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A qualitative interview study into experiences of management of labor pain among women in midwife-led care in the Netherlands

Trudy Klomp^a, Anke B. Witteveen^a, Ank de Jonge^a, Eileen K. Hutton^{a,c} and Antoine L. M. Lagro-Janssen^b

^aDepartment of Midwifery Science, AVAG and EMGO Institute for Health and Care Research, VU University Medical Center Amsterdam, the Netherlands; ^bDepartment of Primary Care and Community Care, Women's Studies Medicine, Radboud University Medical Center Nijmegen, the Netherlands; ^cMidwifery Education Program, McMaster University Hamilton, Ontario, Canada

ABSTRACT

Introduction: Many pregnant women are concerned about the pain they will experience in labor and how to deal with this. This study's objective was to explore women's postpartum perception and view of how they dealt with labor pain.

Methods: Semistructured postpartum interviews were analyzed using the constant comparison method. Using purposive sampling, we selected 17 women from five midwifery practices across the Netherlands, from August 2009 to September 2010.

Results: Women reported that control over decision making during labor (about dealing with pain) helped them to deal with labor pain, as did continuous midwife support at home and in hospital, and effective childbirth preparation. Some of these women implicitly or explicitly indicated that midwives should know which method of pain management they need during labor and arrange this in good time.

Discussion: It may be difficult for midwives to discriminate between women who need continuous support through labor without pain medication and those who genuinely desire pain medication at a certain point in labor, and who will be dissatisfied postpartum if this need is unrecognized and unfulfilled.

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Introduction

Labor pain is a varied phenomenon not restricted to the sensory mechanism alone. Emotional, motivational and cognitive dimensions all contribute significantly to the way in which labor pain is experienced [1]. Many pregnant women worry about the pain they will experience and about how they will deal with it [2]. The management of labor pain includes medicinal and nonmedicinal pain relief. It is also influenced by factors such as a woman's relationship with the health professional involved [3,4,5,6]. Also midwives' personal characteristics, such as years of professional experience and number of births to the midwife herself, might influence the assessment of woman's pain in labor and therefore influence the professional's approach to deal with labor pain [7,8]. Because of the variable accessibility of labor pain medication in hospitals and as a result complaints of women and maternity care providers about this, the board of anesthesiology wrote a new guideline in partnership with

obstetricians. This guideline on the use of pain medication in labor was introduced in the Netherlands in 2008. It states that a women's request is a sufficient medical indication for pain medication in labor and that epidural analgesia is the method of choice [9], and all women have to be informed before birth about their options for management of labor pain. This guideline, together with the influence of Dutch and international media, has probably helped to boost the use of pain medication in the Netherlands [10,6].

Women's ability to deal with labor pain is influenced by several inter-related psychological factors such as self-efficacy [11], pain-related fears [12,13,14] and pain coping strategies [15]. Recently, cognitive coping strategies, such as pain catastrophizing where women only think in a negative way of pain and its outcome, have gained increasing attention in the childbirth literature [15]. Pain catastrophizing is a well-known vulnerability factor in the fear-avoidance model for the development of pain-related fear in general [16] and in relation to labor pain specifically [17]. Catastrophizing labor pain

CONTACT Trudy Klomp  trudy.klomp@inholland.nl  Department of Midwifery Science, AVAG and EMGO Institute for Health and Care Research, VU University Medical Center Amsterdam, Van der Boechorststraat 7, D4-40, 1081 BT Amsterdam, the Netherlands

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was positively associated with avoiding pain during childbirth, with an increase in labor pain intensity and request for pain relief [17,18,19]. Interestingly, it has also been suggested that catastrophizing before expected pain sensations begin is associated with a tendency to underestimate pain (i.e. fear avoidance) and is used as a way of reducing anticipatory distress [15,20]. Earlier research identified different approaches of women towards dealing with labor pain [6,21], that is, natural pragmatic, deliberately uninformed and pro medicinal pain relief approach. Interestingly, women with a deliberately uninformed approach felt more confident in approaching labor without knowing too much, perhaps in an effort to reduce anticipatory distress regarding labor pain.

