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Teunissen, Doreth A. M.; van Diem, Mariet Th.; Scheepers, Peer L. H.; Lagro-Janssen, Antoine L. M.

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## Women's positions during the second stage of labour: views of primary care midwives

Ank de Jonge, Doreth A.M. Teunissen, Mariet Th. van Diem, Peer L.H. Scheepers & Antoine L.M. Lagro-Janssen

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Correspondence to A. de Jonge:  
e-mail: ank.dejonge@tno.nl

Ank de Jonge PhD  
Midwife/Researcher  
Department of General Practice, Women  
Studies Medicine, University Medical Centre  
St Radboud, Nijmegen; and TNO Quality of  
Life, Leiden, the Netherlands

Doreth A.M. Teunissen MD PhD  
General Practitioner and University  
Department of General Practice, Women  
Studies Medicine, University Medical Centre  
St Radboud, Nijmegen, The Netherlands

Mariet Th. van Diem MSc  
Midwife/Researcher  
Department of Obstetrics and Gynaecology,  
University Medical Centre Groningen,  
Groningen, The Netherlands

Peer L.H. Scheepers PhD  
Professor  
Department of Social Sciences, Radboud  
University Nijmegen, Nijmegen,  
The Netherlands

Antoine L.M. Lagro-Janssen MD PhD  
General Practitioner, Professor  
Department of General Practice, Women  
Studies Medicine, University Medical Centre  
St Radboud, Nijmegen, The Netherlands

DE JONGE A., TEUNISSEN D.A.M., VAN DIEM M.TH., SCHEEPERS P.L.H. & LAGRO-JANSSEN A.L.M. (2008) Women's positions during the second stage of labour: views of primary care midwives. *Journal of Advanced Nursing* 63(4), 347–356

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### Abstract

**Title.** Women's positions during the second stage of labour: views of primary care midwives.

**Aim.** This paper is a report of a study to explore the views of midwives on women's positions during the second stage of labour.

**Background.** Many authors recommend encouraging women to use positions that are most comfortable to them. Others advocate encouragement of non-supine positions, because offering 'choice' is not enough to reverse the strong cultural norm of giving birth in the supine position. Midwives' views on women's positions have rarely been explored.

**Method.** Six focus groups were conducted in 2006–2007 with a purposive sample of 31 midwives. The data were interpreted using Thachuk's models of informed consent and informed choice.

**Findings.** The models were useful in distinguishing between two different approaches of midwives to women's positions during labour. When giving informed consent, midwives implicitly or explicitly ask a woman's consent for what they themselves prefer. When offering informed choice, a woman's preference is the starting point, but midwives will suggest other options if this is in the woman's interest. Obstetric factors and working conditions are reasons to deviate from women's preferences.

**Conclusions.** To give women an informed choice about birthing positions, midwives need to give them information during pregnancy and discuss their position preferences. Women should be prepared for the unpredictability of their feelings in labour and for obstetric factors that may interfere with their choice of position. Equipment for non-supine births should be more midwife-friendly. In addition, midwives and students need to be able to gain experience in assisting births in non-supine positions.

**Keywords:** birthing positions, empirical research report, focus groups, informed choice, labour, midwives, primary care

## Introduction

Routine use of the supine position can be considered as an intervention in the natural course of labour, which was introduced in the western world without evidence of its advantage over other positions (Rossi & Lindell 1986, Walsh 2000, 2007). Women expect midwives to give professional advice on the use of positions, and this advice is a stronger influence than their personal preference (De Jonge & Lagro-Janssen 2004). Midwives make the final decision on choice of birthing position (Coppén 2005a).

As the influence of the midwife is so crucial, it is important to find out what midwives think about this aspect of care. Others have highlighted that the nature of the midwife–client dynamic in choice of position warrants further research (Hanson 1998a, Coppén 2005b).

