Title: Women and waterbirth: a systematic meta-synthesis of qualitative studies

Structured Abstract:

Background: The practice of waterbirth is increasing worldwide and has been a feature of maternity services in the United Kingdom for over twenty years. The body of literature surrounding the practice focusses on maternal and neonatal outcomes comparing birth in and out of water.

Aim: To undertake a review of qualitative studies exploring women's experiences of waterbirth. This understanding is pertinent when supporting women who birth in water.

Methods: A literature search was conducted in databases British Nursing Index, Cumulative Index to Nursing and Allied Health Literature, Allied and Complementary Medicine Database, Maternity and Infant Care, Medline, Applied Social Sciences Index and Abstracts and Web of Science, using search terms waterbirth, labour/labor, childbirth, women, mothers, experience, perception and maternity care. Five primary research articles published between 2003 and 2018 which explored the views of women who had birthed in water were selected for inclusion. Using meta-ethnography, qualitative research studies were analysed and synthesised using the method of 'reciprocal translational analysis' identifying themes relating to women's experiences of birthing in water.

Findings: Four themes were identified: women's knowledge of waterbirth; women's perception of physiological birth; water, autonomy and control; and waterbirth: easing the transition.

Discussion and conclusion: Despite the paucity of qualitative studies exploring women's experiences of waterbirth, meta-synthesis of those that do exist suggested women identify positively with the choice. The experience of birthing in water appears to enhance a woman's sense of autonomy and control during childbirth suggesting waterbirth can be an empowering experience for women who choose it.

Keywords:

Waterbirth; midwifery; natural childbirth; parturition; systematic review; meta-synthesis

Literature Review

Statement of Significance:

Problem/Issue:

Use of water during labour is popular with childbearing women in the United Kingdom however, figures suggest that rates of waterbirth remain low when compared to land birth. It is unclear as to why women choose this birth option and how they experience waterbirth. A comprehensive review of qualitative literature exploring women's experiences of waterbirth has not been published to date.

What is already known:

Use of water for pain relief during labour has an established evidence base and is supported by national guidelines, whereas the evidence for use of water during birth remains unclear.

What this paper adds:

This is the first literature review to explore solely qualitative research studies exploring waterbirth from the woman's perspective.

1. Introduction

Whilst the practice of waterbirth has been a feature of mainstream maternity services in the United Kingdom (UK) for more than twenty years (Burns and Greenish, 1993; Nightingale, 1994; Beech, 1996; Garland and Jones, 1997), there remains a paucity of qualitative research conducted in this area. Globally waterbirth is gaining appeal, despite continuing opposition to waterbirth in some countries, most significantly the United States of America (USA) (Harper, 2014). Elsewhere doctors and midwives are championing the opportunity for women to give birth in water (in a variety of forms) in more than 90 countries including Japan, Russia, Belgium, Germany, Austria, Malta and Switzerland (Harper, 2014; Garland, 2006). Recently, studies exploring waterbirth and its effects have been published from countries including Iran (Kavosi *et al,* 2015), South Africa (Ros, 2009) and

Australia (Maude and Foureur, 2007). They promote positive outcomes when childbirth occurs in water and begin to provide evidence of a mounting appeal for women around the world. Cochrane reviews exploring RCT's failed to find evidence of adverse effects for the neonate or the woman who gave birth in water but also remained inconclusive regarding any benefits (Cluett *et al*, 2018; Cluett and Burns, 2009). Currently therefore, National Institute for Health and Care Excellence (NICE, 2014) guidelines support the practice of water immersion during labour but suggest women should be informed there is 'insufficient high-quality evidence to support or discourage giving birth in water' (NICE, 2014:61).

Past decades have witnessed an increasing influence of support for women's choice regarding how they experience labour and birth (NHS England, 2016; DoH, 2007; DoH, 1993). Nationally in the UK the NHS Constitution (DH, 2015) is a driver for service users to be placed at the heart of the NHS and women and their families at the centre of maternity services (Wenzel and Jabbal, 2016; NHS England, 2016). Individualised choice is a central concept within maternity services in the UK and one of the nine workstreams identified within the Maternity Transformation Programme (NHS England, 2016). This continuing and strengthening agenda for personalisation and choice in childbirth has contributed to the growth of birthing pool provision in maternity units across the United Kingdom. Whilst statistics are not currently collected nationally for rates of waterbirth, reports reveal an increase in the number of women who make the choice to use water for pain relief in labour (Care Quality Commission, 2015:42), with a smaller associated increase in those choosing to birth in water (Care Quality Commission, 2015:39). Despite this, the number of women choosing birth in water remains low relative to the overall physiological birth rate of 56% (NHS Digital, 2018) and little is known about the motivations of this smaller group of women. The aim, therefore, was to undertake a meta-synthesis of the findings from qualitative research studies which sought the views of women who had birthed in water. This understanding is pertinent when supporting women who birth in water.

