Decision-making in Swiss home-like childbirth: a grounded theory study

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Abstract

Background: Decision-making in midwifery, including a claim for shared decision-making between midwives and women, is of major significance for the health of mother and child. Midwives have little information about how to share decision-making responsibilities with women, especially when complications arise during birth.

Aim: To increase understanding of decision-making in complex home-like birth settings by exploring midwives' and women's perspectives and to develop a dynamic model integrating participatory processes for making shared decisions.

Methods: The study, based on grounded theory methodology, analysed 20 interviews of midwives and 20 women who had experienced complications in home-like births.

Findings: The central phenomenon that arose from the data was "defining / redefining decision as a joint commitment to healthy childbirth". The sub-indicators that make up this phenomenon were safety, responsibility, mutual and personal commitments. These sub-indicators were also identified to influence temporal conditions of decision-making and to apply different strategies for shared decision-making. Women adopted strategies such as delegating a decision, making the midwife's decision her own, challenging a decision or taking a decision driven by the dynamics of childbirth. Midwives employed strategies such as remaining indecisive, approving a woman's decision, making an informed decision or taking the necessary decision.

Discussion and conclusion: To respond to recommendations for shared responsibility for care, midwives need to strengthen their shared decision-making skills. The visual model of decision-making in childbirth derived from the data provides a framework for transferring clinical reasoning into practice.

Keywords

Decision-making, home-like childbirth, partnership relationships, midwife, commitment, grounded theory.

Statement of Significance (100 words)

Problem or Issue

Shared decision-making when complications arise during childbirth in home-like settings has not been studied yet.

What is already known?

Shared decision-making is an ethical ideal that was outlined in a position statement from the International Confederation of Midwives. Shared decision-making offers opportunities for mutual understanding through a dialogue between client and care provider.

What this paper adds

This paper describes a dynamic model of decision-making in childbirth. The model provides a framework, which enables defining/redefining decision as a joint commitment to healthy childbirth. A diagram shows all steps of the model.

Introduction

In Switzerland, women supported by midwives can choose to give birth at home or in a birthing centre. In 2014 a total of 2,122 births, amounting to 2.48% of births registered in the country took place in such settings.[1] As the organisational models of care delivery vary in such settings, Hodnett et al.'s expression "home-like settings" was adopted in this article to describe them[2]. This model includes the naturalness of birth, no routine input by medical practitioners and variable staffing models. Therefore, midwives working in home-like settings have at least two years' professional experience and are registered with the *canton* (administrative area) in which they practise. Costs for non-hospital births are covered by the woman's medical insurance. Generally, women contact their midwife during pregnancy to arrange their maternity care. Should unexpected complications develop during labour, women and midwives jointly can decide whether or not to transfer to hospital. According to the European Charter on Patient Rights[3], some cantonal health laws (Switzerland is a federal state with cantonal laws) include the right to free and informed consent[4] stipulating that an individual of sound mind cannot be forced to have medical treatment they do not want. Thus, professionals always have to act based on informed consent given by the patients. Guidelines or other formal agreements between hospitals and midwives concerning medical reasons for transfers do not exist at a national level in Switzerland. A recent report by the Swiss Academy of Medical Sciences[5] concluded that recommendations fail to encourage patient engagement and involvement. Substantial progress could be made by looking more closely at women-centred care and one of its fundamental principles: women's participation in decision-making. For example, in the United States, the Home Birth Summit, with representatives of all stakeholders, developed best practice guidelines for transfer from planned home birth to hospital to address the shared responsibility for care of women who plan home births.[6]

Background

The process of decision-making involves choosing between at least two alternative actions.[7] Based on this assumption the term "clinical reasoning" has been used to conceptualise the process of decision-making in midwifery practice. Clinical reasoning is the prevalent model of decision-making in the medical context. It is a form of logical, hypothetical-deductive decision-making relying mainly on biological and medical facts. The steps used provide a systematic approach for deciding the best alternative based upon rationality and clinical features. Jefford et al.[8] reviewed the literature on the cognitive process of midwives' clinical decision-making in context of birth and reached the following conclusions: a. Clinical decision-making encompasses clinical reasoning as essential but is not sufficient for midwives to make a decision; b. Women's roles in shared decision-making during birth has not been explored by midwifery research. In another study, Jefford et al.[9] analysed the existing decision-making theories and their usefulness to the midwifery profession. One of the theories presented is the five-step framework of the International Confederation of Midwives adapted from the medical clinical reasoning process, with the involvement of women for care planning and evaluation. While the model of clinical reasoning undeniably contributes to decision-making in midwifery, the authors conclude that it is not sufficient to guide best midwifery practice, as it does not address the autonomous decisions of healthy women. Additionally, midwifery decision-making should incorporate contextual and emotional factors and the midwife has to consider both the woman and the baby as an indivisible whole. Furthermore, Jefford and Fahy[10] have indicated, in a study during second stage labour, that only 13 of 20 midwives demonstrated clinical reasoning as their way of making a decision.

