A Labor Support Workshop to Improve Undergraduate Nursing Students' Understanding of the Importance of High Touch in a High-Tech World

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ABSTRACT

This article presents the development and evaluation of a labor support workshop aimed at providing senior undergraduate nursing students with education on the provision of labor support. In collaboration with a Lamaze educator, a two and half hour interactive educational session was developed. The workshop included both a didactic and a hands-on component which included physical labor support strategies, which could be utilized in the clinical setting. Pre-and postintervention data was collected on students' knowledge and self-efficacy in the provision of labor support, as well as, data on their use of these strategies while in the clinical setting. The labor support workshop was well received by students (4.9/5) and increased their self-reported knowledge ($p = <.001$) and self-efficacy ($p = <.001$) in the provision of labor support.

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In 2015, in the United States (U.S.), 3,978,497 babies were born (Centers for Disease Control, and Prevention [CDC], 2017). Although the cesarean surgery rate has decreased for the third year in a row, it remains staggeringly high with 32% of babies born in 2015 birth via cesarean surgery (CDC, 2017). The World Health Organization (WHO) recommends that cesarean surgery account for 10%–15% of all births (WHO, 2015). The California Maternal Quality Care Collaborative (CMQCC) reported that the

rate of cesarean surgery has risen by over 50% in the past 10 years (Smith, Peterson, Lagrew, & Main, 2016) and subsequently, more cesarean surgeries are being done than medically necessary. Cesarean births are associated with increased health-care cost, as well as, poor maternal physiologic and psychological outcomes (Smith et al., 2016). Thus, health-care providers should focus on the provision of evidenced based interventions known to reduce rates of cesarean surgery.

In response to the increasing rate of cesarean births the CMQCC (2016) developed a “*Toolkit to Support Vaginal Birth and Reduce Primary Cesareans*.” Two of the nine key strategies suggested by the CMQCC to reduce cesarean birth focus on the provision of labor support (LS). These strategies include: (a) implementation of early labor supportive care policies and establishing criteria for active labor admission and (b) improving the support infrastructure and supportive care during labor (p. 14). Since the majority of births occur in the hospital setting (Martin et al., 2012), the care nurses provide during labor and birth significantly impacts birth outcomes (Adams, Stark, & Low, 2016). Thusly, the successful implementation of the CMQCC’s key strategies involving supportive care depends on building nurses’ knowledge and skills surrounding the provision of LS (Stark, Remyne, & Zwelling, 2016).

CONTINUOUS LABOR SUPPORT

Continuous LS is a low-cost and highly effective nonpharmacological method that can be used by nurses to improve maternal and neonatal outcomes, including reducing rates of cesarean surgeries and instrumental births (Bohren, Hofmeyr, Sakala, Fukuzawa, & Cuthbert, 2017). Adams and Bianchi (2008) defined LS as having four distinct categories including physical, emotional, instructional/informational, and advocacy. Each of the four distinct LS categories includes distinct behaviors. Through their provision of LS, nurses can play an integral role in the reduction in rates of cesarean surgery. Unfortunately, in many U.S. hospitals standard obstetrical care focuses on medical, technological, and pharmacological interventions (Glantz, 2012). Newnham, McKellar, and Pincombe (2017) cite a risk/safety paradox, reporting that the increased interventions often used to promote safe birth may in turn inadvertently expose laboring people to increased risk. One example of this paradox may be the impact the utilization of technology, administration of high alert medications, as well as the time needed to perform electronic documentation has on the time perinatal nurses have available to spend providing LS (Sakala, Romano, & Buckley, 2016). In 2002, Davies and Hodnett reported that perinatal nursing staff only spend between 11.7% and 29.8% of their time providing LS (Davies & Hodnett, 2002). No recent studies have explored the amount of time perinatal nurses spend providing LS, however, due to the increased acuity

of obstetrical patients (Cunningham et al., 2017) it is possible that nurses have even less time to dedicate to the provision of LS.