The Dutch maternity care system is community based [22]. Midwife-led care is restricted to women with a low level of risk at the onset of labor, that is, singleton pregnancy with cephalic presentation, no previous cesarean sections and no other risk factors on the Dutch Obstetric Indication List [23]. Those opting for midwife-led care may choose to give birth at home, in a birth center or in hospital. If risk factors or complications arise, the woman is referred to obstetric-led care. Medical interventions such as induction or augmentation of labor, electronic fetal monitoring and pain relief only take place in obstetric-led care.

In the Netherlands, around 12% of the population is of a different non-Western cultural background and in the cities this percentage is around 20–30% [24], 80% of women start their pregnancy in midwife-led care and around 55% of women start their labor in midwife-led care [25]. The relatively high rate of physiological births (around 82% of all women who have a vaginal delivery use no medicinal pain relief) [25] in the Netherlands lends itself to investigate women's perceptions of their ability to deal with labor pain. Midwife-led care systems focus on helping women to work with their labor pain, unlike many obstetrician-led care systems that routinely offer medicinal pain relief at an early stage of labor [26].

There have been no previous studies in the Netherlands of how women receiving midwife-led care from the onset of labor perceive their ability to deal with labor pain.

An in-depth exploration of women's perceived dealing with labor pain in midwife-led care in the Netherlands may thus generate important insights for countries that are supporting midwife-led care to encourage physiological birth [27,28]. This study's objective was to analyze women's perception and view of how they dealt with labor pain in order to understand women's perception and view about this subject.

Methods

This study was designed as a qualitative interview study, as we feel that this is well suited to an exploration of women's perception [29]. The choice of interviews over focus groups was driven by the private nature of the topic of labor pain. Furthermore, this setting allows women to discuss their intimate, personal experiences with the interviewer, if they so wish.

Participants and procedure

We conducted semistructured postpartum interviews with clients from five midwifery practices across the Netherlands, between August 2009 and September 2010.

We selected practices in both rural and urban areas. Our goal was to include women who varied in terms of age, parity, level of education, cultural background and intended place of birth. This was because these factors are expected to affect women's experiences of pain management [30,31]. We included women who spoke Dutch, were between four and eight weeks postpartum, and who received midwife-led care at the onset of labor. Interviews were held at least four weeks after women had given birth, as we wished to allow them some time to reflect on their experiences of labor [32,33]. The final deadline was 8 weeks after birth, as a woman's memory may change over time [34], and we wanted to interview women who still had vivid memories of their labor pain.

In each of the five participating practices, the midwife or her practice assistant identified eligible pregnant women. Initially, convenience sampling was carried out by the midwives during prenatal care visits (after 36 weeks of gestation), women were asked if they would consent to a researcher contacting them around 3-week postpartum. Women who agreed gave written consent to the researcher. After some time, during interviewing and data analyzing, purposive sampling was adopted to achieve variation in our sample size. The midwives were asked to invite women with specific, under-represented characteristics, such as women with Surinamese, Antillean or Moroccan cultural backgrounds, women who had decided beforehand to use some form of pain medication during labor, and women who had originally intended not to use pain medication but who actually did so in the end. The number of women to be interviewed was not prearranged. Interviewing was continued until data saturation was achieved, that is, the point at which no new information or themes were detected in additional data [35]. A total of 24

women were asked before childbirth and 20 agreed to participate, five of these women refused to participate postnatally mostly due to time constraints and one participant was not available for the scheduled interview. Postnatally, another three women were asked to participate and all of them agreed and gave their written consent. All interviews were conducted in Dutch, at the women's homes, by the principal researcher (TK); a female Dutch researcher. She studied midwifery education and science and had training in qualitative research methods by taking a master's level course while enrolled at the University of Humanistics in Utrecht. The researcher explained to each participant that all information obtained during the interview would be strictly confidential and explained that the interviewer was a former midwife but would be acting as a researcher in her role as interviewer. The interviewer kept field notes in a logbook, about the context of the interview, the interviewee's circumstances and her own role as the interviewer. The interview guide was based on the literature of the theoretical model of "dealing with labor pain" [36]. This model is based on the two dealing with labor pain styles of "working with labor pain" versus "pain relief".