## Background

The limited research into midwives' views of birthing positions has been conducted mainly through questionnaire surveys (Hanson 1998a, 1998b, Coppén 2005c). In a study by Coppén (2005c), a 'dichotomy jigsaw' was identified among midwives: those who preferred the upright position were more in favour of providing comfort for women and giving them control over their own bodies, whereas those who preferred recumbent positions were more concerned about their own comfort and the importance of having control over the delivery. The author equated giving women control with encouraging them to use non-supine positions. However, the superiority of one particular type of position for feeling in control is not supported by evidence (De Jonge & Lagro-Janssen 2004, De Jonge *et al.* 2004, Gupta & Hofmeyr 2004).

In quantitative studies, women have indicated that they preferred non-supine positions, and these positions resulted in greater satisfaction and less severe pain (Marttila *et al.* 1983, Waldenstrom & Gottvall 1991, De Jong *et al.* 1997). However, due to methodological weaknesses, these results should be interpreted with caution. We showed in our qualitative study that women vary in their experiences, with some preferring the supine position and others upright or lateral positions (De Jonge & Lagro-Janssen 2004).

Some authors recommend encouraging women to use positions that are most comfortable to them (Carlson *et al.* 1986, De Jong *et al.* 1997, Renfrew *et al.* 1998, Gupta & Hofmeyr 2004). Walsh argues that encouraging women to choose comfortable positions is a 'soft position' and is insufficient for rolling back recent centuries of birth posture

medicalization (Walsh 2007). He advocates informing women of the disadvantages of recumbent positions.

Indeed, women need information on birth options that are less common in order to be able to make choices (De Jonge & Lagro-Janssen 2004, Lugina *et al.* 2004). But even if women are well informed, they may prefer supine positions. This can be uncomfortable for midwives who support the normality of birth (Thorstensen 2000).

How can midwives truly offer women choices about birthing positions within societies that are heavily biased towards the use of the supine position? If women choose supine positions, it can be argued that they do so because the culture in which they live has indoctrinated them with the idea that this is 'normal'. If we encourage them to use other positions, as some authors advocate (Coppén 2005b, Walsh 2007), we ignore the fact that some would choose the supine position, even if they were fully aware of other options. Thachuk's distinction between informed consent and informed choice may be of help in understanding this situation.

### Informed consent vs. informed choice

Thachuk distinguishes two models of care that differ in the way women's autonomy is defined and therefore in the way women are involved in decision-making during childbirth (Thachuk 2007): the medical model of informed consent and the midwifery model of informed choice. These models are not static, and individual midwives and obstetricians operate on a continuum between these two models.

The medical model of informed consent is based on the right to relevant information and competent and non-coerced consent. The woman is a 'passive recipient' of the information and choices the professional decides to give. Although a woman has the right to *opt out* of procedures, informed refusal is often interpreted as non-compliance and is rarely tolerated (Kitzinger 2005a, Thachuk 2007).

In the midwifery model of informed choice, the locus of power is shifted to the woman as the primary decision-maker who has a right to *opt for* procedures and who can present potential options herself. The relational aspect of autonomy is emphasized, and both the midwife and the woman actively participate in the process of informed choice. The midwife gives information that takes into consideration a woman's individual situation, including her values, goals and beliefs. Women are encouraged to participate in preparing a plan of care.

Based on the literature, we examined the hypothesis that midwives would either offer women informed consent or informed choice regarding positions during labour. By informed consent, we mean that the midwife decides which

information to give about positions and that she implicitly or explicitly asks women's consent for what she prefers. By informed choice, we mean that the midwife explores how women think about birthing positions, actively gives them appropriate information on various position options and assists them in making their own choices.

## The study

### Aim

The aim of this study was to explore the views of midwives on women's positions during the second stage of labour.

### Design

We conducted a focus group study because we wanted to use group dynamics to stimulate discussion and generate ideas in order to pursue the topic of birthing positions in great depth (Bowling 1997). To prevent socially desirable comments and to encourage less-assertive participants, we emphasized that we did not believe in good or bad birthing positions and that the participants would help us by expressing their opinions as openly as possible.

### Participants

A purposive sample of midwives was selected. They were invited to take part in the study through local groups of independent midwifery practices from rural, semi-urban and urban areas from different parts of the country. In each focus group, we included midwives from more than one midwifery practice. Each practice consists of one to six midwives and one to three of these took part in the study. It was thought that this would generate more ideas through the exchange of different approaches to dealing with birthing positions. Some of the midwives knew the interviewers.

