

A Quantitative Study: Exploring Staff Nurse And Midwife Attitudes To And Knowledge Of Waterbirth In Saudi Arabia

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Acknowledgement letter


“In the Name of Allah, Most Gracious, Most Merciful.”

Allah the Highest says: “If ye are grateful, I will add more (favours) unto you; but if ye show ingratitude, truly my punishment is terrible indeed.”

First and foremost, all praise is due to God for his graces that support me and give me the ability to believe in my passion and, in most instances, to fulfil the objective of embracing struggles to follow my dreams. I want to thank nursing for allowing me to learn much gain experience, as well as all the nurses who serve as the heart of healthcare to build hope and keep positive thinking in the world. Finally, I thank my family, who have been very supportive and compassionate throughout my study, creating a suitable environment.

Sincerely

Noor Al Masoud



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I. Introduction

Childbirth is the challenge of bringing a new soul into the universe, always with the struggle of suffering so that someone else can have a life. Women can retain their control and strength by giving birth in water, rather than a usual non-water birth. Childbirth in water causes less pain and suffering, which enhances the mother's belief in herself (Kaur and Singh, 2019). Childbirth is indeed a very stressful experience, however rewarding it can be. In many high-income countries, labour pain management is perceived to be an integral part of intrapartum care, and all mothers have access to a variety of pain relief for labour. Advocates support pregnant mothers' right in making an informed about the birth setting decision they think is the best for them and their baby (Nicolls, 2016). The psychological and physiological pain experienced during labour is unique for each mother. Understanding the latest choices available for pain relief is critical for midwives in helping women deliver with minimal pain. Mothers want a set of options and the choice of power. More mothers are interested in the presence of a midwife in a sacred birthplace where they can provide continuity of treatment, free from healthcare professionals and medical birth. Waterbirth is a non-pharmacological way to labour, with medicinal effects and analgesic properties, which appeals to some expectant mothers (Vanderlaan, Hall and Lewitt, 2018).

Background

Historically, hydrotherapy has played a significant role in promoting delivery and reducing labour pain. The first recorded waterbirth was described in France in 1803 (Harper, 2005). In the 1960s, waterbirth pioneer Igor Charkowsky was a midwife, swim coach and physical therapist in Russia (Napierala 1994; Beech, 1996). He found that bringing labouring women into a bath decreased their pain and discomfort, reduced delivery laceration and tearing, and facilitated and shortened labour. Charkowsky incorporated the experience and knowledge gained from his predecessors in hydrotherapy to achieve his goals as a midwife. He used these skills in the birth of his preterm daughter. In the United States, birthing pools have been used in modern times since the 1980s. In Switzerland, waterbirths began in 1991 as part of innovative birth supervision and management, inflexible use of invasive techniques and free selection of multiple birth techniques in the Cantonal Hospital Frauenfeld (Geissbühler and Eberhard, 2000). In the UK, the 1993 'Changing Childbirth' report officially approved waterbirth and proposed that birthing pools should be available in all maternity units (Cumberlege, 1993). In Saudi Arabia, the public health system does not provide water immersion as an option for birthing. However, some private hospitals provide waterbirth, such as Al-Salam in Riyadh, Aya Hospital and Dr Samir Abbas Hospital, which owns several women's health centres in Jeddah and nationally (Dr Samir Abbas Hospital, 2020).

Humans have a natural, innate relationship with water, according to studies. Water is the source of life, and the foetus develops in amniotic fluid. Data demonstrate that women select waterbirth for several reasons, primarily as a method for pain relief and relaxation. Mothers in one study reported that waterbirth seemed much more comfortable and normal. It does not use medication, is gentle on the infant, improves perineum flexibility, appears to be a safer delivery technique, and allows self-control of birth. Other rationales for selecting waterbirth included encouragement of contractions, a preference for water, and a requirement for the first labour stage (Brooks, 2018).

Waterbirth is a globally accepted choice offered in prestigious hospitals worldwide. Research evidence supports waterbirth as an effective way of reducing pain in normal delivery. Other advantages are reduced gravity (increased buoyancy), which allows the expectant mother to move more easily. In addition to the increased autonomy of the mother, control is increased over environmental factors such as lighting and sound. Perceived behavioural advantages include reduction of pre-safe blood, and increased oxytocin production, oxygen and blood supply (Brooks, 2018). Water immersion in labour and delivery is a successful technique for pain management, related to a major decrease in epidural anaesthesia use. It has the potential to minimise treatment costs and provide an important method for non-pharmacological pain relief for women who choose traditional or natural deliveries (Vanderlaan, Hall and Lewitt, 2018).

Controversies and fears remain that the use of water for childbirth presents an elevated risk of maternal and neonatal infections. Such issues need to be taken seriously because species from the maternal skin, vaginal, perineal and anal areas (group B *Streptococcus*, *Mycoplasma urealyticum*, *Chlamydia trachomatis*, *Staphylococcus aureus*, *Enterococcus*, *Escherichia coli*) and the water supply (*Pseudomonas aeruginosa*, *Legionella pneumophila*) are a possible source of contamination. Past users of the pipeline also represent a possible contamination risk. The water temperature accelerates the replication of potentially dangerous species that could harm the mother and, in particular, the infant (Zanetti-Daellenbach et al., 2007).

Operational definitions

Nurse and midwife attitudes to and knowledge of waterbirth refer in this research to the reactions and thoughts of these practitioners regarding waterbirth as a new practice to provide safety and satisfaction to women. The following operational definitions and concepts relate to the topic of inquiry.