2.Methodology

Findings from qualitative studies have important implications for knowledge development assisting in providing a more complete understanding of a phenomena (Campbell *et al,* 2011). To have impact however, they must be situated in a larger interpretive context such as a meta-synthesis (Sandelowski *et al*, 1997). Epistemologically, meta-synthesis supports an interpretivist approach (Heyman, 2009), contributes to the development of more formalised knowledge (Zimmer, 2006) and seeks to enhance the focus of this review. Several methods for synthesising qualitative research have emerged over recent years including meta-narrative, critical interpretive synthesis, grounded formal theory and thematic synthesis (Barnett-Page and Thomas, 2009). This critique of empirical qualitative literature is aligned to Noblit and Hare's (1988) seminal work of meta-ethnography, synthesising methodological congruent research studies to form a 'whole'.

Keen to avoid reductionism, Walsh and Downe (2005:205) refer to the ability for such synthesis to 'open up spaces for new insights and understandings to emerge' with the ability to generate multi-layered context not seen in individual studies (Sandelowski *et al,* 1997). Noblit and Hare (1998) cite three methods of synthesis within meta-ethnography; reciprocal translational analysis (RTA); refutational synthesis; and Lines-of-argument (LOA). RTA is used here due to its ability to translate concepts from individual studies into one another ultimately identifying overarching concepts, thereby enhancing our understanding of waterbirth.

2.1 Methods - literature search strategy

A systematic literature search was conducted with search parameters of publications between 2003 and 2018. The search strategy is outlined here in detail to include the authors rationale for inclusion or exclusion of studies to aid transparency and authenticity of the final account. A combination of search strategies were adopted to maximise the identification of relevant studies. The aim of the review was to identify primary research studies which explored waterbirth. Database searching using keywords, titles and abstracts were conducted using the databases: British Nursing Index (BNI),

Cumulative Index to Nursing and Allied Health Literature (CINAHL), Allied and Complementary Medicine Database (AMED), Maternity and Infant Care (MIDIRS), Medical Literature Analysis and Retrieval System Online (MEDLINE), Applied Social Sciences Index and Abstracts (ASSIA) and Web of Science. Search terms were used across all databases and are included in Table 1. Manual searches were also carried out using citations of the selected studies to identify further papers. Grey literature was searched using the ETHoS thesis database to identify any unpublished works and specialist sites including the Royal College of Midwives (RCM) and the National Childbirth Trust (NCT). Reference lists from resulting articles and book chapters were scanned to ensure that no relevant studies were missed and in addition regular electronic journal alerts and manual searches of key midwifery journals were used to survey newly published material.

Table 1: Terms used to search the literature

("waterbirth" OR "water birth" OR "water-birth" OR "water" OR "birth in water" OR "birth underwater" OR "underwater birth" OR "birthing pool")
AND ("labour" OR "labor")
AND ("childbirth" OR "child birth" OR "child-birth" OR "birth" OR "delivery")
AND ("women" OR "woman" OR "mother" OR "mothers" OR "motherhood" OR "maternal")
AND ("midwifery" OR "midwife" OR "midwives" OR "maternity" OR "maternity care")
AND ("experience" OR "perception")

The inclusion and exclusion criteria for study selection were set whereby papers were selected for inclusion if they, sought women's views and experiences of birth in water, waterbirth, and were published in English. Those qualitative studies that reported on use of water immersion solely during the first stage of labour; as a form of complementary and alternative therapy in childbirth; or as a form of non-pharmacological pain relief in labour were excluded as these were all considered to be different phenomena to that of waterbirth.

Walsh and Downe (2006) recognise that the qualitative researcher's interpretation of data is legitimately influenced by prior beliefs and requires a high degree of reflexivity. To this end the authors acknowledge personal preconceptions that; waterbirth is valued by many of the women who choose it; historically and currently it is situated as an 'alternative' form of childbirth; and it is often viewed as synonymous with physiological birth. Considering these preconceptions and with the aim of maximising credibility of the interpretations, established techniques were used to support the robustness of each stage of the synthesis process. Both data saturation and actively searching for disconfirming data were employed during analysis.

2.2 Quality Appraisal

Each study was reviewed according to criteria described by Walsh and Downe (2005) as a means of providing a standardised mechanism for appraisal. Appraising each study for its scope and purpose; study design and sampling strategy used; analysis and interpretive framework; issues relating to reflexivity and ethics; the relevance and transferability of the study; and a narrative summary of the study's quality (Walsh and Downe, 2005).