### Data collection

The study took place from May 2006 to March 2007 with independent primary care midwives in the Netherlands. These midwives assist women who have a spontaneous vaginal delivery at term with a single foetus in cephalic presentation and who can choose to give birth at home or in hospital. When risk factors occur, women are referred to obstetrician-led care.

Focus group interviews took place at one of the local midwifery practices or midwives' homes and lasted 1½ to 2 hours. Prior to each interview, a short questionnaire was

sent to participants to collect data on individual and practice characteristics.

Two midwife researchers (AJ and MB) conducted most of the focus groups and alternately were the moderator and assistant. In one focus group, a research psychologist (SP) was the assistant. The assistant took field notes and observed non-verbal communication. After each interview, the two researchers discussed their impressions. These observational data were included in the on-going analysis.

A topic guide was developed based on prior knowledge about the topic and on findings from our previous interview study (De Jonge & Lagro-Janssen 2004). The main topics were midwives' experience with birthing positions, the information they give to women about positions, factors that influence their use of positions, and knowledge and skills in assisting births in various positions.

### Ethical considerations

In the Netherlands, ethics approval is not required for this type of study. Midwives in each focus group gave permission to tape-record the interview. They were reassured of the confidential handling of the research data. Participants received a voucher (€20.00 = £15 = US\$30 approximately) as a token of appreciation for their cooperation.

### Data analysis

All interviews were transcribed. A software programme (Kwalitan 5.0) was used to aid the analysis (Peters 2000). One of the researchers who conducted the interviews (AJ) and a second researcher (DT) analysed the transcripts independently of each other. The second researcher (DT) was a general practitioner who had attended primary care births until recently. First, codes were allocated to fragments of the transcripts. The two researchers compared these and reached consensus about the set of codes to be used. When more data became available, these were compared to the codes that had been formulated and where necessary these codes were adjusted. The codes were grouped into categories, which were then developed into a more general analytic framework. To promote trustworthiness, we constantly compared all data fragments to our hypothesis that midwives would either offer women informed consent or informed choice regarding positions during labour, based on Thachuk's distinction between giving women informed consent or informed choice (Silverman 1993). During the course of the analysis, we added dimensions to this hypothesis, such as that even if midwives give informed choice, they need to give direction if women need it or it is necessary for obstetric reasons.

Memos were written during the process to aid the analysis. For example, we realized that it was not always clear from the transcripts whether midwives were talking about birthing positions during the first or second stage of labour or at the time of birth. When we asked them to be more specific, we realized that some used upright positions during the first and second stages but would ask women to lie down for the actual birth.

## Findings

Six focus groups were conducted, with four to six midwives in each group and a total of 31 female participants (Table 1). After six interviews our data were saturated, as no new themes emerged during the last interview.

**Table 1** Characteristics of participants (six groups with a total of 31 midwives)

	Sample population, <i>n</i> (%) <sup>*</sup>	National population <sup>†</sup> (%) <sup>*</sup>
Age group (years)		
< 25	5 (16)	9
25–39	17 (55)	53
40–54	6 (19)	31
≥55	3 (10)	8
Place of education		
Amsterdam/Groningen	10 (32)	27
Rotterdam	5 (16)	28
Limburg	9 (29)	27
Abroad	7 (23)	18
Type of practice		
Solo	2 (7)	5
Duo	2 (7)	11
Group	25 (87)	84
Independent locum midwife	2	
Practice population: urbanization <sup>‡</sup>		
City	15 (54)	
Suburb/small town	3 (11)	
Rural area	3 (11)	
Combination	7 (25)	
Number of midwives using non-supine positions		
Birthing stool	26 (84)	
Bath	11 (35)	
Lateral	24 (77)	
Other	25 (81)	
How many of last 10 births in supine position		
< 5	9 (29)	
5–7	8 (26)	
8–8	6 (19)	
10	8 (26)	

<sup>\*</sup>Percentages may not add up to 100 because of rounding error.

<sup>†</sup>Muysken *et al.* (2006).

<sup>‡</sup>No practice details are given for the locum midwives and data are missing for one midwife.