Barriers to the Provision of Continuous Labor Support

Although Association of Women’s Health Obstetric and Neonatal Nurses (2018), as well as The American College of Obstetricians and Gynecologists (ACOG, 2017) and The Society for Maternal-Fetal Medicine (SMFM) outline in great detail the need for a reduction in the cesarean surgery rate and the role that continuous LS has in effectively lowering the chances of a cesarean birth, intrapartum nurses report a variety of barriers to their provision of LS (2016). Sleutel, Schultz, and Wyble (2007) reported the following as themes noted by nurses as barriers to the provision of LS, “(a) hastening, controlling, and mechanizing birth; (b) facility culture and resources; (c) mothers’ knowledge, language, and medical status; (d) outdated practices; (e) conflict; and (f) professional/ethical decline” (p. 203). Simpson and Lyndon (2017) reported that decreased staffing levels also impact the ability of perinatal nurses to provide LS. Another barrier to the provision of LS may be lack of training on LS techniques. Although intrapartum nurses are experts trained in monitoring maternal vital signs, interpreting fetal heart tracings, and administering medications for labor augmentation and pain relief, they may require additional training in the provision of physical comfort measures, as well as on the impact emotional and informational support, and advocacy have on birth outcomes (AWHONN, 2018). The AWHONN (2018) suggests that nurses should receive comprehensive and continuing education on LS to increase the implementation of LS.

Labor Support in Undergraduate Nursing Education

There are clear benefits to maternal outcomes when continuous LS is provided during labor and birth (Bohren et al., 2017). Often nurses

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and other health-care professionals who work with laboring people have limited formal training in the provision of LS (Cooksey, 2010). The 2018 AWHONN Position Statement *Continuous Labor Support for Every Woman* fully supports continuously available LS from a registered nurse and recognizes LS as essential in achieving optimal birth outcomes. Subsequently, a foundational understanding of the importance of LS may be a key to providing women and families with the best perinatal care (Aschenbrenner, Hanson, Johnson, & Kelber, 2016). Due to competition for maternal child/obstetrical clinical sites, as well as increasing acuity of obstetrical patients, nursing students often have limited opportunities to observe physiologic birth. Additionally, with nursing staff spending less and less of their clinical time in the provision of LS, nursing students may complete their obstetrical clinical rotations never having seen or participated in the provision of hands-on LS. This paper describes the development and evaluation of a LS workshop aimed at improving undergraduate senior level nursing student's self-reported knowledge and attitudes towards LS.

METHODS

A quasi experimental pre- and posttest design was used to evaluate the workshops' effectiveness in improving senior nursing students' knowledge and self-efficacy in the provision of LS. The study was reviewed and approved by the university's institutional review board. The study was conducted at a large public university in the Mid-Atlantic United States in the fall of 2017. Senior baccalaureate nursing students are required to participate in a one-semester course focused on women's health, obstetrical, and neonatal care. This course is accompanied by a seven-week clinical experience on labor and delivery and postpartum units.

Sample

Sixty-nine undergraduate nursing students in the first semester of their senior year participated in a two and a half hour LS workshop on their first

maternal child clinical day in. Each clinical group attended the workshop separately. Approximately six to eight students were included in each group to provide more opportunities for hands-on and individualized learning. In total, 10 separate clinical groups attended the workshop during the fall semester. Eight of the sessions were taught by a certified Lamaze educator who designed the course. One session was taught by a second semester senior nursing student who participated in the development of the project and is trained as a professional Doula, and one session was taught by the course faculty, who has extensive maternal child health nursing experience and is a certified childbirth educator. The Lamaze educator was paid for her teaching time. The study was funded by a small grant as well as research funding obtained by the academic nurse educator coordinating the course. All students enrolled in the course participated in the LS workshop ($n = 69$). Students were made aware that research participation was both voluntary and anonymous.

