

STUDENT EXPERIENCES AND BELIEFS  
REGARDING NORMAL PHYSIOLOGIC  
BIRTH

By

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## Abstract

Lamaze International identifies six care practices used to promote, protect, and support the normal physiologic process of birth (Lamaze, 2007; Lamaze, 2014). These practices include: allowing labor to begin on its own; allowing freedom of movement throughout labor; providing continuous labor support; avoiding routine interventions; promoting spontaneous pushing in upright or gravity-neutral positions; and not separating mother and baby with unlimited breastfeeding opportunities. These care practices were adopted for nurses (Romano & Lothian, 2008) to support the normal physiologic birth (NPB.) The disparity between this recognized standard of care and the reality of nursing student education in the maternity clinical setting is explored through a survey of 59 nursing students. The survey elicited responses regarding: 1) educational experiences with NPB in the maternity clinical practicum; 2) experiences with each of the care practices in the maternity clinical practicum; and 3) beliefs about NPB in the clinical setting. The findings indicated a gap between evidence-based practice taught in the classroom and the experience of student nurses in the maternity clinical setting. Implications for nursing practice, research, education, and policy are identified.

*Keywords:* normal physiologic birth, student nurses, evidence-based practice, nursing education

## **Introduction**

Childbirth is a monumental and profound event in the lives of women and their families (Declercq, Sakala, Corry, & Applebaum, 2006). In the last two decades, technological advances have changed the way in which maternity care is implemented and delivered. Current maternity care in the United States is dominated by the medical model which is characterized by frequent and unnecessary use of technology and interventions. Lamaze International has released six evidence based care practices that protect, promote, and support normal physiologic birth (NPB) and are strongly supported by evidence (Lamaze, 2007). These practices include: allowing labor to begin on its own; allowing freedom of movement throughout labor; providing continuous labor support; avoiding routine interventions; promoting spontaneous pushing in upright or gravity-neutral positions; and not separating mother and baby with unlimited breastfeeding opportunities. The practices were adopted by Romano and Lothian (2008) as nursing specific practices to support, promote, and protect NPB. This research explored student perceptions of maternity clinical experiences in relation to Romano and Lothian's six care practices (2008). Student nurses' beliefs surrounding the nurse's role in supporting NPB were also investigated. The underlying assumption was that in order to provide evidence-based care as registered nurses, it is critical that congruence exist between classroom and clinical learning.

## **Literature Review**

### **Normal Physiologic Birth**

Specific definitions of NPB vary among organizations and disciplines. For example, American nurse researchers Romano and Lothian broadly state that physiologic birth entails, "a delicate hormonal process that unfolds optimally when conditions minimize fear, pain, and stress" (Romano & Lothian, 2008, p. 94). Similarly, the American College of Nurse-Midwives (ACNM) released a consensus statement with the cooperation of three major United States midwifery organizations specifying NPB as emphasizing the natural ability of women to birth without the

heavy use of interventions that typify modern maternity care (ACNM, 2012). In contrast, the Society of Obstetricians and Gynaecologists of Canada (SOGC) released a joint statement in which the definition of NPB includes interventions such as augmentation of labor and artificial rupture of membranes to facilitate labor and birth (2008). The World Health Organization (WHO) defines normal birth as a labor which begins spontaneously and ends with the term infant born in the vertex position (WHO, 1996). The labor and birth must be low risk and both mother and baby must be healthy postpartum (1996). WHO (1996) states that the aim “is to achieve a healthy mother and child with the least possible level of intervention that is compatible with safety” (p. 8).

The goal of physiologic care is safe and optimal outcomes for both mother and infant. It is defined by Goer and Romano (2012) as “the least use of medical intervention that will produce the best outcomes given the individual women’s case” (p. 14). Specific physiologic care practices can be used to support, promote, and protect NPB while providing optimal care of laboring women. The authors assert the universal nature of the physiologic care model in promoting normal labor and birth, stating ““Every group that has ever set out to design a healthy maternity care system or to define quality maternity care has articulated the principles and practices of the physiologic care model” (p. 16).” Lothian further reports that deviation from NPB may be detrimental to health outcomes for the mother and baby. The author relates that each routine intervention interferes with the biological process of childbirth and potentially increases the risks for both mother and baby while leaving little room for unique individual experiences (Lothian, 2009).

The Childbirth Connection, in collaboration with Lamaze International, distributed a survey to 1573 women who gave birth in U.S. hospitals in 2005. According to the results of this survey, *Listening to Mothers II* (LTM II), what happens during the birth period matters deeply and has long lasting implications for the social, emotional, and physical health of women and their infants (Declerq et al., 2006). Many women in this survey described childbirth as a monumental accomplishment and life altering event (Declerq et al., 2006).

Building on the results of the national landmark survey LTM II, DeClerq and colleagues (2013) distributed surveys to 2400 women who gave birth in the U.S., entitled *Listening to Mothers III* (LTM III). The majority of respondents, 70%, were attended by an obstetrician during their labor and birth while only 10% of women were attended by a midwife (Declerq, Sakala, Corry, Applebaum, Herrlich, 2013). Lothian (2009) maintains that women attended by midwives during labor are:

less likely to need pain medication, have more freedom of movement, and are more likely to eat and drink in labor. Women cared for by midwives are less likely to have routine interventions of any kind, have fewer complications, and are less likely to have a cesarean (Lothian, 2009, p. 52).