All interviews started with the same open question:

We would like to know how you dealt with labor pain, what can you tell me about it?

Additional open questions helped women to talk freely, describing events in their own words (see Appendix 1 for details of the interview guide).

Ethical approval

Ethical approval was obtained from the Institutional Review Board of the VU Medical Center Amsterdam.

Analysis

All interviews were audiotaped and transcribed by the first author (TK) and an assistant. The transcripts were coded and analyzed using ATLAS.ti version 5.2 (ATLAS.ti Scientific Software Development GmbH, ATLAS.ti (Version 5.2) [Computer software], Berlin, Germany), and further analyzed using the constant comparison method [37]. The interpretative phenomenological analysis (IPA) was used to explore women's personal perception of how they deal with their labor pain experience [38]. The following baseline information was collected for all study participants: age, level of education, country of birth of the subject and of her parents, parity, intended and actual place of birth. The participant's level of education

was categorized as follows: (1) no education, (2) primary school only, (3) secondary school only, (4) "intermediate" (postsecondary but below university level) and (5) "higher" or university level. We explored the data using open coding. The first three interviews were coded separately by the first author (TK) and second author (AW). We ensured the reliability of our results by comparing the results they obtained. Subsequent interviews were analyzed by TK, three of which (chosen at random) were reviewed by AW. When any inconsistencies in coding were found, the first and second author tried to reach consensus and consulted the third author (AdJ). The final analyses were discussed by all of the authors. The second author is a researcher with a PhD in psychology working in a Department of Midwifery Science in the Netherlands. The third and fourth authors are Professor of Women Health Sciences in the Netherlands and Professor Midwifery Science in Canada and the Netherlands. We ensured the validity of our data through monitoring the research role of the first author and through a constant search for disconfirming cases or falsifying evidence that would refute the emerging themes during data collection and analysis [37,39]. To avoid socially desirable answers, the women were told that the interviewer was a lecturer of midwifery and researcher interested in improving the quality of care and asked them to be honest about their labor experiences. The information was coded as follows: P_x = participant no. x . Quotes were translated from the Dutch verbatim transcript into English by a professional translator.

Results

Of the 20 women who agreed to participate before childbirth, five declined participation postnatally mostly because of time constraints and one woman was not at home at the time scheduled for the interview. An additional three women were asked to participate postnatally and all of them agreed and gave their written consent. As shown in Table 1, the seventeen participating women varied in their background characteristics. The interviews lasted from 45 to 105 min. Three main themes emerged from the analyzed interview data: "control over decision making in labor", "midwives continuous support in labor" and "childbirth preparation". The themes will be discussed below.

Control over decision-making during labor

Most women were in need of control over dealing with labor pain and preferred to be informed by their

Table 1. Characteristics of study sample.

Resp.	Parity	Cultural background	Level of education	Age	Intended place of birth	Actual place of birth	Framework: labor pain approach ^a
01	Primiparous	Dutch	Intermediate	32	home	hospital	DU
02	Primiparous	Dutch	Intermediate	29	home	home	PN
03	Primiparous	Dutch	Intermediate	27	home	home	PN
04	Primiparous	Dutch	Higher	28	indecisive	hospital	PP
05	Primiparous	Dutch	Higher	32	home	hospital	PN/PP
06	Primiparous	Moroccan	Secondary	22	hospital	hospital	DU
07	Primiparous	Antillean	Secondary	18	hospital	hospital	DU
08	Primiparous	Surinamese	Secondary	19	hospital	hospital	DU
09	Parous	Dutch	Higher	35	hospital	hospital	PP
10	Parous	Dutch	Higher	32	home	home	PN
11	Parous	Dutch	Secondary	28	home	home	PN
12	Parous	Dutch	Intermediate	36	indecisive	hospital	PN
13	Parous	Moroccan	Lower	41	hosp./indec.	home	PP/PN
14	Parous	Moroccan	Secondary	33	home	home	PN
17	Parous	Other Eur.	Higher	29	home	home	PN
16	Parous	Turkish	Lower	27	hospital	hospital	DU
17	Parous	Turkish	Intermediate	30	hospital	hospital	DU

^aLabor pain approaches.