No studies were excluded from this literature review based on quality appraisal. It was acknowledged however that, the research by Wu and Chung (2003) fails to clearly outline the ethical approval obtained to undertake the study and therefore their findings were viewed with caution. The same study is acknowledged as being analytically weak, most likely attributed to having been undertaken and published now over 15 years ago. Whilst four of the five studies focused on women's views and experiences of waterbirth the study by Lewis *et al* (2018) also explored a larger sample of women who had not achieved a waterbirth in their study (see table 2).

3.Results

Eligible papers were short listed and full-text articles accessed. Two hundred and twenty-one records were identified through database searching and an additional 5 were identified through other sources. After removing duplicates (n= 40), 181 records remained and were screened using

keywords, title and abstracts. Following screening, 134 studies were excluded on the basis they did not report primary research resulting in 47 full-text articles being read to assess for eligibility. Forty-two studies were excluded resulting in a total of 5 primary research studies which met the criteria for inclusion (see figure 1). Five qualitative studies seeking the views of women who had experienced waterbirth were reviewed (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu and Chung, 2003).

Figure 1: PRISMA (2009) flow diagram showing review process

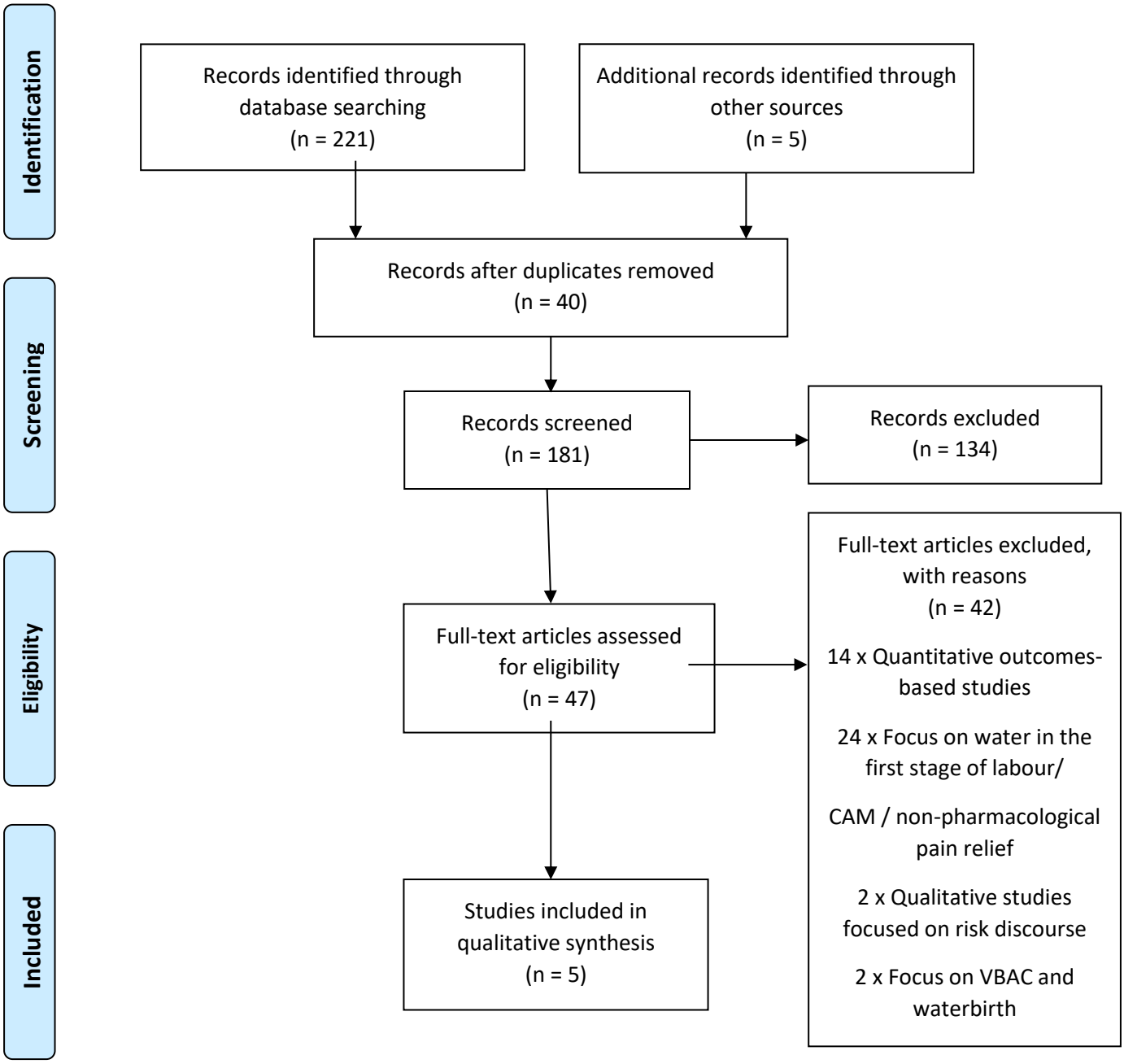

Table 2: Summary of qualitative papers exploring women's experiences of waterbirth