Educational Intervention

The educational workshop was evaluated by asking students to complete pre- and postintervention surveys. At the beginning of the workshop students were asked to log into their university email to access two electronic surveys. The first survey included questions on personal characteristics and demographic data which may influence their current knowledge of labor and birth. Students were then asked to complete a preintervention survey which included a Likert scale to measure student's knowledge and self-efficacy in the provision of LS. Student responses on the Likert scale allowed scores ranging from one to seven. Each survey also included several open-ended questions specific to each student's personal definition of the components of LS, as well as their opinions of what is necessary for women to achieve the best birth outcomes possible.

The educational intervention was designed by a certified Lamaze educator and birth doula in consultation with the coordinator of the nursing obstetrics course. Instructional objectives for the workshop included:

1. Explain how the Lamaze Six Healthy Birth Practices promote and support the physiological model of normal childbirth.
2. Identify how environmental factors affect the hormonal physiology of childbirth.

To help students contextualize the evidence on labor support, the Lamaze Six Healthy Birth Practices as well as the effect of hormonal physiology on birth, students viewed two videos and were asked to compare and contrast each birth scenario.

TABLE 1

Lamaze Six Healthy Birth Practices

1	Let labor begin on its own
2	Have freedom of movement
3	Have continuous support
4	Avoid routine interventions that are not medically necessary
5	Have upright and spontaneous pushing
6	Keep mom and baby together

3. Demonstrate how nurses can promote the use of nonpharmacologic pain management strategies.
4. Understand the evidence on continuous LS.

The workshop included a didactic, as well as, a hands-on component to actively engage students and allow for practice of the LS techniques learned. The didactic component of the course included content on the Lamaze Six Healthy Birth Practices (Lamaze International, 2017) (Table 1), hormonal physiology of normal birth, as well as evidence on the benefits of continuous LS (Table 2).

To help students contextualize the evidence on LS, the Lamaze Six Healthy Birth Practices as well as the effect of hormonal physiology on birth, students viewed two videos and were asked to compare and contrast each birth scenario. One labor/birth was medically managed and included continuous electronic fetal monitoring, lithotomy positioning during the second stage, nurse directed pushing, and mother baby separation immediately after birth. The other birthing scenario occurred at home, included evidence-based birth practices, and limited interventions. During this scenario, the birthing person had freedom of movement, intermittent fetal monitoring, and spontaneously pushed in an upright position during second stage. The scenario allowed students to observe high quality LS which included emotional support as well as the use of multiple comfort techniques such counter pressure, massage, and breathing techniques. Students viewed the medically managed birth first and felt that appropriate care was provided. Students then viewed the evidence-based birth second and were immediately struck by the higher quality of continuous support provided by all members of the birth team. At the completion, students had the opportunity to openly discuss

differences in LS, environmental influences on the hormonal physiology, identify evidence-based birth practices, and the overall outcome of birth experiences.

After establishing a foundation for the provision of continuous support and allowing students to view the impact high quality LS can have on the birth experience, students were asked to pair up. The instructor demonstrated a variety of nonpharmacological comfort techniques such as the use of the rebozo, different types of massage, use of the peanut and birth balls, and sacral counter pressure to name a few. Each student pair then had the opportunity for hands-on practice.

At the end of the workshop students were asked to complete a postintervention electronic survey. This survey included the same questions as the preintervention survey. Then students completed a final evaluation of the overall workshop to determine the perceived value of the workshop to students learning, as well as their perception regarding its clinical applicability.

Finally, at the completion of their seven-week clinical, all students received an electronic survey aimed at assessing their ability to utilize the LS strategies taught during the workshop while in clinical. Students were also asked if they saw nurses providing LS or educating support people on how to provide LS.

Data Analysis

Descriptive data analysis was performed by Campus Labs software. For the course evaluation data, all participants' Likert scale scores were added together, and the means were reported. SPSS version 23 was used to analyze differences in pre-and postintervention data. The nonparametric Wilcoxon Paired Signed Rank test was used to assess differences in pre-and postintervention Likert scale data. Answers to the open-ended survey questions were reviewed by each of the authors for themes.

RESULTS

Demographics

Of the 67 students who completed the demographic survey, 91% ($n = 61$) were between the age of 18

Education of nursing students on the importance of labor support has the potential to change attitudes of health care providers at a foundational level.

