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Swedish midwives' experiences and views of amniotomy: An interview study

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ABSTRACT

Objective: To explore midwives' experiences and views of amniotomy.

Design: A qualitative inductive design was used. Data were collected using interviews and analysed with content analysis carried out with NVivo 12.

Setting and participants: Sixteen midwives working at delivery wards at three hospitals in the south of Sweden.

Findings: Three categories emerged: "Promote, protect and support the physiological process of labour", "To make the decision -to do or not to do" and "Unpredictable response". The overall theme linking the three categories was "We become our decisions", portraying how midwives carry the responsibility in the decision-making and represent themselves in their handling of amniotomy.

Conclusions: Amniotomy was experienced and viewed as both simple and complex, safe and risky, and deciding on it sometimes implied balancing contradicting perspectives. By using midwifery skills in the decision-making for an amniotomy, the midwives tried to predict the response, purposing to support physiological labour and promote health for women and babies.

Introduction

The World Health Organisation (WHO) stated in 2018 that the aim of intrapartum care is, beyond maintaining the health of the woman and the child, a positive childbirth experience for the woman, including the use of available interventions, needed or wanted, with safety. Amniotomy is globally a commonly used labour intervention. The primary aim of amniotomy is to speed up contractions, and thereby shorten the length of labour; therefore, a routine intervention when labour is considered to be prolonged. While the accelerating effect is a commonly held belief by clinicians, the evidence to support amniotomy for this purpose is uncertain. Other reasons to perform amniotomy are: to induce labour, to obtain information about the quality of the amniotic fluid, to enable the use of an intrauterine pressure catheter, and to allow use of internal cardiotocography (CTG) via scalp electrode when warranted. According to currently available research, amniotomy should only be performed when indicated and not routinely (Smyth et al., 2013). Amniotomy is often connected to other interventions such as oxytocin augmentation and epidural analgesia (Petersen et al., 2013). Disadvantages associated with amniotomy are: ascending infection, bleeding from foetal or placental vessels, cord compression leading to foetal heart decelerations, umbilical cord prolapse, discomfort caused by the procedure and a potential lack of any desired effect i.e. progress (Busowski and Parsons, 1995; Zhang et al., 2010).

Guidelines

There are international and national guidelines on labour interventions including amniotomy; however, each Swedish hospital has its own guidelines. WHO (2018) does not recommend routine amniotomy for prevention of delay in labour. Midwives are expected to promote the physiological process of labour and not perform unnecessary interventions. WHO (2014) also does not recommend amniotomy alone for treatment of confirmed prolonged labour, due to the lack of sufficient evidence. However, despite a lack of research evidence, WHO (2014) recommend amniotomy combined with oxytocin augmentation for treatment of confirmed prolonged labour that lacks regular uterine contractions. According to cur-

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rently available Swedish guidelines regarding prolonged labours, amniotomy is recommended, provided the membranes are intact before starting oxytocin augmentation (Socialstyrelsen, 2001). Regarding induction of labour, amniotomy, followed by oxytocin augmentation if required, is recommended, to induce labour in women with favourable cervix (Swedish Association for Obstetrics and Gynecology, 2016).

The use of labour interventions is escalating, and there is a global concern regarding overuse, risking iatrogenic harm to women and babies (Homer et al., 2014; Renfrew et al., 2014; ten Hoope-Bender et al., 2014; Van Lerberghe et al., 2014). Amniotomy is a commonly used labour intervention, worldwide, despite limited evidence on it shortening the length of labour (Smyth et al., 2013). Besides the avoidable harm and increased need for other additional interventions, inappropriate use of interventions is costly for health systems (Miller et al., 2016; Nyman et al., 2017). Further, medicalisation of birth can undermine women's capacity and affect the childbirth experience negatively (Oladapo et al., 2018). There is a need for research on labour interventions, in order to provide the best possible care for women and their babies, and on reducing overmedicalisation of labour and birth (Renfrew et al., 2014). To our knowledge, there are no previous studies on caregivers' experiences and views of amniotomy. In Sweden, the handling of amniotomy is primarily the midwives' task, and they are therefore the clinical experts on the intervention. The aim of the study was to explore midwives' experiences and views of amniotomy.