Study reference	Aim	Participants	Method of data collection	Method of analysis	Recruitment, setting, context	Country
Ulfsdottir *et al* (2018)	Aimed to describe women's experience and perception of giving birth in water	20 women, 12 primigravid and 8 multigravid women	In-depth interviews	Content analysis	Women were recruited having birthed in a clinic in Stockholm	Sweden
Lewis *et al* (2018)	To explore the perception and experience of women who achieved or did not achieve their planned waterbirth	296 women were included. 93 women achieved a waterbirth and 203 did not achieve a waterbirth	Semi-structured interviews	Thematic analysis	Women were recruited from a birth centre of the tertiary public maternity hospital in Western Australia	Australia
Waters (2011)	Aimed to understand the perspectives and experiences of women who chose to give birth in water and post their birth videos publicly on YouTube.	16 parents who had birthed in water and posted a live video of this on YouTube.	Skype audio semi-structured interviews	Thematic	Participants were contacted by the researcher with an invitation letter via their YouTube handle.	USA
Maude and Foureur (2007)	Aimed to give 'voice' to women's experiences of using water for labour and birth.	5 women who had used water for labour and birth at home or in the hospital.	Interviews	Thematic	Women were recruited from an urban region of New Zealand if they had	New Zealand

					experienced waterbirth at home or in hospital	
Wu and Chung (2003)	Aimed to explore the decision-making experience of mothers selecting waterbirth.	9 women who had given birth in water in one maternity unit in the past 12 months	Questionnaire Interviews	Giorgi's phenomenological method	Women were recruited if they had experienced waterbirth in one midwife-clinic	Taiwan

The five studies included all identified as following an interpretive methodology. Methodological approaches varied, Wu and Chung (2003) adopted a phenomenological approach, Lewis *et al* (2018) an exploratory design using critical incident techniques and three of the studies broadly identify as either qualitative research or interpretive inquiry (Ulfsdottir *et* al, 2018; Waters, 2011; Maude and Foureur, 2007). Qualitative methods used for purposes of data collection from women, most commonly involved semi-structured or unstructured interviews (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu and Chung, 2003).

The studies focussed on the experience of total of 330 women (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Maude and Foureur, 2007; Wu and Chung, 2003), a further 16 'parents' participated in Waters (2011) study and whilst she fails to define this term she does identify some participants as 'mothers'. The smallest sample size was in Maude and Foureur's (2007) study with 5 participants, whilst the largest sample was in Lewis *et al's* (2018) study which reported on 296 women, 93 of whom achieved a waterbirth.

The five studies represented the views of women 5 five different countries, one from Sweden (Ulfsdottir *et al,* 2018), one from Australia (Lewis *et al,* 2018), one from New Zealand (Maude and Foureur, 2007), one from Taiwan (Wu and Chung, 2003) and one from the United States of America (USA) (Waters, 2011). Whilst Waters (2011) was based in the USA and most participants were recruited from different states in the US (n=11), five participants were from other countries including, Canada, New Zealand, Australia (n=2) and the UK.

One of the studies exploring women's views of waterbirth were published 15 years ago (Wu and Chung, 2003) illustrating a paucity of current research studies in this area and providing a rationale for this review. Recruitment to the studies were most often directly through a maternity unit where waterbirths occurred (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Maude and Foureur, 2007; Wu and Chung, 2003), and one used a media platform to recruit women from a variety of different countries (Waters, 2011).

4.Findings

Following review of the five papers, four overarching concepts were formed (see table 3) which traversed the studies exploring women's experiences of waterbirth.

Table 3: Women's experiences of waterbirth – reciprocal translational analysis

	Overarching concepts			
Study reference	Knowledge of waterbirth	Intuitive knowledge of physiological birth	Water, autonomy and control	Waterbirth: easing the transition
Ulfsdottir *et al* (2018)	*	*	*	*
Lewis *et al* (2018)	*	*	*	*
Waters (2011)	*	*	*	
Maude and Foureur (2007)	*	*	*	
Wu and Chung, (2003)	*	*	*	

These overarching concepts represent an interpretation across the studies exploring women's perceptions and experiences of waterbirth. Presenting these concepts in this meta-synthesis we respect and represent the context intended in the original studies whilst still allowing for synthesis of the studies to emerge. The need to remain "close" to the primary data presented in the studies leads us to use the original quotes to illustrate each concept.

