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The Nurses' Role in Providing Comfort During Childbirth Using Ambulation and Hydrotherapy

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Abstract

Providing care and comfort to women during childbirth is an important role. While medical interventions are available, all are associated with potential risks. Using nonpharmacologic means to support the normal process of birth, nurses may reduce the use of medical procedures and their potential complications. The purpose of this article is to discuss the use of two techniques that promote physiologic childbirth, ambulation and hydrotherapy, and the nurses' role in providing comfort using these techniques in this important life event. Use of these techniques may delay or minimize the use of medical interventions while supporting the normal physiology of labor and birth.

Keywords: physiologic childbirth, ambulation and hydrotherapy, nurses' role in providing comfort, labor, birth

1. Introduction

Nursing care during childbirth has changed significantly over time; however, the birth process has not. Medical advances and technology have improved care for at-risk women but the increased number of unnecessary interventions during labor currently may hinder a healthy mother from having the best possible birth experience and outcomes. The concept of optimality, which is obtaining the best outcomes with the fewest interventions, suggests that nurses play an important role in encouraging care that supports the physiology of labor and birth so that unnecessary medical interventions can be avoided. Of all caregivers, nurses are the ones who are with laboring women most and have the greatest opportunity to offer comfort while supporting the normal physiology of birth (Adams, Stark, & Low, 2016; AWHONN, 2018).

Providing care that supports physiologic labor and birth has many benefits for laboring women and their unborn babies (ACNM, 2014). Normal physiologic childbirth includes spontaneous onset of labor and conditions that support the effectiveness of labor that result in the vaginal delivery of her infant and placenta (ACNM, 2012). There are many nursing actions and comfort measures that can support labor effectiveness without interfering with physiologic labor. Some of these include hands on techniques such as massage, use of a birthing ball, showering, application of hot or cold, mental strategies such as relaxation, position changes, changes to the environment such as music, and breathing techniques (Declercq, Sakala, Corry, & Applebaum, 2006). These methods do not have the side effects and risks of pharmacologic methods. They also may be used to supplement the effectiveness of pharmacologic methods if needed. The purpose of this article is to discuss the use of two techniques that promote physiologic childbirth, ambulation and hydrotherapy, and the nurses' role in providing comfort using these techniques in this important life event.

Dykes, Johnson, Fraser, and Hussey (2017) noted, "Even though many women desire hydrotherapy, it is available in less than 10% of all maternity facilities" (p. 45). The international childbirth education association (ICEA) supports the use of hydrotherapy during labor to provide an environment for gentle, physiologic birth (Walls, 2017). Maternal benefits include birth satisfaction, less postpartum hemorrhage, less perineal tearing, reduced need for pain medications, and enhanced relaxation. Contraindications may include women desiring vaginal birth after cesarean, which requires continuous auscultation using a doppler that can be used underwater. Not having this equipment will limit a woman's use of hydrotherapy.

2. Ambulation in Labor

Ambulation is being upright and moving from place to place during labor, reducing the time a woman spends recumbent and in bed. Ambulation during labor may include but is not limited to walking, dancing, swaying or rocking while standing, squatting or in an all fours posture, or any combination and movement to different positions. Ambulation and movement in labor may help to reposition a fetus from a position that is not ideal for birth to a more favorable position (Simkin & O'Hara, 2002; Stremler et al., 2005), to promote gravity to move the fetus to a lower station (Prabhakar, George & Karkada, 2015), and to reduce pain perception associated with contractions and discomforts of the labor process (Gau, Chang, Tian & Lin, 2011; Ondeck, 2014; Romano & Lothian, 2008; Simkin & Bolding, 2004; Spiby, Slade, Escott, Henderson & Fraser, 2003; Stremler et al., 2005).

2.1 Ambulation and Position Changes in Labor

A woman's laboring body instinctively cues ambulation, movement and positional changes. Societal and cultural norms and high use of medical interventions decrease a woman's confidence and trust in the cues that are instinctively programmed in her laboring body and continuously increase her dependency on others to control and promote her birthing experience. The increased use of routine medical interventions such as epidural analgesia, continuous electronic fetal monitoring, intravenous infusions for fluids and electrolytes, and a restrictive birthing environment limits women's instinctive responses to labor pain and contractions rather than assisting the woman to cope with the pain and anxiety of labor (Simkin & Bolding, 2004; Spiby et al., 2003).

