-school learning activity [36,37]. This midwife regards herself as change agent from a biomedical to a biopsychosocial model of midwifery care. Therefore, the effect of woman-centred care, in terms of interventions and maternal satisfaction, has to be awaited [1,2,5,30,33]: *I don't really know what the effects are yet, but hopefully we will know in the future...*

4. Discussion

To the best of our knowledge, this is the first Q-study to examine midwives' views on and experiences with woman-centred care. Although woman-centred care has been identified as best midwifery practice,²⁻⁶ we found that midwives hold distinct ideations and different interpretations of woman-centred best practices as a result of the participants individual subjectivity towards woman-centred care.^{2,7,25} In line with Q-methodology, our study did not contribute to an overall shared view of woman-centred care, but it identified shared opinions as well as divergences about the extent to which woman-centred care was recognised in midwives drawn from the same overall population. This provides opportunities for education or professional development as it allows (student)midwives to evaluate their woman-centred care from different perspectives as present in our midwives' attitudes towards the phenomenon.²⁵

Woman-centred care encompasses some principle thoughts. Firstly, in keeping with the precept of woman-centred care, it is the childbearing woman who is the central focus of midwifery care.⁴ Although all factors pursued involvement with the childbearing women, the foci seemed to vary. For the humane midwife, being the companion of the individual woman supporting her needs and being the woman's advocate in executing her rights, are the primary foci of care. The quality-of-care midwife's focus is on the care process around the woman, being in line with the patient-centred care medical maternity care model.²⁶ The job-crafting midwife's focus is on her personal and professional work engagement – "how can I make this work?".²⁷ Secondly, the woman-midwife relationship is paramount to woman-centred care.¹ The humane midwife ranked the woman-midwife relationship higher when compared to the other perspectives. Thirdly, woman-centred care entails that there is no prioritising of safety *versus* the woman's experience; the physical parameters of pregnancy and birth are both of similar importance.¹ The quality-of-care midwife seemed to be least agreeing with this principle thought as she most highly valued safety and positive birth outcomes. The humane midwife therefore seemed to best reflect the woman-centred care principles, indicating to be the perspective of preference.

The majority of our participants identified with the humane midwife; accounting for 39% of the overall variance. The high loadings on Factor 1 suggest that humanisation is a dominant perspective in woman-centred care. Nevertheless, the humane midwife holds two different perspectives as well as Factor 2 and Factor 3 also added 22% to the explained variance - all four factors representing firm accounts. The existence of different midwife perspectives, including a standalone account in Factor 1, might therefore suggest heterogeneity towards the concept of woman-centred care. The essential ideation of both humane midwife factors is that they have a more abstract approach to care,²⁸ where the caring process is regarded as an intervention.^{29,30} The philosophical midwife acts as a presencing companion of the woman during the childbearing process, proposing commitment to relational interaction with the woman and reflecting the true meaning of the word midwife, 'being with women'.^{29,30} The human-rights midwife utilises the concept

of existential advocacy acting as an attender, supplementing and complementing her presence with being a supporter and promotor of self-determination.^{29,30}

The humane midwives typically worked in small-sized practices and hold smaller caseloads, respecting continuity of care.^{19,31} Cochrane reviews on continuity models of midwife-led care demonstrate the positive effects of humane relational maternity care,^{32,33} suggesting that the humane midwife is of value in woman-centred care. The humane midwife incorporates two separate but twinning factors, where the human-rights midwife seems to utilise a more radical interpretation than the philosophical midwife. This seems to align with the fact that the philosophical midwife's perceptions are more according level 2 of the PCC model, whereas the human-rights midwife's perceptions correspond with level 1 of the PCC model.¹⁶ According to this hierarchical interrelated model, the 'base' component forms the underlying level of the 'action' component, reflected by the Factors 1+ and 1-. This suggest that the philosophical midwife could not exist without also being a human-rights midwife. These findings appoint towards the humane midwife as being an important contributor to woman-centred care.