The sample consisted of midwives of various ages and educational background who worked in practices consisting of one to six midwives. They were asked to write down in which position women had given birth during the last 10 births at which they assisted: the numbers in supine position (on the bed) varied from 2 to 10, although all midwives indicated that they used non-supine and supine positions. All but five stated that they used a birthing stool (on the floor), which is the most commonly used upright position in the Netherlands (De Jonge *et al.* 2007a).

The main themes that emerged during the analysis are discussed below and quotes (translated into English) are given to illustrate them. The following is the key to the quotes: Px = participant number x, I = interviewer, [ ] = explanation by the authors, [...] = text left out.

## Informed choice vs. informed consent

Using Thachuk's models of care, aspects of giving informed consent were apparent in the behaviour of most midwives. Some midwives informed women about position options during an information evening, but most only gave information about these when women asked about them. The majority of midwives had a preference for using either the supine or an upright birthing position. Those who preferred the upright position most often used the birthing stool although other upright positions were mentioned.

Although several midwives confirmed that the supine position is very common, some commented on times in the past when the birthing stool was strongly advocated. In their view, this was not always to the benefit of women:

And then loads of them had to go on the birthing stool and then would not succeed. Well, people really felt that was terrible. Well, that was more or less the message in those days, if you only do that...then it [labour] will go well and that is no longer the case nowadays...

Women often gave birth in the position preferred by the midwife. Participants were very aware of the influence they had, and some were not always happy about this:

[...] Well, like we have been discussing in our practice, what the two of us noticed very much...I have a very strong preference for the birthing stool. And that you notice at times that YOUR preference for a birthing position is actually very influential

I: Yes?

And that we find that very awkward sometimes...eh...I can get a woman on a birthing stool, because I get them on it very frequently, but I can also easily get them off it...

Only one midwife said that she routinely discussed birthing positions with women in the antenatal clinic. Although most

participants did not actively offer women an informed choice, a few mentioned that they tried to help a woman find the position that was most appropriate for her. They would go along with the positions women adopted unless they appeared uncomfortable or there were obstetric factors that made a change of position necessary:

Yes, that you connect as much as possible with what someone can, what someone wants, what someone wishes...Well...and then you sometimes have to manoeuvre yourself in all kinds of different angles literally and figuratively...

I: And do you then see that people themselves try out positions?

Yes, of course. That's how you meet them when you arrive, yes, and you let that exist as much as possible...unless, what you [towards another participant] said, if from an obstetric point of view something else is needed or if it is inefficient...or even to be discouraged.

Based on these findings, we added a dimension to our definition of informed choice. Informed choice was defined as actively giving women a choice in birthing positions but taking control if obstetrically indicated, for example, in case of failure to progress, or if women can or will not make choices themselves.

Although most midwives showed that they started off with giving women informed consent, they very easily moved towards giving informed choice if women expressed particular wishes about birthing positions. Those who took part in this study were prepared to go a long way to try and meet a woman's request to give birth in a particular position. Some mentioned colleagues who were less flexible and who would not use non-supine positions. A few midwives in this study said that they would not use certain positions even if women asked about them. Water birth was mentioned most frequently as an option some midwives would not offer:

Yes,...actually I do not have many good experiences with water births. I have experience with a few in Great Britain and...I eh...I really do not like it at all...you cannot get to it very well and sometimes...I find it messy and I do not know what to think of it but I think it is so unnatural as well...

Midwives showed that they operated on a continuum between giving women informed consent and informed choice. For clarification, we now discuss these approaches as if they are two separate entities.

### **Factors related to giving informed consent**

The birthing positions midwives preferred depended on the exposure they had to various positions during their training and career, their knowledge and skills, which routines they had developed and their amount of experience as a midwife.

Many had limited experience with non-supine positions and, if they had, it was mainly with a birthing stool:

P1: and then I saw it [all fours position on a patient's video] but after that I have actually never again let somebody...yes...with a shoulder dystocia...but otherwise never put somebody...eh...on all fours...while it is actually just a very good position...

P2: Yes

P1: But that's because people themselves don't bring it up...

P3: But it's just not on my mind, because I am not used to it...