The introduction of many, often unnecessary, medical interventions creates an environment in which a woman cannot move about freely or easily. When connected to devices and equipment that constrict free movement, women may be told to stay in bed and not to walk around; as is the case with a labor epidural (Simkin & Bolding, 2004). This restrictive, dependent laboring environment does not promote or encourage a mother who is stressed, anxious, fearful, and in pain to naturally cope with the discomforts of labor. Releasing a mother from medical interventions that are not medically indicated puts her back into a position of control to choose and experiment with coping strategies, such as ambulation or position changes, that support labor progress.

The experience a woman has with her pain in labor, dictates how she will perceive her progress towards delivery. Often the approach that is taken by health-care professionals in assisting the laboring woman in dealing with her pain sets the tone for the labor and birth experience. Rather, when a woman is encouraged to direct her own labor and birth, she is more likely to show higher satisfaction and perceive a smoother birthing process than a woman that may be told what to do and when to do it during her labor (Gau, Chang, Tian, & Lin, 2011; Ondeck, 2014; Prabhakar et al., 2015).

In a medical model, the complete elimination of the physical sensation of labor pain is the focus and goal of treatment and interventions. Laboring women subjected to this model become dependent on those that hold the control of pain relief which creates a cascade of necessary interventions to monitor the mother's and baby's well-being, as is the case with parenteral medications and epidural analgesia. With these medical interventions, women are restricted in their basic human functions such as eating, drinking, toileting and walking, leaving women with few decisions and little freedom to manage and cope with labor. In contrast to a medical model, a midwifery model of childbirth places emphasis on the prevention of suffering. Instead of attempting to make the pain disappear completely, the goal is to empower the laboring woman to cope with the pain (Simkin & Bolding, 2004).

Postural changes can be one of the simplest ways of promoting labor, as women can use different positions while remaining in bed, if that is required. Spiby et al. (2003) found that the assumption of and rotation between kneeling, squatting and side-lying positions assisted in pain relief, as well as reduction of anxiety, fear and stress. Introduction of interventions such as electronic fetal monitoring (EFM) and intravenous infusions were reasons that women remained in bed and did not use ambulation and postural changes as a means of decreasing discomfort. Positional changes also promote labor progress, although it was not found to be a deliberate, strategic postural change that was most effective but an instinctual move by the woman. Similarly, Stremler et al. (2005) found that assuming a hands and knees position helped to facilitate fetal head rotation from occipitoposterior (OP) to occipitoanterior (OA), when used for at least 30 minutes over a one-hour period during the first stage of labor. A significant reduction in back pain was also found in the *hands and knees* experimental group. Simkin and Bolding (2004) assert that walking, swaying, lunging and/or flexing and extending the legs changes pelvic dimensions to facilitate fetal rotation and descent. Such movement also mitigates pain caused by abnormal positioning of the fetus and/or prolonged labor.

Gau et al. (2011) introduced the use of a birth ball during the first stage of labor by sitting, rocking, standing, kneeling or squatting with the ball as support or counter pressure. The birth ball experimental group was found to

have spent an increased amount of time in an upright position, had decreased labor pain and increased childbirth self-efficacy. Those women with an increased sense of self-efficacy were found to have decreased pain scores, indicating that as women were supported in labor and were able to position themselves freely; their satisfaction and comfort were increased.

Ambulation positively affects the progress of labor and a woman's behavioral response to childbirth. Prabhakar et al. (2015) conducted a study in which an experimental group was ambulated for one hour to one and a half hours during the first stage of labor. Walking keeps the mother in an upright position and includes pelvic rotation and slight expansion in diameter, as well as incorporates gentle swaying and rocking motions. Venacaval compression is prevented, descent of the fetus's head is encouraged by the gravitational effect of being upright and the first stage of labor is shortened in duration. Prabhakar et al. (2015) also found that ambulation in the first stage of labor was effective in bringing about a positive mood and attitude in mothers toward their progress in labor. Most importantly, it can be noted that retaining the choice to ambulate or remain seated or in bed, was key in improving a mother's perception of childbirth. To explain further, mothers that were told to stay in bed and not walk around experienced lower satisfaction with childbirth than mothers that were given the choice to stay in bed, walk around or move from one position to another. Therefore, ambulation itself is beneficial to the natural promotion of the physical processes of labor and birth, but retaining the choice and freedom to ambulate, move around or stay stationary whenever the mother chooses is perhaps more influential than being told when and how to ambulate.