Decision-making in midwifery, including the claim for shared decision-making, has been embedded in a philosophy of partnership with women defined in the midwifery model.[11]

Partnership between women and midwives, where a woman's informed choice is used to conceptualise the process of decision-making in midwifery, is now included in a position statement of the International Confederation of Midwives[12]. Shared decision-making offers opportunities for mutual understanding through a dialogue between client and care provider. The emphasis is on the process of coming to a decision with shared power and acceptance of responsibility for the decision.[13] Ideally, the decision is made consensually, with the woman at its centre. The woman takes on the role of decision-maker if she has been informed comprehensively and can make a well-reasoned choice. Partnership in decision-making has been shown to range over a continuum from unilateral to joint, with little emphasis placed on the need for equality.[13, 14] A joint decision may be achievable when the woman and the midwife both have enough information to participate actively in decision-making. In the event of different interpretations of the information, the joint decision may not be equal.

The process in which a woman makes choices and controls her care and her relationship with her midwife is considered the essence of the concept of woman-centred care.[15] Other studies supporting choice for women and involvement in the birth process are associated with positive birth experience being favourable to women's satisfaction.[16 - 18] In addition, the home-like setting has a special impact on the processes used in clinical decision making. Indeed, the collaborative relationships between the midwife, the woman and the medical system guarantee regulating processes, which allow safe and effective midwifery practice.[19] Furthermore, bringing information and sensitivity around decision-making in cases of transfer from a birth centre to hospital is essential to help women adjust to changing circumstances.[20]

Other research has focused on decision-making processes related to a concrete question. These studies analysed shared decision-making regarding birth position during the second stage of

labour[21], augmentation of labour,[16] transfers for prolonged labour,[22] and birth of the placenta.[23] Results highlighted that decision-making in midwifery is a dynamic process integrating understandings of choices in the context of care.

Despite the significance of competent decision-making, the concept of shared decision-making when complications arise during labour does not seem to be well established in Switzerland or elsewhere.

Aim

The purpose of this study was to increase understanding of decision-making in complex home-like birth settings by exploring midwives' and women's perspectives and to develop a dynamic model integrating participation processes for making shared decisions.

Method

Because the focus was on understanding of processes, a grounded theory approach was used to allow a deeper understanding of participants' decision-making through rich descriptions in their own words. Accordingly, data were collected and analysed using theoretical sampling and constant comparative analysis. Development of the central phenomenon and subsequent categories was based on the coding paradigm described by Strauss & Corbin.[24]

Sampling and study population

The sample was composed of 20 midwives and 20 women from the French and German-speaking parts of Switzerland. Midwives were recruited using registers of the Swiss Midwives'

Federation, which list all self-employed midwives in Switzerland. At the time of data collection, 14 midwives worked in the French-speaking part (*canton Vaud*) and 30 midwives in the German-speaking part (*canton Zurich*), attending women with home births or in a birth centre. The inclusion criterion for the midwives was their ability to talk about a birth in which unexpected complications arose requiring a decision of whether or not to transfer. A decision leading to an actual transfer was not a requirement. Additional selection criteria such as the scope of practice of the midwives and the location of their work in rural or urban areas were used to diversify the sample. The midwives provided access to the women. Following their interviews, the midwives were asked to contact one of the women described in the interview and to ask for permission to pass on contact data to the research team. With permission, the research team contacted the women, obtained their consent and, when appropriate for them, invited partners to be part of the study.

Data collection

Data were collected in two Swiss cantons from February 2012 until March 2013. In *Vaud*, the French-speaking researchers (F.S. and Y.M), and in *Zurich,* the German-speaking researchers (F.F. and J.P.M,) conducted interviews. In general, the interviews with the midwives took place in their workplaces, the interviews with women and partners in their homes. Researchers encouraged midwives to talk with an initial broad question: "Can you describe a labour where complications arose and you had to consider a transfer?" The interviews with mothers and fathers started with an equivalent narrative stimulus. Next, researchers reworded or questioned to maintain the narrative flow and as the study progressed, they asked further in-depth questions to highlight the emerging central phenomenon. The interviews averaged an hour and were recorded with the approval of the participants and transcribed verbatim. All quotes from the interviews used in this study were translated from French and German into English.