4.1 Labour and birth in water: women's experiences

Five studies focussed on women's experiences of labour and birth in water (Ulfsdottir *et al,*2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu and Chung, 2003). Initial concepts developed into emerging themes and ultimately four main themes were identified across the studies

that of: women's knowledge of waterbirth; women's perceptions of physiological birth; women's sense of autonomy and control; and waterbirth: easing the transition (see table 3).

4.1.1 Women's knowledge of waterbirth

All the studies (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu and Chung, 2003) identified women's knowledge of waterbirth as fundamental in their decision for choosing to birth this way. Many of the women in Waters's (2011) study spoke of the memorable impression reading natural childbirth books by authors such as Ina May Gaskin and Sheila Kitzinger, had impressed on them in pregnancy. One of the women in the study went so far as to state that:

> *……that the thought of interventions and pharmaceutical pain relievers never entered [my] mind because of the powerful physiological effects of water (Waters, 2011:6)*

In Wu and Chung's (2003) study, women identified with a need to enhance the knowledge of their partner as particularly important, suggesting a relational component to the study which moves away from traditional concepts of autonomy towards the concept of relational autonomy. This joint increase in knowledge fostered support for the choice of waterbirth and enhanced the woman's confidence in her ability to birth in water.

> *I passed some reports about waterbirth to him and asked him to accompany me when I had my antenatal exams at the midwifery clinic, where he would watch videos and read relevant information. Hence he became less worried after he had more knowledge about waterbirth. (Wu and Chung, 2003: 265)*

Women in Waters's (2011) study also actively researched waterbirth:

> *……..[I] engaged in in-depth self-directed research on natural childbirth and discovered waterbirth (Waters, 2011: 5)*

In particular, media influence was an emerging sub-theme in two of the studies (Lewis *et al,* 2018; Waters, 2011). Women cite 'online' content and childbirth documentary television shows as influential in their knowledge, understanding and choice to birth in water:

> *[I] had seen it online……..[I] saw videos and wanted a beautiful experience…….[I] saw on One Born Every Minute (*Lewis *et al, 2018:6)*

The role of 'YouTube' formed the basis of Waters' (2011) ethnographic study which identified media as a major influence in the promotion of waterbirth. In this study women credit the internet as a means by which birth networking and education was enabled. This suggests the potential for waterbirth to be 'visible' to a larger audience involving all groups in societies due to the visual as well as audio nature of digital media:

> *I chose to post the video on YouTube.com because the videos that I had watched during both pregnancies were so helpful and I wanted to be able to provide that for other women who are looking to have a homebirth or waterbirth (Waters, 2011:3)*

Waters (2011) referred to the Internet as an educational tool providing women with the opportunity to access information that in previous decades would have been hidden and inaccessible to them. Suggesting it presents the opportunity to drive social change and alter traditional forms of authoritative cultural knowledge surrounding 'decision making' during childbirth. Instead, offering the creation of a new, experiential paradigm contrary to the dominant medicalised paradigm of birth prevalent in the USA (and many other countries). Waters (2011) suggests her participants valued the authoritative worth placed in the voices of other mothers.

The studies explored in this theme suggest that women's knowledge of waterbirth has increased significantly over past decades due to greater visibility within the media particularly from programmes such as 'One Born Every Minute'. Along with increased access to the internet, 'YouTube', enables individuals to post their video of childbirth in water allowing it to be seen by women around the world. This desire to share and support other women to experience childbirth in

a way that is individualised and meaningful to them may challenge traditional and often more medicalised forms of authoritative knowledge of childbirth.

4.1.2 Women's perception of physiological birth

All the studies identified women's intuitive knowledge in choosing waterbirth as a fundamental element of physiological birth (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; *Waters*, 2011; Maude and Foureur, 2007; Wu and Chung, 2003). In Waters (2011) study a woman refers to the feeling that maternity protocols did not meet her needs and desires for childbirth:

> *The more I watched videos of Baby Story and saw everybody go through epidural, add [syntocinon], add more epidural and then get a c-section and nobody seemed to blink an eye that there was something wrong with that, I was little by little getting more uncomfortable with the idea of birthing in the hospital (Waters, 2011:6)*

This sentiment is echoed by women in Wu and Chung's (2003) study:

> *We were born with the ability to deliver naturally, not necessarily by CS (Wu and Chung, 2003: 266)*

All studies refer to waterbirth as supporting the physiology of childbirth some women viewed this as more 'natural' in some way:

