

BEST PRACTICE RECOMMENDATIONS TO EDUCATE NURSING STUDENTS
ON CONTINUOUS LABOR SUPPORT

By

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A Thesis Submitted to The Honors College
In Partial Fulfillment of the Bachelors degree
With Honors in
Nursing

THE UNIVERSITY OF ARIZONA

M A Y 2 0 2 0

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Abstract

This thesis studies current research and identifies the need for continuous labor support at the bedside. Women who have labor support are more likely to have positive birth outcomes, and a positive post-evaluation of their labor (Simon, Johnson, & Liddell, 2016). The articles included in this paper address the type of labor support that is most effective, the benefits of continuous labor support, and the role nursing students can take providing in labor support. With the evidence synthesized from the articles, this paper focuses on establishing an elective 2 credit course that will be integrated in the curriculum of a nursing school. The goal of this program is to train nursing students on labor support through didactic content and clinical experience. The research-based articles reviewed support maternal-newborn birth improvements as well as the benefits nursing students gain after taking the DONA doula certification course. This paper will review the current literature, establish the benefit of having an elective DONA doula certification course on labor support for nursing students, and propose the implementation and evaluation of an elective doula certification course at a college of nursing.

CHAPTER 1

Introduction

Statement of Purpose

Over the years, extensive research has shown that a woman's birth story and her laboring process shapes her physical, mental and emotional wellbeing in the future (Simon, Johnson, & Liddell, 2016). When it comes to studying the factors that differentiates a satisfactory labor from an unsatisfactory labor, labor support serves as the greatest protective factor (Kozhimannil, Hardeman, Attansaiio, Peterson, & O'Brien, 2013). Furthermore, research shows the best labor support is one that is continuous and from an experienced person outside of the woman's social network (Kipnis, 2011). Providing nursing students education on labor support techniques so they can later help laboring mothers during their clinical rotations is a cost-effective alternative that is mutually fulfilling (Paterno, Van Zandt, Murphy, & Jordan, 2011). Mothers are able to receive continuous labor support from an educated source, and nursing students gain bed-side confidence and agency (Paterno, Van Zandt, Murphy, & Jordan, 2011). Thus, the purpose of this paper is to outline the benefit of having nursing students provide continuous labor support to their patients using evidence-based labor support techniques from a Doula course.

A proposed integration of a doula training program into a baccalaureate nursing program will be created to teach nursing students evidence-based labor support techniques that will improve maternal-newborn outcomes.

Issue Background

Much of the research today suggests that continuous labor support provided by midwives and doulas is a protective factors against C-sections (Floris, Irion, Bonnet, Mercier, & De Labrusse, 2018). The American College of Obstetricians and Gynecologists (ACOG)

recommends continuous labor support to increase patient satisfaction and decrease the risk of a C-section. According to the CDC, in 2018, cesarean birth rates were at 31.9% (2019). In 1996, the cesarean birth rates were at 20.7%, an almost 12% increase (CDC, 2019). With an increase in cesarean births, mothers are at risk for placenta accrete, placental abruptions, and decreased fertility in subsequent pregnancies due to uterine scarring (McLachan, 2012). The Cesarean births may have profound lifelong impacts on the newborn as well (Futch-Thurston, Abrams, Dreher, Ostrowski, & Wright, 2018). Children born through cesarean births are more likely to face childhood obesity, allergies to food, and Type 1 diabetes (Carlson, Corwin, Hernandez, Holt, Lowe & Hurt, 2017).

Reducing the cesarean birth rates among laboring mothers is best implemented by decreasing the cascade of interventions that makes a mother prone to decreased labor progression (Petersen, Poetter, Michelsen, & Gross, 2012). A relationship has been established between a woman's emotional state, and the hormones that dictate the progression of her labor. Research shows that women who are fearful and feel out of control during their labor are more likely to have a slowed labor progression (Petersen, Poetter, Michelsen, & Gross, 2012).

The slowing of labor can last for hours and is often supplemented with Pitocin in an effort to continue the effacement and dilation (Petersen, Poetter, Michelsen, & Gross, 2012). Fear increases cortisol, a hormone that hinders dilation and effacement (Petersen, Poetter, Michelsen, & Gross, 2012). When a mother is unable to dilate further, her labor progression is slowed, making the mother susceptible to interventions such as Pitocin in order to advance her labor. Thus, it is imperative to decrease maternal fear and anxiety in order to decrease the mother's exposure to interventions that can have detrimental effects (Hosseini, Asadi, & Zareei, 2013). Continuous labor support and techniques like massage therapy are critical components in

reducing cortisol in labor mothers, aiding the progression of labor (Bohren et. al., 2017). Labor support impacts the mom-baby dyad beyond the birthing process and extends to the postpartum period as well. Women who have had continuous labor support have a shorter initiation time of breastfeeding (Bohren et. al., 2017). Women who have had labor support are more likely to look back at their labor with a positive evaluation which decreases the likelihood of developing postpartum depression (Bohren et. al., 2017). When an expert person outside of the laboring mother's social circle is present, supporting the mother through her labor, the mother is more likely to feel confident and supported in her labor (Bohren et. al., 2017). Thus, labor support becomes critical knowing the risk for increased intervention use when it comes to a slowed labor, as well as the factors leading to slow labor progression.

In this thesis the author suggests that nursing students take an elective didactic and clinical course on labor support with the goal of increasing safety and quality patient outcomes. The recommendation for standardized training on labor support will entail a course on doula certification as well as a clinical component. Doulas are non-medical personnel with a purpose of supporting and encouraging the laboring mother and her family. DONA, Doulas of North America, was started in 1992, with a mission to promote evidenced- based high quality care during the birthing process and the postpartum period ("About DONA International," n.d.)

