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Waterbirth in low-risk pregnancy: An exploration of women's experiences

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Abstract

Aims: To explore retrospective descriptions about benefits, negative experiences and preparatory information related to waterbirths.

Design: A qualitative study.

Methods: Women who gave birth in water with healthy pregnancies and low-risk births were consecutively recruited between December 2015–October 2018 from two birthing units in Sweden. All who gave birth in water during the recruitment period were included ($N = 155$) and 111 responded to the survey. Women were emailed a web-based survey six weeks postpartum. Open-ended questions were analysed with qualitative content analysis.

Results: Two themes were identified related to benefits: (a) physical benefits: the water eases labour progression while offering buoyancy and pain relief; and (b) psychological benefits: improved relaxation and control in a demedicalized and safe setting. Two themes were identified related to negative experiences: (a) equipment-related issues due to the construction of the tub and issues related to being immersed in water; and (b) fears and worries related to waterbirth. In regard to preparatory information, respondents reported a lack of general and specific information related to waterbirths, even after they contacted birthing units to ask questions. Supplemental web-based information was sought, but the trustworthiness of these sources was questioned and a need for trustworthy web-based information was articulated.

Conclusion: Women who give birth in water experience physical and psychological benefits, but need better equipment and sufficient information. There is room for improvement with regard to prenatal and intrapartum care of women who give birth in water.

Impact: Judging from women's recounts, midwives and nurses should continue advocating waterbirth in low-risk pregnancies. The lack of adequate equipment in Swedish birthing units articulated by women challenge current routines and resources. The findings illustrate unfulfilled needs for preparatory information about waterbirth, further strengthening that midwives should discuss the possibility of waterbirth when meeting expectant parents in the antenatal setting.

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consumer health information, immersion in water, midwifery, natural childbirth, nursing, obstetric nursing, qualitative research, waterbirth

1 | INTRODUCTION

Giving birth is a significant life event that is remembered in vivid detail long after (Simkin, 1991), involving interrelated subjective physiological psychological and processes (Larkin, Begley, & Devane, 2009). Medical obstetric interventions are essential in cases of medically complicated births, to save the health and lives of women and newborns. On the other hand, the process of medicalization and unnecessary medical interventions may hinder the empowerment of women with medically uncomplicated low-risk pregnancies to give birth in a way that they prefer and feel is right for them (Shaw, 2013). Leading organizations have raised the importance of promoting natural physiologic births and low-interventional approaches (Joint Policy Statement, 2008; Royal College of Obstetricians and Gynaecologists, Royal College of Midwives, Royal College of Anaesthetists, & Royal College of Paediatrics and Child Health, 2007; The American College of Obstetricians & Gynecologists, 2019), illustrating the importance to empower and support women to give birth. When medically uncomplicated births are medicalized and subject to routinely initiated but unnecessary interventions, women face many restrictions that could jeopardize safety, such as limited movement, a lack of varied positioning during birth and that professionals ultimately decide the mode of birth without involving the woman herself (Lothian, 2006). For intrapartum care to be high-quality and women-centred, health professionals need to protect normality, educate pregnant women so that they may reach informed decisions and empower women so that their autonomy is retained (Hunter et al., 2017). Thus, pregnant women should be informed about available options to give birth. Having an influence on which birthing position that is used during the second stage of labour is a predictor of sense of control, indicating that women need to be empowered and supported so that they may chose a suitable and comfortable position (Nieuwenhuijze, Jonge, Korstjens, Budé, & Lagro-Janssen, 2013).

Waterbirth is a mode of birth offered in approximately 100 countries (Garland, 2010), defined as when women give birth while being immersed in water during the expulsion and when the baby is born under water. According to some reports, the prevalence reach towards one in ten of all births in certain areas (Taylor, Kleine, Bewley, Loucaides, & Sutcliffe, 2016), but there are considerable regional differences worldwide. While studies investigating prevalence of waterbirth is scarce, the literature suggest that it occurs on all continents and possibly is more common in high-income countries (Garland, 2010). Research has not identified any increase in maternal mortality or morbidity for women who give birth in water with healthy full-term pregnancies and low-risk births in cephalic presentation (Nutter, Meyer, Shaw-Battista, & Marowitz, 2014; Ulfssdottir, Saltvedt, & Georgsson, 2018). No differences has been observed

in low risk births between children born in and out of water with regard to neonatal outcomes, including Apgar scores, postnatal infections, umbilical cord samples, and admissions to neonatal intensive care (Davies, Davis, Pearce, & Wong, 2015; Taylor et al., 2016; Vanderlaan, Hall, & Lewitt, 2018), indicating that waterbirth is a safe alternative for many women.