Waterbirth: "It is a technique that is used to give birth in a tub, pool or bath full of warm water. Water immersion can be described as providing a depth of water that allows a woman to sit in water that completely covers her abdomen and reaches the level of her breast or kneel in water on her haunches that reaches just below the level of her breast. Any volume of water less than this does not constitute true immersion and does not establish the influence of buoyancy and generate the chemical and hormonal alterations that facilitate faster labour. After an effective immersion of around thirty minutes, the body reacts by producing more oxytocin, but only when the body is submerged deeply, contributing to buoyancy" (Mosby, 2016).

Knowledge: Knowledge can be defined in terms of awareness and familiarity. Knowledge of waterbirth can be understood as the process of conceptions obtained through education, experience or association with the practice of waterbirth. It requires theory and the ability to physically execute waterbirth that can be demonstrated by being knowledgeable and contributes to waterbirth being optimised (Mosby, 2016).

Attitude: A propensity to react positively or negatively to an idea, event or circumstance that may affect a person's particular behaviour, and responses to challenges, opportunities and rewards. For purpose of this study, attitude is the values, expectations, feelings, opinions and behaviours of the midwife or nurse concerning waterbirth, as well as ways of behaving in relation to waterbirth that can be assessed for personal effectiveness in advocating waterbirth (Babu, 2014).

Staff nurse: "A person who obtained a bachelor degree in nursing science from the nursing council after attending an approved college of nursing and spending a recommended training year" (Mosby, 2016).

Midwives: "Individuals who gained a midwifery certificate from the Council of Nursing and Midwifery after attending an authorised midwifery college and choosing to spend the specified amount of years in training that is recommended" (Mosby, 2016).

Significance of the study

According to the current discussion surrounding the practice of waterbirth, more studies are required to enhance its reputation among all professional stakeholders as a safe and effective method of delivery. Potentially, the results of this research will inspire a focus on developing the waterbirth knowledge and attitudes of midwives and nurses and enable them to campaign for and incorporate this activity into their work environment. Surveying midwives and nurses is necessary to determine their education and support requirements. Expert and knowledgeable midwives should advocate for waterbirth as a choice for their patients, encouraging and informing their patients to make educated decisions on all possible methods of labour care, including waterbirth. Additionally, the research findings will encourage further use of water immersion in labour and birth education programs such as midwifery courses, job placement preparation programs, and other nurse and midwife education. The workplace can also enforce policies and procedures to promote safe and effective waterbirth activity. It is important to learn more about the available waterbirth resources and obstacles in the work environment in order to develop or maintain waterbirth provision as a reliable support tool. Additionally, conferences for stakeholders in the healthcare sector should be created to teach them about waterbirth and minimise misconceptions or myths. This research will help to explain the need for a support program to overcome the obstacles that this practice is currently facing. When women choose water immersion, nurses and midwives are expected to be professional and skilled, and prepared to help and direct them safely. This is important to evaluate who currently promotes waterbirth and determine their level of confidence, knowledge, competence and training through evidence-based knowledge of their practice.

Problem statement

According to Woodward (2011), staff nurses and midwives are considered the main providers to deliver and provide waterbirth. Researching the awareness and attitudes of healthcare providers towards waterbirth is important. Less support currently exists for waterbirth than for the medical community's research. This study will therefore explore and evaluate the attitudes and knowledge of staff nurses regarding water immersion for labour and birth.

Aim, objectives and purpose

The aim is to explore and evaluate the attitudes and knowledge of staff nurses and midwives regarding immersion in water for labour and birth.

The objectives are:

1. The assessment of nurse and midwife knowledge of waterbirth.
2. The assessment of nurse and midwife attitudes to waterbirth.

Research question

The question for this project is: In specialist women's hospitals, with the implementation of an educational program, what are the staff nurses' and midwives' knowledge of and attitudes to waterbirth, and what are the barriers that face them in the workplace with labouring women?

Conceptual framework

Planned behaviour theory guides this research. It was developed by Ajzen and Madden in 1986 as a psychology theory adapted from Ajzen and Fishbein's theory of reasoned action (1980). According to Ajzen and Fishbein (1980), planned behaviour theory offers a clearer interpretation of individual motives and goals. It positions the assumed moral influence of confidence in the individual's capacity to perform an activity over behavioural accomplishment by effectively assessing their behavioural intentions. In contrast, the theory of reasoned action attempts to describe human actions against a certain event. Ajzen and Madden (1986) showed that it addresses the reasons that may affect a person's decision whether to perform an action. The theory also describes the influences of social expectations and subsumed behavioural dominance that affect and forecast behaviours. Importantly, Ajzen and Madden (1986) found through two experiments that planned behaviour theory permitted predicting actions more accurately than reasoned action theory.

Planned behaviour theory is the best framework to evaluate and analyse the influences and variables under investigation in this research, because it will explore nurse and midwife attitudes to and knowledge of waterbirth and their provision of this labour support method. Woodward (2011) suggested that by teaching while making health decisions, the approach of midwives has a direct effect on their patients' choice of

waterbirth. Planned behaviour theory is the appropriate paradigm for investigating and understanding multidimensional and dynamic human social behaviours. The principles of this theory and their interpretations help predict and interpret human actions in any given environment, illustrating a variety of relations with its core principle. The theory connects human belief in attitudes towards actions with universal expectations of acceptability and understanding of the capacity to regulate behaviour. It connects the psychological belief of the individual to their attitude to their psychological actions. The normative belief of the individual is associated with subjective principles and their perceived behavioural control.