Like the human-rights midwife, the job crafting midwife's perceptions corresponded with level 1 of the PCC model.¹⁶ Both factors are structurally unified through the same underlying core foundation of woman-centred care. They both emanate from philosophical tenets of woman-centred care, assigning profound meaning to what they do.³⁴ In this sense of meaningfulness, both the human-rights midwife and the job-crafting midwife seem to be strong but, simultaneously, vulnerable professionals. Both midwives need to feature considerable commitment to their underlying basic foundation.¹ The human-rights midwife perceived a sense of 'otherness' in pursuing the philosophy of woman-centred care.³⁵ The job-crafting midwife was constantly seeking and attempting to maintain overall balance. It is known that when midwives are unable to provide care that coincides with their ideas and needs as to how offer midwifery care to women,³⁶ this might negatively influence midwives' personal and professional motivation to provide woman-centred care - subsequently failing to act as a woman-centred care midwife.

Although our sample was limited in size we observed differences in characteristics, albeit it did not allow statistical inferences. The humane midwives were older and had more years of practice experience, followed by the job-crafting midwife. The quality-of-care midwife was younger and had less years of practice experience compared to the other midwives. This might suggest that humanisation and job-crafting are phenomena or processes that midwives develop over time.³⁷ The job-crafting midwife identified herself as a change agent of woman-centred care. Job-crafting midwives seem to be able to positively construct 'new' models of care.³⁸

The quality-of-care midwife valued quality and safety of care and the woman's individual values integrated with best evidence and clinical expertise. These thoughts coincide with technical and personalised aspects of value-based healthcare.³⁹ Thus, all factors consider woman-centred care as value-laden. The value of woman-centred care for the quality-of-care midwife, however, lies in the desired outcomes for women and children, coinciding with level 3 of the PCC model.¹⁶ While for the quality-of-care midwife her values of quality, safety, evidence and expertise serve as goals and priorities of woman-centred care, the human-rights midwife and the job-crafting midwife, use their values as a foundation of providing woman-centred care. The quality-of-care midwife seems to restructure the original hierarchial order of the PCC model, making the desired (health) outcomes the core assumption. Hence, when this midwife would be a policy maker, woman-centred care would have a different meaning, opposing its definition.¹

Similar to our findings that midwives differ in their views of woman-centred care, it is very likely this applies to childbearing women - who could also differ in their preference for different approaches to care and might prefer one midwife's perspective over the other. It might be of importance for women to know what notions or principles drive and underpin the midwife's practice, *i.e.* with which factor/perspective a midwife identifies herself and which boundaries she applies to her concurrent care. It is of practical importance that midwives make ideologies and values explicit to women as well as to colleagues and other healthcare practitioners in order to reflect and deliberate on them in collaboration. Hence, none

of the perspectives are incorrect, but each are driven by a different system of thought and makes sense in relation to that. Common ground between the woman and the midwife create cohesion,⁴⁰ fitting the concept of woman-centred care.¹

Our findings have to be interpreted within the limitations of this study. As a result of the self-selective nature of our recruitment strategies, we might have attracted *pro* woman-centred care midwives with outspoken ideas. All our participants regarded themselves as woman-centred midwives and we do not assume that this fully accounts for *all* midwives, or at least in varying degrees. It is also possible that participants may have offered socially desirable responses in the Q-sort, disclosing accounts that they believed would be expected since woman-centred care has been identified as best midwifery practice.²⁻⁶ We do not know if the participants ranked the statements based on their actual day-to-day practice or whether ranking was according to personal intentions or ideologies. Issues of social desirability and ideal practice were considered closely during the analysis. We were not able to discount these possibilities either in the Q-sort or in *post-hoc* interviews. Nevertheless, we feel the potential for socially desirable responses may have been constrained by the structure of Q methodology: firstly, the pre-defined set of statements, derived from thorough investigation¹⁵ and secondly, a focused interview on reasons underlying the ranking of items in the Q-sort. There was a relatively high number of confounders between the Factors 1 and 2 and Factor 1 and 3 respectively. We showed similarities between the factors such as having an underlying core foundation and meaningfulness. These elements might explain confounding in our study. Seventeen participants did not fit into any of the factors outlined in this study. Thus, around a third of the Q-sorts could not be grouped in any meaningful way by the statistical approach used in by-person factor analysis, although this is not unusual in a Q-methodology study.¹⁴ An overall factor solution which aids a clear narrative may oversimplify the complexity of woman-centred care.¹⁴ Finally, the viewpoints identified in this study might not be transferable to other populations of midwives and no inferences should be drawn beyond midwives similar to the participants of our study. Future research should help to verify these

perspectives and explore underlying reasons in a wider population of midwives by using the findings from this study to inform subsequent research.