1.1 | Background

Studies indicate promising benefits for women who give birth in water, encompassing both physiological and mental aspects such as pain relief (Gayiti, Li, Zulifeiya, Huan, & Zhao, 2015; Mollamahmutoğlu et al., 2012), relaxation (Maude & Foureur, 2007; Ulfssdottir, Saltvedt, Ekborn, Saltvedt, Ekborn, & Georgsson, 2018), greater sense of control (Hall & Holloway, 1998; Ulfssdottir, Saltvedt, Ekborn, et al., 2018) and increased mental focus (Ulfssdottir, Saltvedt, Ekborn, et al., 2018). While these results illustrate that waterbirths can have substantial beneficial effects for birthing women and labour progress, in-depth understanding about experiences among women who give birth in water is still limited. Few and small qualitative studies have given voice to these women. In addition, very little is known about potential negative experiences of waterbirth, calling attention to the need for inductive approaches to understand more about how to further improve intrapartum care for those who desire and choose to give birth in water.

Supporting expectant parents to reach informed decisions is an essential aspect of holistic woman-centred care (Maputle & Donavon, 2013). Informed decisions involves empowering expectant parents so that they have the possibility to choose between the available alternatives during pregnancy, including which different ways to give birth that may be applicable for them (Hunter et al., 2017; Leap, 2009). Thus, health professionals who work in maternity care and obstetrics have an undeniable challenge and commitment to provide sufficient high-quality information about alternatives such as waterbirth (Adams & Bianchi, 2008). It is known that pregnant women desire preparatory information before birth (Ghiasi, 2019; Hunter et al., 2017) and that many search for supplemental web-based information about pregnancy-related topics (Sayakhot & Carolan-Olah, 2016). It is argued in the literature that pregnant women are not presented with choices that imply actual control over how to give birth (Shaw, 2013), raising questions about how preparatory information is provided about different modes of birth, such as waterbirth. If women are left without sufficient information about waterbirth as an alternative way to give birth, or are left alone trying to search for information, they may not reach informed and well-grounded decisions.

However, knowledge is still limited concerning whether or not women feel sufficiently informed about alternative ways to give birth. More inductive research is needed that provide further insights concerning what implications waterbirth may have for pregnant women, how waterbirth care can be further improved and how informational needs can be approached.

2 | THE STUDY

2.1 | Aims

The overarching aim of this study was to explore women's experiences of giving birth in water. Specifically, we set out to explore retrospective descriptions about benefits, negative experiences, and preparatory information related to waterbirths.

2.2 | Design

This was a qualitative study based on responses to open-ended questions, retrospectively answered six weeks postpartum by women who gave birth in water.

2.3 | Study context

In Sweden, all pregnant women are offered state-driven perinatal care free of charge. Registered midwives are the primary caregivers for prenatal, intrapartum, and postnatal care when pregnancies and births are healthy and medically uncomplicated. During pregnancy, expectant parents with healthy pregnancies are offered approximately 8–15 visits to a midwife, who follow up the medical status of the pregnancy, provide information and give support during the course of the pregnancy. Most pregnant women in Sweden give birth in hospital settings, a service provided by the state-driven health care. Registered Midwives are responsible for the care of birthing women and independently assist women with medically uncomplicated pregnancies and births. All midwives educated in Sweden are also registered nurses and no nurses without a registration as a midwife work at birthing units. Midwives often work together in pairs or with nurse assistants. One-to-one care is not implemented on all hospitals and depending on clinical routines midwives may have responsibility for several women simultaneously. All birthing units at hospitals have the capability of administering a range of pain relief, including non-pharmacologic methods, nitrous oxide inhalation, epidural or spinal analgesia, and local anaesthetics. Medical doctors are readily available at the units and are called on by midwives if necessary, for example, in case of medical complications.

In 1992, the National Board of Health and Welfare in Sweden advised against waterbirths and immersion in water after broken membranes. This was justified by the lack of evidence regarding

the safety of newborns. A single unpublished study comparing 89 women immersing in water after broken membranes and 89 women not immersing in water was used to further justify the advice against waterbirth, even though none of the included women actually gave birth in water. Three babies in the group of women immersing in water had a postnatal infection while two in the comparison group had postnatal infection, which was used as an argument for advising against waterbirth. Following the decision to advise against waterbirth, waterbirths were until 2014 only reserved for a very limited amount of homebirths in Sweden. Many Swedish hospitals have had bathtubs offering pain relief for women in the first stage of labour for a longer time, but have up until now denied them the possibility to give birth in water at the hospital. More recently, the topic whether or not hospitals should offer waterbirth have been under discussion and is being re-evaluated. A recent Health Technology Assessment (HTA) revealed that waterbirth is a safe alternative in low-risk pregnancies (Metodrådet Region Stockholm-Gotland, 2019), further opening the door for this alternative at Swedish birthing units. Some birthing units now again offer waterbirths to women with healthy pregnancies and low-risk expected uncomplicated births and it is probable that more birthing units will start to change their routines to offer waterbirths.