> *...they wanted the most natural birth possible* involving *a natural experience or a natural holistic approach (*Lewis *et al,* 2018: 5)

Maude and Foureur (2007) identified the connection women had with water on an intuitive level as one of the women in the study who spoke of delaying childbirth until the pool had arrived at her house later that day:

> *……some of it was that I knew that everything wasn't ready yet, everything wasn't there that I needed, so I kind of just slowed down and waited…. (Maude and Foureur, 2007:19)*

Many women had difficulty however in articulating exactly how waterbirth positively affected their experience. Maude and Foureur (2007) refer to the balance created by the soothing warmth of the water, the support of the body and the pleasurable sensation of water which stimulates closing the gate for pain at the level of the dorsal horn. They suggest these elements experienced by the woman in water appeared to provide a 'temporal stabilising effect' whereby a natural balance between pain and relaxation was achieved:

> *It [the water] made me feel better. It didn't really take the edge off the pain I don't think; it made me feel much better in myself (Maude and Foureur, 2007: 22)*

Maude and Foureur (2007) refer to the spiritual connection women from certain cultural groups may have with water prior to childbirth. Their study participants were from Pakeha and New Zealand European groups many of whom attribute spiritual importance of Maori birthing. Many women will connect with water prior to pregnancy and birth as Ulfsdottir *et al* (2018) identify:

> *Yes it was like lying in my own womb with the water against my body in all directions, like in a small corner or nest perhaps…… (*Ulfsdottir *et al,* 2018: 28)

The idea within this theme that some women may instinctively connect water with 'natural' or physiological birth suggests that this birth option needs to continue to be available to women and supported both by midwives and national policy.

4.1.3 Water, autonomy and control

All the studies, in varying degrees, report on women's choice of waterbirth as a means for autonomy and control over their birth experience (Ulfsdottir *et al,*2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu and Chung, 2003). Centrally these concepts transcend all the studies but are referred to by Maude and Foureur (2007) in terms of 'sanctuary', 'alternatives' and 'milieu', whilst Ulfsdottir *et al* (2018) describe women's sense of autonomy birthing in water as an empowering

'micro-home'. With women identifying positive physical and mental benefits originating from the control they experienced during their waterbirth:

> *You experience that you have more control over your body when you are in water (*Ulfsdottir *et al,* 2018: 28)

Water afforded women a sense of mental relaxation enabling them to cope with their contractions, in turn fostering feelings of autonomy:

> *This thing about timing the contractions eh…… it was just chaos. And that was what changed when I arrived and when I got down into the bath. It became more obvious. The whole labour became, it dawned on me how I could manage it, even if nobody told me (*Ulfsdottir *et al,* 2018:28)

For many women the choice for waterbirth, affording autonomy and control was a direct reaction to a previous negative birth with one woman stating:

> *It felt like this was giving birth for real. Last time I was totally anesthetized (*Ulfsdottir *et al,* 2018: 29*)*

> *……ended up getting an epidural during birth when the intention had been to give birth naturally. After this birth [I] was left feeling like birth was meant to be a different way…….(Waters, 2011: 5)*

> *First birth difficult – occiput posterior with trial of forceps. Had epidural at 8cm, wanted a simpler, more natural birth, a waterbirth was what I had hoped for (*Lewis *et al,* 2018:5)

Participants in Wu and Chung's (2003) study cited dissatisfaction with current medical care in Taiwan at the time. This led directly to the desire for waterbirth, an active choice made in direct opposition to childbirth practice which frequently promoted caesarean section (Wu and Chung, 2003).

> *I carefully examined the information about both deliveries at hospitals and childbirth methods outside hospitals. I decided to choose waterbirth in the last month of my pregnancy. I received antenatal examinations at both hospitals and midwifery clinics. So it was not the way other people said – that I did it simply as an idea! (Wu and Chung, 2003: 264-265)*

The study found that women employed strategies to achieve their goal of waterbirth when views of relatives did not support this practice due to the dominant concept in Taiwan that birth by caesarean was the safe option (Wu and Chung, 2003). Women engaged these strategies which centred around showing relatives reports about waterbirth or encouraging them to speak to the midwife about it. If, however such attempts to influence relatives into a positive consensus were unsuccessful some women would conceal their intentions until after the waterbirth had occurred.