Techniques that are often taught in DONA courses include an introductory to touch, verbal encouragement, and other non-pharmacological pain relieving techniques (Davie & Cheyne, 2014). Doula courses are normally taken over 3 days, starting with an introduction to childbirth, and extending to hands-on labor support techniques. For certification, the student then attends one pre-birth session, one birth, and one post-birth follow-up. For this best practice thesis,

students would be encouraged to become certified after the doula training; however, it would not be a requirement of the course. (“Birth Doula Certification,” n.d.).

It has been found that in the presence of a doula or midwife, medical interventions like inductions and C-sections decrease. Some suggest this may be because laboring women are reassured of the natural processes of labor during moments of doubt (The American College of Obstetricians and Gynecologists, 2016). Doulas and midwives focus on a holistic approach to labor rather than just focusing on the medical interventions. Deep breathing exercises and other non-medical interventions are used to make the mother more comfortable (The American College of Obstetricians and Gynecologists, 2016). Doula courses place an emphasis on the power of touch, verbal encouragement, non-pharmacological pain management, and allowing the mother to be as comfortable as possible (Simon, Johnson, & Liddell, 2016).

Doula training and the evidence that support it will be studied extensively in order to create a one credit elective course for nursing students to take that will supplement their maternal newborn classes.

Significance of the Problem

The quality and amount of labor support significantly impacts a woman’s laboring process, and her post-delivery term. In 2017, Kobayashi found that when in labor, maternal distress has a correlation to a prolonged labor. In an article by Davie & Cheyne, continuous labor support was associated with higher levels of maternal confidence and satisfaction during the birthing process. When a laboring mother feels confident and in control of her birthing process, improved maternal-newborn outcomes are noted (2014). Labor support that is continuous in nature has shown better outcomes than intermittent labor support (Davie & Cheyne, 2014). Knowing the limitations of current hospital structures and the financial limitations for some

patients, employing nursing students as a way to provide continuous labor support not only improves maternal-newborn outcomes, but it also instills confidence in the nursing student (Paterno, Van Zandt, Murphy, & Jordan, 2011). Teaching nursing students continuous labor support will provide a mutual benefit that is patient focused.

Conclusion

The increase in cesarean births over the decades has exposed laboring mothers to increased risks that extend beyond their labor (Bohren et. al., 2017). A woman's emotional state is closely related to her physical condition during her labor. This makes stress a factor in slow labor progression. Thus, it is imperative to create a calm atmosphere for the laboring mother knowing a woman's hormones greatly affects the progression of her labor. This in turn will give her the best chance at progressing her labor without outside interventions that have long-lasting health impacts on both the mom and baby (Futch-Thurston, Abrams, Dreher, Ostrowski, & Wright, 2018).

When a mother feels confident and capable during her labor, she looks back with a positive evaluation (Bohren et. al., 2017). This evaluation carries into the future, impacting the mother's likelihood for postpartum depression (Bohren et. al., 2017). The emotional and physical impact of labor extends beyond the labor into the future. Thus, it is imperative to equip laboring mothers with evidence-based tools to help facilitate optimal mom-baby outcomes (Hosseini, Asadi, & Zareei, 2013; Bohren et. al. 2017). Continuous labor support through trained personnel outside of the woman's social circle is the most effective (Bohren et. al., 2017). Support techniques like a hand massage or verbal encouragement are high-quality interventions backed by evidence to calm a laboring mother (Bohren et. al., 2017). When properly trained, a nursing student is in the unique position of taking an active role during a woman's labor. The nursing

students gains bed-side confidence and invaluable skill, while the mother receives beneficial labor support from a constant, skilled source (Paterno, Van Zandt, Murphy, & Jordan, 2011; Bohren et. al., 2017).

Thus, the purpose of this thesis is to create and propose an integrative model that enables nursing students to take an elective one credit doula certification course where they can learn about labor support through a didactic model and clinicals. The overarching goal is to improve mom-baby outcomes by equipping these nursing students with evidence-based techniques that they will use to aid laboring mothers.

CHAPTER 2

Review of Literature

Chapter Two is a review of literature on factors leading to effective labor support, the effects of labor support on birth outcomes, and the role that doulas and nursing students play in providing labor support. The research for this thesis was found using CINAHL and PubMed databases between the years 2014-2019. All of the research included in this paper were from peer-reviewed journals. The terms “labor support” and “birth outcomes” were applied in order to find research articles. Overall 12 sources were chosen for this paper based on the proposed best recommendations, study design and interventions. The results from these articles will be synthesized at the end in order to create a proposed best practice intervention aimed at improving birth outcomes.

Continuous Labor Support and Birth Outcomes

In an article by Bohren, Hofmeyr, Sakala, Fukuzawa, & Cuthbert (2017), the relationship between continuous labor support on labor outcomes is studied. The study is a systematic review of labor support and how favorable outcomes are correlated to the amount and type of support given. Many of the studies in the systematic review are published randomized control trials, and clustered-randomized trials comparing continuous labor support. Quasi-randomized cross-over designs were not eligible for inclusion in the study. The study extracted data using the Cochrane pregnancy and birth data. A total of 27 trials and 15,858 women were included in the study. The trials were conducted in 17 countries, with 13 trials conducted in a high-income setting, 13 studies in the middle-income study, and no studies in the low-income setting. Out of 21 randomized control trials, 733 women out of 1000 women had a spontaneous vaginal birth when they received continuous labor support (Bohren et. al., 2017). This is contrasted with 679 women

having a spontaneous vaginal birth out of 1000 women after receiving traditional care (Bohren et. al., 2017). Women receiving traditional care averaged a labor duration of 5.3-12.7 hours (Bohren et. al., 2017). Women receiving continuous labor support reported a mean length of labor 0.69 hours shorter than the reported duration of labor in the group receiving traditional care (Bohren et. al., 2017). Women who had continuous one-to-one labor support during labor were more likely to have positive birth outcomes (Bohren et. al., 2017). Positive birth outcomes in this article were defined as having a spontaneous vaginal birth and a positive birth evaluation of the birthing experience. Bohren and his colleagues also found that mothers who had continuous one-to-one labor support were more likely to have shorter labors, faster initiation of breastfeeding after labor, less use of intrapartum analgesia and decreased instrumental usage during a vaginal birth (2007).