Ethical Considerations

The Ethics Commission of the Canton of Vaud (protocol 118 02/12) approved the study. Major ethical issues in this study were informed consent, ensuring anonymity and maintaining confidentiality. All participants were given detailed information and they were invited to ask questions prior to giving written consent to the interviewers. Information was given at least 48 hours before the consent form was signed. All participants were informed of their right to withdraw from the study without recrimination. Anonymity required special attention in this study since home births or those in birth centres are relatively uncommon in Switzerland. Participants might be identifiable, if additional information such as diagnoses and local circumstances resulted in readers making a connection. However, in this study, the researchers have protected anonymity and confidentiality by allocating numbers to participants and removing all possible identifying data during the transcription of interviews. Likewise, anonymised data were stored on password-protected folders, accessible only to the research team.

Data Analysis

Software programmes (*ATLAS.ti, MAXQDA*) were used for the coding of narratives and to support the analytical process. Analysis was conducted in French and German by two senior researchers (YM, JPM) and two research associates (FSM, FF). Three researchers were midwives and one a sociologist. The coding steps of open coding, axial coding and selective coding were used to identify theoretically relevant concepts (categories) and to demonstrate relationships between them. The constant comparative method was used to generate-theoretical categories from the data and to work out specific characteristics and dimensions of those categories. Memo writing helped the emerging conceptual thoughts and enabled the building

of theoretical sensibility. An intensive exchange in bilingual research workshops helped to merge the results of the analysis and ensure joint data interpretation. Another senior researcher (VF) who had no other part in the data analysis participated in the audit trail and discussed the results. This constant comparison process allowed amending or realigning the data. From a rather descriptive and static initial view of a decision-making space, we have developed this into a central concept addressing women's and midwives commitment to joint decision-making. Quality was mainly provided through reflexivity, critical self-reflection and peer debriefing. Moreover, in the light of a paper which systematically documents the saturation of the data,[25] the following parameters of our study correspond: good sample size given the heterogeneity of the population and the study objective; agreement between researchers for first coding in both sites; and incorporation of main variation into the emerging theory.

Findings

Demographic background

Of the 20 midwives and 20 women included in the study, 16 midwife-woman pairs were established. Three interviews took place with mothers and fathers together. The midwives were between 27 and 62 years old. All had more than three years of professional experience with six having more than 20 years of professional experience. The majority of midwives attended between 10 and 40 non-hospital births per year. The parents averaged 30-40 years of age; all were European and most had a tertiary education qualification. Ten of the women were primiparas and 10 multiparas. Of the 20 women interviewed, 12 had opted to give birth at home and eight in a birth centre. Five women were able to give birth spontaneously in a non-hospital setting despite their complications. One woman had her baby delivered by vacuum by a medical

practitioner who had been called in. Reasons for transferring the remaining 14 women were manifold and took place during all stages of labour.

Central phenomenon: "Defining / redefining decision as a joint commitment to healthy childbirth"

All the analysis steps have shown that in case of complications in home-like childbirth, decision-making was motivated by the sense that women and midwives felt committed to find adequate solutions and make joint decisions. Inductive and deductive thinking based on Strauss and Corbin's coding paradigm[24] allowed identification of the major concept of joint commitment to healthy childbirth with its axially coded sub-indicators: safety commitment, responsible commitment, mutual commitment and personal commitment. Each of these four axial codes derived from the initial open codes. Furthermore, the indicators of the concept of "decision as joint commitment" also identified their influence on temporal conditions of decision-making and varying strategies of shared decision-making. Out of this, the central phenomenon *"defining / redefining decision as a joint commitment to healthy childbirth"* emerged to form the core category of the present research. This selective coding systematically related to other categories, validating a strong theoretical understanding of midwives' decision-making. Finally, this reflection led to the development of a dynamic model of decision-making in childbirth (figure 1).