Recruitment for this study took place at two Swedish birthing units, one in Stockholm which is the largest city in Sweden and one in a small town located in the south of Sweden. The units had 3,300 and 1,400 births annually, respectively. Both units had routines to offer continuous intrapartum support provided by registered midwives. The tubs at the unit in Stockholm were positioned in a corner in a private bathroom adjacent to each birthing room and were large enough to allow change of positions. The other unit had one larger and one smaller tub in two of the birthing rooms, but lacked tubs in the remaining birthing rooms.

2.4 | Sample

Women who gave birth in water were recruited consecutively between 2015–2018 (unit 1: December 2015 - May 2016; unit 2: June 2016 - October 2018). To be eligible, women needed to be able to write in Swedish, and to have a low-risk pregnancy and birth, meaning a healthy singleton pregnancy, body mass index ≤ 30 kg/m², cephalic presentation, spontaneous onset of labour, gestational age between 37 + 0 - 41 + 6 weeks and a normal CTG door test. Those who fulfilled the inclusion criteria were asked to participate when admitted to the birthing unit. All women who gave birth in water during the inclusion period consented participation and were mailed the survey ($N = 155$). Of these, 111 responded to the web-based survey and were included in the final sample.

Of the sample, 52 (47%) requested a waterbirth before labour, while the remaining respondents ($N = 59$, 53%) had not planned a waterbirth beforehand. Most were multiparous, in partnership, with Swedish as mother tongue and university/college as highest educational level (Table 1). The mean age was 30.8 years. A minority had

TABLE 1 Characteristics of the included respondents ($N = 111$)

Characteristic	N (%)
Number of previous births	
Nullipara	42 (38)
Multipara	39 (62)
Highest educational level	
Elementary school	1 (1)
High school	24 (22)
University/College	86 (77)
Relationship status	
Single	1 (1)
In partnership	110 (99)
Mother tongue	
Swedish	96 (86)
Other language	15 (14)

an amniotomy ($N = 17$, 16%) or oxytocin infusion ($N = 5$, 5%) during labour. The mean duration was 6 hr from start of active labor to birth.

2.5 | Data collection

Women who consented participation were emailed a link to the web-based survey 6 weeks postpartum. The link was individual, meaning that the survey was closed and could only be accessed when the link was emailed. The survey included four open-ended questions related to the study aim: (a) general experiences of giving birth in water; (b) perceived benefits of giving birth in water; (c) negative experiences of giving birth in water; and (d) if they experienced a lack of preparatory information about waterbirth and if so, what type of information that was lacking. Respondents answered a question concerning from which sources they received information about waterbirth (the alternatives were: via the birthing unit, antenatal care, social contacts, television, the Web, books, magazines, or other source). The order of the open-ended questions was not randomized, and respondents could go back to previous questions to edit their responses. Respondents could also save their responses and return to the survey later. In addition to the open-ended questions analysed in this report, respondents also answered the Childbirth Experience Questionnaire (Dencker, Taft, Bergqvist, Lilja, & Berg, 2010). The results of that questionnaire are reported elsewhere (Ulfssdottir, Saltvedt, & Georgsson, 2019b) and will not be presented in the results of this analysis.

2.6 | Ethical considerations

The Regional Ethical Review Board in Stockholm approved this study (approval numbers: 2015/1592-32, 2016/438-32). All respondents gave written consent to participate in the study.

2.7 | Data analysis

The responses to the open-ended questions were inductively analysed with qualitative content analysis, inspired by the outline presented by Graneheim and Lundman (2004). Initially, all responses were read line by line to gain an overall understanding of the general content. Meaning units were identified, defined as words, sentences, and paragraphs related with regard to content and context. The meaning units were collated into categories, defined as collections of meaning units that share a similar manifest content, that is, the obvious content identified with as little interpretation as possible. As a last step, themes were identified that illustrated a more latent meaning, that is, overarching threads that portray the interpreted content described in the respondent's texts.

2.8 | Rigour

In line with the methodological considerations articulated by Handy and Ross (2005), written data were collected to promote reflective thinking among the respondents and well-grounded responses that to a high degree represented the experiences related to waterbirth. Written data collected 6 weeks postpartum may have led to responses from women who had time to think about their experience and answer the questions in an honest way without the potential influence of an interviewer. Researcher qualifications are integral parts of achieving credible results (Tong, Sainsbury, & Craig, 2007). The first author conducted the primary analysis, i.e., identified meaning units, collated meaning units into categories and identified preliminary themes. He has formal training in content analysis and has experience of conducting and supervising > 20 content analyses in various research projects. The last author read all responses from the respondents and scrutinized the results of the primary analysis made by the first author. The last author has previous experience conducting a qualitative analysis of women's experiences of waterbirth.