2.2 Practice Recommendations of Ambulation and Position Changes in Labor

Regular practice with ambulation and position changes during the third trimester of pregnancy increases a woman's self-confidence in those techniques. Practicing increases the likelihood that she will turn to these techniques during labor for comfort and support, rather than medical interventions. Gau et al. (2011) encouraged women in the experimental birth ball group to practice positions with their birth ball for 20 minutes, three times per week for six to eight weeks during the third trimester. It was found that regular birth ball use improved alignment and perception of muscle sense and changes in body center of gravity. Birth ball practice was perceived to be useful by the participants of Gau et al. (2011) in preparing for labor – they found that keeping good posture and maintaining abdominal and back strength reduced pain and promoted a sense of self-efficacy.

Simkin and O'Hara (2002) recommend encouraging women to labor and deliver in whichever position is most comfortable for and familiar to them. Changing positions throughout labor, including upright, side lying and gravity neutral positions, may result in more efficient labors. Positioning on hands and knees is recommended for rotating the fetus from occipitoposterior presentation to occipitoanterior presentation, while ambulating, swaying/rocking or squatting aid in correcting slow progress in dilation or descent (Simkin & O'Hara, 2002).

Similarly, Romano and Lothian (2008) advise standing, kneeling or squatting to aid gravity in bringing the fetus down and protecting the birth canal and the fetus from excessive pressure that may cause excessive fetal hypoxia or distress. Gravity neutral positions, such as kneeling on all fours, side lying and semi-sitting, allow women to rest between contractions and help conserve energy during contractions. Squatting is recommended in labor because it widens the pelvic diameter creating more room for the baby to descend. Interspersing upright positions with other positions is shown to decrease pain and shorten labor as long as the change in position is voluntary and guided by the mother (Simkin & Bolding, 2004). As labor progresses, pushing in upright positions is endorsed to help in decreasing the incidence of severe maternal pain and abnormal fetal heart rate (Romano & Lothian, 2008).

Laboring women are also affected by their perception of autonomy and mobility in their birth environment (Ondeck, 2014). These are affected by her permission, physical environment, practices by health-care professionals, and the people involved in her labor. Permission and people relate to the respect shown toward her choices, the extent to which she is aided in achieving her wishes, and advocacy shown on her behalf to respect her choices/wishes. The physical environment should be tailored to the woman's desires, including any tools she does or does not want available – shower, bathtub, birthing ball, birthing bed. In an environment where a woman feels safe, beta-endorphins help a woman respond to pain by using coping strategies (Buckley, 2015; Ondeck, 2014). Practices by professionals that promote a woman's freedom of mobility include offering oral fluids and calories, intermittent fetal monitoring, non-pharmacologic coping strategies (position changes, ambulation, relaxation, massage, acupuncture, immersion in water, warm showers), and enabling her to choose the positions of choice in labor (Ondeck, 2014). Romano and Lothian (2008) also endorse enabling a woman's freedom of movement to encourage her to assume instinctive positions and movements to cope with labor.

2.3 Comparison of Ambulation and Position Changes to Showering in Labor

Ambulation and position changes are similar to the labor pain reduction mechanisms that are provided by showering in labor (Simkin & Bolding, 2004; Stark, 2017). Movement and positioning offer the benefits of decreasing anxiety and fear, while providing reassurance, increasing a woman's sense of control in reducing pain perception, and cues rhythmic activity and rituals, providing a sense of calm and peace. Showering, or hydrotherapy, provides stimuli from peripheral sensory receptors to inhibit pain awareness as well as a decrease in muscle tension. According to Simkin and Bolding (2004), movement and showering share the effects of increasing joint mobility, altering pressures within the pelvis and soft tissue, and providing a distraction of attention from pain.

It can be assumed that women are showering in upright positions, including standing, rocking, swaying, squatting or sitting and that they are also changing positions within the shower to direct water wherever it is needed to provide pain relief or soothing effects. Therefore, showering evokes many of the labor benefits that are provided by movement alone. Intentionally incorporating showering into positioning, movement and ambulation has the potential to improve the birthing experience two-fold. The potential benefits include but are not limited to the promotion of gravity, enhancing the baby's descent and settling further into the pelvis and birthing canal, pain relief, increased sense of self-efficacy, calming and comfort, and perception of control over the environment and birthing experience.