Methods

A qualitative inductive design with interviews was chosen, and analysed with content analysis.

Setting

In terms of education, the Swedish midwifery education is 18 months long following a Bachelor of Nursing degree, which culminates into a Master's degree. In Sweden, midwives are the primary caregivers for intrapartum care when pregnancies and births are healthy, without medical complications. During labour and birth, each woman is attended to by midwives who work in teams with assistant nurses. One-to-one care is not implemented in all hospitals and depending on clinical routines, midwives may have responsibility for several women simultaneously. To assess labour progress for women in active labour, a partogram with an action line is used, vaginal examination is carried out by the midwife every two to three hours, and interventions, such as amniotomy, are performed if progress is not sufficient. If complications occur during labour, midwives work in collaboration with obstetricians.

The birth rate in Sweden is approximately 115,000 per year and almost all women give birth in hospitals, a service provided by the state-driven healthcare. Sweden has a low rate of caesarean births (17.3%), instrumental deliveries (6%) and induction of labour (19%) (The Swedish Pregnancy Register, 2018). The three delivery wards in the south of Sweden, where the data were collected, differed in size; two of them had 1,600 deliveries respectively and annually, and the third delivery ward had 4,000 per year.

Participants and recruitment

In order to capture midwives' sensitive and intuitive knowledge i.e. experienced-based knowledge, inclusion criteria were midwives who had been working at the delivery ward for five years or longer. In this article, the participants are referred to as midwives. The heads of the included delivery wards were notified of the study via e-mail by the first author, and consent was obtained. The midwives were invited to participate via an e-mail from the head of their delivery ward which provided written information about the study. Midwives who agreed to participate notified the first author via e-mail; thereafter, time and place for the interview were decided in agreement. Seventeen midwives agreed to participate, but due to scheduling difficulties, a total of sixteen midwives participated. This included, five midwives each from two of the hospitals and six midwives from the third hospital. The age of the midwives ranged from 31 to 63 years (mean 50 years) and the number of years they had worked at the delivery ward ranged from 5 to 29 years (mean 17 years).

Data collection

The data were collected via individual semi-structured interviews, facilitated by the first author, between April and October 2019. The interviews took place in an enclosed room at the midwives' workplace, except for three of the interviews, which took place in the midwives' homes, according to their preferences. An interview guide, which had been constructed by the authors, based on literature and previous research on amniotomy, was used. Before starting the interview, oral and written information was given and written consent was obtained. Initially, two pilot interviews were performed by the first author, then all the authors read the transcripts to confirm the coverage and relevance of the content and to evaluate the richness of the data. One question was added to the interview guide; How do you inform women in labour about amniotomy? The interviewees in the pilot interviews had spontaneously talked about this topic. The authors assessed the data from the two pilot interviews to be satisfactory in richness, which is why they were included in the study. Thereafter, the first author completed the rest of the interviews. The interviews began with three background questions including age, year of finishing midwifery education, and number of years working at the delivery ward. The research questions were as follows: Will you please tell me about a delivery when you performed an amniotomy that you remember well? When is amniotomy a good intervention? When is amniotomy a bad intervention? How do you inform women in labour about amniotomy? Follow-up questions, such as Can you tell me more about…? and How did you think…? were asked in order to get rich descriptions of their experiences and views. No new data emerged in the last interview.

All interviews were tape-recorded and transcribed verbatim by the first author. The interviews lasted from 13 to 35 minutes (mean 24 min).

Data analysis

In this qualitative study, which has an inductive approach, the data were analysed by content analysis according to Erlingsson and Brysiewicz (2017). The interviews were read several times to get an understanding of the whole. Then, the texts were divided into meaning units, and condensed without losing their core meanings. In the next step, the condensed meaning units were labelled by coding them. Codes with similar content were put together into categories. In the final step, a theme was created, in which the latent meaning in the categories was searched. All authors were involved in the data analysis process and agreed with the final presentation of the findings. To add transparency, examples from the analysis process are presented in Table 1.