Lamaze International's (2007) six care practices are designed to be used by all health care providers to support and promote NPB while encouraging optimal outcomes for childbearing women. The literature will be reviewed using these six care practices as the framework

### **Labor Begins on Its Own**

Supporting the natural physiological progression of birth includes allowing labor to begin on its own which is the first care practice supported by Lamaze International (2007). Induction of labor is defined as the chemical or mechanical initiation of contractions before they can begin spontaneously with the intent of causing labor and birth (Lowdermilk, Perry, Cashion, & Aldon, 2012). Forty one percent of LTM III respondents indicated that their provider suggested the induction of their labor (Declerq et al., 2013). The majority of these inductions were done through the use of synthetic oxytocin followed by the breaking of the amniotic membranes for both medical and non-medical reasons. Participants identified the leading cause of induction as the mother either being full term or the mother being close to her due date (Declerq et al., 2013). The second leading cause was the women desiring birth to occur (Declerq et al., 2013). Amis (2007) notes that while there may be true medical conditions cited as reasons for induction, a large proportion occur either

because it was convenient for the mother or provider or because there was a concern of a large baby which are not considered to be evidence-based be indications for induction. Romano and Lothian (2008) also support that labor should be allowed to begin on its own with women experiencing uncomplicated, normal pregnancies.

Evidence of rising inductions can be found within the American College of Obstetricians and Gynecologists (ACOG) statement on Labor Induction Guidelines (2009):

The rate of labor induction in the US has more than doubled since 1990. In 2006, more than 22% (roughly 1 out of every 5) of all pregnant women had their labor induced. The goal of labor induction is to artificially stimulate uterine contractions so that pregnant women can deliver vaginally. As with all procedures, the risks must be weighed against the benefits to the woman and the fetus (p. 1).

Induction of labor starts a cascade of medical intervention and poses many potential risks to both mother and child. Induction of labor may increase the likelihood of instrumental vaginal delivery, intra-partum fever, shoulder dystocia, low birth-weight, and admission to the neonatal intensive care unit (Goer, Leslie, & Romano, 2007).

### **Freedom of Movement Throughout Labor**

Freedom of movement throughout labor, the second care practice recommended by Lamaze International (2007) is key for NPB and supported by the literature. Because of the common restriction of fluids orally, intravenous fluids are commonly prescribed to prevent dehydration in women restricted from eating and drinking. Intravenous lines prevent freedom of movement for laboring mothers. While it is true that emergencies do occur during labor, Goer et al. (2007) found that no evidence existed to support the fact that routinely starting intravenous access in low risk laboring women prevents complications.

While they labored, 43% of respondents were permitted to ambulate once they were admitted to the hospital unit (Declerq et al., 2013). Women reported a decrease in ambulation once

attached to the electronic fetal monitor (EFM). When questioned regarding positions during vaginal births, 68% of women who gave birth vaginally reported that they were positioned on their backs while pushing and giving birth (Declerq et al., 2013).

Lamaze International (2007) recommends that women in labor maintain mobility. This allows them to better tolerate the increasingly painful contractions that accompany the rising levels of oxytocin because of endorphin release that occurs during periods of physical exertion.

Lowdermilk and colleagues (2012) concur and found that movement and change of position facilitate the rotation and descent of the baby through the pelvis which protects the birth canal.

Storton (2007), in a systematic review, found that ambulation, movement, and changes of position during the first stage of labor may shorten labor. In addition, she concluded that there was no evidence to suggest that ambulation, position changes, or movement during labor is harmful to the mother or unborn child.

### **Continuous Labor Support**

Throughout the ages, women have received support during their labors. Ninety nine percent of respondents in the LTM III survey reported support from a husband, partner, nursing staff, family member, friend, doctor, midwife, doula, or other (Declerq et. al, 2013). This support was cited by participants as being vital to their success during labor. One mother is quoted as saying, "I think the nurse's reassurance and confidence was a big factor in my ability to stick with the contractions and push after nearly 30 hours" (Declerq et al., 2013, p.16).

Supportive care, providing physical, emotional, or educational support to the laboring mother, allows the laboring woman a source of strength and comfort through what may be a very difficult and challenging experience. Hodnett, Gates, Hofkeyer, and Sakala (2012) conducted a meta-analysis which included more than 13,000 women and found that women who had continuous support were more likely to have a spontaneous vaginal delivery and increased personal confidence. Women with continuous support were less likely to have intra-partum analgesia or anesthesia as well

as to report negative feelings about childbirth and the birth experience (Hodnett et al., 2012). The research demonstrates that not only does continuous labor support allow for improved physical outcomes, but it also allows for an improved psychological experience for the laboring mother.

One aspect of supportive care is promotion of pain relief during labor. Declerq et al. (2013) found that the majority of women, 83%, stated that they used one or more type of pain relief during labor with the most common form of pain relief being spinal. The authors reported that there was a trend among participants to feel pressure from their provider to receive an epidural. Another routine intervention for pain control is the use of epidural anesthesia which interferes with the normal physiology of labor and birth. Romano and Lothian (2008) report that the release of internal oxytocin may be altered by the absence of pain, and the relaxation of the pelvic muscles makes it more challenging for the baby to rotate and descend. The epidural results in more invasive interventions. Romano and Lothian (2008) report that an epidural increases the risk of hypotension which creates the necessity for intravenous fluids and an electronic fetal monitor (Romano & Lothian, 2008). Anim-Somuah, Smyth, and Howell (2011) found that women with epidurals are more likely to have an increased risk of instrumental vaginal delivery.

Pain relief included non-pharmacologic methods as well. Seventy three percent of all women utilized non-pharmacological methods of pain relief instead of or in addition to pharmacological methods (Declerq et al., 2013). Non-pharmacological methods of pain relief included breathing techniques, position changes, hands-on techniques, and showering.

### **No Routine Interventions**

Sixty percent of the mothers surveyed agreed that “giving birth was a process that should not be interfered with unless medically necessary” (Declerq et al., 2013, p.XIV). Studies show that for low-risk women, fewer technological interventions are associated with better physical as well as psychosocial outcomes; however, the occurrence of low intervention birth experiences is decreasing (Birkhead, Callister, Fletcher, Holt & Curtis, 2012). Best evidence indicates that birth does not



necessarily need to be managed following the medical model. Rather, evidence suggests that lower rates of interventions are associated with preferable birth outcomes.