The intervention in these studies included continuous emotional support and praise as well as different coping techniques and comfort measures. For some mothers, encouraging mobility, allowing them to eat, and taking warm baths/showers lead to a more positive birth evaluation post birth. The study found that even if a hospital includes labor support in its birth plan, the duration and extent of labor support varies. Thus, the study found that the model of doula led support presented the best birth outcomes for both mom and baby. This is because doulas are one on one with their patient and they offer continuous, uninterrupted support to the laboring mother. Mothers with continuous labor support were more likely to look back on their birth experience as positive and fulfilling. One hypothesis for this reason is that women with labor support feel more in control of the birthing process when they are encouraged and reassured in the midst of an unfamiliar setting. With decreased medical intervention and decreased use of analgesia, many mothers in this study found an increased feeling of control and

accomplishment (2017). One strength of this study is the number of studies it included in its sample population, 15,858 were studied thus making the results more standardized and generalizable. However, one limitation is the lack of focus on the lower socioeconomic class. For mothers that do not have the means to hire continuous labor support, this study would be more generalizable had it included a more diverse socioeconomic population.

Simon, Johnson and Liddell (2016) conducted a study that studied how the amount, source and quality of labor support correlates to a mother's positive evaluation of her birth process. Data was collected from waves I and II of the Listening to Mothers (LTM) survey that was conducted between the years 2002 and 2006. Merging LTM I and II resulted in a sample size of 3156. There were two specific selection criteria for inclusion in the study: 1) women in the study had to have given birth in a hospital and 2) women have to have data in all of the variables studied in the regression model. After this inclusion criteria was applied, the final sample size became 2765 (2016). Dependent variables were studied by asking the mother to define how she felt during her labor using one of the 12 words presented. 6 words had a positive connotation (alert, calm, capable, confident, powerful, and unafraid), and 6 words had a negative connotation (agitated, frightened, groggy, helpless, overwhelmed and weak) (2017). Independent variables were measured by counting up the amount of support sources available to the woman (1 for yes and 0 for no). The women were then asked to rate each support source from 1 (poor) to 4 (excellent). Based on the results, the data was organized into three categories: good support, poor support, and no support (2017). Simon and his colleagues found that the percent of women who perceived support from a nurse averaged 73.6% whereas physicians averaged to 46.5% (2017). The study found that the amount of support offered to the woman significantly impacted her evaluation of the birth process. For every additional support source given to the laboring

mother, the number of positive words the mother used to evaluate her experience increased by 0.27 words (2017). The evaluation process found that women who received support from a doula used 0.78 more positive words when asked about their birth (2017). The overall conclusions for the study found that women evaluated their labor with both positive and negative dimensions. This study also reinforced that support from a professional source such as a nurse, doctor or doula were associated with higher positive evaluations in comparison to the mother drawing support from her own social network (2017). Women perceived more labor support from nurses than from physicians; thus, the nurse plays a crucial role in providing quality labor support to the laboring mother. As found from the study above done by Bohren and his colleagues, continuous labor support is an additional factor that contributes to a woman's positive evaluation of her labor (2017). These results reinforce the role of the nurse in providing continuous and quality labor support for the mothers they help as the patient's advocate.

In an article by Neal, Carlson, Phillippi, Tilden, Smith, Breman, Dietrich, and Lowe (2018), the purpose of the study was to investigate how birth outcomes depend on the type of care received (interprofessional hospitals vs. non-interprofessional hospitals). This study found that the continuous presence and support from midwives is related to better birth outcomes with less likelihood of starting the cascade of interventions. The cascade of interventions often starts with Pitocin and may lead to increased chance of an instrumental-assisted birth or a cesarean birth. In this study data, 228,438 participants were chosen from the Consortium on Safe Labor data set. The inclusion criteria for the study aim for nulliparous women with a single cephalic presenting fetus (Neal et. al., 2018). The total sample size in the end after exclusions was 14,375. 7,393 women were spread out in 3 interprofessional centers. 6,982 women were in 3 centers in noninterprofessional centers (see Appendix A). The study design for the paper is a retrospective

cohort study (Neal et. al., 2018). Researchers found that women in interprofessional medical centers were 74% less likely to have an induced labor. Women in interprofessional centers were also 12% less likely to have a cesarean (Neal et. al., 2018).

Another study found that labor support that is continuous in nature is related to the best birth outcomes. In an article by McLachlan et al. (2012) the primary purpose of the study was to determine if primary midwife led care lead to decreased cesareans. For this study 15,647 people were recruited; however, the total sample size at the end of the trial was 2,286. The number of women randomly allocated to midwifery care was 1,142 participants, and 1,144 participants were allocated to standard care (McLachlan et. al., 2012). The design of the study consisted of a two armed randomized control design.