Researcher backgrounds, preconceptions, and reflexivity is an important aspect when conducting qualitative studies (Patton, 2002). The first author is a male specialist nurse and registered midwife. During the course of this analysis, he had limited understanding of waterbirth and wanted to approach the data as neutral as possible to explore the experiences among women. His general belief is that women with low-risk pregnancies have the right to decide how they are to give birth and that midwives should empower them to reach informed decisions about this. At the time of analysis, he had no clinical experience in assisting waterbirths. The last author is a registered midwife with long clinical experience assisting births and has made previous studies about waterbirth. Her premise is to provide woman centred care and give women possibilities to make informed decisions. Both authors were lecturers at the midwifery program at the time of the analysis.

3 | FINDINGS

3.1 | Benefits related to giving birth in water

Two themes were identified related to benefits of waterbirth: (a) *physical benefits: the water eases labour progression while offering buoyancy and pain relief*; and (b) *psychological benefits: improved relaxation and control in a demedicalized and safe setting*. Figure 1 presents summaries of the identified categories that illustrate benefits related to giving birth in water.

3.1.1 | Physical benefits: the water eases labour progression while offering buoyancy and pain relief

Many respondents mentioned that the water offered pain relief during active stage of labour. Pain relief was further enhanced by the buoyancy effect, with lessened pain during and between contractions. Being in water meant a greater possibility to adjust the temperature surrounding them, which was highly appreciated. Some

Physical benefits: the water eases labor progression while offering buoyancy and pain relief	
CATEGORIES	SUMMARY OF CONTENT OF CATEGORIES
Pain relief	<ul style="list-style-type: none"> - Pain relief during the active stage of labor - Warm and soothing for the vulva and perineum - Pain relief enhanced by the buoyancy effect - Possibility to adjust surrounding temperature
Mobility	<ul style="list-style-type: none"> - Greater possibility to change positions - Easy to find comfortable positions, be upright
Labor progression	<ul style="list-style-type: none"> - The birth felt smooth - Stronger contractions - Easier dilation of cervix - Child benefited from being born in water - The water benefited the delivery of the placenta
Decreased risk of complication	<ul style="list-style-type: none"> - From their perspectives decreased risk of medical complications, in particular perineal tears
Psychological benefits: improved relaxation and control in a demedicalized and safe setting	
CATEGORIES	SUMMARY OF CONTENT OF CATEGORIES
General positive feelings	<ul style="list-style-type: none"> - Described in various positive terms - Felt like the only right thing to do - The experience was only positive, most amazing - Would give birth in water if pregnant again - Related to feelings of harmony
Relaxation	<ul style="list-style-type: none"> - Relaxing, calming between & during contractions - Buoyancy made it easier to relax, feel comfortable - Opportunity to get rest and recovery
Hightened control	<ul style="list-style-type: none"> - Focus on their bodies and the birth - Aware of what was happening in their bodies - Aware of their breathing pattern - Felt safe to let go and 'flot along'
Less medicalized	<ul style="list-style-type: none"> - Felt less clinical compared with birth out of water - Felt natural for themselves and their child - Opportunity to feel close to their partner - Possibility to bring the baby up by themselves

FIGURE 1 Summary of categories illustrating benefits related to waterbirth

also mentioned that they did not need any pharmacological pain treatment due to the beneficial effects of the water. The water was described as warm and soothing for the vulva and perineum, which resulted in less pain in the second stage of labor.

During the dilation of the cervix, when I still was on dry land, I felt that I almost could not deal with my pain. Lying there on that bed was unbearable and I had no rest between contractions at all. I asked for the gas and air, but instead the midwife filled up the bathtub [...] it was like the difference between day and night to submerge in the water. No medication would have relieved my pain as effectively. I did not need any other pain relief, thanks to the waterbirth. It was like the pain was completely gone.
(Respondent 85)

The buoyancy effect of the water was highly appreciated. Being submerged meant increased mobility with a greater possibility to change positions. The water involved a possibility to move unrestrictedly, described as a free, pleasant, and flexible experience. The water also made it easier to find positions that felt comfortable and to be in an upright position.

A feeling of freedom compared with my first birthing experience, which was in supine position.
(Respondent 11)

From the perspectives of the respondents, the water enhanced the birthing process during active labour and the second and third stages of birth. Respondents explained that the birth felt smooth and that the water helped labour progression, with stronger contractions and easier dilation of cervix. They also mentioned that their child benefited from being born in water, because of the smoothness achieved by the water. This smoothness also was considered to benefit the birth of the placenta:

The pushing and the birth felt smoother. It was pleasant when the baby came out, having the opportunity to stay in the warm water a while with him on my belly. The birth of the placenta also felt smoother, it was more like it was sliding out.
(Respondent 41)

The respondents argued that giving birth in water resulted in a decreased risk of medical complications. In particular, respondents expressed a decreased risk of perineal tears. They related this effect to greater elasticity of tissues, pain relief and increased psychological focus:

It felt like the water "helped me not to tear as much". The water was pain relieving for the vulva and it calmed me so that I could concentrate on giving birth in a way that felt

right for me. I had one stitch in the labia and it feels like the damage would be greater on land.