Based on the theory, to examine the attitudes of nurses and midwives to the success of waterbirths, the following points must be explored. First, behaviour belief: the personal interest of nurses and midwives in waterbirth involves value, advantages and safety, contributing to their attitudes and eventually forming their plans to prepare for, provide and support waterbirth. Then, controlling perceived personal capacity to execute waterbirth: explicit research is needed on whether nurses and midwives believe that they have sufficient expertise, skills and physical capacity to provide waterbirth, a perceived behavioural control to increase their trust and intent to provide and lobby for waterbirth. Finally, normative beliefs regarding waterbirth in the work setting: the beliefs of others including patients, physicians and supervisors contribute to encouragement or obstacles for nurses and midwives in deciding to perform waterbirth.

II. Literature review

The literature review of this project involved all the published and unpublished evidence on staff nurse and midwife perception and knowledge of waterbirth within a 10-year range. The studies were found by searching through the Medline, SAGE, AOSIS, CINAHL and PubMed databases on the Dublin City University website; online nursing, midwifery and women's health journals; Google Scholar; and Saudi digital libraries. Keywords and index terms were used to return a wide range of results. The search terms combined perceptions of interest (*attitudes, opinions or experiences*), knowledge (*education or understanding or awareness*) and staff (*nurses, midwife or midwives*) with hydrotherapy waterbirth (*water, immersion, waterbirth, birthing pool or underwater birth*). The retrieved studies were assessed for inclusion in this review. This review was limited to research studies because there is less support for water immersion than the medical community's research. Of the 27 articles retrieved, 15 were reviewed, of which are eight were quantitative, three were qualitative and two used mixed-method designs.

Many published studies are available about the benefits, advantages and safety of waterbirth, which may expand nurses' and midwives' knowledge and enhance their confidence in waterbirth. Older articles were included in this review because no significant data were available from within five years. The quantitative retrospective comparison study (Otigbah et al., 2000) is a good example, comparing waterbirth outcomes and safety with normal vaginal deliveries in the maternity unit at Rochford Hospital, United Kingdom, between 1989 and 1994. The study compared 301 low-risk pregnant mothers who preferred waterbirth to those of the same age and parity who selected traditional vaginal delivery. The research variables for maternal complications were labour length, analgesia use or requirement, perineal tear (trauma) or episiotomy, infection and postpartum haemorrhage. Neonatal variables were shoulder dystocia, newborn admission to intensive care unit and Apgar score. Primigravidas who was choosing waterbirth in order to reduction in first and second labour phases, used fewer analgesia and less episiotomy and had more perineal tears. The findings present that no reported neonatal infections or deaths when the Apgar score had been compared.

The qualitative Cochrane systematic review aimed to summarise the best available evidence on pharmacological and non-pharmacological intervention efficacy and safety in relieving or managing labour pain (Jones et al., 2012). The review listed all labour pain management applicable systematic reviews of randomised controlled trials. A standardized procedure with 13 key effectiveness and safety findings had been adopted by each of the Cochrane studies. Every Cochrane review provided comparative studies with standard treatment, a beneficial effect treatment (placebo) or with a particular medicines based on a predefined intervention hierarchy. Data collected by Two samples researchers extracted data and evaluated the statistical quality, and the third researcher reviewed the data. The outline is a concise description of the findings of each study. Fifteen Cochrane reviews including 225 trials and three non-Cochrane reviews including 55 trials were identified for inclusion in this overview. For all interventions available, the findings were reported as a comparison of intervention multiple variations of the same intervention "such as one opioid versus another" or one intervention type versus another (such as TENS versus opioids) and versus placebo or standard treatment. Depending on the findings, the treatments had been categorised as "what works, insufficient evidence to make judgement and what may work" (Jones et al., 2012, p.101). Not all researchers were involved in the findings for all comparisons. Waterbirth was placed in the 'what may work' category. While epidural anaesthesia was in the group 'what works', combined spinal epidural and inhaled analgesia was found to effectively manage labour pain but increase the adverse effects incidence. the pregnant woman who received epidurals experienced more instrumental or caesarean deliveries and were more likely to experience hypotension, retention of urine, fever and motor

blockade when compared to opioids or placebo. Women who had inhaled analgesia also experienced dizziness, nausea and vomiting. The review indicated that waterbirth is one of several methods in the 'what may work' category that may provide labour pain management with minimal to no adverse effects. Compared to placebo or standard care, waterbirth may relieve pain and enhance satisfaction with labour pain relief and delivery (Jones et al., 2012).