Labor interventions referred to as routine by Romano and Lothian (2008) occurred with frequency according to the LTM III survey (Declerq et al., 2013). Women reported the following interventions: IV fluids, catheters, episiotomy, and shaving of pubic hair. Oral intake restrictions are frequently implemented on laboring women and frequently impair NPB. Forty percent of mothers who experienced labor reported that they drank something during labor, and only 21% indicated that they ate during their labor (Declerq et al., 2013). One mother stated, "I wish I had been allowed to eat something small. By the time I had the baby, I had been fasting for over 24 hours" (Declerq et al., 2013, p.19). Labor and birth is a physically demanding experience with great caloric expenditure, yet it is common for laboring mothers to be told they may not eat or drink anything during this time.

The rationale for fasting began during the 1940's when women often gave birth under general anesthesia without airway protection. Fasting reduced gastric contents and acted as a safeguard against aspirating in the event of vomiting (Romano & Lothian, 2008). However, in modern obstetrics, general anesthesia is a rare occurrence, and epidural anesthesia is much more frequently used. Airway protection is now standard medical practice for those undergoing general anesthesia which further reduces the risk of aspiration should vomiting occur (Romano & Lothian, 2008).

A randomized clinical trial measured the effect of unrestricted oral intake on labor progress and concluded that there were no differences in the incidence of maternal or neonatal complications (Tranmer, Hodnett, Hannah, & Stevens, 2005). The mothers preferred to eat and drink rather than fast. Romano and Lothian (2008) support this finding, asserting that a clear lack of evidence exists regarding the benefit of fasting, and no evidence is present to support the restriction of oral intake during labor.

Despite this evidence, many providers recommend limiting oral intake. ACOG (2009) recommends that women in uncomplicated labor consume only a modest amount of clear liquids.

They advise that solid foods should be avoided by laboring patients due to the lack of evidence about fasting periods for non-elective obstetric surgeries. The American Society of Anesthesiologists (ASA) urge that intake of solids during labor should be avoided, but a diet of clear liquids will be beneficial to the laboring mother (Society of Anesthesiologists, 2007). According to Sharts-Hopko (2010), "The World Health Organization (WHO) recommends that because the energy demands of labor are so great and because replenishment ensures maternal and fetal well-being, healthcare providers should not interfere with women's desire for oral intake during labor" (p 1). The American College of Nurse-Midwives (ACNM) recommends that women experiencing uncomplicated labor should determine an appropriate intake for themselves (Romano & Lothian, 2008).

Electronic fetal monitoring (EFM) is a routine intervention which may impede NPB. It allows providers to monitor fetal status during labor. In the LTM II survey, 87% of laboring mothers experienced EFM, and only 4% of mothers experienced intermittent fetal monitoring (Declercq et al., 2006). This limits the mother's freedom of movement, control of birth positions as well as the use of non-pharmacological pain control methods such as water therapy or the birth ball. There is no clear evidence to support the fact that continuous fetal monitoring decreases maternal or neonatal mortality. Goer et al. (2007) established that there is no clear benefit, but there is an increase in cesarean sections and operative vaginal deliveries amongst mothers who are monitored continuously. Goer et al. (2007) also state that "compared with intermittent auscultation, routine continuous electronic fetal monitoring (EFM) in low-risk women fails to reduce perinatal death rates, low APGAR scores, admissions to special care nursery, or the incidence of cerebral palsy (CP)" (p.16). ACOG endorses that either method is acceptable for women undergoing normal, uncomplicated labor (American College of Obstetricians and Gynecologists, 2010).

Romano and Lothian state that the avoidance of routine interventions such as continuous fetal monitoring, epidurals, and several others will promote and support NPB. Albers (2005) concurs, stating, "No evidence supports the routine use of electronic fetal monitoring, epidurals,

oxytocin, or episiotomies in low risk women” (p. 68). Albers (2005) reports that the features necessary to produce a safe birth with optimal outcomes are becoming rare due to the medical management of labor and birth.

### **Spontaneous Pushing in Upright or Gravity-Neutral Positions**

Spontaneous pushing in upright or gravity-neutral positions is the fifth care practice recommended by Lamaze International (2007). Romano and Lothian (2007) emphasize that nursing support to advocate for women pushing spontaneously in non-supine positions is critical. Using a variety of positions during the second stage of labor allows women to respond to the changing position and movement of the fetus as it descends and moves through the birth canal (Romano & Lothian, 2008). The authors state, “Gravity-neutral positions-kneeling on all fours, side-lying, and semi-sitting- allow women to rest between contractions and help women conserve energy during contractions” (p.100).

Storton (2007) found that pushing in the lithotomy position can have adverse effects by reducing blood flow to the fetus while also raising maternal stress hormones. The increase in stress hormones will reduce uterine contractility and reduce labor progress. The upright posture during the second stage of labor decreases the incidence of pain, shortens the duration of the second stage, and decreases the incidence of abnormal fetal heart rate patterns (Storton, 2007). Storton (2007) also concluded that women who assumed a non-supine position experienced fewer perineal injuries.

In regard to spontaneous pushing, Lamaze International states, “Allowing women to find the positions most comfortable for them, encouraging them to push in response to what they are feeling, and avoiding time restrictions on second stage are all beneficial, according to current evidence” (Lamaze International, 2007, p. 13). Despite best evidence to the contrary, 68% of mothers surveyed in the LTM III survey reported giving births on their backs (Declerq et al., 2013).

### **No Separation of Mother and Baby and Opportunities for Breastfeeding**

The sixth care practice recommended by Lamaze International (2007) recommends allowing no separation of the mother and infant. Goer and Romano (2012) report a “sensitive period” in the first hour of life during which newborns adapt to life outside of the womb and stabilize body temperature and begin independent respirations. This sensitive period is when mothers and babies begin to form an attachment to one another (Goer & Romano, 2012). It is important that mothers and babies have a peaceful and undisturbed environment to promote this attachment. It has been found that when left undisturbed, newborns are able to make their way up their mothers’ bellies, locate the nipple, and initiate suckling by the end of the first hour after birth (Goer & Romano, 2012). If this time is not protected and supported, this instinctual process may not occur.