(Respondent 85)

A kind of control and possibility to really be working [in the birthing process]. It felt like I could focus on my body really well thanks to the water surrounding me.

(Respondent 101)

3.1.2 | Psychological benefits: improved relaxation and control in a demedicalized and safe setting

Giving birth in water was described in many general terms illustrating a positive experience. Words that respondents used to describe the positive experience included “cool”, “magical”, “incredible”, “pleasant”, “lovely”, “fantastic”, “fun”, “exciting”, “great”, “perfect”, and “mighty”. Some described that giving birth in water felt like the only right thing to do, while others explicitly wrote that the experience was only positive. Respondents expressed that giving birth in water was the most amazing thing they had ever experienced and that they would give birth in water again if they became pregnant. Giving birth in water was related to feelings of harmony.

Bathtubs should be available in all birth rooms. When I think about the birth I only feel positive emotions. It really was super mega cool and I feel that I want to do it again.

(Respondent 85)

Giving birth in water was described as a relaxing and calming experience, in particular in between but also during contractions. The buoyancy effect made it easier to mentally and physically relax and feel comfortable. Respondents described that they went from feeling tense and cold outside water, to feeling loosened and warm in water. Being submerged presented an opportunity to get some rest and recovery between contractions. When comparing the waterbirth to their previous births, respondents felt more alert and less tired afterwards.

From being tense and having a difficult time to unwind, I was able to relax between the contractions as soon as I entered the water. Before that, the contractions came unbelievably close and strong, I had a hard time trying to relax.

(Respondent 95)

There had been a heightened sense of control when giving birth in water. When surrounded by water, respondents felt free to focus on their bodies and the birth. Being in water made them feel more of what was going on in their bodies and be more aware of their breathing. Some mentioned that they did not experience a need to feel in control when in the water and instead felt safe enough in the water to let go and just “float” along with each contraction. Being submerged in water felt less exposing compared with giving birth out of water. Several did not feel as naked and uncovered when in the water.

A feeling of demedicalization was experienced, as waterbirth felt less clinical compared with birth out of water. When in water, respondents felt that they were shielded from things usually associated with hospital care. The same was also stated about seeing blood, which did not feel as uncomfortable when in water. Several described that giving birth in water felt more natural for both themselves and their child, as they were more close and grounded to the earth compared with giving birth in a bed high above the ground. Being in water also presented an opportunity to feel close to their partner and bring their own child up into air from water, which was described by the respondents as a “cool”, “beautiful” and “fantastic” experience.

Since I don't like hospital settings, including white sheets, tubes, machines, etc., the bathtub was perfect for me, because I did not have to see anything of those things. [...] I'm also afraid of blood and never needed to experience bloody sheets or things like that, because it was not visible in the water.

(Respondent 18)

3.2 | Negative experiences related to giving birth in water

Two themes were identified related to negative experiences of waterbirth: (a) *equipment-related issues due to the construction of the tub and issues related to being immersed in water*; and (b) *fears and worries related to waterbirth*. Figure 2 presents summaries of the identified categories that illustrate negative experiences related to giving birth in water.

3.2.1 | Equipment-related issues due to the construction of the tub and issues related to being immersed in water

For some, the tub was experienced as an obstacle for contact with others in the birthing room. Some felt that the tub hindered intimacy with their partner. Others described that they found that the midwife was not able to be close and guide them throughout the birth. This, in turn, could from the perspectives of the respondents lead to more perineal tears:

I had perineal tears and maybe that would have happened regardless how I gave birth, but the possible downside is that the midwife don't have good view of that part when you give birth in water.

(Respondent 72)

Equipment-related issues due to the construction of the tub and issues related to being immersed in water	
CATEGORIES	SUMMARY OF CONTENT OF CATEGORIES
Obstacle for intimacy	- Obstacle for intimacy with their partner - Midwife unable to be close and guide them
Hindrance for wishes and preferences	- Unable to use desired pharmacological pain relief - Temperature of water difficult to adjust - Water became contaminated by feces and blood
Unsuitable tubs	- Difficulties moving around, going in or out of tub - Tub felt uncomfortable, small and tight - Pain due to small tub - Small tub limited number of birthing positions - Difficulties gaining a good grip in the tub - Need for better suited and larger tubs
Fears and worries related to waterbirth	
CATEGORIES	SUMMARY OF CONTENT OF CATEGORIES
Worry of complications	- Possible postnatal infection - Having to rise out of water during expulsion - Worry when difficulties finding heartbeat - That they would accidentally drop the child - How the child would react to being born in water