5. Conclusion

This study has identified four distinct midwife's perspectives towards woman-centred care, which form the lens through which midwives perceive and act on the world. Each perspective with its own strengths and challenges and each perspective entailing specific thoughts and ideas feeding into concurrent practice. The humane midwife seems to represent the dominant perspective of woman-centred care, although education and professional development should help to make (student)midwives aware of all the differing, less dominant viewpoints and their value – these should not be overlooked. It seems pivotal that awareness and exploration of and reflection on the basic thought patterns need attention in becoming or being a woman-centred midwife.

Acknowledgements

We like to thank the midwives that participated for sharing their thoughts, experiences and their valuable contribution to this study. We thank Rebekah McVey for proofreading the manuscript.

Conflicts of Interest

There are no conflicts of interest to declare

Funding

The study was not funded

References

1. Fontein-Kuipers Y, de Groot R, van Staa A. Woman-centered care 2.0.: Bringing the concept into focus. *European Journal of Midwifery* 2018; 2(5):1-12.
2. Morgan L. 2015. Conceptualizing Woman-Centred Care in Midwifery. *Canadian Journal of Midwifery Research and Practice* 2015; 14(1).
3. Barry M, Hauck Y, O'Donoghue T, Clarke S. Newly-graduated midwives transcending barriers: A grounded theory study. *Midwifery* 2013; 29:1352-7.
4. ICM. *Partnership between Women and Midwives*. International Congress of Midwives. 2011. <http://www.internationalmidwives.org> Accessed 4 March 2017.
5. O'Connell R, Downe S. 2009. A metasynthesis of midwives' experience of hospital practice in publicly funded settings: Compliance, resistance... *Health* 2009; 13(5):1-21.
6. Lee Davis D, Walker K. Case-loading midwifery in New Zealand: bridging the normal/abnormal divide 'with woman'. *Midwifery* 2011; 27:46-50.
7. Fontein-Kuipers Y, Boele A, Stuij C. Midwives' perceptions of influences on their behaviour of woman-centered care: a qualitative study. *Frontiers in Women's Health* 2016; 1(2):20-26.
8. Baas CI, Erwich JJ, Wiegers TA, de Cock TP, Hutton EK. Women's suggestions for improving midwifery care in the Netherlands. *Birth* 2015; 42(4):369-78.
9. RCM. *Royal College of Midwives Position Statement on Woman Centred Care*. 2011. <https://www.rcm.org.uk/> Accessed 4 March 2017.
10. Shields S, Candib L. *Woman-centred care in pregnancy and childbirth*. Oxford: Radcliffe Publishing Ltd. 2010.
11. Cairns RC. 2012. Understanding Science in Conservation: A Q Method Approach on the Galápagos Islands. *Conservation and Society* 2012; 10(3):217-31.
12. Shinebourne P, Adams M. Q-methodology as a phenomenological research method. *Existent Anal* 2007; 18(1):103-16.
13. van Exel NJA, de Graaf G. *Q methodology: a sneak preview*. 2005. <http://qmethod.org/articles/vanExel.pdf>. Accessed 20 December 2017.
14. Watts S, Stenner P. *Doing methodological research*. London: SAGE. 2012
15. Fontein-Kuipers Y. Development of a Q-set for a Q-Method study about midwives' perspectives of woman-centered care. *Health Education and Care* 2016; 1(2):31-6.
16. El-Alti L, Sandman L, Munthe C. Person centered care and personalized medicine: irreconcilable opposites or potential companions? *Health Care Analysis* 2017.
17. De Vries H, Mudde AN, Dijkstra A. *The attitude-social influence-efficacy model applied to the prediction of motivational transitions in the process of smoking cessation*. In Norman P, Abraham C, Conner M (Eds.) *Understanding and changing health behaviour: From health beliefs to self-regulation*. Amsterdam: Harwood Academic. 2000.

