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# Joyful Choice: An Exploration of Nurse-Midwifery and Water Birth

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**Abstract**
The approach to pregnancy and birth has changed throughout history. Midwifery as a profession has evolved right along with it. In today's society, women are becoming increasingly interested in pursuing natural childbirth and simply having more choice in the process. Nurse-midwives provide choice and empowerment throughout the pregnancy, labor, and delivery process. The attraction to nurse-midwives and natural childbirth has created a birth culture which has developed many methods to avoid medical intervention. Water birth has been shown to be one of the most effective and safest methods of pain relief during childbirth.

**Cover Page Footnote**
Honors Mentor: Angela Sears, Associate Professor, Nursing

After graduation from high school, I knew exactly where my career would take me. I would attend KU with double major in political science and women's studies. After that, I would pursue a law degree and become an elected official. Life had different plans. I did not do well in school, became distracted, and decided politics was not right for me. At twenty years old, after deciding to pursue nursing, I became pregnant and my academic career temporarily ended. During this time, I became enthralled with the pregnancy and birth process. After reading and speaking to other mothers I decided to attempt natural childbirth. My partner and obstetrician were very supportive and I went into the process ready to pursue my birth plan. While in labor I went into meditation while breathing through contractions. I had a vision, one where I was empowering women during labor, assisting them to bring babies into the world in a natural and less painful manner. It created within me an overwhelming excitement and helped me focus through the rest of my labor until my daughter arrived.

After some time staying home, I started to take classes to move on my way to applying to the nursing program. I investigated where a nursing career could take me. I found that becoming a Certified Nurse-Midwife (CNM) was most in line with my values of natural birth, promoting wellness, involvement in women's health, and also allows a nurse to work independently if desired. Throughout nursing school, it became clear that this is the best path for me. The research conducted for this paper has only contributed to reaffirming my decision and helping me to define what my role will be as a professional nurse-midwife.

The history of birth in the US and the world could, and does, occupy several books. In order to simply provide a brief perspective on the evolution of the birth process, it is important to first understand that in the late 18$^{th}$ century there were no medical schools or even specific licensing for doctors. All that a person had to do was declare themselves a doctor, meaning there

was a wide definition of a medical practitioner (Ettinger, 2006). Physicians of many types occupied the medical profession at this time, including those that practiced what would now be considered scientific medicine, homeopathy, midwives, and botanists (Ettinger, 2006). Physicians who used western science and modern practices started forming societies and developing licensing rules in order to narrow the definition of a medical doctor (Ettinger, 2006). This set the precedence for the requirements of licensing, educational guidelines, and standards of practice for all medical professionals including nurses and nurse-midwives.

Before the appearance of medicalized childbirth, birth was attended by untrained female members of the woman's community. There was often a "midwife" present, but this woman was not necessarily trained. The word was simply used to label a person in charge during labor and birth. This midwife would stay for hours or even days after birth to ensure the wellness of the mother, her newborn, and communicate with the family (Ettinger, 2006). These midwives used gravity and trust to help women through labor. Women typically had a midwife from their circle of friends or family. This woman might be well trained, or it could be their first birth out of an apprenticeship (Ettinger, 2006). These midwives attended births for hundreds of years until obstetricians and hospitals became more popular.

Long before moving into hospitals, birth culture in the US started to transform. Even though it would not become widespread for over 200 years, "man-midwives" started attending childbirth in the 1700s. They brought with them forceps and other instruments to help speed delivery. With these tools came the development of puerperal fever since there was no understanding of how infection spread (Ettinger, 2006). Throughout the 1920's and 1930's, things began to change and birth started to move into hospitals with doctors and nurses. With new understanding of bacteriology, hospitals could offer a cleaner environment. Hospitals

additionally provided pain relief, forceps, and early methods of labor induction. Women began to believe that hospitals would offer more predictability and less danger than home birth. In contrast to these published opinions, the infant and maternal mortality rates began to rise almost immediately with the popularity of hospital birth (Ettinger, 2006). Women began to recommend hospital birth as an opportunity for vacation away from home and other children. On the other side, some women felt quarantined and surrounded strangers during a revealing and life changing event. This time in history also marked the US becoming a mobile society. It became common for women to have no female friends or family nearby to oversee birth (Ettinger, 2006). These factors, in combination with the standardizing of medical education changed the face of midwifery in the US and across the world.

Expected standards of practice and licensing created a need for midwifery education. At first, this meant simply going to "midwifery school"(Ettinger, 2006). As expectations about the levels of care provided changed, this requirement changed. Currently there are several levels of birth attendant. A doula is the least liable type of birth attendant. They are not expected to catch the baby, but are more in charge of caring for the mother's needs throughout labor, birth, and often for weeks afterward. Doulas are required to attend classes, read books, and attend a certain number of births before receiving certified status from DONA (Doulas of North America). DONA certifies and provides a search engine for birth and postpartum doulas all over the US, Canada, and Mexico (DONA International, 2012). Doulas are helpful for women during labor and can be an advocate for women's choice at home or in a hospital.