FIGURE 2 Summary of categories illustrating negative experiences related to waterbirth

Four respondents described that they were unable to use the pharmacological pain relief they desired because they were in the tub. This included epidural analgesia, because being submerged in water is a contraindication and nitrous oxide, because the inhalation tubes did not reach the tub. Another downside was that the temperature of the water had been difficult to adjust according to preferences. Occasionally, the water also became contaminated by faeces and blood, which was experienced as unpleasant, dirty and embarrassing. One respondent felt psychological distress when she was asked to step out of the tub because the water needed to be changed:

Just before my daughter was born, something white bubbled up to the surface. I didn't realize what it was, but it seemed to upset the midwife and assistant nurse. It became known that it was detergent that hadn't been removed sufficiently after the previous birth. The midwife wanted me to get out of the tub and I was completely panicked. It felt impossible to give birth on land. I refused, but the distress made both my own and my daughter's pulse go up. The midwife insisted that I would get out of the tub and I panicked. The assistant nurse understood my panic and calmed me that we would only empty the water and refill the tub with new water. At that time, the pulse went down again and I got to stay in the water until my daughter was born.

(Respondent 85)

Issues related to mobility when moving around in the tub and going in or out of the water were described. Some experienced the tubs as unsuitable for waterbirths, described as feeling uncomfortable,

small and tight. This resulted in pain, limited the number of possible birthing positions and hindered them to spread their legs as much as they needed. During the expulsion, some also experienced difficulties gaining a good grip because of a slippery tub. These respondents called attention to the need for modifications of the tubs, so that they could have hold on to something and articulated that birthing units should offer larger tubs specifically designed for waterbirths.

The tub was not completely suitable for kneeling, so I experienced great pain in my feet because they became stiff when there was no room. Also, it was a little complicated to get up once the child was out.

(Respondent 21)

Several recalled that they felt limited in their movements because of the risk of bringing the child to the surface too soon. Respondents also mentioned that it felt heavy when getting out of the tub, in between contractions and after the birth. For some, feeling weak and clumsy in the tub led to thoughts what would happen if a medical emergency occurred and they needed to be evacuated out of the water quickly. Indeed, some mentioned feeling like the construction of the tub would hinder them to evacuate in a medical emergency, and that they would be unable to get out of the tub when asked to do so by the midwife.

I think I would experience total panic if something happened so that I needed to be removed out of the water and then my birthing experience would have been something completely different. When I think back on it, another downside that if you do need to get out of the tub... How do you get out with a baby halfway out through the vagina? You're not very flexible at that time and getting out of the tub was not that easy.

(Respondent 85)

3.2.2 | Fears and worries related to waterbirth

When asked about negative aspects, some described worries and stress of possible complications when giving birth in water. In particular, worries were articulated related to the possible risks for the baby when born in water. Respondents worried about the possible risk of postnatal infection in the baby and became worried when they involuntarily defecated in the water during the birth. Respondents were also worried that they would accidentally stand up in the water so that the baby was over the surface of the water during the expulsion, which could result in a situation when the baby would inhale air and then be brought down below the surface again. Another worrying situation was when the midwife had difficulties listening to the baby's heartbeat, even though the respondent acknowledged that perhaps this was not because she was in the water:

It didn't feel good to poop in the water, I became worried for the child. [The midwife] also had some difficulties

finding the heart[beat], but I'm not sure if that was because of the water.

(Respondent 32)

Respondents articulated worries that they would accidentally drop the baby when getting out of the tub, illustrating that the limitations due to the construction of the tub caused worries. One respondent felt worried how the child would react to being born in water. She explained that this worry arose because the decision to give birth in water was made late in the birthing process and was not planned, which made her unsure about possible consequences:

At first, it was a little worrying because I had imagined a different birthing position and had not planned or thought about giving birth in water. The decision to give birth in water was made quickly in connection with the start of pushing and thereafter it went fast. During the expulsion, I became momentarily stressed because the child was under water and did not think about the fact that the child had been in water for over 40 weeks. That stress had probably not occurred if the waterbirth had been planned.

(Respondent 54)

visited the birthing unit during the pregnancy, three received information during prenatal courses for expectant parents, one received information from their doula, one received information during a previous pregnancy, and one received information via a podcast.

In total, 88 (79%) respondents reported that they did not experience a lack of information about waterbirths. Among the remaining respondents, a lack of information was described with regard to 11 topics related to waterbirth (Table 3). Respondents described a lack of preparatory information about waterbirth in general, even when they had contacted the birthing unit to ask questions. Thus, they searched for supplemental information via the Web and watched documentaries produced in other countries. However, respondents questioned the trustworthiness of these sources and expressed a need for available web-based information from trustworthy authors. Respondents also described a need for more time together with health professionals, devoted for the provision of information about waterbirths.