2.4 Ambulation and Position Change Effects on Physiologic Hormones in Labor

Physiologic hormones involved in labor and childbirth are specifically timed and released at key points when they will be the most beneficial to the process (Buckley, 2015; Sakala, Romano & Buckley, 2016). The release or suppression of these hormones is internally and externally affected, in a complex manner that is key to the mother's and baby's survival and success of the birthing process, in addition to the success of breastfeeding and maternal-infant attachment. For example, when a mother is anxious, fearful or under great stress from her environment or the people surrounding her, this disrupts the normal hormonal physiology and may inhibit or slow down labor when her hormones are focused on preserving the woman or surviving the "threat". In contrast, if a mother feels safe, comfortable, and supported, she is free to focus completely on her labor and her hormones follow their natural course to promote labor (Sakala et al., 2016).

Weeks before the onset of labor, the mother-baby dyad starts to be prepared hormonally so that at the beginning of labor both are completely primed for the delivery and birth. Hormone systems are connected and inhibit or promote one another's activity to specifically amplify certain hormonal effects, depending on the stage and phase of labor. Because of the complexity of the connection between hormonal systems, a disruption to one or more of these systems has the potential to be catastrophic to childbirth. Often, when one disruption occurs from a medical intervention leads to a cascade of additional interventions to monitor the effects of the initial intervention and this continues in a circular fashion until the mother is overwhelmed with interventions and physiologic childbirth is inhibited (Buckley, 2015).

Buckley (2015) explores four different hormone groups that are active in labor and common maternity practices that impact that hormones physiology: oxytocin, beta-endorphins, epinephrine-norepinephrine and cortisol, and prolactin. Movement and positioning directly affects oxytocin, beta-endorphins and epinephrine-norepinephrine, while cortisol and prolactin are indirectly mediated by a woman's perception of her environment and permission to control her environment and her labor. Thus, oxytocin, beta-endorphins and the epinephrine-norepinephrine systems will be the focus here.

Oxytocin provides uterine contractions and late-labor urge to push, calming and analgesic effects, augments and accelerates labor, and supports maternal-infant bonding. Synthetic oxytocin reduces the body's production of endogenous oxytocin. Buckley (2015) states that it is thought that synthetic oxytocin does not cross the blood-brain barrier, therefore not providing natural analgesia and creating a need for other pain management, such as an epidural. Co-interventions of oxytocin delivery and epidural anesthesia are continuous electronic fetal monitoring. This greatly reduces the mother's ability to move and re-position herself. Women in upright positions during the first stage of labor, whether that be sitting/rocking or standing/ambulating, were less likely to use narcotic or epidural pain relief (Simkin & O'Hara, 2002). This shortened the first stages of labor and it was found that women needed less oxytocin to augment labor because positioning enhanced gravity brings the baby down. Movement also increased levels of endogenous oxytocin in the mother. Unlike exogenous oxytocin that is rate controlled by human judgment, endogenous oxytocin crosses the maternal blood-brain barrier and provides some reduction in pain perception and is sensitively regulated by the mother's body (Buckley, 2015).

Within a sensitive range, beta-endorphins also provide analgesic properties to a laboring woman in addition to promoting adaptive responses to stress and pain because they activate the brains reward and pleasure centers (Buckley, 2015). However, in an environment where women are under excessive stress, beta-endorphin levels are increased to supraphysiologic levels that actually inhibit oxytocin and slow labor. Promoting an environment in which women feel in control, are free to move and position as they please and are safe increases beta-endorphins to a physiologic beneficial level that helps women respond to pain by using coping strategies (Ondeck, 2014).

Epinephrine-norepinephrine (EN) systems mediate "fight or flight" and are released with increased levels of stress and/or perceived danger or threat. This system is important during the catecholamine surge during late-labor to prepare the fetus for passing through birth canal and adapting to the external environment successfully. EN also has the effect of slowing or stopping labor and may be induced when a mother is in an unfamiliar or restrictive environment (Buckley, 2015).

3. Hydrotherapy

Hydrotherapy, which is immersion in a tub of water for its therapeutic effect, has been shown to be effective in reducing pain, relieving anxiety and providing a sense of control to the laboring woman (Stark & Miller, 2009). Most non-pharmacological comfort measures used in labor do not eliminate pain completely, but rather decrease the perception of pain and provide comfort. By decreasing the level of anxiety the woman is experiencing will in turn decrease the pain perception and allow her to better cope with labor (Simkin & Bolding, 2004). The decrease of anxiety allows the woman to relax and feel more comfortable. With being more relaxed and feeling more comfortable the woman is more readily able to move and change positions; therefore, she is more likely to find a position of comfort (Stark, Rudell, & Haus, 2008). The warmth of the water allows for vasodilation allowing better blood flow throughout the body (Stark et al., 2008). Sitting in a tub of warm water also is familiar to most, giving her a safe and familiar space even when laboring in an unfamiliar hospital environment.