Insert Figure 1. Dynamic model of decision-making in childbirth

Indicators of decision as joint commitment to healthy childbirth

Safety commitment

Perception of the commitment to safety applies to the detection of low or high risk situations. In turn, this depends on clear or diverse perceptions of warning signs or symptoms, which, if acute or prolonged, may result in an emergency or even become fatal. Vaginal bleeding, labile blood pressure or persistent foetal bradycardia were clearly perceived and associated with life-threatening emergencies. With such complications the leeway for decision-making had become tight; immediate measures had to be taken and appropriately communicated. Midwives' commitment to safety meant being clear that in high-risk situations professional responsibility impinged upon other factors and a decision had to be made based on professional judgement: *"When the situation becomes critical for the baby or the mother, I say very clearly, 'all right, it's time now', then I decide, then I take over",* (Midwife, 12). For women, even if there was little leeway, commitment to safety needed careful explanations so they could accept the failure of a planned home birth.: *"If we give birth at home, there is a deep-rooted wish for this to be an intimate experience at home, and, if that has to be changed, we need to know why",* (Woman, 36)

Women reported diverse perceptions of complications. They said that they were not always alerted by their own body signals or that the contractions had modified their perceptions. They therefore needed the midwives' explanations to realise that a complication had arisen. *"Then the contractions began to get stronger and stronger, increasingly violent (...)And at the same time, however, I simply noticed, as the midwife told me (...) that there was no progress",* (Woman 24). In the presence of non-acute critical symptoms, such as uterine inertia or maternal exhaustion, the leeway for decision-making was greater. After a lack of progress in the second stage of labour, the commitment to safety comprised allocating more time and gathering information. One woman reported that, as she wanted to continue as long as she could bear strong contractions, the midwife suggested waiting an hour to see if the head descended, after which a decision would be made (Woman 26).

Responsible commitment

The study showed that women and midwives made a responsible commitment that combined safety and, as far as possible, acceptance of the plan to give birth out of hospital. Responsible commitment was sometimes an individual, and sometimes a collective response.

Among the women, individual responsibility was repeatedly stressed. The wish to give birth at home wasn't *"at any price"*, (Woman 36). Should problems arise, they were ready to *"give up their plan"* and be treated in hospital, (Woman, 26). One woman made the difference between individual responsibility, where she said that she was *"capable of bearing more"*, and her responsibility to her "*tiny, fragile*" baby which she should protect (Woman, 34). Collective responsibility was also emphasized. A woman felt reassured to have two midwives at birth working *"hand in hand"*, (Woman 22). Another woman felt the same and explained as follows: *"if one midwife thinks this and the other agrees, it must be right"*, (Woman 33).

Among the midwives, the responsibility was often shared with the woman and her partner. A midwife specified that shared responsibility was possible on condition that "*no one was in danger*", (Midwife, 13). In other words, she was saying that the woman and her partner were free to define their "*comfort zone*" [walk, bath] and that she would only intervene if she considered that there was "*a medical risk*" or that the woman was becoming exhausted. Another midwife referred to her role as "*the child's advocate"*. She pleaded in favour of the weakest and thus placed herself within the collective framework of health policies ensuring appropriate intrapartum care. This midwife considered the role of the child's advocate to be "*elementary*" even if it could theoretically generate a conflict difficult to manage in respect to the women's wishes (Midwife, 1).

Several midwives also highlighted the fact that a responsible commitment from midwives exceeded the woman/midwife's joint responsibility in decision-making. Responsible commitment included collaborative care between midwives of homely birth setting and with the receiving health care providers when transfer to a hospital occurred. Often, the responsible commitment consisted in calling a colleague midwife for the second stage of labour. The perceived benefits were: *"four hands are better than two"* (Midwife 20), *"listen to each other and agree with decision"* (Midwife 12). A midwife insisted on the fact that "*everyone needs to feel safe in order to work together*" and, consequently, she felt responsible for attaining a safe birth with a timely transfer (Midwife, 20). Another midwife said that "*she never let the patient have all her way*" in order not to diminish the trust of the hospital team and thus ensure a good reception of the women on her arrival at the hospital" (Midwife, 14).

Consequently, responsible commitment consisted of informing during the pregnancy and labour of the fluidity of situations. A midwife explained this well by using a metaphor of warning lights:

> "*I always tell them: 'If you like, I'm a little like a car mechanic. I know how the car works. When I begin to see flashing lights I tell you, I say, ok all's fine now, but there is a little warning light on my dash board (…) it's not a breakdown yet but it's not smooth running.' And then I tell them that, in general, after 3 warning lights coming on, I think it's time to leave. That's my basic criterion, but then it depends on what warning light comes on. Obviously, if it's (.) a baby who decelerates to 60, I don't need two other lights to come on!*" (Midwife, 19)

Mutual commitment

Mutual commitment was predominant in the relationships of the woman / partner and the midwife and fell into two categories: trusting or suspicious relationship.