Some midwives said that the focus group discussion motivated them to try non-supine positions in the future.

Personal traits that influenced participants' preferences were how much they conformed to a medical model of care in which the supine position is the norm, which positions they considered to be 'natural', their self-confidence in trying out new practices and their own labour experience.

Working conditions emerged as very important factors for giving women informed consent rather than informed choice.

### **Working conditions**

A midwife was more likely to give women informed consent if she was concerned about her own comfort or about the ease of carrying out midwifery procedures. However, in all groups, participants said that they were prepared to sacrifice their own comfort to a great extent if a woman expressed a strong desire to use a certain position:

But I always say that it does not satisfy proper working conditions, but I really conduct many birthing stool births and I notice that it is not so great for my own back. But that is secondary to the interest of the people themselves at the time.

Some midwives did not want to tell women that they had difficulty assisting them in certain positions, for example, because they themselves were pregnant. Some then used tricks to let women give birth on the bed, for instance, by asking them to lie down for a vaginal examination shortly before birth.

In most groups, participants mentioned that they preferred to perform an episiotomy or vaginal examination in supine position and, as a result, women often proceeded to have a supine birth. In five of the groups, some of the midwives said that they let women lie on their backs for the actual birth, even if they had been pushing in other positions, to have a better view of the perineum or because conducting the delivery in that position was easier. Some were more inclined to do so if they anticipated problems, such as blood loss or neonatal distress, which they found easier to deal with if the

woman was lying on her back. Some did not assist water births out of fear of shoulder dystocia or blood loss.

Many midwives pointed out that some equipment, such as a birthing pool, is not user-friendly. They improvised to improve their own working conditions. For example, one used a small stool to make assisting a birth on a birthing stool easier.

### Factors related to giving informed choice

Participants mentioned many types of behaviour that could be classified as giving women an informed choice, for example, giving women information about position options, letting women's preferences prevail over their own, encouraging women to trust their own bodies in finding positions that are most comfortable and being prepared to try positions that women want to use.

Midwives said that not all women were equally likely to choose their own birthing positions. According to them, they were more likely to do so if they were actively looking for information about birth, felt in control of their birth, had confidence in their own body and did not feel embarrassed about less common positions.

Participants indicated that the characteristics of a woman affected her position preferences. Those in cities and highly educated women were more aware of position options. A particular good or bad experience with certain positions during a previous birth had consequences for a woman's choice next time. Many midwives commented that having a choice in positions was much more important during the first than during subsequent births. This was because the duration of the second stage of the first birth was usually longer and therefore had a greater influence on the birth experience. According to the midwives, some ethnic minority women originated from areas where non-supine positions are still very common, such as rural West Africa. However, they felt that the supine position is the norm in many countries, such as Turkey and Morocco, and women from these countries were most familiar with this position.

In four groups, midwives commented on women who had fixed expectations about birth and the positions in which they wanted to give birth. They highlighted the importance of preparing them that birth is unpredictable, that they might feel differently from how they anticipated and circumstances could necessitate the use of other positions:

But I also find that women can be extremely disappointed at times, that they can have the feeling that they have failed at times, if they are fixed on only one thing. And then you can even say beforehand, yes, but yes, there can be things that make things go a bit

differently, they know that also but yes...but then they still don't feel happy with it.

Many obstetric factors were mentioned that restricted women's choice.

### Obstetric factors

Although most midwives were willing to sacrifice their own comfort to please a woman, they would override a woman's choice for obstetric reasons. By far the most frequently mentioned were labour progress and pain, discomfort or restlessness of the woman.

If labour progress was slow, midwives used upright positions as an intervention:

But you know, you can be very authoritative...and I find basically, I prefer it when it happens as the woman intends it [...] and if there is really no progress, and some women feel it themselves as well, like...this is not going well [...]...but if it really does not progress and that woman does not want to use the birthing stool, then you can sometimes overrule her a bit, [...] if you just put it a bit nicely and with good motivation, then they will go along with you after all, if they make themselves do it...

This intervention was also used if midwives felt that a woman was not pushing effectively. If labour proceeded very fast, they used the recumbent position to make the birth more controlled.