NPB is in great contrast to what often occurs in the first hour of birth in hospitals during medically managed labor. A healthy baby may be routinely suctioned, rubbed, bathed, weighed, handled by multiple people, given intra-muscular medications, and swaddled before being handed over to their mother (Goer & Romano, 2012). In the case of cesarean section, interventions will be more numerous and separation times greater (Goer & Romano, 2012). Although the most successful method of forming attachment and transition of the newborn is to keep mother and baby in close physical contact, only 47% of babies remained in their mothers’ arms within the first hour after birth (Declercq et al., 2012). In addition to promoting attachment, maternal health and milk supply is also improved by keeping the mother and infant together. Matthiesen, Ransjo-Arvidson, Nissen and Uvnas-Moberg (2001) found that infants used their hands to explore and stimulate their mothers’ breast in preparation for the first feeding. It was found that this neonatal exploration stimulated maternal oxytocin release which had significance for facilitating the delivery and separation of the placenta, decreasing the risk of postpartum hemorrhage, as well as facilitating breastfeeding.

Unlimited opportunities for breastfeeding is stated as best evidence based practice by Lamaze International (2007) and Romano and Lothian (2008). The results of the LTM III survey indicate that

this practice occurs in the maternity care setting. Sixty-six percent of mothers reported that they the hospital staff supported breastfeeding (Declerq et al., 2013). Of the mothers who intended to exclusively breastfeed, 65% of them kept the babies in their rooms with them, minimizing any unnecessary separation of mother and baby (Declerq et al., 2013). Less than half of the mothers intending to exclusively breastfeed reported that hospital staff gave their infants pacifiers or formula supplements. Sixty-nine percent of mothers who intended to exclusively breastfeed were encouraged by hospital staff to feed on demand (Declerq et al., 2013). This support and encouragement is vital to successful breastfeeding.

### **Barriers to Normal Physiologic Birth and Impact**

The state of maternity care in the United States leaves great room for improvement. One of the Healthy People 2020 objectives is to reduce the occurrence of primary cesarean sections among women who are low-risk (2013). Low risk is defined by Health People 2020 as single fetus, full term, and vertex presentation. The rate of cesarean section is the highest it has ever been with a rate of 32.8% as of 2011, showing a 53% increase since 1996 (Hamilton, Martin, & Ventura, 2012). One documented reason for this sharp increase is the incidence of repeat cesarean sections after a primary cesarean section has already occurred.

According to the LTM III Survey, only 2% of women experienced all of the six care practices that promote normal birth (Declerq et al., 2013). The increase in technology has not improved maternal and infant morbidity and mortality. According to MacDorman, Declerq, Menacker, and Mallow (2006), "Since vital statistics on cesarean sections began to be collected (1989), the infant mortality rate in the United States for total cesarean deliveries has consistently been approximately 1.5 times that for vaginal deliveries" (p. 175). Pregnancy related maternal deaths have been on a steady climb since collection of the data in 1987, with the most recent report being 12.7 deaths per 100,000 live births per year as of 2007. This is almost double the death rate from 1989 (Xu, Kochanek, Murphy, & Tejada-Vera, 2010).

Not only is the maternal health at risk, but infant health is also negatively impacted. Maccorman et al. (2006), state that infant mortality rates tend to be higher when cesarean section is implemented as opposed to vaginal deliveries. Cesarean birth performed without due cause puts both the mother and the newborn at an increased risk for complications, including death, as compared with a normal physiologic vaginal delivery.

## **Methodology**

### **Institutional Review Board Approval**

The research was approved by the Institutional Review Board (IRB) at Rhode Island College. All procedures were carried out in accordance with the IRB guidelines. Research participants were protected in accordance with Federal and College policy.

### **Participants**

Participants in this study were senior level nursing students at Rhode Island College who indicated completion of Maternal Newborn Nursing lecture and practicum. Out of a total of 128 senior level nursing students registered at Rhode Island College at the time of research, 59 students consented to participate. Participants ranged in age from 18-50 with the majority of participants falling into the 18-24 age category (64%). Seven participants (12%) were male, and 52 (88%) participants were female. Twenty eight (47%) of the participants attended practicum at a teaching hospital and 31 (53%) of the participants attended practicum at a community hospital.

### **Materials**

Participants were asked to complete an informed consent document prior to answering the survey. The paper survey consisted of 4 demographic questions followed by 15 Likert style questions with answers ranging from “strongly agree” to “strongly disagree”. The questions surveyed students’ experiences and beliefs during their junior level maternity education relating to the six nursing care practices described by Romano and Lothian (2008).

**Procedure**

Participants were recruited by the researcher over a period of two weeks through attending two required senior level classes. Information about the study was presented following the class time, and an opportunity to ask questions was offered. The students were told that participation was entirely voluntary and that there would be no consequence for choosing to not participate. For students who agreed to participate, the consent process was completed. Consent forms were placed in a labeled envelope separately from the paper surveys. After consent was obtained, surveys were distributed, and the researcher left the room. Participants were asked to place completed surveys in an envelope. The envelope was obtained by the researcher after completion of all surveys.

**Results**

Eighty-seven percent of the participants stated that they either “agree” or “strongly agree” that they had been taught the six nursing care practices. Three percent of participants stated they “neither agree nor disagree” with that statement, and 10% of participants either “disagree” or “strongly disagree” with the statement.

Participants were then asked if they believed that nurses caring for women in labor should be familiar with the six nursing care practices, to which 90% of participants stated that they either “strongly agree” or “agree” and 10% of participants stated they “neither agree nor disagree.” When asked whether or not they believed that nurses caring for women in labor should use the six care practices, 78% stated they “strongly agree” and 22% stated they “agree.”