The next level of birth attendants is referred to as a lay midwife. These women typically have no formal training, not to say that they are not knowledgeable about birth. Although older lay midwives may have just as much experience with birth as a nurse-midwife, the issue is that

these women are not eligible for insurance and can suffer legal liability, or lack thereof, if a birth results in illness or death (Malloy, 2010). The next step is a Certified Professional Midwife (CPM), which requires providing evidence of specific skills, education, and experience to the North American Registry of Midwives (NARM). These midwives typically have attended midwifery school or training program of some kind along with neonatal resuscitation courses and attending or assisting with several births (Ettinger, 2006). Both of these types of midwives do not have a nursing background, but can provide natural childbirth support for women. CPMs have more standardized education about birth itself and are a safer choice than lay midwives.

The highest midwifery education is a Certified Nurse-Midwife (CNM). These professionals are registered nurses who have gained a master's degree in nurse-midwifery and have passed a board exam. The education is not simply about labor and birth. It includes overall women and newborn health, family planning, nutrition, and much more (ACOG, 2011). In many states CNMs have the ability to provide well woman care and prescribe birth control along with attending to the needs of a pregnant, laboring woman (Ettinger, 2006). With specialized training and licensing, CNMs become increasingly independent and able to care for laboring women with little to no medical interventions. This is creating an atmosphere that motivates women throughout the pregnancy and birth process while also decreasing risks for mother and child.

In a world of research based medical care, someone might ask: Why would a woman choose a midwife, CPM, or CNM over an obstetrician to help deliver their baby? On the same note, why would a woman choose a birthing center or especially their own home to labor instead of the safety and security of a hospital? Hospitals are still the most common choice for women to give birth. Women see that there is increasing risk associated with birth each passing year. Higher rates of obesity, diabetes, advanced maternal age, and poor overall health are resulting in

more complications with childbirth (McInnes & McIntosh, 2012). It is important to note that despite these increasing risks studies show that 70% of pregnancies in the United States are considered low risk, normal pregnancies (Consortium for the Evidence-base Practice of Obstetrics, 2004). Aside from that statistic, women have a reasonable fear of illness or death when it comes to birth. This has created a culture of birth being a medical emergency instead of physiological event.

One of the key reasons a woman might choose a hospital and see birth as an emergency is the fear of neonatal or maternal mortality. The US ranks below many developed countries for both maternal and infant mortality. The World Health Organization reports that America is 42nd in keeping mothers alive, which means 41 countries have lower maternal mortality rates. The rate of infant and neonatal deaths continues to exponentially rise despite advances in technology (Consumer Reports, 2012). This is the result of poor health in combination with a lack of prenatal care and education provided for pregnant women and their partners. These factors contribute to low birth weight, premature labor, and an overall misunderstanding of the birth process (Consumer Reports, 2012). The rates of mortality with birth and how to decrease them needs to be further researched, but at this time it seems that a lot of it is due to improperly preparing for birth throughout pregnancy. Education is needed about the physiology of birth and the process that occurs naturally in a woman's body during labor. With education, women can begin to understand the decisions made during childbirth and become more active participants (Gordon, 2012). A woman's understanding of childbirth can be minimal and limited to the information provided by their physician. Hospitals provide a sense of security during an unfamiliar process which is important if there is fear of inevitable complications.

In addition to increased risks, there are more interventions used during childbirth with each passing year. These interventions are meant to relieve pain and speed childbirth, which is why many women choose to use them. Unfortunately, medical intervention can slow labor and increase risks despite the intentions. The common use of labor induction and early epidurals slow down labor while also increasing the rates of delivery requiring instruments or cesarean sections (Consortium, 2004). Obstetricians also routinely perform episiotomies with vaginal birth which increases rates of infection and lengthens healing time. Cesarean sections are performed for 1 out of 4 births in the US (Consumer Reports, 2012). Whether elective or emergent, C-sections increase healing time, infection risk, and endanger the life of mother and baby (Consortium for the Evidence-base Practice of Obstetrics, 2004). In order to reduce risks in birth, it is important that a woman understand that she has many options in childbirth. At this time, most women assume that the hospital is the best and only choice; however this is not the case.

In the past two decades, a new trend has emerged that may provide a compromise between home and hospital birth. Free standing birthing centers provide prenatal care, birthing rooms, and many supply well woman care to their clients who are not pregnant (Gordon, 2012). These centers offer families the security, safety, professionalism, and most of the services provided at a hospital with the homelike and calming feel that is often necessary for a successful intervention free birth. Birthing centers have partnerships with local hospitals which allow a laboring woman to be brought in for medical intervention if it is deemed necessary by the CNM (Gordon, 2012). In a birthing center a woman can trust that she is surrounded by well trained professionals who know how to support the natural process of birth while also being prepared to make emergency decisions if necessary.