These articles contain significant information about nurses' and midwives' attitudes toward waterbirth. Although patients depend on the guidance and instruction of their clinicians when making health-related decisions, the attitude of their nurses and midwives is likely to influence their preference in using waterbirth as a form of labour and delivery support. The attitude of nurses and midwives to waterbirth is influenced by several variables, including awareness and advantages, safety and evidence, supportive environment, equipment availability, policy framework and practice guidance, and interactions or exposures of previous positive or negative (Woodward, 2011). A philosophy doctor degree (PhD) dissertation published by Woodward (2011) that examined a randomised clinical trial viability to determine the attitudes of nurses and midwives towards waterbirth. The participants in the research were currently practising United Kingdom licensed midwives. To obtain a representative group, an opportunistic recruitment method was used, with midwives approached either when joining midwifery meetings by communicating with colleagues or via discussion websites through email. Midwives were sampled at various practice levels, from entry level to professional or manager midwives. The midwives were given an initial verbal description of the research and the Q sorting method, then enabled to select a time and location to complete it. Some completed the Q sort themselves and submitted it to the author, while others preferred a face-to-face interview with the author. In this research the Q methodology involved declarations cards and a tri-options Q protecting girdle. The nurses had to analyse each statement and arrange the card into one of three packs: they appeared ambivalent about, agreed with or disagreed with statement. The author collected 31 out of 43 total Qclassify piles. Four points of view were established: determination to obtain successful birth benefits, promoting physiological birth and improving work motivation and growth employee satisfaction; ensuring that sufficient risk assessment techniques are used; confidence, involving trust, competence and technology; and safety, the need for leaders qualified to deliver and assist with the waterbirth. The midwives were not in agreement with the statement that identified the requirement for formal training of waterbirth and considered it as being out of comfort zone. The author attributed this to only 61.3% having engaged in formal training in waterbirth. The midwives reported waterbirth as part of their daily practice and said that they had to use their basic midwife skills to handle waterbirth. The midwives decided that the option of waterbirth should be provided. Regarding the safety findings, while "the midwives were qualified to perform waterbirth and they strongly agree that enthusiastic leaders required support from the waterbirth service" (Woodward, 2011, p. 370). According to Woodward (2011), in the research showed that the midwives were qualified but did not have the confidence to provide waterbirth because of the uncertainties of the waterbirth leaders' roles.

In England, Russell et al. (2014) used an action study tutorial to enhance waterbirth promotion and maternity practice coordination. The research used a survey to assess the basic knowledge of midwives about waterbirth practice, individuals' efficacy of waterbirth, social assistance of waterbirth and hydrotherapy frequency. The midwives were divided into two groups: one who attended a waterbirth workshop and the other who did not. A total of 96 surveys were returned from 169 distributed. The findings indicated a major gap difference about waterbirth practice, between the two groups in midwives' knowledge. The group that participated in the workshop presented higher scores of knowledge than the one who did not attend the workshop. Nevertheless, there was little difference in self efficacy in waterbirth results amongst midwives' groups. In general, the workshop participants displayed increased levels of social support and waterbirth frequency.

Midwives are strongly affected by their work environment. The purpose of another study was to evaluate and provide information on waterbirth among Indian staff nurses in Jalandhar. For quantitative analysis, the study design selected was a pre-experimental one-group pretest and posttest. The study used convenience sampling to select 60 staff nurses in maternity wards of selected hospitals. The pilot study was carried out with 14 staff nurses. The structure of this research was developed using the general theory of system followed by Ludwig Von Bertalanffy (1968). The tool's reliability was calculated using the formula of Karl Pearson. The tool's reliability was 0.96. The pretest was taken on the first day, using a standardised awareness survey accompanied by scheduled formal teaching. After one week of posttest, programmed structured teaching was taken. A majority of nursing staff (58; 97%) had a lack of knowledge in the pretest, and only two staff (3%) had average knowledge. However, in the posttest, 35 (58.33%) of the nursing staff had good knowledge, and 25 (41.66%) nursing staff had average knowledge. Staff nurses therefore clearly had insufficient knowledge of waterbirth before the programmed structured teaching (Kaur and Singh, 2019).

Research has been restricted to investigating the education, knowledge and experience of midwives about waterbirth. Our goal is to overcome this evidence gap and develop knowledge around this significant

subject. In Western Australia between August and December 2016, Lewis et al. (2018) conducted a mixed-method study in three stages which were performed in a public tertiary maternity hospital at pregnancy care and delivery center. Stage one used an observational study cross-sectional survey design to explore educational conceptions, knowledge and training or practice of waterbirth. The second stage used a qualitative descriptive design and focus groups to investigate midwives' preferences in caring for women in waterbirth and the obstacles faced. For quantitative methods, the frequency distributions were used. Thematic analysis was conducted to identify common themes from audio recordings of the focus group. Most midwives participating in the study (29 of 34; 85%) returned a questionnaire. Stage one findings confirmed that 27 of 29 (93%) midwives felt equipped to facilitate waterbirth after training, with a mean of seven waterbirths required to facilitate confidence. The second stage involved seven and five midwives in two focus groups. Exploring what midwives preferred in caring for mothers using immersion in water, three themes emerged: instinctive birth, woman-centred atmosphere and undisturbed space. Regarding obstacles were two themes: learning by contemplation, and facilities needed for waterbirth. This study resulted in an increased knowledge base by exploring the education, expertise and practice of midwives in waterbirth. It also emphasised the importance of exploring what waterbirth provides to midwives, since it indicated that they are integral to providing waterbirth as an alternative choice for low-risk women (Lewis et al., 2018).

In summary, the literature search revealed that little is known about nurse waterbirth knowledge, attitudes and practices. There is also limited literature on midwife and nurse waterbirth experiences, attitudes, knowledge and practices, or sources of encouragement and obstacles in their working environments. There seems to have been a great deal of interest in further researching waterbirth since June 2014, after the publication of *Water during Labor and Delivery*.

Most published research has examined the patient health benefits of waterbirth. Only a few have studied the variables of waterbirth knowledge, attitudes and practices of midwives and nurses. In addition to the need for leadership support for waterbirth, all studies agreed on the value of the principles of trust and competency and a favourable organisational climate for waterbirth. Training and strong guidelines helped midwives to have greater confidence and provide waterbirth safely.