Ethical considerations

The study followed the principles of the Declaration of Helsinki (World Medical Association, 2018). Ethical approval was given by the Swedish Ethical Review Authority, DNR: 2019-03626.

Table 1
Example from the analysis process.

Meaning unit	Condensed meaning unit	Codes	Subcategories	Categories	Theme
Since the parous women often have a different cervical status, the cervix is riper from the beginning, and if I get to choose method for induction, I prefer a more natural alternative, I think that amniotomy is gentler than for example giving Oxytocin, yes medical drugs.	Parous women often have riper cervical status compared to nulliparas. When so, amniotomy is preferred to induce labour, since more natural and gentler than medical drugs.	Parous women Cervical status Nulliparous women Induction of labour Medical drugs	Amniotomy is natural	Promote, protect and support the physiological process of labour	We become our decisions
You perform amniotomy when you have to perform amniotomy. It is not something you do if you do not have to. So, you always have to measure and balance the pros and the cons. And think and discuss it with yourself - why am I doing this now - yes because...	Perform amniotomy only when you have to and not otherwise. Consider pros and cons for amniotomy by discussing it with yourself and formulate indication.	Wants indication for amniotomy Decision-making of amniotomy	Not without indication	To make the decision -to do or not to do	
That amniotomy did not give the effect we hoped it would, she did not get any progress of the labour at all, no instead she only got more painful contractions and CTG showed decelerations.	Amniotomy did not lead to labour progression, but more painful contractions and decelerations on CTG.	No progression after amniotomy More pain after amniotomy CTG	Failed amniotomy	Unpredictable response	

Table 2
Subcategories, categories and theme.

Subcategories	Categories	Theme
En-caul birth A safety and an asset to have intact membranes Women want to move freely during labour Amniotomy is more natural than medical drugs Amniotomy is simple to perform, an everyday task Opinions about unnecessary stressing of labour by performing amniotomy	Promote, protect and support the physiological process of labour	We become our decisions
Memories affects the midwives' perceptions of amniotomy Not without indication More amniotomies in labours classified as high obstetric risk Working organisation affects the decision-making Regulations on amniotomy Women-centeredness in the decision-making	To make the decision -to do or not to do	
Safe/risky amniotomy Controlled amniotomy Successful/failed amniotomy More powerful contractions and more pain after amniotomy All women are unique and have different effects of amniotomy	Unpredictable response	

Findings

The theme: We become our decisions, constituting the abstracted content of the three categories: Promote, protect and support the physiological process of labour; To make the decision -to do or not to do; and Unpredictable response. The theme, categories and sub-categories are presented in Table 2.

The theme: We become our decisions

The description of the philosophical enquiry existentialism, by Sartre (2007), is used to illustrate the main theme; each individual is responsible for her choices, is defined by the results of these choices, and thereby responsible for who she is. The responsibility in choice is not only a responsibility for the person herself, but also for all other people as well, since choosing means affirming the value of the choice. Each choice we make defines us, and at the same time, reveals an image of how we think a human being should be (Sartre, 2007). The midwives acknowledged that amniotomy has an unpredictable response, and used their midwifery skills in assessing which woman and labour process would benefit from amniotomy and which would not. Their experiences and handcraft knowledge sometimes put them in a dilemma when their own expertise conflicted with regulations, the working organisation, requests from the obstetrician or the woman. Despite the fact that their decision-making was affected by numerous other influences, the midwives took responsibility for their choices. In their decisions, the midwives represented and defined themselves as midwives.

Promote, protect and support the physiological process of labour

The midwives wanted to promote, protect and support the physiological process of labour, how this was implemented in their handle of amniotomy varied. During labour, an amniotomy could both disturb the physiological process and be supportive of it, depending on the situation.

The midwives mainly described an unwillingness to perform amniotomy in order to avoid interfering with the physiological process of labour. To assist a woman in labour, with membranes intact, was viewed as a safety and an asset, since the whole bag of water surrounding the baby is protective in several ways and because one still has the opportunity to perform an amniotomy later, if required.