Results indicate that women in midwifery care were more likely to have a spontaneous vaginal birth ($p < 0.001$). Episiotomies were used less in the groups led by midwives ($p = 0.003$). Similarly, women in the care of midwives had lower rates of epidurals ($p = 0.004$). There were overall reductions in epidural analgesia, episiotomy and cesareans in the groups of women where midwives were the primary providers (McLachlan et. al., 2012). This indicates lower maternal risk because of less risky and invasive procedures. Furthermore, women in the care of midwives had shorter hospital stays. The main findings in this study centered on the difference between a midwife that provided patient continuity of care versus different midwives attending throughout the pregnancy and labor. Continuity of care proved to be more effective in facilitating positive birth outcomes mainly due to the consistent presence of the midwife and continuous labor support. This demonstrates to how continuous labor support and an established relationship leads to improved maternal-newborn outcomes.

The Impact of Poor Birth Outcomes

Poor birth experiences can contribute to perinatal mental health problems, postnatal depression, and increased risk of unplanned events in labor such as an emergency cesarean birth (Davie & Cheyne, 2014). In one meta-analysis paper, it was found that women never forget the births of their children (Davie & Cheyne, 2014). Out of 165 databases, 86 articles were synthesized for this research paper. This article placed a strong emphasis on ensuring that mothers feel supported during the laboring process (Davie & Cheyne, 2014). Ensuring adequate emotional and physical support decreases maternal anxiety, improving labor progression and thus maternal birth outcomes (Davie & Cheyne, 2014). Positive birth experiences have been linked to more positive feelings of motherhood and decrease parental stress (Davie & Cheyne, 2014). Regardless of the type of labor or the outcome, the quality of support a laboring mother receives makes a difference in whether she recalls her birthing experience as “degrading” and “depersonalizing” or one with “increased self-esteem and self-confidence” (Davie & Cheyne, 2014, p. 56). A positive birth experience serves as a protective factor that becomes a barrier for future physical and emotional stress (Davie & Cheyne, 2014).

Nursing Students and Labor Support

According to research detailing successful programs that have taught nursing students labor support techniques, mutual benefit is evident. Nursing students at John’s Hopkins University were presented with an optional DONA Doula certification class in addition to their coursework (Paterno, Van Zandt, Murphy, & Jordan, 2011). The class is labeled the “Community Perspectives on the Childbearing Process”. It is in this class that the Birth Companion Program (BCP) began. In this class, students receive 24 hours of training. 20 hours from a DONA certified educator, and 4 hours of didactic training (Paterno et. al., 2011). In order

to receive credit, the students must attend one prenatal visit with a client, one birth, and one postpartum visit with a client.

This study used secondary analysis of Birth Companion Program (BCP) data over the years and evaluated the impact of labor support on labor analgesia and cesarean births. The study found that continuous labor support correlated to decreased interventions and positive birth evaluations. What is important about this study was the conclusion that labor support from a trained nursing student was just as effective as having a doula, midwife or nurse present in facilitating a positive birth experience (Paterno et al., 2011). This is not to say that a nursing student can replace a fully trained nurse or midwife in the labor process. Rather, this study shows the benefit of including nursing students in a more active role in the birthing process of a mother. Due to major nursing shortages and higher patient loads for nurses, employing trained nursing students to provide labor support is an ingenious way that benefits both the nursing student and the patient. This study also found that for many women, labor support is expensive. Traditionally, doulas are hired to provide labor support. For women of low-socioeconomic class, having a student provide labor support is an opportunity they would not have had the opportunity to have prior. It is important to note that the students at Johns Hopkins are taught a DONA accredited course; thus, this paper is not diminishing the use of doulas. Rather, this paper argues that training student nurses DONA certified labor techniques instills confidence in the nursing student when he/she is able to take a more active role

In another study by Kipnis (2011), baccalaureate nursing students at a state university in Northern California were trained to provide labor support prior to engaging in clinical experiences in labor and delivery. Before and after the students participated in the three-hour

course that focused on labor support, the students completed a ten item pre-post-test that measured their knowledge of labor support techniques and concepts related to obstetrics.

This study found that one-on-one labor support does not have to be through nurses only. Nursing students taking the course were split into groups of eight to ten (Kipnis, 2011). These students would then meet regularly with faculty to discuss the course. In these classes, the nursing students learned the evidenced-based practice of continuous labor support.

Skills included comfort measures that were both physical and emotional. The training in this program mirrored doula training courses. The nursing students were taught optional positions that facilitate comfort during labor as well as positions that progress labor (Kipnis, 2011). They were taught on the importance of water in relieving pain and allowing the laboring mother make choices about her care. This in turn instills confidence in the laboring mother and centers the control of the situation in her hands and not the providers (Kipnis, 2011). This mother-focused care led to improved birth outcomes both during the labor and after. In conclusion, this study found that one-on-one labor support provided by nursing students reduced the length of labor, epidural analgesia, and cesarean births (Kipnis, 2011).

Similar to Johns Hopkins University, nursing students at Duke University underwent doula training through a 16-hour DONA course. This DONA course has been offered for over six semesters with a total of 123 duke nursing students attending (O'Brien & Hotelling, 2018). According to O'Brien and Hotelling, the way women perceive their birth affects their self-esteem and future parenting as well as their breastfeeding skills (2018). When mothers look back fondly at their labor, it is often correlated to how confident and in control they felt during the labor. This leads to feelings of accomplishment and positive memories (O'Brien & Hotelling, 2018). In order to evaluate the doula training course for nursing students, data were collected through a post

course survey given to the nursing students after taking the DONA course as well as faculty members teaching the course (O'Brien & Hotelling, 2018). Faculty found that nursing students who took the DONA course were more confident at the bedside than their peers who did not take the course (O'Brien & Hotelling, 2018). Nursing students who answered the survey detailed how they gained a sense of agency as well as gaining a newfound respect and understanding for doulas (O'Brien & Hotelling, 2018). The results found that the students' newfound understanding of what a doula does, and how they as students can provide labor support at the bedside facilitated respect between doulas and the students (O'Brien & Hotelling, 2018).