III. Methodology

Study design

This study will use a quantitative descriptive approach to explore and evaluate the attitudes and knowledge of staff nurses and midwives regarding immersion in water for labour and birth (Creswell and Creswell, 2018). Descriptive research gathers data without influencing the research environment. A descriptive study may collect data about the characteristics and features of a group (Nebeker, Simon, Kalichman and Booen, 2017). Quantitative descriptive research is often used to measure knowledge, attitudes and behaviours as numerical data rather than words (Bonnell and Smith, 2014). This descriptive study will make a significant contribution to knowledge about waterbirth due to the limited knowledge about its practice. It will provide a clear view of competence and confidence in waterbirth and the issues that may affect its incorporation in the workplace (Second, Bonnell and Smith, 2014).

Setting

The study will be performed at the Women's Specialist Hospital, King Fahad Medical City, in Riyadh, Saudi Arabia. The city has a population of 7 million people as of 2018. The hospital has an approximately 236-bed capacity, with 205 total nursing staff, including 87 bachelor- and diploma-qualified nurses and midwives, most of whom are Indian.

Population and sample

The study will include a purposeful sample of certified staff nurses and midwives. The inclusion criteria will be staff nurses who are available during the study, working in labour and working in the selected hospital. The exclusion criteria will be staff nurses working in other sectors or wards and student nurses. The sample target is 100 nurses and midwives of the 292 total. The researcher used the Raosoft sample size calculator software. The sample survey tool is a collection of more than 15 database and document management utilities collected with Raosoft online questionnaire tools for survey results. The researcher will clean the database, correcting any data entry, handling or design errors (Patten and Newhart, 2018).

Instrument

The instrument used in this research is a modification of that used by Meyer et al. (2010) with Georgian midwives. Meyer has approved the use and modification of the tool (Appendix B). The instrument incorporates the principal objectives and variables of the research, supported by the inclusion and exclusion criteria. The questionnaire will include a demographic part to determine the age, certification, educational level,

experience years and environments of practice for the participant. It then contains 46 questions, separated into four main sections reflecting the research questions: knowledge and experiences of waterbirth, confidence and competence with waterbirth, quantified personal efficacy, and surroundings in relation to waterbirth (Appendix C).

Survey instrument reliability analysis

The updated method will be piloted in the Women's Specialist Hospital by 25 practising certified nurses working in midwifery. Feedback will be gathered from respondents about the time they spend completing the survey and the clarity of its language. The 25 respondents will serve as subject-matter authorities to review and complete the questionnaire to determine its validity by asking experts' opinions. This survey reliability evaluation will be conducted using a field test, a simple instrument review, ensuring that each element is relevant to the respondents and experts can respond appropriately. The author will then receive input by telephone call or text message from each pilot study respondent. The instrument will be updated based on feedback from the pilot study. Some linguistic changes will be made to questions to help with readability and more targeted responses. Furthermore, a 'not applicable' option will be provided for certain questions.

Data collection

The online survey will take between six and seven minutes on average to answer all 46 questions. SurveyMonkey will close the collection automatically with a maximum of 1,000 responses per month at the present subscription rate. The statistical study will reject partial or incomplete surveys. SurveyMonkey provides data as an Excel spreadsheet, allowing statistical tests to be performed easily by importing it to SPSS version 26. The data from the analysis will be stored in an encrypted file downloaded to a personal computer secured by the password of the researcher. Only the author and the supervising educator can access the document. After the last publication, data from this research will be held for two years.

IV. Procedure

Ethical considerations

Studies in nursing and midwifery can be defined as systematic scientific investigation carried out to establish expertise for the discipline, including clinical practice, leadership, education and informatics. A systematic approach is thus an essential component of preserving this study's ethics. Participation will be entirely voluntary and will not pose any physical, psychological or social concerns. Consent will be inferred when the research questionnaire is completed and submitted. Participants will have the right to not respond and can refuse to complete the research questionnaire at any time. This study will explore nurse and midwife attitudes to and knowledge of waterbirth in a descriptive quantitative study. First, ethical approval will be gained from the Women's Specialist Hospital of King Fahad Medical City for the web questionnaires for midwives and nurses. Then, the researcher will provide the consent form and information leaflet to participants (Appendix A).

Processing

This study will explore and evaluate the attitudes to and knowledge of waterbirth among staff nurses and midwives working at King Fahad Medical City. Therefore, the author will obtain approval from the Commission on Institutional Review Board at Princess Nora University and the Research Committee and Institutional Review Board (RCIRB) at King Fahad Medical City. The Research Division is then required to notify the participants for permission. Once approval has been given, the department must submit the study questionnaire via email to the stakeholders of the RCIRB. The author must discuss her research with the expert team and the research committee to ensure the study's validity. After that, she will take written approval to the hospital administration and conduct a pilot study of the instruments on 25 midwife and nurse participants. To increase the response rate, the RCIRB will send a reminder to participants after one week. In addition, an electronic copy of the survey, the consent form, and the research information leaflet will be provided by the author. The author will explain all the details of the research, including the objectives, possible future advantages, any possible disadvantages to the participant, the method of data collection and analysis, and the presentation of the study findings. In particular, the author must protect data by leaving no space for entering the names of the survey participants. Before that, the author will begin eliminating incomplete surveys and evaluating the information using statistical analysis. Ultimately, the author will begin planning the full implementation of the computer study and coordinate with the Health Ministry in the Kingdom of Saudi Arabia to publicise the findings once the data analysis is completed.