> *The pressure came not only from my husband's parents but also my friends. They had no reason to object to my plan since they certainly had less knowledge about waterbirth than I did (……) All I wanted to do was achieve my goal. So, I kept a low profile during the whole process……I was willing to put up with any stress in order to achieve my dignity of my life. (Wu and Chung, 2003: 265)*

The same was true in Waters (2011) study whereby one of the women, rather than receive the free maternity care provided by the Canadian government (meaning she would need to birth in hospital), paid $2,500 to ensure her choice to have a waterbirth at home. She spoke of her desire;

> *…..avoid another incident of having [my] membranes ruptured artificially, being augmented with [syntocinon], or being pressured to birth in the lithotomic position (Waters, 2011: 5)*

Maude and Fourer (2007) refer to the water creating a barrier, protecting them from intervention and offering privacy and control. One woman recalls how she moved to the far side of the pool so no one could touch her:

> *Every time I had a contraction I'd move……..and away from them as well, they couldn't reach me-when I didn't need them, there was no way they could have touched me because I was over the other side of the pool……I was no where near anyone else (Maude and Foureur, 2007:22)*

All the women in this study referred to water as a protective place, one woman sinking her ears under the water so she could avoid listening to what the midwife was telling her. Throughout, she reiterated the protective nature of water describing it as a "cocoon" (Maude and Foureur, 2007:22):

> *It was my space. Every time [the midwife] made me stand up……so she could listen to the heart rate and stuff it was like, as soon as she was finished, I was back down in the water so I could get away from all that stuff that was going on. I think the water was more about being able to block everything out in between and being able to completely relax…….. (Maude and Fourer, 2007:22)*

> *…….so I had the whole enclosed warmth and yeah, the support of the water, yeah, it was my space (Maude and Fourer, 2007:21)*

Similarly, this protective place is identified by Ulfsdottir *et al* (2018) which they term as 'a free zone' whereby the water promotes feelings of safety and security for the women:

> *I think you withdraw from the rest of the world in some way. That is also how it works when you take a bath, you get time for yourself exclusively (*Ulfsdottir *et al,* 2018: 28)

Wu and Chung (2003) identified the importance of being afforded autonomy to choose waterbirth. A demonstration of the women's attempts to identify birthing methods residing 'outside' of the normal systems. Women referred to accepting the "consequences" in pursuit of "achieving their goal" (Wu and Chung, 2003:265) suggesting a strong sense of autonomy and a need to experience a waterbirth:

> *My husband supposes that every mother should be able to have a normal spontaneous delivery. When one goes to hospital, the doctor cannot wait too long, so they will perform a*

> *CS after a certain point of time……(pause). My labor pains were so hard to bear then, that I might have changed my mind (……..) I had to insist [on waterbirth], otherwise all my efforts would have been in vain…….Why I insisted was because doctors dominate everything at hospitals (Wu and Chung, 2003: 264)*

For others that goal to experience waterbirth was the culmination of their childbearing journey reflected by a woman in Lewis *et al's* (2018) study:

> *This was the last baby I planned and so wanted it to be memorable, I wanted a different experience than last time (*Lewis *et al,* 2018:5)

Achieving such a level of autonomy appeared to enable a woman in Water's (2011) study to attribute positive physical outcomes to the experience suggesting the lack of [perineal] tearing when birthing a ten-pound baby was due to birth occurring in water:

> *…..allowing [me] to be in a really good position [squatting] for birthing without physically being really tiring (Waters, 2011:6)*

This theme of autonomy and control when a waterbirth was achieved was identified across all the studies and was significant. Many of the studies identified the terms 'autonomy' and 'control' directly in their findings (Ulfsdottir et al, 2018; Wu and Chung, 2003) whilst others defined these as 'authoritative knowledge' (Waters, 2011), 'affirming' and 'empowering' (Lewis *et al,* 2018) and one of 'sanctuary' (Maude and Foureur, 2007). This desire for waterbirth resonated strongly with many of the women in the studies resulting in the potential for them to actively chose to experience emotional or financial strain to achieve it.

4.1.4 Waterbirth: easing the transition

An emerging theme identified within two of the five studies (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018) refers to women's belief that water eased the transition during childbirth and even that being born in water was 'better' for the baby. Both studies refer to this in terms of waterbirth being, more familiar

for the baby (Lewis et al, 2018) and as a gentler transition for the baby from the amniotic fluid in utero into the water (Ulfsdottir et al, 2018).

> *I also think that maybe it was nice for the baby…..that it was not as shocking for her to come out (*Ulfsdottir *et al,* 2018:29)

> *I think it changes the experience for the baby. It's good for the baby to go from water to water. It makes sense to me* (Ulfsdottir *et al*, 2018:29)

> *It's a similar environment to the womb and calm for the baby (Lewis et al,* 2018: 5)

Both studies (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018) also identified the importance for women to facilitate the birth of their baby themselves which was also seen as a way to ease transition

> *I wanted to be able to deliver my own baby, I love the idea of being immersed in water and baby being delivered into the water (Lewis et al,* 2018:5)

Supported further by Ulfsdottir *et al* (2018) who refer to the lack of guidance women needed to deliver their own baby.