Relationships of trust were often said to be essential for the birthing process to go well. For women, trust was linked to respect and knowing the midwife well. A woman showed just how much she trusted a midwife by letting the midwife take practically all the decisions (Woman, 35). Another woman, in a situation of trust and respect, did not find it "so terrible" to have been transferred (Woman, 23). The midwives also emphasised the importance of knowing the woman by meeting her several times during the pregnancy (Midwife, 10) or by having monitored at least one previous birth, (Midwife, 13). For some, trust went beyond an interpersonal relationship, was more a "*faith*" in the potential of women to give birth naturally (Midwife, 9) and "*trust in the baby's vitality*" (Midwife, 15). Moreover, the interpersonal skills of midwives were predominant in the experience of a transfer: calmly announcing the transfer and talking to the partner being positive points. (Woman, 32).

In a few cases mistrust developed in the relationship between the midwife and the couple. In one such case, the decision to transfer had to be made earlier since the relationship between the midwife and the partner had become difficult, (Midwife 1). In another case, while the birth of the placenta was delayed and the woman felt no longer at ease, the latter did not feel taken seriously:

> *"I just had a bad feeling from the beginning (...) Somehow (...) Yes and I also found (...) that the bleeding was not taken seriously (...). For me it really was not comfortable (...) I also said a few times that I didn't feel so good but I was simply reassured (...)."* (Woman, 27)

Personal commitment

The analysis of the interviews showed that personal commitment was a relationship between oneself and the changing circumstances. Women and midwives reported examples of personal commitment with more or less participation in decision-making corroborated by an active or passive attitude. A woman with the desire to be involved felt she had played a role in decision: *"I had the feeling I have been involved"*, (Woman, 24). Another woman felt that she was not involved in decision-making as she was accepting things as they were: *"the decision was made without me (laughs), it was happening to me"* (Woman, 22). In both cases, the personal commitment to decision-making was satisfactory, either by actively participating in decision-making or in feeling well without having to take part in the decision.

Several midwives said that beyond clinical conditions, decision-making was influenced by their personal situations, such as previous experiences or fatigue. A participant implied that a previous experience of foetal distress prompted her to act more quickly the next time to limit her stress: *"I think, in fact, I want less stress. And perhaps I would end up saying 'we do not insist'"* (Midwife, 16). Another midwife sought solutions according to her belief that "nature is much wiser". Therefore, she was not too bound by time schedules, particularly in cases of uterine inertia: *"If a woman is tired and it's weakening her contractions (...) I let her rest and afterwards the pains come again"* (Midwife 3). Again, personal commitment was important. Experiencing obstetric deviations, the two midwives were acting with more or less flexibility within a framework of security and depending on their personal situations.

The situation may become difficult due to professional differences. A midwife spoke of her wait-and-see attitude in a situation of prolonged labour. She waited longer than usual before transferring the woman who was reluctant to go to the hospital. Upon arrival at the hospital, the

midwife faced hospital staff who focused on protocols rather than on clinical aspects and women's needs: “Why did you do this and not THAT and why did you not come earlier?” (Midwife, 2)

Indicators’ influence on temporality of decision-making

The intrapartum decision-making temporality was balanced by granting some leeway. Based primarily on the safety commitment, midwives talked of “grey zones”, "room for manoeuvres", "safety margins", or "allowed delay" to describe this leeway between two poles defined respectively as either wide, narrow. Narrow leeway meant that the decision for an intervention was taken rapidly and with little resistance, for example in an emergency situation.

Midwives described assessing these situations as challenging. According to them, situations did not always lend themselves to the application of standardised obstetric protocols and their assessment was more influenced by professional and personal experience:

> *“And then, when you arrive at that grey area (...), do you still give time or do you refuse more time? You always have to watch: the rule is you use what you have learnt and then, if you take a different course, you explain why do you do this?”* (Midwife, 17).

The women had more diverse impressions of temporality on decision-making and were mainly influenced by safety. For one, the time was relative, because of her childbirth pains, while for another all occurred so quickly, because of an emergency. For the latter woman and her partner it was important that the decision be made in time so that both mother and baby were healthy and not feeling culpable for a disability in the child (Woman, 30; Woman, 31).

Indicators' influence on shared decision strategies

As reported in other research[13, 14], our data have shown wide variations in participation in decision-making. The novelty of the present research is the proposal of a range of shared decision strategies resulting from the crosschecking of data with the indicators of joint commitment. For clarity, the range of decision-making strategies is presented below.

The woman delegates decision-making to the midwife

Building on mutual commitment, relationship of trust and recognition of skills of their midwife, some women chose to delegate decision-making. Within this framework, they felt their baby and themselves to be protected so that in labour they could engage with trust.