A local center in Overland Park is one example of the industry standard for safe birthing choices. Within its walls, this birthing center provides for every detail a birthing woman could desire and safety protocols similar to hospitals. Each room is standardized in its layout to ensure safety and uniformity, including a "baby cabinet" that houses resuscitation supplies and any other medicine or equipment that may be needed throughout labor and birth. This birthing center also has laboratory services, ultrasound, and fetal monitoring equipment, along with a special room simply for non-stress tests that is set up, as the CEO states, "specifically to reduce stress" (Gordon, 2012). The only interventions not provided here would include epidural placement and cesarean sections. The birthing center is stocked with other pharmacological pain medication, Pitocin, intravenous fluids, and anything else that may become necessary as labor progresses. The center will respect all of the client's needs within medical reason, which allows the family to continue to pursue a natural birth with respect and clear communication about real risks from their practitioners (Gordon, 2012). The CEO and head midwife of this birthing center summed up their mission by saying, "[in today's world,] one does not simply give birth naturally, as one does not simply run a marathon. Here we help a woman train for the marathon of bringing life into the world with the most rewarding result possible" (Gordon, 2012). Through education and preparation, this birthing center is a prime example of what a birth outside a hospital can offer to a woman, her partner, and family during a life changing experience.

On another side of the birthing spectrum, there are women who pursue home birth with varying levels of assistance. From unassisted to an on-call CNM, the women who choose this route want an at home, intimate birth with their partner. Depending on the family's choices when it comes to assistance with the birth, there are a lot of factors to consider. Without the attendance of a well-trained CNM, the family can endanger the mother and child with serious legal and

health-related implications (ACOG, 2011). There is limited research about lay midwives and the outcomes of childbirth. The existing evidence demonstrates decreased interventions and risk of neonatal death along with increased rates of breastfeeding and maternal satisfaction (Mitchell Merrill, 2006). The American College of Obstetricians and Gynecologists has released a recommendation against unplanned home birth or birth attended by an uncertified midwife. The ACOG states that: "hospitals and birthing centers are the safest setting for birth [and the ACOF also] respects the right of a woman to make a medically informed decision about delivery" (ACOG, 2011). CNMs are educated to identify good candidates for home birth along with preparing the family for what may occur and possible risks.

The CNM, or other birth professional, typically will provide prenatal care in the home, including fetal monitoring and even drawing and evaluating blood levels if needed. The client can also be sent into a birthing center or doctor's office for further testing if needed such as ultrasound or glucose tolerance tests (Gordon, 2012). When labor begins, the CNM will be with the family for the entire process if possible and can provide medication, oxygen, resuscitation and other limited interventions as needed (Ettinger, 2006). This is not necessarily the case with other birth attendants, which is why it is important for CNMs to be present at home births if possible. In studies conducted to evaluate home birth attended by CNMs the results are mixed, but overall outcomes are positive for mother and baby (Janssen, Klein, Saxell, & Page, 2009). CPMs are also trained to recognize a need for a transfer to a hospital and are well trained about weighing the risks and benefits of home birth. The main limitation of a CPM is that they are not trained as nurses with the background in disease response and are also not licensed to administer medications as needed. Overall a planned home birth is safe, but pregnant women need to be well educated about risks and a CNM is the best professional in these situations.

In addition to location, women have a choice of practitioners when preparing for birth. Certified Nurse Midwives are able to provide choice and empowerment, something many people are looking for with such an important event (Gordon, 2012). CNMs, especially when they are in birthing centers, are able to offer a woman choice. The ability to wear their own clothes, eat, and be in familiar surroundings can transform the road of labor. At the birthing center visited, the CNM there explained that no one is present at the birth that the woman has not met before (Gordon, 2012). During stressful times the perception of pain can be much greater which leads to further needs for medication and intervention. This is probably one of the reasons women are successful with natural birth and a CNM assisting. When you are comfortable and prepared for what is ahead, the process is much easier.

CNMs decrease the risks of birth and improve outcomes in multiple ways. First of all CNMs will help a woman through labor by encouraging them to make it through with fewer interventions. Through decreased rates of inductions, epidurals, and episiotomies there is a lower risk for infection along with a shorter healing time. (Janssen, Klein, Saxell, & Page, 2009). Evidence also shows that there is an almost zero chance of cesarean delivery and vaginal birth after C-section (VBAC) success if the birth is attended by a CNM (Janssen et al 2009 & Gordon 2012). Since labor times are unique to the mother it is difficult to evaluate that factor, but there does seem to be a theme of less perceived time from the start of labor to delivery.