Conclusion

The synthesized results from these studies show that continuous labor support through a trained person outside of the laboring mother's social circle is optimal (Simon, Johnson and Liddell 2017). Furthermore, continuous labor support leads to improved labor quality and birth outcomes. Nursing students that are trained through a DONA certified course become educated providers of labor support. Nursing students are in the unique position to provide continuous labor support to patients they are assigned to during their clinical experiences.

Women that received continuous labor support were more likely to report a positive evaluation of their birth (Simon, Johnson and Liddell 2017). Studies showed that the amount and quality of labor support is an important factor in improved birth outcomes. One study reinforced that support from a professional source such as a nurse, doctor or doula were associated to higher positive evaluations in comparison to the mother drawing support from her own social network (Simon, Johnson, and Liddell, 2017). When continuous labor support is provided, there is a decrease in cesarean births and instrumental births (McLachlan et al., 2012). Results indicate that women in midwifery care were more likely to have a spontaneous vaginal birth ($p < 0.001$).

Episiotomies were used less in the groups led by midwives ($p=0.003$). Similarly, women in the care of midwives had lower rates of epidurals ($p=0.004$). There were overall reductions in epidural analgesia, episiotomy and cesareans in the groups of women where midwives were the primary providers (McLachlan et. al., 2012). These reductions in procedures leads to safer mom-baby outcomes with a decrease in risk for infection, injury, and death.

Evidence suggests that the provision of labor support improves birth outcomes in patients, and also creates confidence among nursing students when they have been educated to provide labor support (Paterno, Van Zandt, Murphy, & Jordan, 2011). Nursing students that takes a DONA course report high satisfaction and newfound understanding for the role of doulas (O'Brien & Hotelling, 2018). The evidenced reviewed indicates that there is mutual benefit for both nursing students and their patients in providing nursing students standardized training in continuous labor support.

CHAPTER 3

Best Practice Recommendations: Teaching Nursing Students Continuous Labor Support Techniques

The aim of this thesis was to create evidence informed recommendations to train nursing students in labor support methods (refer to Table 2). Labor support begins prenatally, when the woman is encouraged to think about her birthing plan. During the laboring process, continuous labor support has shown to decrease the cascade of interventions, cesarean births, prolonged labor, and unmet expectations. Post-labor, continuous labor support has shown to decrease the chances of postpartum depression and feelings of inadequacy (Bohren, Hofmeyr, Sakala, Fukuzawa, & Cuthbert, 2017).

When nursing students are trained to be doulas, they learn how to provide continuous labor support. Labor support places the student in an active role in the laboring process—something he/she will carry into their future career regardless if they are a Labor and Delivery nurse. The foundation of labor support mirrors the foundation of nursing: Every patient is entitled to safe and quality care. The role of a nurse does not end at aiding the patient with physical ailments. The responsibility of a nurse extends to caring for the patient's mind, body and emotions from the present to the future.

Table 1 Best Practice Recommendations for an Elective DONA Course

Recommendation	Rationale	References	Level of Evidence
Create an Elective, 1 Credit Course	<ul style="list-style-type: none"> • A course that is elective in nature and goes well in conjunction with the required Labor and Delivery course is optimal. 	<p>Paterno, M., Van Zandt, S., Murphy, J., & Jordan, E. (2011). Evaluation of a student-nurse doula program: An analysis of doula interventions and their impact on labor analgesia and cesarean birth. <i>Journal of Midwifery and Women's Health</i>, 57, 28-34. http://dx.doi.org/1526-9523/09/\$36.00 doi:10.1111/j.1542-2011.2011.00091.x</p>	Level V1
Have Students Undergo 24 Hours of Didactic Training	<ul style="list-style-type: none"> • During this didactic training, students will learn about labor support and hands-on techniques 	<p>Paterno, M., Van Zandt, S., Murphy, J., & Jordan, E. (2011). Evaluation of a student-nurse doula program: An analysis of doula interventions and their impact on labor analgesia and cesarean birth. <i>Journal of Midwifery and Women's Health</i>, 57, 28-34. http://dx.doi.org/1526-9523/09/\$36.00 doi:10.1111/j.1542-2011.2011.00091.x</p> <p>O'Brien, E., & Hotelling, B. (2018). Amazing things happen when student nurses are given birth doula training. <i>The Journal of Perinatal Education</i>, 27, 98-103. http://dx.doi.org/doi:10.1891/1058-1243.27.2.98</p>	Level V1

Students Should Attend One Prenatal Consultation, One Birth, and One Postnatal Consultation

- Care that is continuous in nature and seen in sequence is most beneficial for a nursing students to fully understand their role in providing labor support.

Paterno, M., Van Zandt, S., Murphy, J., & Jordan, E. (2011). Evaluation of a student-nurse doula program: An analysis of doula interventions and their impact on labor analgesia and cesarean birth. *Journal of Midwifery and Women's Health, 57*, 28-34. [http://dx.doi.org/1526-9523/09/\\$36.00](http://dx.doi.org/1526-9523/09/$36.00) doi:10.1111/j.1542-2011.2011.00091.x

Level V1

A Survey Should be Given to Students Before and After the DONA Course

- A pre-survey and a post-survey is the best way to gauge where a student is before they take the course, and how they feel after taking the DONA course.