'I was taught by an old midwife that one shouldn't put your fingers in what's a natural process, provided normal progression. And I agree with that'.

(Midwife 1)

En-caul birth was described by some of the midwives as the most natural birth, a utopia and a constant aim when assisting women in labour.

'It's the most natural thing, the baby is protected, it's protected in all ways, it hasn't been pinched in the head -received a scalp electrode, it has the softness around itself. It's the most normal we can have. Given everything else is normal that is. So, I think it's just fantastic when you get to assist a birth like that, when you are able to reach that'.

(Midwife 13)

Other midwives did not find en-caul birth as something special and considered that the bag of water had served its purpose when the cervix had reached full dilatation, which is why an amniotomy could then be performed. The midwives had the opinion that if labour needed to be induced or accelerated, provided a favourable cervix, they preferred to perform amniotomy instead of giving medical drugs, since they regarded amniotomy to be a more natural alternative. Even if the midwives described an unwillingness to perform amniotomy, they still considered the actual procedure to be an accessible and easy task to perform.

'…generally, I think it's a good intervention, because it's easy to perform and it's not painful to the woman'.

(Midwife 11)

Due to the midwives' different views of how amniotomy should be used to support the physiological process of labour, some of the midwives had opinions about how their colleagues handled amniotomy. Negative views of interference in the natural process and unnecessary stress in the labour process, by performing amniotomy without indications, were expressed.

'One time, a college performed an amniotomy in order to speed up labour for the midwife student's sake. She said "We might as well deliver before my shift is over", but then it's like… I think we disturb and force too much where the safety of the woman and the baby is not first priority. I feel that some colleagues take amniotomy more easily than I do'.

(Midwife 12)

The midwives acknowledged that amniotomy could also be supportive in the physiological process of labour. This was true for labours with high obstetric risk that required continuous CTG, and the CTG via external devices were difficult due to the woman's desire to move and change positions often during labour. By performing amniotomy and applying a scalp electrode, the continuous CTG became possible and the woman could still move as desired.

'I sometimes feel that I disturb the woman more by trying to make the external (CTG) work, when she can move freely if I use the scalp electrode'.

(Midwife 13)

The midwives experienced that they had to interfere more on the physiological process of labour, by performing amniotomy, in labours classified as high obstetric risk. They experienced that with the increasing number of induced labours, more amniotomies were performed. This was done not only to initially induce labour but also later in the labour process. The same situation was experienced regarding women with BMI >30, since use of the external CTG is often technically challenging due to difficulties for the signals to pass the adipose tissue.

'… you put on the straps as tight as you can but it (external CTG) still doesn't work; that's very difficult. You have to use a scalp electrode more for these women than for the ones with a normal BMI'.

(Midwife 3)

To make the decision -to do or not to do

The midwives' decision-making regarding the amniotomy was customized to the unique woman, based on their knowledge and experience, but also regulated and affected by the working environment.

The midwives described a clear approach towards amniotomy; it should only be performed when there is an indication, and not routinely. By having a well-defined and strong indication to perform amniotomy, the decision-making was easier for the midwives. Afterwards, they felt that they had a clear conscience.

'If we don't have any progress, then we can defend our amniotomy, since it's in accordance with our local regulations'.,

(Midwife 7)

The midwives did allow memories of previous amniotomies they performed influence their decision-making. The midwives' recollections of amniotomies leading to adverse effects were dominant compared to memories of amniotomies with advantageous results.

'We really tried to make the amniotomy as controlled as possible… but still we failed so to speak. So, I carry that one with me in my memory, always, and obviously I have respect for performing amniotomy if it's risky.'

(Midwife 7)

The midwives experienced that the use of amniotomy was often related to the use of other interventions, such as epidural analgesia, oxytocin augmentation and intravenous antibiotics. This awareness that an amniotomy can lead to further interventions was integral in the midwives' decision-making regarding the amniotomy. The determination of whether an amniotomy should support or interfere with the physiological process of labour was sometimes difficult for the midwives, since once the amniotomy is performed, it cannot be undone.