PN: Pragmatic Natural; DU: Deliberately Uninformed; PP: Pro Pain relief.

midwife or other hospital staff about options and expectations. When labor did not proceed as expected, however, most women expressed very strong feelings.

... until labor became very stressful and I became very tired, at which point the hospital staff took action. And just said 'we have to arrange something or a drip with pain medication so you can control the dose slightly each time or just an epidural'. And we opted for the latter. When I was connected to all the tubes, I could not control that part of my body anymore and I think that this made me feel emotional. That I just could not follow my original birth plan anymore [planned to give birth without medicinal pain relief], [P14, parous woman].

Some of these women blamed the Dutch maternity care system's culture of dealing with and accepting labor pain for poor accessibility to pain medication in hospital, while other women expressed their satisfaction with the new policy on the provision of pain medication, which allowed them to make their own decisions during labor. One woman pointed out that the supporting midwives failed to recognize her need for pain medication and felt unable to control her labor pain and the decision-making process. The fact that she thought she was not able to control or tolerate the pain and her fear of being overwhelmed by this pain shows that she was catastrophizing.

I really felt that I had to call out for it [pain medication]. I expected that the midwife would be able to assess how much pain I had to endure and I expected that she [...] would be sympathetic to your plight, thinking 'she can't do this anymore' and that she would transfer you to the hospital. It was a bit as if she was just looking at me, no matter how much pain I had. And I find that very disappointing. [P5, primiparous woman].

Many women described their cognitive coping style as one that encouraged themselves to work with labor pain as it occurred and their pragmatic approach to labor pain helped them to remain in control. Some women who expected their body to cope with giving birth naturally, felt disappointed when they realized that they could not cope with the labor pain anymore and developed catastrophizing thoughts on the progress of labor and on labor pain itself.

I thought that all my efforts were for nothing. [...], I thought the baby just does not want to come out. So then, I started to scream for an epidural because I could not bear it any more. In fact, my body really let me down during labor. [P5, primiparous woman].

And a few women explained why, during labor, they changed their mind about how to deal with labor pain during labor. One woman who during pregnancy planned to give birth in hospital with medicinal pain relief followed her midwife, whose support helped her to continue without pain medication.

Yes, I wanted an epidural but she [midwife] said 'you really do not need to do this, I know you're afraid, you just have to be patient then everything will be fine and I was fine [...], really it was a good decision, I was very proud of myself. [P13, parous woman].

Midwives' continuous support in labor

Women appreciated the continuous support of their midwives especially when they had direct access to the midwife and when a familiar midwife cared for them from onset of labor until actual childbirth, both at home and in hospital. Particularly midwives with a communicative, supportive and proactive attitude

during labor were well appreciated by the women. The women trusted their midwives to act as their advocate if their labor did not proceed as expected.

Yes, I knew her [midwife] from my consultations at the midwifery practice and that was nice. She stayed very calm and in control and that calmed me. She kept on talking to me when contractions came and when she noticed that I was in severe pain she just said nothing and waited until the pain was over. Good communication with your midwife because in the end, she's the one you'll have to trust. [P8, primiparous woman].

A few women who were transferred from primary midwife-led care to secondary obstetrician-led care due to prolonged labor and a request for pain medication, expressed negative emotions about their birth experiences. These women felt abandoned by their familiar midwife who, once being referred, is no longer responsible and out of the picture and criticized the Dutch maternity care system for this.

I believe it is just not right that your midwife can't stay, that she has to hand you over, I did not like that because that person knows you very well and I know her [P12, parous woman].

And then I got another midwife [woman's face expresses disappointment]. For a long time, it really bothered me that three different midwives were looking after me, which was not OK [P1, primiparous].

Childbirth preparation

Antepartum preparation was evaluated as highly important to the approach women used during labor. Great importance was also placed on childbirth stories by women with experience of labor and on antenatal classes. Concerning the latter, women often stressed the importance of breathing exercises, of becoming familiar with the physical and cognitive aspects of the labor process and of developing a birth plan in order to help control pain during labor.