Participants were then questioned about their experiences with the six care practices suggested by Romano and Lothian (2008). Forty two percent of participants either responded with “agree” or “strongly agree” when asked if they experienced nurses “supporting the concept that labor should begin on its own with every low risk patient in labor” and responded that they either “disagree” or “strongly disagree” 36% of the time. The remaining participants chose “neither agree nor disagree.” Responses to the statement, “I experienced nurses supporting women to have freedom

of movement during labor by encouraging them to walk and change positions” were statistically identical to spontaneous labor responses. Responses to whether or not students experienced nurses “encouraging women to have continuous labor support from a nurse, a partner, a family member, or a doula” were more positive, with 77% of the participants responding with “strongly agree” or “agree” and 12% responding with either “strongly disagree” or “disagree”.

Only 23% of participants responded with “strongly agree” or “agree” to the statement regarding whether or not they experienced nurses “advocating for low-risk women to be free from routine interventions” and 61% responded with either “strongly disagree” or “disagree.” Similar responses were found in the question regarding participants’ experiences with nurses “encouraging women to spontaneously push in non-supine positions.” Only 25% of participants responded with either “strongly agree” or “agree” and 51% of participants responded with either “strongly disagree” or “disagree.”

Findings from this study show that nurses and hospitals are adhering to the care practices regarding “nurses encouraging and advocating for no separation of mother and baby as well as unlimited breastfeeding.” Seventy five percent of participants responded to this statement with either “strongly agree” or “agree” and only 14% responded with either “strongly disagree” or “disagree”.

After questions regarding the six nursing care practices, participants answered questions about their beliefs regarding nursing care using the six care practices. Participants were asked to respond to the statement, “I believe that low risk women are well supported by their nurses to experience normal physiologic labor and childbirth.” Fifty one percent of participants responded with either “strongly agree” or “agree” and 29% responded with either “strongly disagree” or “disagree.” The remaining 20% responded with “neither agree nor disagree.” However, in responding to the statement, “I believe that nurses need better education in the workforce in order to provide women in labor with best evidence-based practice,” 90% of participants responded with



either “strongly agree” or “agree” and only 3% responded with either “strongly disagree” or “disagree.” Participants were then asked whether they felt that they had received adequate education about best evidence based practice for laboring women. Eighty eight percent of participants responded with either “strongly agree” or “agree and only 8% responded with either “strongly disagree” or “disagree.” Furthermore, 86% of participants either “strongly agree” or “agree” that they believe they are prepared to provide care using the six nursing care practices to promote, support, and protect normal physiologic birth.

Ninety five percent of participants responded with either “strongly agree” or “agree” when asked whether they believed the six care practices are best evidence-based practice. For this question, only 2% of participants responded with either “strongly disagree” or “disagree.” One hundred percent of the participants responded with either “strongly agree” or “agree” when asked if they believed they could impact the trajectory of a woman’s labor, indicating a strong belief in the power of nurses to affect the progress of labor.

Overall, the data showed large gaps between student learning and clinical practice. The largest gap between what was learned in theory and what was experienced in practice was seen in care practice 4, freedom from routine interventions, with only 22% strongly agreed or agreed, and care practice 5, spontaneously push in non-supine positions, with only 25% strongly agreed or agreed. A significant gap between what is learned and what is seen in practice was demonstrated in care practice 1, spontaneous onset of labor, with 42% strongly agreed or agreed and care practice 2, freedom of movement, with 42% strongly agreed or agreed. The best congruence between student learning and practice was seen in responses to care practice 3, continuous labor support, with 77% strongly agreed or agreed, and care practice 6, no separation of mother and baby with unlimited opportunities for breastfeeding, with 75% strongly agreed or agreed.

In comparing results from participants who attended clinical at a teaching hospital and those who attended clinical at a community hospital, use of the six care practices does not show

statistically significant variation. In fact, there is no significant difference in responses of any question between those who attended a community hospital for practicum and those who attended a university hospital for their clinical practicum.

### **Discussion**

A theory-practice gap can be identified based on the results of this study. This gap was supported when the majority of participants agreed to having received education regarding the six care practices, but did not agree to having experienced nurses using the six care practices in the clinical setting.

Less than half of the respondents reported believing that low risk women were well supported by their nurses to experience a normal physiologic birth. These responses are congruent with the experience of laboring women as reported by the LTM III survey (Declercq et al., 2013). Students acknowledged that the nursing care practices advocated by Romano and Lothian (2008) were best practice that should be used with women experiencing normal labor and also reported that they did not believe that nurses were currently supporting women to have this experience. This represents gap that exists in maternity nursing. It is being taught to and understood by student nurses. However, those same student nurses deny experiencing nurses modeling the care practices. This theory-practice gap is dangerous because it does not allow student nurses the opportunity to see what they have learned in practice. Without this observation, it will be more difficult for these students to implement concepts from the classroom setting in the clinical arena.

It is evident based upon the results of this study that the student nurses surveyed feel prepared and educated to support, protect, and advocate for NPB in today's high tech and high pressured hospital systems. However, it will be made more challenging for novice nurses to advocate for use of the six care practices if those practices are not commonly used on their unit. Fineout-Overholt, Gallagher-Ford, Kaplan, and Melnyk (2012) found that new graduate nurses experienced a high level of lateral violence from their more experienced coworkers and met resistance in

attempting to implement evidence-based practice. Fineout-Overhold et al. (2012) found that unit culture played a role in resistance to change and suggested that this cultural barrier could be overcome by educating nurses. If novice nurses are hired into units resistant to change, it will be challenging for them to alter the model of maternity care.

According to the results of the survey, maternity units do not frequently use the majority of the care practices. However, two practices were reported by the majority of respondents: no separation of mother and child during the post-partum period and continuous labor support. These two practices were also widely reported by the LTM III survey (Declerq et al., 2013).