'…if only I perform amniotomy she might go into active labour, but what if she doesn't? Then, she gets prolonged rupture of the membranes, prolonged labour and risk for infection. Then, I have done something really bad. That decision is difficult'.

(Midwife 15)

The regulations and local protocols regarding the use of amniotomy had been increasing, for which the midwives had conflicting feelings as they felt both controlled and limited but also safer in their decision-making. Occasionally, obstetricians are involved in the decision-making for an amniotomy. The midwives described positive experiences of the teamwork, where decisions were discussed. However, when there was a disagreement with the obstetrician's decision regarding an amniotomy, the midwives put a great value in their own clinical experience and skills.

'I'm thinking about the inductions; sometimes the obstetrician orders an amniotomy, and you feel that… the cervix is so unripe, it's so early in the process, especially on the nulliparas. It doesn't feel totally right. So, sometimes I say to the obstetrician "if you want to do it -do it by yourself". Because I think that I can't do anything that I can't stand up for, when it doesn't feel good in my stomach'.

(Midwife 3)

The midwives experienced how a high workload at the hospital could adversely impact the use of amniotomy. Midwives questioned whether a heavy workload affected the decision-making. An excessive number of women admitted to the delivery ward could result in a more impatient care of labour, instead of the watchful waiting, resulting in more amniotomies being performed.

'…why do we perform amniotomy? That causes all that we're doing… I can't ensure that is the case, absolutely not… but, is it the midwife who's tired? Or the mother? Or perhaps the obstetrician? Are there many women being admitted to the delivery ward? I think it's like that, we need to make the delivery rooms available'.

(Midwife 14)

The midwives also acknowledged how assisting several women in labour at the same time made it difficult to give the care that the local protocols and the midwife intended. Once the decision of amniotomy was made, the actual performance of amniotomy and/or following interventions could get delayed if the midwife got occupied with other working tasks. This was stressful and frustrating for the midwives.

'… so, I performed a controlled amniotomy and attached a scalp electrode, and thought that… ok, that went ok. And we (midwife and obstetrician) decided that I was going to start an oxytocin infusion soon after. And then another woman was admitted to the delivery ward, and I had to take care of her first, so the infusion got a bit delayed, and she got weaker contractions, and the CTG showed decelerations and it became an umbilical cord prolapse. So, we had to do a caesarean section… I should have started the infusion right away and I should have been able to stay with her, I shouldn't have had to take care of somebody else'.

(Midwife 15)

The midwives described how they did not strictly follow the local protocols but instead adjusted the decision-making regarding the amniotomy to the unique woman. By taking into consideration the woman's personality, situation and her labour process, amniotomy could be used as a tool to support the woman's labour process.

'But since we're dealing with humans, not robots, they are not all the same. Just because they have diabetes or post-term pregnancy, we have to see them as individuals. You have to ask, "What woman do I have in front of me?'

(Midwife 15)

The midwives tried to use amniotomy in dialogue with the labouring woman. Before performing amniotomy, in a non-acute situation, the midwives informed the woman, and by obtaining the woman's opinion, the decision-making was made in agreement.

'…then, I usually ask her like "what do you think?" .... Her autonomy is important, and that she is allowed to listen to and follow her body… I don't want to walk in front of her and tell her what to do. I don't want to go behind and push either. I prefer to walk beside her, so to speak'.

(Midwife 12)

The midwives had assisted women in labour who themselves requested an amniotomy, especially parous women in the end of first stage of labour. The midwives could agree to the woman's wish by performing an amniotomy if they considered the risks to be minimal. One midwife called this particular type of amniotomy, when requested by the woman, a mercy amniotomy.

'…it's generally parous women who ask for amniotomy, so she can give birth already, and very often the labour progresses rapidly after that'.

(Midwife 8)

Thus, the midwives expressed an ambivalence towards the mercy amniotomy, and questioned whether the woman's wish really is a sufficiently strong indication, as amniotomy is never fully without risk. They balanced the sides; to meet the woman's requests and measure the probability of causing complications by performing amniotomy.