I did not receive much information at all. I called the birthing unit and asked, but they could not tell me much at all. The information that I did receive, I got from an American documentary.

(Respondent 51)

3.3 | Preparatory information about giving birth in water

Of the 111 respondents, 99 (89%) mentioned at least one source for preparatory information about waterbirth. The total numbers of different types of information sources reported as used by the respondents were one ($N = 59$, 53%), two ($N = 19$, 17%), three ($N = 14$, 13%), four ($N = 4$, 4%), five ($N = 2$, 2%), and seven ($N = 1$, 1%). The most common source was the Web ($N = 53$, 48%) and the least common were magazines ($N = 10$, 9%) (Table 2). Only 32 (29%) respondents reported that they received preparatory information from professionals at either the birthing unit or via antenatal care, while more than twice as many received information from media sources, that is, the Web, television, books, and/or magazines ($N = 66$, 60%). Five stated that they received information about waterbirth when they

TABLE 2 Sources that were used for information about waterbirths among the respondents ($N = 111$)

Source	N (%)
The Web	53 (48)
Social contacts (e.g. friend)	35 (32)
Birthing unit	23 (21)
Television	18 (16)
Books	17 (15)
Antenatal care	16 (14)
Magazines	10 (9)

4 | DISCUSSION

The aim of this study was to explore experiences of giving birth in water and experiences of preparatory information about waterbirth. Written responses were collected from women six weeks postpartum following a waterbirth. Various appreciated physical and psychological benefits were described. However, respondents also mentioned practical issues and worries related to waterbirth. A proportion described a lack of information about waterbirths and most searched for web-based information, even though they questioned the trustworthiness of such sources.

In line with previous reports (Cordioli, 2013; Gayiti et al., 2015; Hall & Holloway, 1998; Maude & Foureur, 2007; Mollamahmutoğlu et al., 2012; Ulfsdottir, Saltvedt, Ekborn, et al., 2018), waterbirth was described as beneficial with regard to many aspects including pain relief, labour progression, mobility, relaxation, and psychological control. Similar benefits have also been reported by midwives assisting waterbirths (Ulfsdottir, Saltvedt, & Georgsson, 2019a), strengthening the findings further. It is probable that the identified benefits correlate and enhance each other, such as enhanced labour progression and the reported psychological benefits. Promoting relaxation in labouring women through physical, emotional, informational, and advocacy support is acknowledged as an essential aspect of intrapartum care (Adams & Bianchi, 2008). Our findings illustrate that waterbirth involves various benefits that women who choose this way to give birth highly appreciate and indicate that it is a suitable and a valued alternative for eligible women.

TABLE 3 Described lack of information about waterbirths with illustrative quotes

Information that was lacking	Illustrative quote
Medical risks associated with waterbirth	<i>Perhaps [information] about the risks for the child, but it was no time for that, because I was already open 7 centimeters. (Respondent 60)</i>
The possibility to give birth in water	<i>More information should be provided about alternative births in general. I think many would take the opportunity, if they knew about the possibility to give birth in water. (Respondent 89)</i>
Foetal monitoring (heart sounds and cord samples)	<i>I received no information about how the child's heart sounds are monitored. (Respondent 84)</i>
Different stages of labour when giving birth in water	<i>I would have liked to be more prepared for [the pushing] and how I could gain power and support when floating around in the water. (Respondent 60)</i>
Possible birthing positions	<i>What birthing positions that are possible [in water]. (Respondent 6)</i>
The need to get out of the tub to deliver the placenta	<i>That you were supposed to get up directly after that you have given birth so the placenta can be delivered. (Respondent 62)</i>
Possible time limit	<i>How long you can lie in the water. (Respondent 41)</i>
Water contamination	<i>What would happen if stool gets in the water. (Respondent 41)</i>
Temperature of the water	<i>How warm [the water] can be. (Respondent 41)</i>
Catching the child	<i>In hindsight, I would rather have been on my knees and taken my daughter in my arms in the tub myself. (Respondent 113)</i>
Research about waterbirths	<i>[No information about] previous research. (Respondent 36)</i>

According to literature, waterbirth is safe for women with healthy pregnancies and low-risk births (Davies et al., 2015; Nutter et al., 2014; Taylor et al., 2016; Ulfsdottir, Saltvedt, & Georgsson, 2018; Vanderlaan et al., 2018) and should thus be presented as an alternative for pregnant women who consider ways to give birth. Our findings illustrate that while women appreciate the opportunity to give birth in water, a positive birthing experience can be hampered if the equipment is unsuitable. Indeed, some respondents described pain and limited mobility because of a small tub. To achieve the greatest possible benefits, health professionals need to make sure that the equipment is suitable for births. Some respondents called attention to the fact that the midwife was unable to get close and guide them throughout the birth and questioned what would have happened if a medical complication would arise. Similar findings have been reported among health professionals, who articulate concerns about how to handle emergencies when women give birth in water (Ulfsdottir et al., 2019a). Our findings indicate that Swedish women who want waterbirth

expect birthing units to provide the equipment necessary to give birth in water in a safe and comfortable manner.