Continuous labor support has the potential to decrease the patient's dependency on the nurse. It is known that women who receive continuous support during their labor are better able to manage the pain associated with labor (Hodnett et al., 2012). This better pain management has the potential to improve the experience for both the patient and the nurse. This may represent the reason for the increased prevalence of this care practice.

The remaining care practices may meet resistance from the healthcare provider due to the low level of technology and provider control occurring with use of the care practices. Technology allows for careful monitoring of the laboring women and her child which often allows a sense of comfort and control for those providing care. Although the practices are evidence-based, they may lead to a decreased level of control from the standpoint of the patient's provider and give more control to the natural process of labor. This loss of control may make providers uncomfortable which has the potential to decrease the frequency of nurses advocating for these care practices.

Healthcare providers in the U.S. are busy and rely on technology to assist them in providing care to a heavy patient load. A nursing professor from New York explains the frequent use of epidurals by stating, "It is easier for practitioners to medicate women to ease client-load" (Birkhead et al., 2012, p.174). This fast paced atmosphere demands that birth be uniform and efficient, when in reality it is a complex, natural, and variable process.

It is imperative to provide nurses with the tools to accomplish their goals by educating and empowering them to use the six evidence-based care practices during normal labors. Participants of this survey felt that education would benefit the nursing staff of labor and delivery units to better enable them to provide nursing care to childbearing women using the care practices. Education would allow the nurses to be better informed and empowered to challenge current maternity care and advocate for the use of care that supports normal physiologic birth to allow for the safest outcomes for mother and child.

The nurse may also need to educate pregnant and laboring mothers on evidence-based practices. It would be ideal that pregnant women receive this education prior to the start of labor to allow her to be prepared to make informed decisions.

Every labor requires the cooperation of the healthcare team. The most important task a nurse can undertake during a women's labor is to advocate for her to have the safest, healthiest, and most joyful experience possible through actions that support NPB. As part of advocating for an optimal birth experience, the nurse can include staff members intended to improve the labor experience. In particular, a doula has been shown to be an effective support person for the laboring mother (Gruber, Cupito, & Dobson, 2013). A doula is a professional trained to provide physical, emotional, and informational support to women and families during labor and birth (Lowdermilk et al., 2012). Gruber and colleagues (2013) found that women who were attended by doulas had an increased opportunity to achieve optimal birth outcomes. Based upon these facts, nurses may consider supporting their patients to have doula support during labor and birth in addition to the rest of the medical team.

It is important for student nurses to experience nurses supporting NPB so that they can learn and be well prepared to provide similar care upon graduation. The climate of maternity care needs to change, and it will be the responsibility of the nursing students to advocate for this change. The current climate of maternity care favors the medical management model, and the rate of maternal

morbidity and mortality continues to rise. These results of this study showed that just a little over half of those surveyed felt that women were well supported by their nurses to experience normal labor. Education is indicated for nurses caring for women in labor in order to provide patients with care using best evidence based practices.

### **Limitations**

This study was limited by the small sample size involved and therefore may not be generalizable to a larger population. Nursing students at Rhode Island College attend maternal-newborn clinical practicums once per week for up to 16 weeks. During this time frame, they may have limited opportunities to have clinical experiences on the labor and delivery unit. Limited opportunities to experience labor and birth may have impacted this study.

### **Implications**

This study presents significant implications for nursing practice and education. For nursing students, it is very important that they be exposed to best evidence practice in the clinical learning setting. This research supports the need for education for the nurses caring for patients during labor to empower and educate them about NPB. Nurses need the knowledge and tools to provide evidence-based practice to their patients. They must also be able to share that knowledge with their patients and with the healthcare team. Childbirth requires a cohesive and cooperative team to provide optimal outcomes for the patients. Research suggests that registered nurses have the ability to impact the outcomes of a woman's labor and subsequent birth (Edmonds & Jones, 2012). Organizations that employ nurses need to support practices that support NPB and encourage the utilization of them.

Women of childbearing age need more education on the benefits of NPB and the potential risks for a medically managed birth. Birkhead et al. (2012) expressed a concern over the growing trend of elective inductions and cesarean sections and believed that there was a missing piece in childbirth education classes. These authors suggest that this trend is due to the lack of education to

pregnant women about the evidence-based practice used to support NPB and the potential risks of a medically managed birth. Childbirth education is a necessary part of patients making informed choices. According to the LTM III survey, 47% of mothers surveyed had never participated in childbirth education classes in their current or past pregnancies (Declerq et al., 2013). Not only do pregnant women need to attend childbirth education classes, but their instructors need to be familiar with best practice in order to teach women what kind of care will allow them to experience the safest birth. More research is indicated to explore the connection between childbirth education classes and the experience of NPB.

Birkhead et al. (2012) explored the challenges that nursing programs are facing in teaching Maternal-Newborn nursing. This study points to one of those challenges as students are not seeing NPB in the clinical setting, and this may make them less able to provide that kind of care even in light of current evidence-based practice. Research regarding the effects of limited experience with NPB on future nursing practice and nursing outcomes is indicated.

Significant implications exist for policy development and further education of the multidisciplinary team. Change cannot take place unless policies are in place within the macro-system to foster these changes in practice. Pressure needs to be placed on hospitals caring for women in labor to use the evidence-based practices in order to ensure cost effective and optimal health outcomes for their clients. For example, insurers, the Joint Commission and the American Nurses Credential Center (ANCC) could withhold reimbursement, certification, or magnet status for facilities who do not use best evidence when caring for women in labor; not using best evidence has the potential to increase risk to the mother as well as cost to third party payers. State, federal and private insurers could institute mandates encouraging policy changes that would support, promote, and protect NPB. This would ensure policy changes that are supported at the highest levels.

To encompass all levels of education, the public needs to be made aware of the benefits of NPB and the potential risks of medically managed births. This could be accomplished through

widespread social marketing campaign targeting women and families of child-bearing age as well as those individuals working within healthcare facilities. Increase in public awareness may encourage policy change through changing social norms and societal pressures from customers.