'… a parous woman who's starting to think that it's really tough, who's dilated 8-9 cm and cervix is resilient and she says "last time they performed amniotomy, and then the baby was born, can you do it now?" And then I'm in this "dealing-situation", and sometimes I do it… but I really try not to… not to do it that often, because I think you can put yourself in a very bad position'.

(Midwife 7)

Unpredictable response

The midwives experienced that the effects of an amniotomy are always unpredictable. They described strategies for performing amniotomy to minimise the risks for complications when they considered the intervention to be risky. With their midwifery skills, they attempted to predict the effects of amniotomy.

The midwives described memories of experiencing both successful and failed amniotomies. Successful amniotomies were described as perfectly timed, in agreement with the woman's preferences, as a relief and a liberation to the woman, as starting the labour and/or preceding the birth.

'…so, I performed an amniotomy, and after 50 minutes she had given birth in the water! Yes, it sure was a fantastic labour… She got her dream birth, because right after the amniotomy the contractions started… she got into the birth pool and there the contractions increased enormously… she even asked us "can you videotape this?" so the assistant nurse did… That amniotomy really served its purpose; to induce labour, successfully'.

(Midwife 8)

Failed amniotomies were described by midwives as those that did not have the desired effect and/or caused complications. The midwives described how complications caused by them performing an amniotomy was much harder to handle for them, compared to complications that "just happened". The guilt of causing complications was a heavy burden to carry for the midwives. Also, complications caused by an amniotomy with a strong indication was easier to handle compared to complications caused by an amniotomy with uncertain indication.

'We had such a wonderful connection and she asked me to do it (perform amniotomy), and so I did, and bradycardia occurred, and I thought to myself: what the hell were you thinking? How the hell did you think?? You stupid idiot! I felt great fear, I felt the fear in my legs… and shame, and I really felt like: shit, it was me who caused this, I shouldn't have done it'.

(Midwife 13)

The midwives described the difference between a safe and a risky amniotomy; however, they emphasized that amniotomy is never fully without risk. A safe amniotomy was performed when the foetal head is well engaged in the pelvis, cervical effacement, and the more dilated cervix -the better. The risky amniotomies were described as the opposite, and tended to be performed when the delivery had reached a crossroad. Typical situations when these

so-called crossroads were reached include prolonged latent phase and inductions of labour.

> '…labour was induced. But despite different attempts to make the foetal head come down into the pelvis, it didn't. And in order to make the labour progress, they performed amniotomy, despite the risk… And just what everybody had feared happened. It became an umbilical cord prolapse so they had to do an emergency caesarean section to a woman who had had four normal vaginal deliveries before... I was really relieved it wasn't me who performed that amniotomy'.
>
> (Midwife 11)

In cases when a risky amniotomy was indicated, the midwives performed, what they called, a controlled amniotomy. The midwives regarded the controlled amniotomy as challenging due to the uncertainty in result, which is why they asked a colleague to assist during the procedure.

> '… it's the amniotomies you don't like to perform, when you have a high positioned head, not well fitted, and amniotomy is indicated… another midwife will perform fundus pressure and I'll try to perform only a small hole in order to make the water pan out slowly, instead of falling… and afterwards you are relieved, when it went well'.
>
> (Midwife 13)

The midwives described how common, and often desired, effects of amniotomy are more powerful and efficient contractions. The midwives took into account that the intensity of pain, followed an amniotomy, could be excessive for the woman. Thus, in consultant with the woman, they assessed the need for more pain relief prior to performing an amniotomy. However, the midwives argued that amniotomy does not always have an accelerating effect on the labour progression.