Respondents articulated worries and stress regarding possible complications related to waterbirth. These worries could, to a large extent, be addressed if women are offered appropriate information about the option of waterbirth in during pregnancy. Women may experience difficulties articulating questions during labour and birth, illustrating the need for preparatory information during pregnancy. Thus, it is essential that health professionals who work in maternity care provide sufficient information so that pregnant women may reach informed decisions regarding how they want to give birth (Hunter et al., 2017; Leap, 2009). However, many midwives and obstetricians report that they have poor knowledge and are not sufficiently updated about waterbirths (Ulfsdottir et al., 2019a), emphasizing the challenges related to providing such information. Our findings call attention to the need to better inform expectant parents about different birthing alternatives and a need for improved general preparatory information. Few of our respondents reported that they received preparatory information about waterbirth from professionals at either the birthing unit or antenatal care. Information about benefits and negative aspects associated with waterbirth, and potential risks for the baby and which pain relief methods that are possible to combine with water immersion, are questions that could be discussed in advance of labour to reduce worries and stress. Antenatal care services have the responsibility to serve as a provider of trustworthy information and should thus be given adequate resources and training about waterbirths so that they can promote informed decisions among expectant parents.

4.1 | Limitations

There are methodological limitations that need to be considered. The Swedish context is of importance, considering that the National Board of Health and Welfare advised against waterbirths in 1992, leading to very few waterbirths in Sweden until 2014. This means that the Swedish context is rather particular and it is probable that both pregnant women and health professionals have views influenced by previous events in Sweden. The complicated history behind waterbirths in Sweden may limit the transferability of the findings. Historically and still today, waterbirths and natural physiologic births are challenged by medicalization of the birthing process among women with low-risk pregnancies. We now see a new trend in Sweden in regard to waterbirths. Waterbirths offered in the state-driven health care is currently being re-evaluated and an increasing amount of birthing units will probably start offering waterbirths in the near future. Considering the findings of this and other studies, this reform is both needed and wanted by women.

We recruited women from two geographically dispersed areas in Sweden, the sample was consecutively recruited from 2015 to 2018 and we had a low drop-out rate ($N = 44/155$, 28%). It would have been interesting to receive responses from those who planned to give birth in water but were unable to do so because they desired

epidural analgesia or because of medical complications. Future research should address this population. Data were collected through a web-based survey, meaning that we had no opportunity to ask follow-up questions. On the other hand, the fact that written responses were collected 6 weeks postpartum may implicate that the respondents had time to reflect on their experiences and that their responses were not influenced by any interviewer. A Web-based method to collect data were used to make it accessible and easy to answer the survey. In Sweden, 98% have access to Internet in their homes and the proportion of Internet users is very high among persons of fertile age (Internetstiftelsen [The Swedish Internet Foundation], 2019). Of the 155 invited women 111 responded to the survey, meaning that the response rate was over 70%. We argue that this is high and this could be because of the way data were collected or because many wanted their voices heard about how their waterbirth was experienced. Nevertheless, it is possible that women with particularly negative experiences decided not to answer the survey. We encourage further studies that explore the perspectives among women with negative experiences of waterbirth.

5 | CONCLUSION

Women who give birth in water experience physical and psychological benefits, but to meet their needs health professionals have to provide customized equipment and sufficient trustworthy information. The findings indicate that there is room for improvement with regard to prenatal and intrapartum care for women who consider giving birth in water. Midwives, nurses, and other health professionals who consult expectant parents should ensure that eligible women are rightly informed regarding the various benefits of waterbirth that other women describe. Those who then decide to give birth in water must be empowered by being offered sufficient preparatory information of high quality and provided with suitable bathtubs designed for births. The highly positive experiences described in this study illustrate that midwives and nurses should continue advocating waterbirth in low-risk pregnancies. The lack of adequate equipment in Swedish birthing units calls for a need to challenge current routines and resources at Swedish birthing units, so that it appropriately accommodates the needs of pregnant women. The respondents described worries related to waterbirth and few received information from health professionals, illustrating an unfulfilled need for preparatory information and possibly leading to less informed decisions. Swedish midwives need to acknowledge waterbirth as an alternative for low-risk pregnancies and should discuss waterbirth with expectant parents when meeting them in the antenatal setting.

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CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

TC analysed the data and wrote the manuscript. HU conceived and designed the study, collected the data, analysed the data, and revised the manuscript for important intellectual content. Both authors approved the final version of the manuscript.

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