Pain, discomfort or restlessness might be a reason for a woman to change position, but midwives also advised women to adopt another position if they felt this might make them more comfortable.

In all groups, midwives discussed that prolonged pushing on a birthing stool could lead to oedema, and most would therefore suggest changing to a standing or recumbent position after some time.

Other reasons to change position were an unfavourable position of the foetal head, foetal heart rate abnormalities, a narrow pelvic outlet, shoulder dystocia or anticipated increased blood loss, perineal tears or foetal compromise due to the birthing position. However, participants did not agree on some obstetric factors. For example, some thought that an upright position would lead to increased blood loss, while others did not.

### Discussion

This study had some limitations. No midwives in our sample were adamantly opposed to non-supine positions, although they commented on colleagues who were. Also, participants

may have made socially desirable comments because they knew that we had an interest in birthing positions. Nevertheless, many negative comments were made about non-supine positions during the course of the focus groups, and several midwives expressed a preference for the supine position. Also, a quarter of participants stated that all of the last 10 births they had assisted were in the supine position. Nevertheless, some bias may have occurred.

Thachuk's models of informed consent and informed choice were useful in distinguishing two different approaches of midwives to women's positions during labour. Our findings suggest that giving women an informed choice in birthing positions may assist them in using positions that are most appropriate. It became apparent during our analysis that informed choice constitutes more than letting women choose: our definition includes a dimension that is often missing in the international discourse. It explicates the need for midwives to give direction if women need it or for obstetric reasons. At first sight, this may not seem consistent with Thachuk's definition of informed choice, whereby the locus of power is shifted to the woman. However, a woman may still feel in control even if a midwife has to give direction.

Many studies have shown that control during childbirth is associated with birth satisfaction, but the concept of control has various aspects (Green *et al.* 1990, Green 1999, Goodman *et al.* 2004, Waldenstrom *et al.* 2004). Green *et al.* (1990) showed that making choices was only one aspect of control during labour. Feeling in control of what staff were doing was even more important to women, and related much more to the type of relationship they had with healthcare professionals.

In a previous focus group study, midwives said that women want them to take control as labour progressed (Davies & Iredale 2006). Although the authors questioned this view, Anderson (2000) showed that women expect midwives to give directions during the second stage of labour, for example, if they are losing control. In our previous qualitative study, women also expected midwives to give advice on birthing positions during labour (De Jonge & Lagro-Janssen 2004). Other studies have shown that women like to be reminded of position options during labour (Oliver *et al.* 1996, Coppen 2005d).

Midwives in the present study emphasized that women should be prepared for the fact that the process of birth is largely unpredictable.

Kitzinger also advised midwives to prepare women that 'you can no more control birth than you can control the tides of the sea' (Kitzinger 2005a, p. 65). Women may feel differently about positions during labour from what they

anticipated. Furthermore, the strength of labour may be so overwhelming that they are not able to decide which position is most appropriate. In addition, obstetric indications may arise that make a change of position necessary. Therefore, when discussing women's preferences, contingency plans should also be discussed (Kitzinger 2005b), whereby the midwife explains that she will suggest position options if she thinks this will benefit the woman.

Only a few authors have mentioned obstetric difficulties as a reason for changing position (Atwood 1976, Bruner *et al.* 1998, Roberts 2002, 2003). Midwives in our study mentioned a wide array of obstetric indications, some of which are supported by research evidence. For example, systematic reviews have shown that women in non-supine positions have fewer instrumental deliveries (De Jonge *et al.* 2004, Gupta & Hofmeyr 2004). Therefore, women should be informed about this and encouraged to use non-supine positions if progress in labour is slow (Altman & Lydon-Rochelle 2006).

Other obstetric complications may be prevented by simple measures. Many of our participants mentioned the risk of oedema due to the use of a birthing stool, which other authors have also mentioned (Waldenstrom & Gottvall 1991, De Jonge *et al.* 2007b). This can be prevented by alternating positions or offering alternative upright positions (De Jonge *et al.* 2007b).