> 'To me, it's clear that parous women respond more efficiently to it (amniotomy) than nulliparas, and even more so if labour started spontaneously and they already have contractions when amniotomy is performed. You don't always get the same effect on nulliparas, especially if labour is induced'.
>
> (Midwife 9)

Discussion

The midwives discouraged a routine employment of amniotomy, which corresponds to the currently available research and international guidelines (Miller et al., 2016; Renfrew et al., 2014; Smyth et al., 2013; WHO, 2018). The midwives had reliance on the physiological process of labour and generally an unwillingness to interfere in this process by performing amniotomy. This is in accordance with the description given by Bryar and Sinclair (2011); the midwifery philosophy views childbirth as a normal life-event, best managed by the woman herself, with assistance from, rather than controlled by, professionals. To promote, protect and support the physiological process of labour are defining features in midwifery care (Renfrew et al., 2014; Scamell and Alaszewski, 2012). However, the midwives regarded amniotomy as a helpful tool mainly when labour departed from being normal, as previously described by Begley (2014). They also experienced that amniotomy could start a cascade of interventions, a finding consistent with other studies (Petersen et al., 2013; Rossignol et al., 2014). Several studies indicate that the use of labour interventions is escalating (Homer et al., 2014; Renfrew et al., 2014; ten Hoope-Bender et al., 2014; Van Lerberghe et al., 2014). In the literature, amniotomy is described as a commonly used labour intervention; yet, its prevalence is to our knowledge unknown, something that needs to be explored further.

The midwives acknowledged that the work environment could affect the handling of amniotomy, which is in accordance with the study by Berg et al. (2012). The midwives in the present study expressed a frustration over not being able to give the intended care regarding amniotomy, due to the work environment. As a critique to the philosophy of existentialism by Sartre, Heidegger (1996) argued that the individuals' freedom to choose is dependent and limited by the context in which she is situated. According to Hunter (2004), a working environment allowing a women-centred care is emotionally rewarding to midwives, compared to a working environment with a medicalised, institution approach to care, which is emotionally difficult for midwives. Despite the fact that the working organisation could adversely affect the care, the midwives in the present study took responsibility for their handling of amniotomy and the subsequent consequences.

The midwives experienced that women with labours classified as high obstetric risk were more likely to undergo amniotomy. One example was women with BMI >30. The prevalence of obesity in women of reproductive age is increasing worldwide (Poston et al., 2016). Our result is interesting in relation to the results of Hiersch et al. (2015), which showed that women with normal BMI have a more distinct augmentation of the power of contractions after amniotomy, compared to before amniotomy and to women with high BMI. This suggests that women with higher BMI are more likely to undergo amniotomy, but have less accelerating effect on the labour progression than women with normal BMI, something that needs to be explored further.

The currently available evidence to support amniotomy to accelerate labour is uncertain (Smyth et al., 2013). The midwives in the present study agreed by expressing awareness of all women being unique and having an unpredictable response to amniotomy. Customising the care for each individual woman was described as one of the reasons for not always following regulations strictly. This is a finding, consistent with several other studies (Berg and Dahlberg, 2001; Bjelke et al., 2019; Larsson et al., 2009). This is also in line with Renfrew et al. (2014) who recommend a human-rights approach with a woman-centred care tailored to women's circumstances and needs. Our findings show that women in labour sometimes asked the midwife to perform amniotomy, i.e. a mercy amniotomy, which to our knowledge is not previously described in literature. The midwives could meet requests to perform mercy amniotomy, but expressed an ambivalence towards this. This dilemma, concerning shared decision-making for labour interventions, is discussed by Daemers et al. (2017); as long as the preferences of the woman can be achieved within the boundaries of regulations and supporting of the physiological process of labour, the midwives are willing to meet them. If a woman's request exceeds that, then the midwives face a dilemma. According to Miller et al. (2016), midwives should not offer or advise amniotomy if labour is progressing normally and the woman and baby are doing well. Yet, the care should be respectful and women should be involved in decisions about their care. The question is whether women should be able to make decisions regarding performing amniotomy. We consider the result interesting, since the labour care aims to become more woman-centred, simultaneously as the number of local protocols increase.