3.1 Hydrotherapy and Pain

Barbosa da Silva, Vasconcellos de Oliveria, and Nobre (2009) conducted a randomized control trial (RCT) to evaluate the effectiveness of hydrotherapy on pain management during the first stage of labor. The study involved 108 nulliparous women, 54 of which received the hydrotherapy intervention while the other 54 received normal hospital routine care on the unit. The 54 that were part of the intervention group were asked to rate their pain using a scale of 0-10 with zero being no pain at all and 10 being the worst pain imaginable. The first score was recorded when the woman's cervix was dilated to 6-7 cm. At this time, she was asked to labor in the tub for 60 minutes. After time was up, each woman was again asked to rate her current level of pain using the same scale as before (Barbosa da Silva et al., 2009). The average score of the control group at the first evaluation was 7.1 whereas the intervention group was 6.7. After the immersion took place, the scores reported by the participants were 8.5 (intervention) and 9.3 (control). As one would expect, a woman's pain level will rise as labor progresses. Therefore, it is an expected finding that the pain score would increase, however, the effectiveness of hydrotherapy is recognized as the intervention group's average pain score was significantly lower than the control group's average pain score.

A study including 108 primaparous women was conducted by Liu (2014), in which 38 received water immersion and 70 underwent traditional labor. Once the women reached a dilation of 3 cm, they were able to get into the tub. A visual analog scale (VAS) was used to assess pain before entering the tub, and then again after exiting the tub. The scores were significantly higher in the control group at 30 and 60 minutes when compared to those who participated in the hydrotherapy.

Benfield et al. (2010) conducted a study in which 11 women at term were placed in water for an hour during labor. Their pain levels were measured pre-immersion, again at 15 minutes, and 45 minutes. Hydrotherapy decreased pain, but not significantly. However, once the women were separated into groups of high levels of baseline pain versus low levels of baseline pain, results were significant in reducing pain for those who had high levels of baseline pain. Cluett and Burns (2009) conducted a systematic review in which 12 trials were analyzed. While many results were reported, the only statistically significant results were noted in reducing moderate or severe pain, when the differences in pain scales were considered.

3.2 Hydrotherapy and Relaxation

Maude and Foreur (2007) asked women if they thought the water relieved their pain. Many of them did not believe that the water took their pain away, but rather relaxed them enough that they were not thinking of the pain (Maude & Foreur, 2007).

Stark et al. (2008) conducted a study to evaluate position and movements with hydrotherapy. Results indicated that women utilized seven different positions while in the tub versus only four positions used while in bed. This data suggests that the water allows for more relaxation and control of one's body and therefore women are able to change positions more frequently which support physiologic birth. They also noted rhythmic movements which promote fetal descent were more frequent when in the tub, versus being stationary in bed (Stark et al., 2008).

3.3 Confidence and Mood

Benfield et al. (2010) indicated that anxiety was significantly reduced in their study involving 11 healthy, term women who used hydrotherapy. Women were asked to rate their anxiety on a VAS scale ranging from 0-100 with zero indicating "no anxiety" and 100 indicating "maximum anxiety". Scores were taken pre-immersion followed by laboring in the tub for one hour during which anxiety levels were assessed at 15 and 45 minutes. Mean scores decreased from pre-immersion (51.3) to 33.1 and 29.3 (at 15 minutes and 45 minutes respectfully). This demonstrated a significant decrease in anxiety with the use of hydrotherapy.

Maude and Foreur (2007) gave 5 women a chance to express their experience during hydrotherapy in a qualitative study. The findings were that water immersion was beneficial; however, most of the women struggled to explain how. The warmth of the tub, the comfort it offered and the safety and familiarity of being at home rather than in a hospital were explanations some provided (Maude & Foreur, 2007).

3.4 Use of Analgesics

A systematic review conducted by Challiet et al. (2014) reviewed 57 randomized control trials in their effectiveness in relieving pain when compared to usual care. Results indicated that there was a significant reduction of epidural use. Challiet et al. (2014) suggests that this is possible due to the Gate Control Theory; when movement of the water over her abdomen where she is experiencing pain, the nociceptive message to the spine is blocked thus reducing the need for epidural analgesia. Cluett and Burn (2009) also conducted a systematic review in which six trials reported data on the use of epidurals with hydrotherapy. The results indicated a significant decrease in the use of epidurals for those who utilized hydrotherapy at some point during labor.