18. Webler T, Danielson S, Tuler S. *Using Q method to reveal social perspectives in environmental research*. Greenfield MA: Social and Environmental Research Institute. 2009.
19. Fontein Y. The comparison of birth outcomes and birth experiences of low-risk women in different sized midwifery practices in the Netherlands. *Women and Birth* 2010; 2(3):103-10.
20. Tromp M, Eskens M, Reitsma J. et al. Regional perinatal mortality differences in the Netherlands; care is the question. *BMC Public Health*. 2009.
21. Polit DF, Beck CT. *Nursing research: Generating and assessing evidence for nursing practice*. 10th ed. Philadelphia (PA): Lippincott, Williams & Wilkins. 2017.
22. Schmolck P. *PQMethod* (version 2.35). 2002. <http://schmolck.userweb.mwn.de/qmethod/downpqwin.htm> Accessed 4 March 2017.
23. Jordan K, Capdevila R, Johnson S. 'Baby or beauty': A Q study into post pregnancy body image. *Journal of Reproductive and Infant Psychology* 2005; 23(1):19-31.
24. Stenner P, Watts S, Worrell M. Q Methodology: Willig C, Stainton-Rogers W. *The SAGE Handbook of Qualitative Research in Psychology*. London: SAGE. 2008.
25. Cross R. Exploring attitudes: the case for Q methodology. *Health Education Research* 2005; 20(2):206-13.
26. De Labrusse C, Ramelet A, Maclennan SJ. Patient-centered care in maternity services: A critical appraisal and synthesis of the literature. *Women's Health Issues* 2016; 26(1):100-9.
27. Bakker AB, Tims M, Derks D. Proactive personality and job performance: The role of job crafting and work engagement. *Human relations* 2012; 65(10):1359-78.
28. Compton-Sponville A. *A short treatise on great virtues: the uses of philosophy to everyday life*. London: William Heinemann. 2000.
29. Lyckestam Thelin I, Lundgren I, Hermansson E. Midwives' lived experience of caring during childbirth – a phenomenological study. *Sexual & Reproductive Healthcare* 2014; 5:113-8.
30. Fleming V. Women-with-midwives-with-women: a model of interdependence. *Midwifery* 1998; 14:137-43.
31. Sandall J, Coxon C, MacKintosh N, Rayment-Jones H, Locock L, Page L. *Relationships: the pathway to safe, high-quality maternity care*. Oxford: Green Templeton College Oxford. 2016.
32. Hatem M, Sandall J, Devane D, Soltani H, Gates S. Midwife-led versus other models of care for childbearing women. *Cochrane Database Syst Rev* 2008; 4:CD004667.
33. Hodnett ED, Gates S, Hofmeyr GJ, Sakala C. Continuous support for women during childbirth. *Cochrane Database Syst Rev* 2013; 7:CD003766.
34. Tims M, Derks D, Bakker AB. Job crafting and its relationships with person-job fit and meaningfulness: A three-wave study. *Journal of Vocational Behavior* 2016; 92:44-53.
35. Giarratano G. Woman-centered maternity nursing education and practice. *Journal of Perinatal Education* 2003; 12 (1):18-28.
36. RCM. *Why midwives leave – revisited*. London: The Royal College of Midwives. 2016.
37. Berg M, Dutton JE, Wrzesniewski A. *What is job crafting and why does it matter?* Regents of the University of Michigan. 2008.
38. Mestdagh E, Van Rompaey B, Beeckman K, Bogaerts A, Timmermans O. A concept analysis of proactive behaviour in midwifery. *Journal of Advanced Nursing* 2016; 72(6):236-50.

39. Gentry S, Badrinath P. Defining health in the era of value-based care: Lessons from England of relevance to other health systems. *Cureus* 2017; 9(3):e1079.
40. Kelly MP, Heath I, Howick J, Greenhalgh T. The importance of values in evidence-based medicine. *BMC Medical Ethics* 2015; 16:69.