Our participants disagreed on certain obstetric factors and some were not sure about their relevance. One example was whether an upright position leads to excess blood loss. In our recent study, we showed that an increase in blood loss occurred in the sitting position, probably due to oedema in combination with perineal damage (De Jonge *et al.* 2007b). Educating midwives about emerging evidence regarding birthing positions enables them to give accurate information to women.

Limited exposure to non-supine positions was an important reason for our participants not to use them, which is consistent with previous findings (Coppen 2005c). Students often only gain experience in assisting supine births. When they are qualified they themselves then supervise students, exposing them only to supine births too. This vicious circle maintains the dominance of supine positions. Teaching students and midwives the necessary skills for assisting births in other positions may change this (Walsh *et al.* 1999, Walsh 2007).

Surprisingly little has been written about the influence of midwives' working conditions on the use of birthing positions, although this emerged as an important factor in this study. If working conditions are mentioned, they are not considered a valid reason for influencing women's position (Walsh 2000, Coppen 2005c). In one trial, midwives who



### What is already known about this topic

- The routine use of the supine position can be considered as an intervention in the natural course of labour, which was introduced without evidence of its advantages compared to other positions.
- To reverse the dominance of the supine position, some authors recommend letting women choose positions that are most comfortable to them, whereas others advocate encouraging upright positions.
- Midwives play a crucial role in the use of birthing positions, but little is known about their views on women's positions.

### What this paper adds

- Midwives operate on a continuum between giving women informed consent and informed choice in birthing positions.
- A midwife may need to take control if obstetrically indicated or if a woman cannot make choices herself.
- There is a need to address the knowledge, skills and working conditions of midwives in order to achieve informed choice in birthing positions for all women.

looked after women who gave birth on a birthing stool were less satisfied with their own working postures than were those who cared for women in supine position (Waldenstrom & Gottvall 1991). In another study, midwives were asked if they were willing to assist a woman in a position that is uncomfortable for them (Coppen 2005c). Only 5% said that they would not, 58% would possibly and 37% would definitely do so. This is consistent with our finding that most midwives would go a long way to let a woman give birth in the position of her choice, even if it was inconvenient for them.

Nevertheless, the working conditions of midwives deserve attention. In Coppen's study, one of the reasons why many midwives had a strong preference for the semi-recumbent position was their own comfort (Coppen 2005c). Also, it was the convenience of birth attendants that led to the increasing popularity of the supine position in the past (Atwood 1976, Coppen 2005e). If this issue is not addressed, many women will be deprived of a choice in birthing positions in the future.

Working conditions can be addressed in various ways. First, equipment can be developed that is more midwife-friendly, such as birthing stools that can be placed on the bed.

Second, midwives can learn to let women give birth in various positions while looking after their own backs at the

same time (Walsh 2007). Finally, some positions may be too cumbersome for midwives at times. Midwives with back pain or who are pregnant will be more reluctant to assist a birth on a birthing stool or in a pool. Rather than having to manipulate women into other positions, these restrictions can be discussed with women during their pregnancy. They can then be offered care in another practice or choose alternative options, such as the all-fours or lateral positions.

### Conclusion

Thachuk's models of informed consent and informed choice were useful in distinguishing two different approaches of midwives to women's positions during labour. Giving women an informed choice in birthing positions can be a good alternative either to letting women choose or encouraging them to use upright positions.

Informed choice was defined as actively giving women a choice in birthing positions, but taking control if obstetrically indicated or if women can or will not make choices themselves. This requires giving them individually tailored information during pregnancy and discussing their preferences about positions. A woman's preference will be the starting point, but a midwife will suggest other options if these are in the women's interests. Women should be prepared for the unpredictability of their feelings in labour, and for obstetric factors that may play a role.

To achieve informed choice about birthing positions for all women, midwives' working conditions need serious consideration. Equipment could be more midwife-friendly. In addition, students and midwives need to learn the skills to assist births in non-supine positions, while looking after their own backs at the same time.

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### Author contributions

AdJ and TLJ were responsible for the study conception and design. AdJ and DT performed the data collection and analysis. AdJ was responsible for the drafting of the manuscript. DT, MvD, PS and TLJ made critical revisions to the

paper for important intellectual content. TLJ supervised the study.

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