> *Then the head was crowing, and the midwife asked if I wanted to take my baby out myself. And I got to do that, and it was so cool to pull up my baby and then we were lying there together (*Ulfsdottir *et al,* 2018:)

> *My first baby was a beautiful experience I wanted to repeat. Scooping baby up onto chest from water such a great moment (Lewis et al,* 2018:5)

This theme of waterbirth: easing the transition speaks a sense from women that birth in water is less demanding for them and their newborn offering a sense of familiarity.

5 Summary of Findings / Discussion

This review has synthesised the findings of five qualitative empirical studies on women's experiences of waterbirth (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu

and Chung, 2003) and reveals women present positive experiences of waterbirth when their perspectives are sought. Only one of the studies (Lewis *et al*, 2018) interviewed both, women who experienced waterbirth as well as those who wanted but were unable to achieve it. The experiences of the second group have not been considered as part of this review as they represent 'difference' to the aim of the article. It is recommended in the future the views of these women are considered to add to our understanding of how women perceive waterbirth.

A major strength of this review is that it explores the experiences of women who have birthed in water, providing understanding of their perception of waterbirth and insights into factors that may influence their choice. We identified a sense that the women viewed physiological birth and waterbirth synonymously and appreciated the ability to access information and knowledge surrounding both. The experience of waterbirth was valued by the women offering them the opportunity to exercise autonomy in their birth choice in turn, affording feelings of control coupled with the sense that they were easing the transition for their newborn.

There are a growing number of cohort studies demonstrating positive benefits of water immersion (Ulfsdottir *et al,* 2018; Sidebottom *et al,* 2019). These findings are not currently supported by the significant body of quantitative literature on waterbirth which identifies the risk of cord avulsion and remains inconclusive regarding quantifiable benefits (Cluett *et al,* 2018; Cluett and Burns, 2009). This review found that the women in these studies viewed their experience of waterbirth positively (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Wu and Chung, 2003). Critically it illustrates how some women can actively benefit from a positive birth experience when their choice to deliver in water is achieved. This is an important finding suggesting waterbirth is an illustration of how choice has a positive benefit on women's emotional wellbeing.

A major strength of this review is in its contribution to our knowledge in the area of waterbirth enhancing our understanding of the woman's perspective. It explores the experience and perceptions of women who have birthed in water. It provides insight into factors that may influence

women who decide to birth in water and highlights how women who do birth in water recall an enhanced sense of autonomy and control. We come to understand that some women will actively seek to gain information on waterbirth researching it from a variety of sources such as the internet, media, midwives and other women; viewing waterbirth as easing the transition for their newborn. As such, it presents important findings for clinical practice and future research. Critically it illustrates how some women can actively benefit from a positive birth experience when it occurs in water (Ulfsdottir *et al,* 2018; Lewis *et al,* 2018; Waters, 2011; Maude and Foureur, 2007; Richmond, 2003; Wu and Chung, 2003).

The meta-synthesis illustrates a gap in the evidence seen in current, qualitative research studies surrounding waterbirth from the emic perspective of the woman. This is an important consideration for clinical practice whereby midwives need to ensure that care provided promotes choice and is woman centred. Future research in this area should also seek to redress the imbalance in the research paradigm adopted. Consideration should be afforded to broadening the range of research methodologies used as well as increasing the number of current qualitative studies seeking the views of women who experience waterbirth. Similarly, there is a need to build on the research exploring the experiences and effects on those women who chose but do not realise waterbirth. There is also scope to widen research in this area to include women who oppose the idea of waterbirth to help gain an understanding of the views of these women.

Limitations

Earle and Hadley (2017) recognise that there is no single approach agreed when conducting a qualitative systematic review and this review is not without limitations. Like many other qualitative research studies, it is not possible to draw conclusions on causality or generalizability. This meta-synthesis was based on the summary and thematic analysis of the five qualitative research studies and the findings they identified. Due to the paucity of primary studies in this area we followed the principle of pragmatism, acknowledging that no papers were excluded based on quality appraisal.

Conclusion

In conclusion, our understanding of waterbirth and women's experience of it is evolving. This article reviewed five qualitative studies published within the last 15 years which explore women's views and experiences of waterbirth. All individuals involved in the care or women during childbirth – from policy makers to midwives – should understand the possibility for waterbirth to offer some women a positive experience and memories of childbirth. By increasing women's knowledge of waterbirth as an element of physiological, non-interventionist birth which supports their baby's transition, may increase their sense of autonomy and control and enhance their experience of childbirth.

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