> *"So it is not like we sit at the table and discuss, how can I say this now? I do think I was a bit protected simply because I was already so exhausted. So I, anyway, did not feel like I had to enter the process in the sense that I had to be responsible for an important decision myself. I do not think I could have done that, so I was glad to hand over the responsibility and, yes, the trust was absolutely there." (Woman, 24)*

The woman makes her midwife's decision her own

Decision-making owes much to personal commitment. The following example illustrates how a woman appropriated the decision of the midwife and how the process of acceptance was quick.

> *"No, I really didn't think about a transfer, it was a big surprise. But then I really had the feeling, 'ok let's do that'. So then I had perhaps to decide quite quickly... in the space of two or three contractions." (Woman, 25)*

The woman challenges midwife's decision

In one case, given a deterioration in her condition, a woman manifested her responsible commitment by challenging the midwife's lack of response. Several times this woman felt she had expressed the wish to go to hospital before insisting on it.

> *"I understand that they must reassure, that's extremely important during the birth process (...) but just so I knew yes (...) they must somehow see that the bleeding has not stopped (...) I was really frightened there [in the birth centre] I was not comfortable there and I was always extremely CLEAR in the head. I already had the feeling that I had somehow said two or three times 'aren't we going to the hospital?' And obviously, I then really say somehow 'so now I want to go to this hospital'." (Woman 27)*

The woman takes a decision driven by childbirth dynamics

In one case, when a breech presentation was diagnosed late in labour shortly before the baby was born, the process was so far under way that the woman had no choice but to give birth. Although it may have been a high-risk situation, her commitment to safety was to give birth where she was and transfer was not an option for her. The decision was made with the midwife and agreed upon with an obstetrician who had been called in.

> *"Because, at that moment it was clear for me. No fear or doubt either. I was so sure, I would just bring the baby into the world and that was it. So, I did not feel that a transfer at that point would be useful. Because the process was just so well under way." (Woman, 22)*

The midwife remains indecisive

The frontier between an expected highly professional decision and indecision is not always immediately clear as seen in the testimony of a midwife who explained her reason for waiting

to transfer a woman with a retained placenta. It is only *a posteriori*, reflecting on her personal commitment, that she was able to say that she was not in agreement with the decision to wait.

> *"The timing of my transfer was clearly influenced by the fact that the couple didn't want the transfer and the fact that both were nurses. And when I said: 'But you do know that there is a risk of a haemorrhage, there is a lot of bleeding on delivery', the woman said: 'Yes, I know', and her husband too. Therefore, I said to myself that it was a risk for her health that she was prepared to take (...). But then I realised that I was wrong (...)" (Midwife, 19)*

The midwife approves woman's decision

Typically, women who wished to be transferred because they felt exhausted or were unable to bear any more pain had these wishes respected unless the midwife assessed the woman's experience as an expression of imminent birth. These situations followed on from mutual commitment.

> *"Whenever a woman says: 'I am done, I cannot continue, let´s go, I want to go' then it is clear, I will not persuade her. But that is not the same as when she feels 'no, I cannot do it anymore' (...). There is really always a time like this during labour, when the cervix is almost open." (Midwife, 5)*

The midwife makes an informed decision

Several examples of informed consent concerning responsible engagement were shown in relation to certain situations which had arisen. The information was provided in a variety of ways, such as open-ended questions to let the woman in labour to say what she felt: *"I would like you to tell me how you feel. Do you feel you can still wait a little? I can wait, no problem", (Midwife, 12).* It was also a matter of presenting various measures so that the woman in labour

may choose what she prefers: *"I tell them what I would do, I tell them what the hospital would do" (...) And then I ask them "So what do we do?"* (Midwife, 19). Alternatively, a deadline was set giving some leeway before deciding to transfer: *"We give it another hour (...) and if it there is no progress then we just have to go",* (Midwife, 2)

The midwife takes the necessary decision

In one case, a unilateral decision for a transfer to hospital was made in the interest of the labouring woman. The arguments for safety commitment were that the head had not descended, the woman was under the influences of endorphins and had a low capacity for a shared decision:

> *"Right, there comes a moment when I must decide (...) and then often we have the husbands on our side. We should not forget that a woman will say anything when she is at full dilation (smile) (...) I don't think I've ever had to force anyone to go to hospital. By discussing, talking, we manage to come to an agreement." (Midwife, 17)*

Findings summarised

From our research, it becomes evident that the phenomenon of decision as a joint commitment to healthy childbirth is implicit in decision-making. Our analysis has resulted in the development of a visual model of dynamic decision making where defining and redefining the phenomenon is essential (Figure 1). The model uses the three approaches described in the analysis: indicators of common commitment, the influence of temporality and strategies for sharing decisions. The model is intended to help reflection on how shared decision-making can work in situations of unexpected complications during labour. A clinical retrospective analysis of the significant elements and the visualization of their link with any of the three approaches of the model as described above will probably make the complexity of shared decision making more understandable and easy to use.