Paterno, M., Van Zandt, S., Murphy, J., & Jordan, E. (2011). Evaluation of a student-nurse doula program: An analysis of doula interventions and their impact on labor analgesia and cesarean birth. *Journal of Midwifery and Women's Health, 57*, 28-34. [http://dx.doi.org/1526-9523/09/\\$36.00](http://dx.doi.org/1526-9523/09/$36.00) doi:10.1111/j.1542-2011.2011.00091.x

Level V1

O'Brien, E., & Hotelling, B. (2018). Amazing things happen when student nurses are given birth doula training. *The Journal of Perinatal Education, 27*, 98-103. <http://dx.doi.org/doi:10.1891/1058-1243.27.2.98>

Table 2 Best Practice Recommendations for Teaching Nursing Students Continuous Labor

Support Techniques

Recommendation	Rationale	References	Level of Evidence
<p>Teach Students to Help Patients Create a Personalized Birth Plan Spearheaded by Laboring Mother</p>	<ul style="list-style-type: none"> • A patient that has a birth plan before her labor can vocalize/think about what she is and is not ok with. This plan can be changed in emergency situations. • It creates confidence and builds a woman’s self-esteem making her in control of her labor. 	<p>Floris, L., Irion, O., Bonnet, J., Mercier, M. P., & De Labrusse, C. (2018). Comprehensive maternity support and shared care in Switzerland: Comparison of levels of satisfaction. <i>Women and Birth, 31</i>, 124-133. http://dx.doi.org/http://dx.doi.org/10.1016/j.wombi.2017.06.021</p>	<p>Level V</p>
<p>Educate Students on the Importance of Providing Quality Labor Support</p>	<ul style="list-style-type: none"> • When evaluating their labor, there is a strong association between the woman’s perception of the support she received and how in control they felt during the labor 	<p>Davie, M. R., & Cheyne, H. (2014). Intrapartum support: what do women want? A literature review. <i>Evidence Based Midwifery, 12</i>(2), 53-58. Retrieved from https://pdfs.semanticscholar.org/97cb/9cfa0cc5fe5122c747febac5ba5f8b2719e2.pdf</p> <p>O'Brien, E., & Hotelling, B. (2018). Amazing things happen when student nurses are given birth doula training. <i>The Journal of Perinatal Education, 27</i>, 98-103. http://dx.doi.org/doi:10.1891/1058-1243.27.2.98</p>	<p>Level V1</p> <p>Level IV</p>
<p>Teach Students the Impact of Labor Support on Decreasing</p>	<ul style="list-style-type: none"> • Cesarean births lead to longer maternal-newborn recovery times. Newborns are weaker 	<p>Kobayashi, S., Hanada, N., Matsuzaki, M., Takehara, K., Ota, E., Sasaki, H., ... Mori, R. (2017). Assessment and support</p>	<p>Level II</p>

<p>Cesarean Birth Rates</p>	<p>surfactant levels after birth and decreased levels of antibodies from his/her mother</p>	<p>during early labour for improving birth outcomes (Review). <i>Cochrane Database of Systematic Reviews</i>, 1-68. http://dx.doi.org/DOI:10.1002/14651858.CD011516.pub2</p>	
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<p>Teach Students the Following Labor Support Methods:</p>			
<p>Massage</p>	<ul style="list-style-type: none"> • Massage techniques are effective seen through the gate control of pain theory. 	<p>Bohren, M. A., Hofmeyr, G. J., Sakala, C., Fukuzawa, R. K., & Cuthbert, A. (2017). Continuous support for women during childbirth (Review). <i>Cochrane Database of Systematic Reviews</i>, 1(7), 1-173. http://dx.doi.org/DOI:10.1002/14651858.CD003766.pub6</p>	
<p>Encourage Mobility</p>	<ul style="list-style-type: none"> • Walking and not staying in bed opens the hips and progresses labor. 	<p>Bohren, M. A., Hofmeyr, G. J., Sakala, C., Fukuzawa, R. K., & Cuthbert, A. (2017). Continuous support for women during childbirth (Review). <i>Cochrane Database of Systematic Reviews</i>, 1(7), 1-173. http://dx.doi.org/DOI:10.1002/14651858.CD003766.pub6</p>	<p>Level V</p>
<p>Hydrotherapy</p>	<ul style="list-style-type: none"> • Water provides relief and comfort 	<p>Bohren, M. A., Hofmeyr, G. J., Sakala, C., Fukuzawa, R. K., & Cuthbert, A. (2017). Continuous support for women during childbirth (Review). <i>Cochrane Database of Systematic Reviews</i>, 1(7), 1-173. http://dx.doi.org/DOI:10.1002/14651858.CD003766.pub6</p>	<p>Level V</p>
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<p>Position Changes</p>	<ul style="list-style-type: none"> • Changing positions facilitates comfort especially during active labor. Changing positions opens the hips and facilitates the progression of labor 	<p>Davie, M. R., & Cheyne, H. (2014). Intrapartum support: what do women want? A literature review. <i>Evidence Based Midwifery</i>, 12(2), 53-58. Retrieved from https://pdfs.semanticscholar.org/97cb/9cfa0cc5fe5122c747febac5ba5f8b2719e2.pdf</p>	<p>Level V</p>

Verbal Encouragement Answer Client Questions	<ul style="list-style-type: none"> • Providing verbal encouragement to the mother and gauging her needs reinforces her strength and ability to carry out the labor • Answering questions allows the mother clarity in hectic situations and allows her to make a decision she feels comfortable with 	Paterno, M., Van Zandt, S., Murphy, J., & Jordan, E. (2011). Evaluation of a student-nurse doula program: An analysis of doula interventions and their impact on labor analgesia and cesarean birth. <i>Journal of Midwifery and Women's Health</i> , 57, 28-34. http://dx.doi.org/1526-9523/09/\$36.00 doi:10.1111/j.1542-2011.2011.00091.x	Level VI
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Summary of Best Practice Recommendations

According to the literature that has been reviewed, continuous labor support is a protective factor that is associated with decreased cesarean rates, improved maternal self-esteem, and confidence during labor. Nursing students are eager to learn and aid where they can, so having them trained in labor support not only benefits the patient, but instills confidence in the student as well.