TABLE 2

Workshop Outline

Workshop Objectives	Content
Explain how the Lamaze Six Healthy Birth Practices promote and support the physiological model of normal childbirth.	Lamaze Six Healthy Birth Practices Intro to Six Healthy Birth Practices Evidence-based maternity care Compare how the Six Healthy Birth Practices align with ACOG recommendations to reduce the primary cesarean section.
Identify how environmental factors affect the hormonal physiology of childbirth.	Hormonal Physiology of Labor and Birth Birth of kittens Three Requirements for Birth defined by Dr. Sarah Buckley (2015) Feedback System Hormonal Physiology
Demonstrate how nurses can promote the use of nonpharmacologic pain management strategies	Hands-on Practice Massage Counter pressure Double Hip Squeeze Rebozo Birth Balls/Peanut Balls Heat/Cold Squat Bars/Birth Stools Various Positions Aromatherapy Hydrotherapy Informed Choice Empowering Language
Understand the evidence on continuous labor support	Evidence on Labor Support Define continuous labor support Examine research on continuous labor support The nurse-doula team and continuous labor support

Note. ACOG = American College of Obstetricians and Gynecologists.

and 24 years of age. The majority of students were female (95.5%, $n = 64$) and only three had previously given birth (Table 3). Ten students (15%) reported having previously attended a birth (Table 4). Many of the students (70%) reported that at this stage of their nursing education they had an interest in pursuing a career in women's health. Although 55.2% ($n = 37$) reported currently working in a health-care setting, only two worked in a women's health specialty.

Preintervention Open-Ended Responses

Students were asked three open ended questions to better understand their preexisting attitudes towards birth and knowledge of LS. Prior to the workshop students were asked what they believed was

TABLE 3

Demographics

Characteristic	Percent (n)
Sex	
Male	4.48 (3)
Female	95.52 (64)
Age (years)	
18–24	91.04 (61)
25–34	5.97 (4)
35–44	1.49 (1)
45–54	1.49 (1)
55>	0
Race	
White	62.69 (42)
African American/Black	22.39 (15)
Asian	10.45 (7)
American Indian/Alaskan Native	2.99 (2)
Native Hawaiian or Pacific Islander	1.49 (1)

TABLE 4

Nursing Students Experiences That May Influence Their Knowledge or Perceptions of Labor and Birth

Characteristics	Percentage (n)
Interest in Women's health nursing	
Yes	70.15% (47)
No	29.85% (20)
Attended a birth as a support person	
Yes	14.93% (10)
No	85.07% (57)
Given birth	
Yes	4.48% (3)
No	95.52% (64)
Currently works in healthcare setting	
Yes	55.22% (37)
No	44.78% (40)

necessary for a woman to have the best birth outcome possible. Three themes were noted upon review of students open-ended responses. These themes included support, education, and access to care. How students described the support necessary in order to achieve the best birth outcomes differed, most simply listed a good support system to include family, friends, as well as medical and nursing staff. A few students were specific and listed emotional and physical support as necessary to achieve the best birth outcome. Students believed women needed to be educated on pregnancy and the birth process, as well as infant care to achieve optimal birth outcomes. Access to "good health care" prenatally and a safe environment for delivery were also listed as priorities. Several students were specific in response to this question and wrote, "I believe a woman should be in a setting with equipment/resources capable of correcting a problem if it occurs." Another wrote, "Going to a hospital and getting some kind of pain management during the process." A few did discuss alternatives to hospital birth. One student stated that birth is natural, and a woman should have choices, but that they should be "within reason."

Students were also asked to list which LS strategies they would have used, if they had started their maternal child clinical without participating in a workshop on LS. Most students listed therapeutic communication, encouragement, or breathing techniques as strategies they would use to help support a woman in labor prior to participating in the workshop. Several students were nonspecific, writing that they would provide emotional and physical support. Of the physical support strategies listed, students wrote that they would hold the patients hand, rub their back, or reposition the patient to increase their comfort in labor.