Discussion

The term commitment is used in our results to conceptualise our data. It has roots in psychology and sociology and is described as a cornerstone of human social life. Commitment has to do with engagement and the will and is observed in the joint actions of humans. [26] Commitment is also used to understand a form of action in specific groups or individuals. [27] It is not surprising that this concept of commitment has found a key position in the description of the central phenomenon of our study. The psychological approach to commitment and decision-making is useful in understanding joint actions. Michael et al.[26] distinguish unilateral commitment from interdependent commitment. This distinction has also been found in our data and has been developed in indicators of joint commitment that include personal and mutual commitment. The sociological approach to engagement refers to a particular organisation, such as a birth centre where women and midwives believe it is important to share joint values and to be willing to get involved. Adhering to such a structure means being committed to safety and to responsible decision decision-making, hence these two indicators support joint commitment.

Regarding shared decision-making, parts of our findings are consistent with VandeVusse's model of decision-making between caregiver and woman during birth.[14] This author suggests a dynamic model with an ascending order of emotions expressed in women's allowing six stages of decision-making, from unilateral to joint. Our model turns away from such rankings and rather illustrates various strategies of shared decision-making, from the perspective of women and the midwives.

549 Other research has established a model of shared decision-making where responsibility and
550 power are determined within an agreement of a common aim that woman and midwife wish to
551 achieve, recognising their differences.[13] In this model, parameters are set so that women and
552 midwives can define their individual and joint accountabilities as well as their ethical
553 responsibilities to each other, whilst sharing the decision-making. The model distinguishes low-
554 risk decisions (woman makes decision with midwife input); medium-risk decision (decisions
555 are made jointly following negotiation); and high-risk decisions (midwife makes decisions
556 based on professional judgement). As in the previous model, there is little emphasis on the need
557 for equality in decision-making. In our model too, decision-making is unevenly shared. What
558 counts is the distinction between different forms of participation of women and midwives in
559 decision-making. Our model has much in common with Freeman's model[13], considering the
560 degree of the complication and the responsibilities each may assume. Leeway is clearly limited
561 in an obstetric emergency and women's autonomy in decision-making affected. In contrast, our
562 model gives more consideration to mutual and personal commitment that subtly influence
563 decision-making. Boyles et al.[28] also mention that relationships based on trust and respect
564 facilitate shared decision-making. Everly[29] adds that the midwife's trust in the woman and in
565 the normal process of birth has been identified as facilitating components of the decision-
566 making process. In the home-like setting of this study, women's involvement in their birthing
567 decisions was widely practised. Women's trust in the midwives' professional competence was
568 dominating for the delegation of the decision-making authority to the midwife. It was the
569 women's active decision at times when they did not want to be involved in decisions. It was
570 not as in Porter's et al. descriptions[30] where midwives felt that women did not want to be
571 involved or that women were seen as not capable of being involved. The exception was the loss
572 of discernment under the influence of endorphins, but this incapability resulted from a
573 professional judgment and the woman was still as involved as much as possible in the decision

574 regarding her, which is consistent with the patient's rights.[3] Conversely, a breach of trust was
575 the door open to challenging decision-making. The requirement of a transfer to hospital was
576 then a solution that has occurred twice, once at the request of a woman and once at the request
577 of a midwife.
578
579 The findings also showed also how women and midwives had to advise each with regard to
580 their personal positions and with those of the professionals in the hospitals. Unlike Van der
581 Hulst et al.[31], our findings did not suggest tension between midwives' non-interventionist
582 positions and women's desire for technical interventions. If a woman was exhausted and wanted
583 to have pharmaceutical pain relief at a hospital, the woman's wish was granted. On the other
584 hand, midwives had to find a balance between being active or passive to juggle the competing
585 needs of women and of hospital staff. Stapleton et al's. description of vulnerability of midwives
586 supporting women in making decisions against the flow of medically defined customs and
587 practices is confirmed[32] concluding that cultural changes are needed to embrace a model of care
588 which privileges the position of the childbearing woman.
589
590 Noseworthy et al.[23] suggest a model of decision-making in midwifery care embedded in choices
591 influenced by complex human, contextual and political factors. These authors advocate a
592 relational model of decision-making that enables consideration of how factors such as identity,
593 individual practices, the organisation of maternity care, local hospital culture, medicalised
594 childbirth, workforce shortages, funding cuts and poverty shape the way in which care decisions
595 are made. This relational model of decision-making is also close to ours. The method used for
596 conceptualisation with midwife-woman interviews and the results on the complexity of the
597 factors influencing decision-making have much in common. Our model is a continuation of the
598 relational model in that it places the decision as a joint commitment.