At its core, doula training centers around the laboring mother and her child. Simple, non-invasive techniques like a massage or water bath are effective in making pain manageable (Bohren et. al., 2017). In the DONA courses, one of the foundations is the belief that every mother is entitled to a safe and quality labor. In the United States where rates of obstetrical interventions and cesarean births have increased significantly, many women feel that the control has been taken from them. It is important to note here that not every woman who has a cesarean birth feels a loss of control. Regardless of the type of birth, a mother that feels in charge of her situation is one that feels in control and heard. At any moment when the mother feels her voice is

diminished and her choice is not her own, the likelihood of an unsatisfactory and perhaps traumatizing birth is at risk.

Realistically, the current hospital structure often makes it difficult for nurses to provide continuous labor support due to numerous other responsibilities like documentation. Thus, having an expert person outside of the woman's social circle, like a doula, has profound effects (Simon, Johnson, & Liddell, 2016). For many women, affording a doula is not possible. Thus, having students trained as a doula is an excellent resource for providing continuous labor support (Paterno, Van Zandt, Murphy, & Jordan, 2011).

When students are taught, their horizons and perceptions of the world expand. By teaching nursing students what a doula does and the importance of their role, these future nurses are able to work cohesively with doulas in the future (O'Brien & Hotelling, 2018). In this understanding, a unified team is present to support the laboring mother and her child. When the mother is the center of the circle of care, all the decisions and the actions are determined by her. Things may not always go according to planned, but giving the mother the space to feel in charge and capable in her labor is one of the greatest gifts a mother can look back on in the future. As nurses, the essence of the role is to support and encourage the patient while maintaining compassion and empathy. Labor support at its core places the laboring mother at the center of care, enabling her to feel heard and encouraged. The support a mother feels during a labor has major impacts during the labor and delivery process, and long-lasting effects into the future for the rest of her life. It is imperative to teach the next generation of nurses the supportive tools that are necessary to provide labor support, and potentially improve the birth outcomes for women and their infants.

CHAPTER 4

Implementation and Evaluation

Chapter Four will focus on implementing and evaluating an elective doula training course in an already established pre-licensure nursing curriculum. This doula course will be an elective one credit course centered on hands on labor support techniques. A DONA certified instructor will teach the didactic portion of the course which totals to 24 hours. Students will learn hands on non-pharmacological pain relieving techniques during this class as well as the importance of position changes and supporting the mother's emotional state during labor and delivery. To supplement the didactic training, students will practice what they learned in clinical by attending at least one prenatal appointment, one birth, and one postnatal appointment. The goal of this course is to encourage students to learn continuous labor support and apply it in their clinical practice.

Implementation and Evaluation of an Elective Doula Certification Course

In order to create an elective course that provides the opportunity for students to become certified as doula's, the Plan-Do-Study-Act (PDSA) will be used as a framework for the implementation and evaluation of this program. According to the Institute for Healthcare Improvement, the PDSA is a framework centered on implementing and testing change. A plan is created, devised in the doing part, analyzed for strengths and weaknesses, and then modified for the next cycle (Institute for Healthcare Improvement, 2020).

The evaluation portion of the implementation will be covered in the latter section of the chapter. Small changes will be made after every cycle of the PDSA. After the implementation of the course has been evaluated numerous times, big scale changes can occur if needed, to create a refined, and effective course. The goal would be to integrate this labor support course into the

University of Arizona curriculum. On a broader scale, collaboration between the College of Nursing and hospitals will be needed for this implementation to work.

Implementation

Implementing and Integrating a 2 Credit DONA Course into the Nursing Curriculum

Plan. Research shows that continuous labor support through a trained person outside of the laboring woman's social circle is most effective (Kipinis, 2011). Implementing a course centered on training nursing students labor support has shown to be effective in numerous articles (Paterno, Van Zandt, Murphy, & Jordan, 2011).

When it comes to implementing a 1 credit elective course on labor support, the college would first establish with a survey that students are interested in participating in the course. It is necessary to consider how many students can be accommodated in a DONA course, and the number of faculty needed. For the clinical portion of this course, adequate faculty to student ratio is critical because students will be at the bedside one on one with patients. Partnerships with local hospitals would need to be established for the clinical practicum. The program would be presented to key stakeholders at each potential clinical site, the Chief Nursing Officer, as well as unit level leaders such as the nurse manager and educator on the labor and delivery unit.

For a one credit course, 45 hours are necessary for completion. That would amount to 24 hours of didactic training, and 21 hours of clinical hours.

In order to implement this plan, the College of Nursing General Nursing and Health Education (GNHE) Division Chair and Program Coordinator would review and approve the development of the elective Doula Certification course. The sponsoring faculty would create a syllabus that would be approved by the curriculum committee representing the pre-licensure

programs. A DONA certified instructor would be hired as faculty to teach the didactic content of the course and facilitate clinical experiences.

Costs for establishing this DONA course will need to be taken into consideration as well. Supplies range from lower cost items such as a birth ball, essential oils and heating pads to higher cost items like a birthing mannequin (Kipnis, 2013). In addition, the cost of the instructor's salary would need to be addressed, and approved by the Department Chair of the GNHE division. The curriculum needs to be discussed and approved by faculty, and the curriculum committee for pre-licensure programs.