Our findings show that the decisions to perform or not perform amniotomy, were not something the midwives took lightly, acknowledging that the outcomes very much relied on their decisions. According to International Confederation of Midwives (2014), midwives are responsible for their decisions and accountable for their outcomes. As described by Sartre (2007), the midwives experienced the decision-making regarding amniotomy both as a freedom and a burden. Complications caused by performing amniotomy affected the midwives in the present study, as they felt guilt and shame. This finding is similar to those of

Schroder et al. (2016) in which midwives' sense of guilt, after a traumatic event during childbirth, was closely related to their perception of their own impact on the course of events; midwives become affected not only professionally but also personally. According to Edqvist et al. (2014), midwives fear causing complications, not only related to the consequences for the women and babies, but also to themselves as midwives. This fear pertaining to themselves can be understood by the views of Sartre (2007); we are defined by the results of our choices. When midwives judge themselves, after being involved in a complication, they are also afraid of being judged by others (Edqvist et al., 2014). Our findings show that the midwives in the present study made criticism of how colleagues handled amniotomy, as if they protected the natural process of labour, the midwifery philosophy, even in deliveries they were not personally involved in. According to Sartre (2007), the choices we make reveal an image of how we think a human being should act. This offers an explanation as to why midwives might criticise colleagues' decisions regarding amniotomy. We suggest that this finding could be a result of a lack of possibility for reflection among midwives. Edqvist et al. (2014) stress the importance of a working environment that gives opportunities for reflection and sharing of experiences among midwives, in order to spread knowledge among midwives and for professional development.

Trustworthiness in qualitative research is based on credibility, dependability, confirmability and transferability (Lincoln and Guba, 1985). Credibility was addressed in this study through a variation in the number of years of working experience the midwives had, and via working at different hospitals. Confirmability was addressed as the whole research process has been presented in a transparent way, and supporting quotes are provided for all categories in the result. The coding and creation of categories and main theme were carried out by all of the authors, validating the analysis and increasing the trustworthiness. Dependability was ensured by the use of an interview guide, which implied that the same questions were asked in all the interviews. The first author is a midwife, which meant that she was able to ask relevant follow-up questions during the interviews and facilitate the midwives' descriptions of their experiences and views at length. This study has some limitations that need to be considered when interpreting the results. The fact that two of the authors are midwives and have clinical experience of amniotomy could be a limitation. The other author is a registered nurse with no experience working with births, which made it possible for her to give valuable input. Throughout the entire data collection, the two midwife researchers continuously reflected on their own pre-understanding and their potential influence on the process. As in all qualitative studies, the findings must be related to the context, namely, midwives working in Sweden. One limitation could be the fact that the sample was self-selecting, and might not representative for all Swedish midwives. However, we believe the findings of this study are transferable to similar hospital settings in Sweden and other countries with similar labour care systems.

Conclusion

This is the first study to be conducted on Swedish midwives' experiences and views of amniotomy. Amniotomy was experienced and viewed both as a simple everyday task, and a complex intervention demanding of respect. Decisions regarding amniotomy combined balancing reliance on the physiological process of labour and reassuring medical safety for the woman and baby, considering sometimes contradictory perspectives. In the midwives' decisions of amniotomy, they represented themselves and took responsibility for its unpredictable response. We suggest that the research evidence for the globally used, standard practice of amniotomy is deficient. Our results cast new light on the subject, from the clinical experts' point of view, and show several potential avenues as subjects for future research, such as prevalence and predictors of amniotomy.

Implications for practice

All midwives will face difficult decisions about amniotomy. In order to spread the midwifery knowledge and support each other, a working culture allowing for opportunities for reflection of both adverse and successful outcomes is necessary. Discussions on how to handle amniotomy by sharing experiences among midwives is needed, in order to provide the best possible care for women and their babies.

Ethical approval

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Declaration of Competing Interest

No conflict of interest has been declared.

CRediT authorship contribution statement

Sofia Ingvarsson: Methodology, Validation, Formal analysis, Data curation, Writing - original draft, Visualization, Writing - review & editing. **Kristina Schildmeijer:** Methodology, Validation, Formal analysis, Supervision. **Marie Oscarsson:** Methodology, Validation, Formal analysis, Supervision, Project administration.

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