3.5 Physiologic Effects

Buckley (2015) used physiology to provide explanation for the effectiveness of physiologic labor and birth. There are three main aspects that will be discussed within this section to explain the physiology of hydrotherapy: Oxytocin, Beta-Endorphins, and Epinephrine-Norepinephrine.

Oxytocin is a naturally produced reproductive hormone that is produced during the labor process. In addition to stimulating labor contractions, oxytocin also affects mood by activating the parasympathetic nervous system to produce calmness and reducing activity of the sympathetic system. In doing so, fear, anxiety and stress decrease and women experience calm, connection and some analgesic effects (Buckley, 2015). By releasing this hormone the body is more able to relax and prepare for the strenuous endeavor of labor. Oxytocin also allows for more rhythmic uterine contractions which therefore would decrease the length of labor (Buckley, 2015). When tested, oxytocin levels showed an increase after 15 minutes of water immersion (Benfield et al., 2010) and has been used instead of Pitocin for labor augmentation (Cluett, Pickering, Getliffe, & Saunders, 2004).

Beta-Endorphins are another naturally produced hormone during the labor process, offering an analgesic effect that often produces a euphoric mindset for the woman. This change in mindset allows the woman to deal more effectively with the stressors that labor brings (Buckley, 2015). Therefore, if there are higher levels of stress and pain, elevated levels of beta-endorphins are produced (Buckley, 2015). In a study conducted by Benfield et al. (2010) beta-endorphin levels were increased, although not significantly, for all women in her study after 15 minutes of immersion in water. This suggests that hydrotherapy may affect beta-endorphins, thus supporting pain reduction and optimal uterine contractions.

Epinephrine-Norepinephrine hormones are responsible for the "flight or fight" response. This also is known as a catecholamine surge. They are released when the body feels threatened and preserve the function of vital organs such as the heart and lungs (Buckley, 2015). When blood is being shunted to the maternal heart and lungs, it is not being distributed to the fetus. Therefore, when women are laboring, these levels ideally should be low. If a woman feels a threat in her privacy while laboring, this can initiate the flight or fight response (Buckley, 2015) resulting in decreased blood flow to the fetus. Therefore, it is very important to make sure that the woman feels safe and respected during labor. Benfield et al. (2010) noted that catecholamine levels drastically decreased after 15 minutes of a woman being immersed in water.

In summary, Hydrotherapy provides many benefits to laboring women with little risk of side effects. It has the ability to relieve pain as well as anxiety along with increasing the women's mood and decreasing the use of analgesics. These benefits promote a physiologic birth to occur by increasing the release of oxytocin, beta-endorphins and suppressing the release of epinephrine-norepinephrine.

As there is evidence supporting the use of hydrotherapy during labor, nurses need to be ready to implement this intervention. This requires nurses to be educated on hydrotherapy including the physiology and nursing care of women in hydrotherapy. First and foremost, nurses need to be educated as to how to safely provide hydrotherapy. Safety points, such as assisting the woman in and out of the tub, monitoring temperature of the water, assuring she can call for help if needed, and monitoring the fetus in labor need to be addressed. The equipment needed for this intervention, specifically the tub, its cleanliness, and shoulder length gloves for nurses and health care providers, and waterproof-monitoring devices should be available. Protocols in regards to temperature of the water, length of tub time, and when it is appropriate to be laboring in the tub need to be clear. Education on how and what to assess while the woman is in the tub will also be vital to care. Several hydrotherapy guidelines are available (ACOG, 2016; ACNM, 2014; ACNM, 2016; Royal College of Obstetricians and Gynecologists/Royal College of Midwives, 2006).

4. Conclusion

Efforts to reduce the cesarean section rate have prompted great interest in supporting physiologic birth. Strategies that promote physiologic birth may also delay or reduce use of medical interventions with their potential risks. Because nurses are at laboring women's side providing comfort and care, they have the unique opportunity to support labor effectiveness. Ambulation, position change, and hydrotherapy are examples presented here for nursing care that promotes physiologic birth. The rationales for these nursing therapies were explained, as well as safety considerations. There are many other modalities that nurses can implement while caring for laboring women and their families. The work presented here can be a template for evaluating other therapies useful for labor. As nurses understand the rationale and evidence that supports the use of non-pharmacologic comfort measures that also promote physiologic birth, they will be prepared to also promote patient quality and safety.

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