The syllabus would be developed to establish clear learning outcomes and objectives for the course, and would be shared with nurse leaders and staff nurses at participating hospitals to communicate the learning outcomes of the course. The ultimate goal of the course is teach students evidence based labor support interventions to improve birth outcomes, and to enable nursing students to take an active role in the laboring process by becoming a certified doula.

The last step of the plan stage in the PDSA cycle is to develop a way to test the effect of a supplemental DONA course (Institute for Healthcare Improvement, 2020). A pre-test and post-test DONA course survey will be given in order to determine the student's level of knowledge on labor support, and his/her confidence at the bedside.

Do. The do stage of the PDSA cycle is when the program is run on a small scale (Institute for Healthcare Improvement, 2020). Data is collected and analyzed after the pilot course is implemented. During the didactic training, students will have hands on experience with different labor support techniques. Doula certification is often taken over three days for a total of 24 hours. The first day goes into labor progression, while the second and third day are devoted to hands on labor support techniques (Davie & Cheyne, 2014). Students divide into groups and run

through scenarios detailing a mother in labor and the acting role of the student nurse in the room (Kipnis, 2013). This 1 credit course is 45 hours of work. Of those 45 hours, 24 hours will be dedicated to didactic training. That entails 21 hours for clinical work where students will have to attend at least one prenatal appointment, one labor, and one postnatal appointment. Students will pair with one laboring mother on their clinical days, practicing continuous labor support. During the implementation of the pilot doula certification course data will be collected to monitor the feasibility and effectiveness of the course. Plans for data collection and program evaluation will be discussed in the next section.

Evaluation

The study-act stages of the PDSA cycle evaluates the small scale changes made based on evaluation data (Institute for Healthcare Improvement, 2020). The study stage of the PDSA cycle will take into account the data collected during the Do stage, and determine whether changes are needed in the course and if so, were changes effective in meeting its objective.

Study. Course faculty will evaluate the efficacy of nursing students learning about labor support and implementing it in a maternity ward through observation of the student during clinical experiences. Additionally, hospital nursing staff will also be asked through a survey how effective they think having students on the floor providing labor support is in increasing positive birth outcomes. Students will also be asked how confident they feel in the bedside before and after the course. These observations from both the nursing students, staff, patients, and faculty will be recorded and documented (Institute for Healthcare Improvement, 2020). Data from surveys from the nursing students, faculty members and hospital staff will be analyzed (Institute for Healthcare Improvement, 2020).

Once the data is collected, it is compared with predictions (Institute for Healthcare Improvement, 2020). The prediction in regards to the doula certification course would be: Birth outcomes will improve with continuous labor support through nursing students. It is expected that the nursing students will report increased confidence at the bedside and expansion of knowledge on the role of the doula and labor support (O'Brien & Hotelling, 2018). Based on collected data, changes could be made to the doula certification course if needed.

The last stage of the Study PDSA model is to make a summary of what was learned during the implementation of a supplemental DONA course (Institute for Healthcare Improvement, 2020).

Act. The last stage of the PDSA cycle is the Act Stage (Institute for Healthcare Improvement, 2020). Once the data is collected from the Study phase, changes are made based on the quality of the outcomes (Institute for Healthcare Improvement, 2020). After the need for improvements are drawn from the data collected, a plan for the next PDSA cycle test will be created (Institute for Healthcare Improvement, 2020).

Summary

The implementation and evaluation process for recommending an elective optional DONA doula certification course is an effort to enhance the skills of pre licensure nursing students to improve birth outcomes in laboring mothers through labor support. The PDSA cycle was used as a model to guide the implementation and evaluation of an elective doula certification course at a college of nursing (Institute for Healthcare Improvement, 2020).

Strengths and Limitations of Thesis Project

The primary strength of this paper is the evidence synthesized from a literature review supporting the need for continuous labor support, and existing models where nursing students

have been educated in providing labor support, and in performing doula skills. Nursing students providing labor support has been studied since 1997 with Johns Hopkins University, and later Duke University (Paterno, Van Zandt, Murphy, & Jordan, 2011). The outlined plan to have an elective doula certification course is innovative and has broad applicability to other universities and hospitals both nationally and internationally. Furthermore, students would be able to provide labor support beyond nursing school, and use the skills learned in their nursing career in both hospital and birth center settings. Additionally a program could be developed for mothers that cannot afford to pay for a doula, having a partnership between the hospital and nursing students and college of nursing to provide continuous labor support for free. After completing the course, student nurses have the option to become certified as doulas and continue their partnership with the hospital providing labor support (Paterno, Van Zandt, Murphy, & Jordan, 2011).

The limitations of this thesis project is the publication of very few doula certification programs in nursing pre-licensure programs.

Summary

The purpose of this thesis was to create a doula certification course at a College of Nursing to teach nursing students how to provide continuous labor support. Current research indicates that when mothers are supported continuously, better outcomes are noted during the birth and post-birth as well (Kipnis, 2011). There are numerous health benefits for mothers when they feel confident and capable during their labor. One benefit is the continuous progression of labor (Carlson, et. al., 2017). There is extensive research supporting the need for continuous labor support. Having nursing students trained in doula support has been shown to have mutual benefits for both the laboring mothers and the nursing students. The evaluation process of the PDSA cycle would allow students, faculty, and patients to provide feedback. This feedback can

be used for refinement of the doula certification course leading to a course that is effective and could extend to multiple universities and colleges.

Providing continuous labor support through nursing students would potentially improve birth outcomes and the laboring process for the patients that the students care for. Nursing students will be emboldened by their knowledge on labor support and gain confidence at the bedside, which could extend into the student's professional nursing career. The relationship established between the nursing students and the hospital can lead to future collaboration through the optional continuation of labor support provision even after the class has been completed.

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