Knowledge and Confidence in Labor Support

Of 69 students who attended the workshop, 67 students responded to the preintervention survey questions related to their knowledge and confidence in the provision of LS. Prior to the workshop the majority of students reported limited knowledge of LS (75%, $n = 50$) and 81% ($n = 54$) did not feel very confident that at this point in their nursing training, they would be able to provide LS to a laboring person. After the LS workshop, 73.5% ($n = 50$) of students reported a moderately high level of knowledge specific to the provision of LS and 60% ($n = 41$) reported higher levels of confidence in their ability to provide LS to birthing persons. Prior to the workshop, only four students reported this level of confidence in their ability to provide LS. Postintervention, there was a significant change in the students report of both their knowledge of LS ($p < .001$) as well as their confidence in their ability to provide LS ($p < .001$).

Postintervention Open-Ended Responses

In addition to increasing their knowledge and confidence in the provision of LS, after the workshop students could also more readily list factors necessary to improve birth outcomes such as continuous LS, recognized the importance of creating a safe and private birth environment where a birthing person could remain undisturbed, relaxed, and as comfortable as possible. One student defined LS as, "massage, love, [and] freedom." Students were also able to more readily list focused LS techniques such as aromatherapy, double hip squeeze, massage, counter pressure on the lower back, engaging the birthing persons partner, use of ice or hot/cold packs, dimming lights, creating a quiet environment, positioning, and use of the birth or peanut ball.

Evaluation of the Workshop

Students reported being very satisfied with the workshop (4.9/5). Students also felt that the workshop was a good way to learn the content (4.9/5) and believed they would be able to use these newly acquired skills in clinical (4.8/5).

Postclinical Follow-Up

Thirty-seven students responded to the postclinical survey. Of those that responded, 67.57% ($n = 25$) reported using LS strategies while in clinical. However, it is important to note, of those that reported using LS strategies while in clinical, some students listed skills such as assessment, giving medications,

and catheter removal, not LS strategies. Of the students who reported they were not able to use LS while in clinical, rationale included not having the opportunity to care for a patient in labor, the patients assigned all had epidurals or were scheduled cesarean surgeries. One student stated that laboring mothers denied needing anything and, “stayed calmly in their beds until it was time to push.” Over half of the students who responded (67.57%, $n = 25$) reported that they did see nurses and clinical instructors’ role modeling the LS strategies learned and 72.97% ($n = 27$) said they saw partners or support people providing LS. However, less than half of the students who responded (45.95%, $n = 17$) reported seeing nurses providing partners or support people education on how to provide LS.

DISCUSSION

Overall our student demographic was young, with almost all students between the ages of 18 and 24. Only a small number of students had prior experience with labor and birth (15%).

Aschenbrenner et al. (2016) used the Theory of Planned Behavior to frame their study which explored the association between nurses’ attitudes towards the provision of LS and their personal birth experiences. They reported that nurses, “personal birth experiences were associated with their attitudes toward the importance of and their intended use of” LS (Aschenbrenner et al., 2016, p. 497). Subsequently, since most students in our study had minimal to no prior experience with labor or birth, exposing nursing students to LS techniques as well as educating them on its importance may be integral to ensuring LS is a valued component of their future nursing practice.

During the workshop, discussions revealed that many students had nonevidence based, preconceived notions of what constitutes appropriate care during labor and birth, often reflecting on birth stories of friends or relatives and many students were somewhat unaware of the maternity care crisis in the United States. Subsequently, the students may have been unable to contextualize introductory content on evidenced birth practices, as well as the maternity care crisis included at the beginning of our workshop due to their lack of knowledge and experience surrounding labor and birth. This further reinforces the importance of exposing undergraduate nursing students to LS.