I was very happy with my yoga childbirth classes, they helped a lot, it meant that I could really control my breathing so, no matter how much pain I had, my mind stayed clear; then there is less tendency to panic ..., with fewer stressful moments and I was more in control [P2, primiparous woman].

Some participants in our study said that they had used cognitive coping strategies, such as believing that natural childbirth is positive and special.

I am convinced that, well fear makes your body stiff. Fear does not allow you to be open to things, so you always have to try [...]. And I also said a few times [during prenatal classes]: yes, wait a minute, just try to

face it in a relaxed manner because it is also beautiful [birth]. It's something very special that you are allowed to do; to try and develop that kind of attitude. [P15, parous woman].

Although labor pain stories of other women helped women to prepare for childbirth, too much information made women feel insecure and more fearful about working with labor pain. Some women who preferred to see how things turned out said they just planned to do their best, believing that the birth of their child would be compensation enough.

I think that all that information about pain relief actually makes women afraid of giving birth. While reading the information, I was thinking 'Gosh, this is all such scaremongering'. [...] I would prefer to believe that I can just do it. I have to empower myself. And if something happens [during birth] that means I cannot handle the pain any more, then the midwife will know what to do [P10, parous woman].

Discussion

The findings of our study essentially show that active involvement in decision making during labor helped the women in our study to deal with labor pain, as did their midwives' continuous support and effective, helpful birth preparation. Within these themes, three main postpartum approaches to deal with labor pain, became apparent as described in earlier antepartum research of Klomp et al. [6]: the "Pragmatic Natural" approach with women planning to give birth naturally and without pain medication, provided labor was straightforward; the "Deliberately Uninformed" approach with women restraining themselves from information and preferring to see how things turned out; the "Pro Pain relief" approach with women who definitely planned to use pain medication [6]. The three themes identified in the current study cut across these approaches to pain management.

Remarkably, the women in our postpartum study adopted the same approaches during labor compared to the identified adopted approaches during pregnancy, in the studies of Klomp et al. and Haines et al. [21]. One could argue that approaches of women during pregnancy reflect fixed approaches of dealing with labor pain in general, since postpartum women reflect similar aspects important for them in dealing with their labor pain experience.

Additionally, our findings show that feelings of loss of control during labor particularly emerged when women's approach during pregnancy towards labor pain did not work out as planned, which is in line with previous studies [2,10]. Moreover, this feeling of

uncontrollability might also have a cognitive component and essentially shows the presence of catastrophizing thoughts about labor and labor pain [15,40,19]. Catastrophizing involves focusing on the significance of pain in specific circumstances, and a lack of belief in the ability to work with it [41,42]. Interestingly, women who catastrophized their labor pain in our study were also particularly focused on its physical dimension and had difficulty accepting that their bodies were unable to deal with labor pain the way they expected. Interestingly, these women with catastrophizing thoughts had a deliberately uninformed or pragmatic natural approach that might suggest a fear-avoidant approach towards labor. In line with recent studies of Whitburn et al. (2013, 2014) and Escott et al. (2009), we also found that the cognitive coping strategies such as distraction based techniques and use of empowering thoughts, instilled in women as part of their childbirth preparation, appeared to help women to work with labor pain [40,15].

Additionally, our findings show that feelings of control over labor pain are highly related to the ability of making shared decisions about pain relief methods during labor. Similar to other studies, many women preferred to defer decisions about pain medication until labor, as they trusted their maternity care professional to guide them through labor pain with the help of relevant information and available options [42,43]. On the other hand, feelings of loss of control may arise when midwives have difficulty assessing whether pain medication should be provided, as our findings show. In this respect, it seems important that midwives should help women to have realistic expectations about dealing with labor pain by antepartum discussion of potential difficulties that only arise during active labor in deciding whether or not to use pain medication. In other studies, continuous support from one maternity care professional, has been shown to have a positive effect on women's birth experiences [4,44]. The Dutch guideline of "failure to progress in labor" recommends continuous support during labor to facilitate the labor process, to reduce the need for pain medication and to reduce labor interventions [45]. In our study, too, women preferred continuous support from one familiar midwife to deal with labor pain.