Data analysis

The purpose of the study is to explore and evaluate the attitudes and knowledge of staff nurses and midwives regarding immersion in water for labour and birth, because of a lack of support for water immersion

in medical research. The question for this project is: In specialist women's hospitals, with the implementation of an educational program, what are the staff nurses' and midwives' knowledge of and attitudes to waterbirth, and what are the barriers that face them in the workplace with labouring women? SurveyMonkey will enable data analysis and generate tables and diagrams for statistics. For all the responses, the researcher will be able to access Excel files. SPSS version 24 will be used for data processing. Only completed and submitted replies will filter the data and remove incomplete or partial responses. This rendered data collection, the transition to SPSS, and analysis will be easier. The information will be filtered, and the values of the variables will be labeled correctly. The data analysis of 'yes or no' questions will use detailed statistics of the central tendency, and Likert-scale items will be evaluated using frequencies and percentages. The first question involves a 'pick anything that applies' question that is viewed as 'yes or no'. The 'not applicable' answers are regarded as valid and should be included in the statistical analysis. No statistical study has removed incomplete responses. The author will use numbers as codes for categorical answers, such as Yes = 8 and No = 9. Questions with Likert-scale answers will be coded as Agree = 1, Somewhat agree = 2, Somewhat disagree = 3, Disagree = 4, Neutral = 5, and Not applicable = 0. Information from the study questions will be classified, coded into patterns appearing from the responses by careful checking, and then used to produce frequencies and proportions as well as descriptive statistics. In the last question, a checklist on barriers that may face midwives and nurses, the researcher has already given each answer a code from A to M, from A01 = Body mechanics to M013 = None. The demographics of the participants will be described in tables with labels and informative captions, and referred to in the text by their numbers where the researcher discusses them. The author will use the average of values, such as the first age group 20 to 29 years of age, if it is the largest group or the smallest group or distributed nearly evenly with the percentage.

V. Discussion

Practice implications

The results of the research may inform structured waterbirth training during midwifery education and in employment. The limited number of waterbirth-qualified nurses and midwives suggests a need for employers to provide this training. Professional bodies could also require waterbirth education development credits to renew certification. The data may indicate a large response, clearly reflecting the requirement for guidance on waterbirth in the work environment. The research outcomes also will establish the need for Saudi Commission for Health Specialties (SCFHS) multidisciplinary waterbirth recommendations, developed in partnership with universities or colleges using evidence-based methods to critique the evidence available. Leadership and organisational support are central to the midwifery profession. An organisation seeking to implement emerging national patient-centred care programs will benefit from the implementation of waterbirth within its institutions. Leadership may strongly affect nurse and midwife intentions to provide waterbirth. Organisational leadership can inspire and allow success and best-practice care. The evidence shows waterbirth benefits to patient safety and satisfaction.

According to Vanderlaan, Hall and Lewitt (2018), water immersion in labour and delivery is a beneficial pain management technique associated with a substantial decrease in the use of epidural anaesthesia. It has the potential to save money and provide useful non-pharmacological pain management for women who want physiological births. While waterbirth is considered a convenient and low-cost form of pain control, issues about health in second-phase immersion remain. The latest Cochrane Review of Labor and Birth Hydrotherapy reported a lack of randomised controlled trials examining second-stage neonatal safety.

Strengths

Descriptive research is unique in its methods, as data about research subjects is obtained without altering the environment. Descriptive research seeks to explain what is really occurring. The study will empower the researcher to obtain feedback in a quantitative approach. Quantitative statistics will be used to interpret the data, allowing conclusions based on numbers.

Limitations

Although this questionnaire study's descriptive design represents a timely, simple research method, limitations will arise. A large number of missing responses may affect the analysis of the study. There is no assurance that all participants will be approached due to non-response mistakes in questionnaire results. For this research, although all active members will be consulted, life members will not be. The sample will be biased because not every certified nurse midwife will be able to respond to the email. Unfortunately, not all midwives who practice have an active membership.

Descriptive research will not be able to establish a relationship of cause and effect or determine associations between the variables of the analysis. In questionerresearches the self-reporting can show some exaggeration the difficulties of a situation or bias in attribution. The research attempted overview email will be

given an explanation to the tool to illustrate the objective and notify the participants to reduce the self-reporting bias. The email address and phone number for researcher will be available to the research participant to give feedback about the study or instance clarification.

In questionnaire samples, self-reporting may show some distortion or bias in attribution. The research introduction email managed to explain the method to clarify the objective and to reassure the participants in the study to minimize the self-reporting bias. To seek guidance or provide suggestions about the analysis, the email of the researcher address and telephone number were made available to the analysis participant

The author originally intended to perform the analysis over six weeks, prompting every two weeks for answers. However, due to unforeseen delays in processing and receiving the RCIRB permits, time constraints mean the analysis must be performed over two weeks with just one reply prompt. Furthermore, financial restrictions will limit the number of replies in SurveyMonkey to 1,000 per month, to avoid additional fees.