Finally, to accomplish shared decision-making, Elwyn et al.[33] propose a three-step model for clinical practice which illustrates the process of moving from initial to informed preferences. The described key steps are “choice talk”, “option talk” and “decision talk”. This model emphasises the deliberation space as a process that may require time and may include the use of decision support and discussions with others, which might be very appropriate in clinical interactions during pregnancy, but less so in changing circumstances of childbirth.

As discussed above, our dynamic model of decision-making in childbirth incorporates many elements found in previous studies. The model based on joint commitment clarifies the involvement of women and midwives in birthing decisions, taking into account influencing indicators. The proposed visual model provides a framework for decision-making in the changing context of home-like births.

Nevertheless, our findings showed that decision as a joint commitment has sometimes been challenged. An example is the midwife who wanted to avoid stress after having previously experienced serious foetal distress. This situation resonates with the recognition of a possible co-existence of woman centred care and midwife centred care. For Foureur et al.[34], midwives should not feel guilty or selfish for taking care of themselves. When the meaning of woman-centred care might be contested, Leap[35] advocates examining the language used and which can help determining if the decision was jointly made. In the example where the midwife (16) announced "I would end up saying that we do not insist", the interpretation speaks for a joint decision: the midwife was ensuring foetal safety in a situation of potential danger and using the pronoun “we”, she was including the woman. Depending on trusting or suspicious relations between woman and midwife, the message might either bring the woman to make the midwife’s

decision her own or challenge the midwife's decision (see Table 1). Another example is a midwife (2) reporting a situation of prolonged labour who had to face hospital staff's questions after the transfer: "Why did you do this and not THAT and why did you not come earlier". Here the interpretation speaks in favour of a joint decision between the woman and the midwife for a delayed transfer to hospital on the woman's request. However, the staff did not acknowledge this joint decision having criteria based on their own clinical protocols. After having reviewed many protocols of large maternity hospitals, Freeman and Griew[36] denounced the lack of description of women's role in decision-making in low-, medium- and high-risk situations. The last description illuminates the same inflexible experience without taking into account individual needs.

Strength and limitation

This study enables a new dynamic model of participation in decision-making during childbirth emerging from our data using grounded theory and its associated systematic processes. The accuracy of the proposed model comes out strengthened, since it appears in the light of previous search results that our theoretical model can be considered as an additive synthesis of other models.[13, 14, 23, 32] Thus, with the help of the visual support, decision making in childbirth can be understood in all its complexity.

Study limitations arise from the fact that the perspectives of fathers were limited, since there were only a few interviews with them. In addition, the use of the model has not been shared outside the research team. It is very possible that study results will not be fully applicable to other countries and other settings where social, political and cultural influences on decision-making and organisation of maternity care may be different. A close description of the study

context within the specific cultural setting of home-like birth in Switzerland should contribute to an examination of the applicability of the results of the study in other practice settings.

Conclusion

The proposed model provides a framework, which is empirically based and rooted in the reality of midwifery practice and women's experiences in home-like settings. The knowledge gained in this study enriches existing knowledge on decision-making in midwifery care. The dynamic model of decision-making may support midwives in defining/redefining competent decisions whilst sharing the decision-making. To meet this challenge, the following issues should be addressed. First, since safety and responsible commitment are not sufficient for decision-making in home-like settings, midwives should be aware of the influence of mutual and personal commitments. Second, it is important to bear in mind that the leeway in decision-making is variable depending on the situation and that in all cases appropriate information is needed to enable women to accept the change to their plans. Finally, shared decision-making does not need equality; a range of shared decision-making strategies exists. Further research is needed to confirm and/or complement these results. It would be very useful to assess the efficacy of our model in order to present measurable benefits that will encourage the widespread of the visual representation of decision-making in childbirth in midwifery education and long-term training. Multi-dimensional In depth Long Term Case Studies (MITCs) [37] is a multiple evaluation method which apply to visualization systems. MITCs is appropriate in modest size projects supporting flexible composition for people working on challenging problems. Therefore, it could be an indicated appraisal tool.

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