In addition to public education and awareness, intra-professional education is indicated based upon change theories and patient advocacy. Change is a process and by educating the entire healthcare team about change theory, necessary modifications can be made to practice. Nursing practice cannot change in isolation. It must be supported and upheld by the medical team. In order for the medical team to do this they need to be educated regarding NPB, how to encourage and support change, as well as how to successfully collaborate with nurses for their patient's to achieve optimal outcomes by supporting NPB through their own practice as well as the practice of the intra-professional team.

### **Conclusion**

A substantial body of evidence supports the benefits of NPB. The six care practices suggested by Lamaze International (2007) and adopted by Romano and Lothian (2008) are also supported by a strong evidence base. These evidence based care practices enable providers to support, promote, and protect NPB. In contrast to the evidence base to support NPB, the medical model currently prevails in the maternity care system in the U.S. The medical model consists of the routine use of interventions that may not be evidence-based practice. The rising rate of interventions is not without consequences. The cesarean delivery rate is the highest it has ever been, and maternal morbidity and mortality continues to rise. It is due to these facts that improvements needs to be made in the maternity care setting in the US. Nurses are in an ideal position to influence the changes that need to take place due to their sheer numbers and their unique relationship to patients.

If nurses are to act as change agents in the maternity setting, then this recommended change needs to start with student nurses. Student nurses need to experience-evidence based practice in both

the classroom and clinical setting. Such a didactic educational experience will allow student nurses to be well positioned to support, promote, and protect NPB.

### **Acknowledgements**

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## Appendix A

You are being asked to participate in a research study about the perceptions of student nurses regarding normal physiologic birth. You were selected as a possible participant because you have completed the Maternal-Newborn course at Rhode Island College. Please read this form and ask any questions that you may have before deciding whether to be in the study.

Alicia Harris a student at Rhode Island College, is conducting this study. She is being advised by Dr. Sylvia Ross.

### **Background Information**

The purpose of this research is to determine the experiences and beliefs of student nurses in regards to normal physiologic birth (NPB). While there is not a consensus on the definition of NPB, the majority of organizations that have created a specific definition have worked from the World Health Organization document, *Care in Normal Birth: A Practical Guide* (1996) which states that normal birth is:

...spontaneous in onset, low-risk at the start of labor and remaining so throughout labor and delivery. The infant is born spontaneously in the vertex position between 37 and 42 completed weeks of pregnancy. After birth, the mother and infant are in good condition (p. 4).

In 2003, Lamaze International identified six evidence-based care practices that support normal birth. However, results of the landmark study, *Listening to Mothers III Survey* (2013) show minimal use of the six care practices by healthcare providers and overuse of interventions such as labor induction for non-medical reasons, restriction of oral intake, routine continuous fetal monitoring, restriction of movement, regional anesthesia, and cesarean delivery.

Romano and Lothian (2008) adopted these care practices to specifically identify nursing care to support, promote, and protect NPB. The six care practices described by Romano and Lothian are part of the curriculum taught to students at Rhode Island College School of Nursing in Maternal-Newborn Nursing. It is my intent to use a research questionnaire to determine what the students experienced in clinical practicum regarding these care practices. A secondary research question intends to explore students' beliefs regarding the use of these six care practices in the care of women in childbirth.

### **Procedures**

If you choose to be a participant in this research, you will be asked to do the following things

- Respond to a questionnaire regarding your beliefs about normal physiologic birth and your experiences in the clinical setting. This will take approximately 10 minutes and will remain confidential.

**Risks of Being in the Study**

The risks of participating in this research are minimal, meaning that they are about the same as you would experience in your normal daily activities. You may feel uncomfortable answering certain questions and you have the option of not answering those questions.

**Benefits to You**

There are no direct benefits to you for participating in the study.

**Voluntary Participation**

Your participation is completely voluntary. It is not required by your school. You can choose not to participate in this research and it will have no effect on your grades. Also, you can change your mind about participating at any time with no negative consequences

**Confidentiality**

The records of this research will be kept private. In any sort of report that might be published, the researcher will not include any information that will make it possible to identify you. Research records will be kept in a secured file in the faculty advisor's office, and access will be limited to the researcher and faculty advisor. If there are problems with the study, the research records may be viewed by Rhode Island College review board responsible for protecting human participants and other government agencies that protect human participants in research. All data will be kept for a minimum of three years, after which it will be destroyed.

**Contacts and Questions**

The researcher conducting this study is Alicia Harris. You may ask any questions you have now. If you have any questions later, you may contact her at [aharris\\_7737@email.ric.edu](mailto:aharris_7737@email.ric.edu). Advising faculty Dr. Sylvia Ross can be contacted at [sross@email.ric.edu](mailto:sross@email.ric.edu).

If you think you were treated unfairly or would like to talk to someone other than the researcher about your rights or safety as a research participant, please contact Dr. Christine Marco, Chair of the Rhode Island College Institutional Review Board at [IRB@ric.edu](mailto:IRB@ric.edu), or by phone at 401-456-8598, or by writing to Dr. Christine Marco, Chair IRB; c/o Department of Psychology, Horace Mann Hall 311; Rhode Island College; 600 Mount Pleasant Avenue; Providence, RI 02908.

You will be given a copy of this form for your records.

Statement of Consent

I have read and understand the information above, and I agree to participate in the study “Student Nurses’ Beliefs and Experiences Regarding Normal Physiologic Birth”. I understand that my participation is voluntary and can be withdrawn at any time with no negative consequences. I have received answers to the questions I asked, or I will contact the researcher with any future questions that arise. I am at least 18 years of age.