VI. Recommendations

The overdue national waterbirth guidelines should be finalised and disseminated to endorse and direct waterbirth practice based on the best evidence. Working with healthcare practitioners including midwives, nurses, obstetricians, paediatricians and anaesthetists will be important to create these guidelines. All Saudi Arabian waterbirth providers must be given free access to the guidelines. Midwifery education programs should integrate more waterbirth practical training. Incorporating SCFHS waterbirth training and continuing education must be considered in order to ensure sufficient waterbirth preparation for midwives. A shortage still exists of literature on well-designed waterbirth research. Given the latest evidence, more research is required to guide and support practice midwives. Organizations of education and health care will implement and finance more randomized controlled trial research programs to address any safety issues. Local midwifery associations will organize further waterbirth conferences to disseminate the latest information. In addition, waterbirth conferences and seminars must also be geared towards other members of multidisciplinary teams to increase awareness of waterbirth advantages and overcome misconceptions. Waterbirth can also be integrated into the continuing education required for recertification. To increase numbers of waterbirth providers, workplaces should implement a waterbirth training requirement and enforce waterbirth guidance policies.

VII. Conclusion

This research presumes midwife and nurse awareness of waterbirth, and that they self-educate on waterbirth by reading literature or watching videos. They use learning activities to build their expertise in waterbirth through personal interest. In most scenarios, the knowledge gained is not a professional skill or certification requirement.

Most study participants are expected to deny that cost is a significant barrier to waterbirth. The checklist items will be divided into 15 categories: administration, body posture, cost, dislike of waterbirth, hospital policies, lack of studies, lack of health professionals such as nurses, lack of training courses, lack of interest to nurses and patients, security issues, tub problems and unwelcoming climate. The main barriers to waterbirth are expected to be unwelcoming climate, medical professionals and tub problems.

The research questions are expected to be answered by the study. Research has established a need for more waterbirth learning programs in educational facilities and healthcare. Demand also exists for new guidance on waterbirth and organisational and leadership support. The lack of evidence to refute misconceptions about waterbirth and its advantages calls for further research.

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Appendices:

Appendix A:

Consent and Informational Letter for Participants

Date 4th April, 2020

My name is Noor Hussain Almasoud from Princess Norah University and Dublin City University Masters in Nursing program and I am conducting a research study about "Midwives and Nurses Attitude, Knowledge towards water birth". This is important because of the current discussion regarding the Waterbirth procedure. Research is required for all birth-stakeholders to enhance the quality of this practice. The purpose of this research is to explore and evaluate the attitude and knowledge of staff nurses regarding immersion to water for labor and birth by assessing nurses' attitude and knowledge regarding water birth. This research will help health care providers discover evaluate the attitude and knowledge of staff nurses regarding immersion to water for labor and birth. The aim of this research is to evaluate the attitude and knowledge of staff nurses regarding immersion to water for labor and birth.

I am requesting your assistance in my research by completing a survey that should take approximately 10 to 15 minutes. Your participation is completely voluntary, and you may withdraw from the study at any time.

The benefit to you for participating is knowing you contributed to research that may improve knowledge and attitude of nurses and midwives toward waterbirth. The risks involved in this study are minimal and no more than one would experience during normal daily activities. There may be the risk of emotional stress when asked about waterbirth. The remedy would be to skip any questions you choose to or discontinue participation in the survey. There are no other known adverse effects of participating in this study. Responses will be completely anonymous, and your name will not appear anywhere in the final write up of the survey results. All documents related to the study will be kept completely confidential in locked storage and only accessible to the researchers. Completion and return of the survey convey agreement to participate. In addition, please sign below to consent to participate.

If you have any questions regarding this research, please contact me at +966 501321284 or by Nooralmasoud3@mail.dcu.ei If you have any questions regarding your rights as a research subject, please contact the Princess Norah University Division of Research at 966118220000-36100\35829 | cs-recs@pnu.edu.sa

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Informed Consent Signature

I, _____ (Print Name) hereby consent to participate in this study about -----.

I have been informed of the purpose, risks, and benefits of the study and understand I may withdraw from this study at any time. _____(Signature)

Appendix B:

Request for Permission to Use Data Collection Instrument

Date 4th April, 2020

My name is Noor Hussain Almasoud from Princess Norah University and Dublin City University Masters in Nursing program and I am conducting a research study about “Exploring Staff Nurse and Midwife Attitudes to and Knowledge of Waterbirth in Saudi Arabia”. This is important because of the current discussion regarding the Waterbirth procedure. Research is required for all birth-stakeholders to enhance the quality of this practice. The purpose of this research is to explore and evaluate the attitude and knowledge of staff nurses regarding immersion to water for labor and birth by assessing nurses’ attitude and knowledge regarding water birth. This research will help health care providers discover evaluate the attitude and knowledge of staff nurses regarding immersion to water for labor and birth. The aim of this research is to evaluate the attitude and knowledge of staff nurses regarding immersion to water for labor and birth.

I am requesting your permission to use survey instrument of which you are the contact person. The Meyer’s 2011 midwives waterbirth instrument is well suited for my proposed study about attitude and knowledge of nurses and midwives towards waterbirth because it is briefly implementing the principle objective and variables of the research.

I appreciate your kind consideration for this permission. Please email me with any questions you may have about my proposed research.

Thank you.