Neonatal outcomes at home are also improved with midwives. Newborns experience lower rates of resuscitation, meconium aspiration, or need for oxygen during their first day (Janssen et al, 2009). CNM attended births also have been proven to lower the risk of neonatal and maternal mortality, a benefit that is desperately needed in today's birth culture. Lower costs also result when a CNM is in attendance; however, this is home or birthing center specific.

Midwifery care is cost efficient in that fewer interventions are required therefore lowering perinatal and postpartum care costs (McInnes & McIntosh, 2012). It is important to note that most of these studies focus on low risk pregnancies, but CNMs know who the best candidates for home or birthing center birth are, allowing determination of risk long before labor begins (ACOG, 2011). The average cost of a birth in a hospital with an obstetrician in Kansas is around $15,000 while the cost of a CNM attended birth at the birthing center toured is $5,000. This cost can be covered by insurance; the birthing center toured even accepts Medicaid (Gordon, 2012). With lower risks, costs, and increased satisfaction for the mother and family it seems that CNM is a healthy choice for low risk pregnancies.

Within this culture of natural CNM attended births, there are many arising trends regarding ways to control pain, ease the length of labor, and keep mom calm. One of the emerging methods is the use of water immersion during labor. Water birth use started in the 1980s and has steadily become more popular. Each year thousands of women use this method (De Rota, Ferrando, Gregori, Merletti, Pagano, & Petrinco, 2010). Women can be in these "birthing tubs" for a portion of labor or throughout its entirety and delivery. Within the tub fetal heart rate can be monitored intermittently with a wireless device and as long as the status of the fetus is good, the woman may stay in the tub (Moroder, Ploner, Thoeni, & Zech, 2005). Also, most CNMs will not allow a laboring woman to remain in a tub if she has had pain medications (Gordon, 2012). There is an infection risk with invasive procedures such as IV or epidural insertion and these are also contraindications to staying in the birthing tub (Moroder, Ploner, Thoeni, & Zech, 2005). One of the main reasons a woman might choose water birth is because of the experiences of women before them. Mothers have reported experiencing euphoria during birth, equal to and beyond the effects of pharmacological pain medication (Beedles, 2012).

Water birth may not be for everyone, but those who choose it seem to have a positive experience in addition to the rewards it may present.

Water birth improves the birth experience for many women along with providing benefits throughout labor. There are also some disadvantages that must be understood before making the choice to step into a birthing tub. First of all, water birth is not an option for high risk labors. Birthing centers or hospitals will not allow birthing tub use if there is intrauterine dystrophy, multiple pregnancies, or if malpresentation is assessed (Moroder et al, 2009 & Gordon, 2012). There are several indications for leaving the tub, as discussed above, which can be considered a disadvantage since water birth can no longer be pursued.

Water birth presents many rewards for the laboring woman. If there are jets in the pool, one study noted that ineffective contraction patterns could be fixed and made quicker by the water's movement (Benfield, 2002). In a study of 1,600 water births in Italy it was found that water birth speeds the labor process especially the second stage. This same study concluded that water reduced episiotomy and perineal tear rates. Women also did not request or use any type of analgesia during labor, reporting that they felt no need for it while immersed in water. Sixty out of these 1,600 water births were attempting VBAC and succeeded without difficulties. Overall this study presented positive subjective evaluation of water birth in addition to objective analysis. The original goal was to assess if water birth increased the risk of neonatal infection. Results showed that there was actually a lower rate of infection with water birth (Moroder et al, 2009). A different study conducted to discuss the cost of water birth ended up finding all of the same advantages as the other. This was a much smaller sample with only 110 women pursuing water birth. In addition to the benefits for women, the study concluded that water birth is cost effective. Despite the cost of the actual use of the tub, the lack of interventions, quicker labor,

and shorter healing times resulted in a lower cost to the mother and hospital (De Rota et al, 2010). Women choose water birth typically for its ability to relieve pain and ease stress. Clearly there are also benefits when it comes to medical outcomes and cost. Midwives and nurses can feel confident encouraging this type of pain control throughout birth as long as there are no arising contraindications.

Birth choice is becoming a prevalent topic in health care today. When evaluating the outcomes for the mother and baby it becomes clear that choice and empowerment may provide a better way. A majority of pregnancies in the US are normal and low risk. Nurses and CNMs have an opportunity to encourage women to embrace their potential during labor and birth while lowering the use of risky interventions. It is important that no matter the choice, nurses remain supportive of all routes. Whether an elective C-section or natural home birth, it is imperative that mothers are educated about their without judgment for the final result. In the end, the focus of nurses and CNMs needs to be a healthy mom and baby. No matter the route chosen, the woman needs to feel that she is respected while making her most joyful choice.

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