Labor Support Techniques

Preintervention data revealed that without the workshop, many of the students would have used verbal support/encouragement and breathing techniques if they had been asked to provide LS during their obstetric clinical rotations. This supports what these authors noted during the interactive hands-on practice component of the workshop. Many students seemed hesitant to practice the hands-on LS techniques on one another. It is important to consider the intimate nature of the touch used while providing LS. Thusly, students may feel uncomfortable when interacting with patients in this way (O’Lynn & Krautscheid, 2014). O’Lynn and Krautscheid (2014) report that utilization of intimate touch in the clinical setting may not come naturally to students and since minimal instruction is often provided within schools of nursing, nurses often only use intimate touch in accordance with their own personal preferences. On-going education and hands-on practice of each of the LS strategies may help to reinforce material and normalize intimate touch. More research is needed surrounding nursing students’ level of comfort in the provision of intimate touch to a laboring person and if this is a barrier to their provision of evidence-based birth strategies.

Knowledge and Confidence in the Provision of Labor Support

Based on the number of students’ preintervention who reported limited knowledge of LS and little confidence in their ability to provide LS to a woman in labor (75% and 81%), students are not prepared to enter obstetrical clinical rotations without education on LS. Nursing education focuses on ensuring students are trained in a variety of clinical skills prior to embarking on clinical rotation, such as postpartum and newborn assessment, Foley catheter insertion, and medication administration. Evidence clearly outlines the importance of LS in improving birth outcomes and nurses play a key role in its provision. Our study revealed that prior to this workshop students reported a gap in knowledge and confidence in the provision of LS. Subsequently, undergraduate nurse educators should consider including a LS workshop in their maternal child clinical courses. In line with the findings reported by Kipnis (2013) a workshop such as this can serve to increase undergraduate nursing students’ knowledge and confidence in the provision of LS and subsequently may improve their performance

during their obstetrical clinical rotation and carry over to their clinical practice after graduation. In addition to the improvement in their knowledge and confidence in the provision of LS, students' high level of satisfaction with the overall workshop revealed that the workshop format was effectual in exposing students to hands-on LS techniques and is suggested for use by other undergraduate nursing faculty.

Strengths and Limitations

The pre- and posttest design of the study provided a simple method for testing the effectiveness of the LS educational intervention. There was, however, no way to determine if factors outside of the intervention effected the overall improvement in reported self-efficacy and confidence scores. However, since data was collected on the same day, directly after the completion of the LS intervention, the effect of outside factors should be limited. Data was self-reported; however, all survey data was collected anonymously. The workshop required two and a half hours of dedicated clinical time which is often difficult to find. However, based on evidence which supports the association between LS and improved maternal and neonatal outcomes, and our study which found improvement in students' confidence in the provision of LS after the workshop, inclusion of educational activities which address LS are imperative. The utilization of a Lamaze certified educator required funding and could be a perceived barrier to the implementation of such a workshop.

Implications for Practice

With an understanding that many nurses caring for laboring persons lack formal training on LS strategies, if nursing students are educated on the use and importance of LS, there is the potential for them to be innovators on their respective hospital units promoting quality, evidenced based, obstetric health care.

Two of the educators involved in the workshop were also trained as doulas. In the past, the nurse doula relationship has been viewed as contentious. By introducing nursing students to the role of the doula, as well as to all they must offer to both the patient and the team caring for a birthing person, it could potentially improve future collaborations between the two maternity care professionals (Roth, Henley, Seacrist, & Morton, 2016).

Maternal newborn nurse faculty may not feel comfortable teaching a course on LS strategies either because they were never formally trained or because it may have been many years since they have utilized

these strategies in practice. Subsequently, academic nurse educators should collaborate with Lamaze educators or doulas in their area or seek training through Lamaze International to provide a workshop such as this (Kipnis, 2013).

CONCLUSION

This LS workshop improved students' knowledge and confidence in the provision of LS prior to embarking on their maternal child nursing clinical experience and was well received by students. Education of nursing students on the importance of LS has the potential to change attitudes of health-care providers at a foundational level. To align nursing curricula with the guidelines set forth by AWHONN (2018) and Lamaze International on the importance of LS in improving birth outcomes, curricular time should be devoted to educating undergraduate nursing students on this important nursing intervention. ALS workshop such as this, could be easily embedded within undergraduate maternal newborn nursing courses and faculty partnerships with Lamaze educators could further aid in workshop development.

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