Best regards,

Noor Almasoud
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Appendix C:

Waterbirth Survey	
<p>Waterbirth is an opportunity for women who have uncomplicated pregnancies and want less medical treatment to get delivery. Despite increasing empirical data of water birth advantages, only a tiny number of hospitals are in the kingdom of Saudi Arabia offer water Birth such as Aya hospital and Dr. Samir Abbas hospital in Jeddah, and AL Salam hospital in Riyadh as an option to women and families. The aim of this research is to survey and explore the knowledge, attitude, and clinical practices of midwives/nurses toward waterbirth in the Saudi Arabia, in order to considering sources of support or barriers within the midwife community.</p>	
Inclusion Questions	
<p>Select the answer that applies best to you</p> <ul style="list-style-type: none"> <input type="radio"/> I am actively enrolled in full/part time midwifery program accredited by the Accreditation Commission for Midwifery Education <input type="radio"/> I am currently eligible to practice midwifery in Saudi Arabia <input type="radio"/> I am currently eligible to practice nursing in Saudi Arabia <input type="radio"/> None of the above 	
Demographic	
<p>Age:</p> <ul style="list-style-type: none"> <input type="radio"/> 20-29 <input type="radio"/> 30-39 <input type="radio"/> 40-49 <input type="radio"/> 50-59 <input type="radio"/> 60 or above 	
<p>Certification (Please check all that apply)</p> <ul style="list-style-type: none"> <input type="radio"/> CN (Certified Nurse) <input type="radio"/> CNM (Certified Nurse-Midwife) <input type="radio"/> CM (Certified Midwife) <input type="radio"/> WHNP (Women's Health Nurse Practitioner-Board Certified) <input type="radio"/> FNP (Family Nurse Practitioner) 	
<p>The highest degree ever earned?</p> <ul style="list-style-type: none"> <input type="checkbox"/> BSN <input type="checkbox"/> MS/MSN <input type="checkbox"/> PhD <input type="checkbox"/> DNP <input type="checkbox"/> MPH 	
<p>Number of years practicing as a Midwife</p> <ul style="list-style-type: none"> <input type="radio"/> Less than 5 <input type="radio"/> 5-10 <input type="radio"/> 10-20 <input type="radio"/> 20-30 <input type="radio"/> More than 30 	
<p>What type of facility do you practice in? (Please check all that apply)</p> <ul style="list-style-type: none"> <input type="radio"/> Hospital <input type="radio"/> Community clinic <input type="radio"/> Academic setting <input type="radio"/> Birthing center <input type="radio"/> Homebirth practice 	

Knowledge/Experience with waterbirth		
If you wanted information about waterbirth, who would you go to: (Please check all that apply)		
<input type="checkbox"/> Other midwives	<input type="checkbox"/> News papers	<input type="checkbox"/> Obstetricians
<input type="checkbox"/> Nurses	<input type="checkbox"/> Internet	<input type="checkbox"/> Pediatricians
<input type="checkbox"/> Academic journals	<input type="checkbox"/> Blogs	
<input type="checkbox"/> Videos	<input type="checkbox"/> Conference	
Have you ever read a scholarly article or research paper on waterbirth?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever watched a video about labor in water?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever watched a video about birth in water?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Were you taught about waterbirth in your midwifery education program?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever done any continuing education focused on waterbirth?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever received any formal waterbirth training?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Are you certified as a waterbirth provider?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Were you able to attend births in water during your midwifery education program?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever witnessed a waterbirth?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever helped with the birth of a baby in water?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you ever helped a woman labor in water?		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have you personally given birth in water?		

Confidence and Competence providing waterbirth						
I need formal training to provide water birth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I need a midwife mentor and support to become confident with water birth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I am physically capable to provide water birth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I am physically capable to provide water birth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I am confident that I have the required skills & knowledge to provide water birth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I am competent to provide water birth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
Personal Effectiveness						
My patients ask me about water birth	Always	Often	Sometimes	Rarely	Never	Not Applicable
I recommend waterbirth to my patients	Always	Often	Sometimes	Rarely	Never	Not Applicable
I recommend waterbirth to my friends and family	Always	Often	Sometimes	Rarely	Never	Not Applicable
I have advocated for the introduction of waterbirth at my workplace.	Always	Often	Sometimes	Rarely	Never	Not Applicable
My participation in developing workplace policy makes a difference in decisions that are made regarding waterbirth.	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
When my organization adopts policies supporting waterbirth, I will implement that policy	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable

Work Environment related to waterbirth			
How would you rate the Obstetricians in your organization, on a scale of not supportive at all to strongly supportive in relationship to Waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive
How would you rate the Labor and delivery nurses' in your organization, on a scale of not supportive at all to strongly supportive in relationship to Waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive
How would you rate the Other CNMs in your organization, on a scale of not supportive at all to strongly supportive in relationship to waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive
How would you rate the Pediatrician's in your organization, on a scale of not supportive at all to strongly supportive in relationship to waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive
How would you rate the Administration in your organization, on a scale of not supportive at all to strongly supportive in relationship to waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive
How would you rate the Patient's in your organization, on a scale of not supportive at all to strongly supportive in relationship to waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive
How would you rate the Insurer's in your organization, on a scale of not supportive at all to strongly supportive in relationship to waterbirth?	Not Supportive at all	Mildly supportive	Strongly supportive

The main barrier to waterbirth implementation in your workplace is the high cost?	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
The main barrier to waterbirth implementation in your workplace is the lack of scientific evidence to support its safety/benefits?	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
The main barrier to waterbirth implementation in your workplace is the lack of skilled and confident providers to provide waterbirth?!	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I need leadership support to offer waterbirth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable
I need policies and guidelines to provide waterbirth	Agree	Somewhat agrees	somewhat disagrees	Disagree	Neutral	Not Applicable

Please check all the barriers to waterbirth that you face in your workplace

- A. Body Mechanics
- B. Safety Concern
- C. Unwelcoming Environment
- D. Tubs issues
- E. Patients lack interest
- F. Nurses
- G. No training
- H. Medical staff
- I. Lack of research
- J. Hospital policy
- K. Administration
- L. Cost
- M. None