The fact that the previously identified antepartum framework by Klomp et al. (2013) [6] and our postpartum findings of approaches toward labor pain are quite similar to the framework identified by Haines et al. (2012) toward childbirth in general [21], suggests that women's approaches to birth are highly

determined by important personal characteristics as coping and pain-related fear [1,15,19].

Situations arising during pregnancy and labor, however, may also influence women's approach to a subsequent pregnancy and labor [46,47]. Interestingly, we found that some women even changed their approach early in labor from "Pro Pain relief" to "Pragmatic Natural" and was often prompted by information from their midwife. Some women who adopted a "Pragmatic Natural" approach and changed their approach to labor pain to a subsequent labor may have been so focused on natural birth without pain medication that they failed to take the unpredictability of birth into account, and were unable to request pain medication when they actually needed it.

The Dutch culture seems to be an important determinant for women's approach to labor pain [48,49]. Previous pregnancy study results showed that, most low-risk women believe in natural childbirth – including working with labor pain without pain medication – provided that labor proceeds well [6]. The current study shows that this "Pragmatic Natural" approach continued during labor as well. Nevertheless, the change in Dutch culture and the greater availability of pain medication is important for many of these women [7].

Our study results might be somewhat limited by the fact that all women were in midwife-led care, so the results of our study cannot be generalized to those in labor in obstetrician-led care. A strength of our study, however, is that – given the delicate nature of the subject of labor pain – the women in the current study were not interviewed antepartum about their expectations with labor pain. In some studies, expectations and experiences of pain are explored in the same group of participants [2], enabling comparability of women's ante- and postpartum perception within subjects. Although comparison of perception of antepartum expectations with postpartum experiences in itself is interesting, interviewing the same women both antepartum and postpartum, might make the antepartum interview an intervention. Therefore, focusing these women during pregnancy on the subject of dealing with labor pain and interviewing the same women again after birth might alter the findings compared to only interviewing women in the postpartum period.

In conclusion, our study shows that primi- and multiparous women with a variety of ethnic backgrounds who gave birth at home or in hospital under midwife-led care may appreciate clarity about pain management options such as requesting pain medication and midwife support in shared decision making when to go forth with medicinal pain relief. Women generally

also expected their midwife to be able to provide continuous support during labor, to enhance the communication of needs, such as switching approaches to labor pain. Continuous support was particularly essential in working with the pain and when women changed from midwife-led care to obstetrician-led care.

Clinically, these study findings urge maternity care providers to offer antepartum information about feelings of loss of control during labor and how to (cognitively) cope with these feelings. Furthermore, we suggest that adequate discrimination could be necessary between women who need continuous support through labor without pain medication and those who genuinely desire pain medication at a certain point in labor. Further research is needed to identify areas for improvement in working with labor pain in "Pragmatic Natural" subjects, for example, coping techniques and the support needed to balance giving birth without pain medication versus getting medication in time, when necessary. Similar research is also needed in obstetrician-led care.

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► Current knowledge on the subject

- When women's antenatal approach toward labor pain does not work out as planned, some women feel lost, not in control and tend to catastrophize labor pain.
- The cognitive coping strategies instilled in women as part of their childbirth preparation help them to manage with labor pain.
- Most women want to wait and see until labor before they decide about the use of pain medication during labor.

► What this study adds?

- Some women change their approach early in labor from "Pro Pain Relief" to "Pragmatic Natural" (wait and see). This change may be prompted by their midwife.
- Women may be so focused on natural birth without pain medication that they fail to take the variability of the birth process into account.
- Some women expect midwives to know which method of pain management they need during labor and to ensure this is arranged in a timely manner.

Appendix

Experiences of management of labor pain among women in midwife-led care in the Netherlands

Postpartum interviews with women.

Opening question:

We would like to know how you dealt with labor pain, what can you tell me about it?

Pain

How did you experience pain during the initial stages of labor?

How did you experience pain during the pushing period or when actually giving birth?

Pain approach – methods

What are your experiences of labor pain relief methods?

Probes:

- How did you perceive the availability of pain relief methods?
- What influenced the method of pain relief used?

Support

What are your experiences of the support provided by maternity care professionals during labor?

Is there anything else you would like to tell me?