Print Name of Participant: \_\_\_\_\_

Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Researcher Obtaining Consent:  
\_\_\_\_\_

## Appendix B

Before answering the questions below, please review the six nursing care practices described by Romano and Lothian (2008) below:

1. Advocating for the benefits of spontaneous onset of labor
2. Encouraging and advocating for freedom of movement throughout labor
3. Encouraging continuous labor support for laboring mother
4. No routine interventions (i.e. IV fluids, PO intake restriction, continuous fetal monitoring, epidurals etc)
5. Advocating for and encouraging spontaneous pushing in non-supine positions
6. Supporting keeping mother and baby together after birth with unlimited opportunities for breastfeeding

1. Sex: Male      Female

2. Age: 18-24      25-30      30-40      50+

3. What level are you in nursing school?

First semester senior      Second semester senior

4. Where did you attend clinical for maternal-newborn nursing:

a. University Hospital      b. Community Hospital

5. I was taught the six nursing care practices listed above.

Strongly Agree    Agree    Neither Agree nor Disagree    Disagree    Strongly Disagree

6. I believe that nurses caring for women in labor and birth should be familiar with the six nursing care practices.

Strongly Agree    Agree    Neither Agree nor Disagree    Disagree    Strongly Disagree

7. I believe that nurses caring for women in labor and birth should utilize the six nursing care practices when caring for low risk women in childbirth.

Strongly Agree    Agree    Neither Agree nor Disagree    Disagree    Strongly Disagree



8. When I attended my clinical practicum for maternal-newborn nursing I experienced nurses supporting the concept that labor should begin on its own with every low risk patient in labor.

Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree

9. When I attended my clinical practicum for maternal-newborn nursing I experienced nurses supporting women to have freedom of movement during labor by encouraging them to walk and change positions with every low risk patient in labor.

Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree

10. When I attended my clinical practicum for maternal-newborn nursing I experienced nurses encouraging women to have continuous labor support from a nurse, a partner, a family member or a doula with every low risk patient in labor.

Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree

11. When I attended my clinical practicum for maternal-newborn nursing I experienced nurses advocating for low-risk women to be free from routine interventions which include: restricting PO intake, epidurals, continuous fetal monitoring, augmentation of labor, and IV fluids for patients in labor.

Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree

12. When I attended my clinical practicum for maternal-newborn nursing I experienced nurses encouraging low risk women to spontaneously push in non-supine positions during every labor.

Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree

13. When I attended my clinical practicum for maternal-newborn nursing I saw nurses encouraging and advocating for no separation of mother and baby as well as unlimited breastfeeding.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree
14. I believe that low risk women are well supported by their nurses to experience normal physiologic labor and childbirth.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree
15. I believe that nurses need better education in the workforce in order to provide women in labor with best evidence-based practice.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree
16. I believe that I received adequate education about the best evidence-based practice used to support women in labor.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree
17. I believe that my education prepared and empowered me to provide care to women in labor and birth using the six nursing care practices to support and promote a normal physiologic labor and birth.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree
18. I believe that these care practices allow the healthiest and safest childbirth experience for low risk women during labor and birth.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree
19. I believe that nurses have the ability to impact the outcomes of a women's labor and birth.
- Strongly Agree   Agree   Neither Agree nor Disagree   Disagree   Strongly Disagree

## Appendix C

<b>Survey Results</b>					
<i>n=59</i>					
	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I was taught the six nursing care practices listed above.	53%	34%	3%	8%	2%
I believe that nurses caring for women in labor and birth should be familiar with the six nursing care practices.	66%	24%	10%	0%	0%
I believe that nurses caring for women in labor and birth should utilize the six nursing care practices when caring for low risk women in childbirth.	78%	22%	0%	0%	0%
When I attended my clinical practicum for maternal-newborn nursing I experienced nurses supporting the concept that labor should begin on its own with every low risk patient in labor.	10%	32%	22%	31%	5%
When I attended my clinical rotation for maternal-child nursing I saw nurses supporting women to have freedom of movement during labor by	10%	32%	22%	31%	5%

encouraging them to walk and change positions with every patient in normal labor.					
When I attended my clinical practicum for maternal-newborn nursing I experienced nurses encouraging women to have continuous labor support from a nurse, a partner, a family member or a doula with every low risk patient in labor.	24%	53%	12%	12%	0%
When I attended my clinical practicum for maternal-newborn nursing I experienced nurses advocating for low-risk women to be free from routine interventions which include: restricting PO intake, epidurals, continuous fetal monitoring, augmentation of labor, and IV fluids for patients in labor.	5%	17%	17%	47%	14%
When I attended my clinical practicum for maternal-newborn nursing I experienced nurses encouraging low risk women to	10%	15%	22%	46%	5%

spontaneously push in non-supine positions during every labor.					
When I attended my clinical practicum for maternal-newborn nursing I saw nurses encouraging and advocating for no separation of mother and baby as well as unlimited breastfeeding.	34%	41%	12%	12%	2%
I believe that low risk women are well supported by their nurses to experience normal physiologic labor and childbirth.	12%	39%	20%	27%	2%
I believe that nurses need better education in the workforce in order to provide women in labor with best evidence-based practice.	37%	53%	7%	3%	0%
I believe that I received adequate education about the best evidence-based practice used to support women in labor.	51%	37%	3%	8%	0%
I believe that my education prepared and empowered me to provide care to women in labor and birth using the six nursing	37%	49%	7%	7%	0%

care practices to support and promote a normal physiologic labor and birth.					
I believe that these care practices allow the healthiest and safest childbirth experience for low risk women during labor and birth.	53%	42%	3%	2%	0%
I believe that nurses have the ability to impact the outcomes of a women's labor and birth.	78%	22%	0%	0%	0%

STUDENT EXPERIANCES AND BELIEFS  
REGARDING NORMAL  
PHYSIOLOGIC BIRTH

An Undergraduate Honors Project Presented

By

Alicia N. Harris

To

The School of Nursing

Approved:

Sylvia P Ross PhD

Project Advisor

4-28-2014

Date

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