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## Doulas in the U.S.: State of Science – Can Nursing Students Help Support Laboring Women and Reduce Health Disparities? A Literature Review

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### **Cover Page Footnote**

As the obstetric intervention and cesarean birth rate has steadily risen since the 1980's, patients have become more susceptible to the inherent risks that come with these medical procedures. Studies have shown that the continuous support that doulas provide reduces the incidence of obstetric interventions and improves birthing outcomes for laboring women and their infants. However, doula services are not covered by most insurance companies and fees must be paid out-of-pocket. This article will review the literature regarding nursing student-doulas who provide services to low-income women. Suggestions for updating maternal nursing curriculum are also proposed to increase accessibility to doulas and influence the culture of Labor and Delivery units to lower the rate of medical intervention.



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Major: Nursing

Mentors: **Dr. Deepika Goyal & Dr. Maria E. Cruz**

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## ***Biography***

*Miah Arechiga is a Senior Nursing student, a volunteer doula for Santa Clara Valley Medical Center and a Jail Monitor at Elmwood Correctional facility. After obtaining her bachelor's in nursing, she will become a Women's Health Nurse Practitioner and Certified Nurse-Midwife. She became interested in healthcare after she had an unsatisfactory birth experience as a teen; however, she felt compelled to become a women's provider when she learned about the reproductive injustices for women of color in the U.S. as well as the maternal mortality rates that affect Black women disproportionately. Her goal is to increase access to doulas for marginalized women to improve their birth outcomes and birth experience. Additionally, Miah is a member of the National Association of Hispanic Nurses, the Chicana Latina Foundation Alumnae Association, an HSF Scholar and a CLFSA Dr. Ernesto Galarza/IME Becas Scholar.*

***Doulas in the U.S.: State of Science – Can Nursing Students Help Support Laboring Women and Reduce Health Disparities? A Literature Review***

**Abstract**

As the obstetric intervention and cesarean birth rate has steadily risen since the 1980's, patients have become more susceptible to the inherent risks that come with these medical procedures. Studies have shown that the continuous support that doulas provide reduces the incidence of obstetric interventions and improves birthing outcomes for laboring women and their infants. However, doula services are not covered by most insurance companies and fees must be paid out-of-pocket. This article will review the literature regarding nursing student-doulas who provide services to low-income women. Suggestions for updating maternal nursing curriculum are also proposed to increase accessibility to doulas and influence the culture of Labor and Delivery units to lower the rate of medical intervention.

*Keywords: Nursing, student, doula*

## Introduction

The birthing process in the United States has become increasingly dependent on technology, as evidenced by the rising cesarean and medical intervention rate. According to a study that analyzed live birth data in 22 industrialized nations from 1987-2007, authors found that the U.S. had a 43% increase in cesarean births between 1992-2007 (Declercq et al., 2011). The total cesarean birth rate was 31.8% in 2007 which was a record high in comparison to previous years (Osterman & Martin, 2014; Menacker & Hamilton, 2010). The most recent rise was from 2016-2017, where total cesarean births rose from 31.9% to 32.0% (Martin et al., 2018). Moreover, when compared to Non-Hispanic whites and Non-Hispanic Blacks, Hispanic women had the largest increase in cesarean births. Cesarean births lead to an increase in adverse consequences for women including hemorrhage, shock, cardiac arrest, acute renal failure, uterine rupture, venous thrombi, and infection (Caughey et al., 2014). Additionally, women who undergo a cesarean birth have higher risks of developing placenta previa (Gurol-Urganci et al., 2011) and placenta accreta (Shi et al., 2018) with subsequent births, all of which increases their morbidity rate (Solheim et al., 2011). Infants are placed at a higher risk of neonatal respiratory distress due to the lack of thoracic cavity compression that occurs with physiological births when the infant passes through the vaginal canal (Ward et al., 2016). Other interventions may include bed rest, continuous electronic fetal monitoring, routine vaginal exams, labor inductions, epidurals, amniotomy, urinary catheterization, episiotomy and instrumental birth (eg. forceps, vacuum) all of which are associated with their own risks (Jansen et al., 2013).

### *Historical Overview*

The current medical model of obstetrics is relatively new. Prior to the 20<sup>th</sup> century, most births took place at home with midwives, in the company of female family and friends (Sherrod, 2017). Even after obstetricians began attending births in the late 1800's and early 1900's, most women of color continued to birth at home with a midwife (Thompson, 2016). Midwives were cheaper to hire than physicians but the birthing experience with a midwife also seemed to be more personable as the laboring person was surrounded and empowered by women as she birthed

(Leavitt, 1986). In fact, when the obstetric specialty initially emerged, these physicians had little credibility compared to the trusted community midwife. Male physicians used female nurses to persuade women that birthing in the hospital was safer than birthing at home (Rinker, 2000). Another way that male physicians attempted to ensure that they would be the primary birth attendants was by creating smear campaigns against midwives of color (Thompson, 2016). They cited the high maternal mortality rate which was mainly caused by infection, however, with the discovery of sulfonamides and other potent antibiotics, the infection rate and mortality rate decreased (Todman, 2007); hand hygiene education would have also reduced the incidence of infection (Thompson, 2016). States began to enact anti-midwifery legislation which ultimately allowed Obstetricians to become the main care providers for laboring women (Thompson, 2017) The obstetric model viewed birth as pathological instead of a natural process (Sherrod, 2017). Romano and Lothian (2008) argue that “more technology does not necessarily translate into better outcomes” as evidenced by both the U.S.’ rising intervention and maternal mortality rates.

Several maternal health organizations have recognized the need to reduce the cesarean rate to improve the wellbeing of laboring women; these include The World Health Organization (Opiyo et al., 2020), the American College of Obstetricians and Gynecologists (ACOG) (Caughey et al., 2014) and the California Maternal Quality Care Collaborative (Main et al., 2011) among others. In the ACOG publication regarding “Safe Prevention of the Primary Cesarean Delivery,” the authors pointed out that continuous labor support, such as that provided by a doula, is “one of the most effective tools to improve labor and delivery outcomes” but that it is likely underutilized (Caughey et al., 2014, p. 189).

### *The Definition of a Doula*

The word *Doula* originates from the Greek language and means *female helper* (Merriam-Webster, 2019). As a trained person who provides physical and emotional support during and after the birth (Doulas of North America International, 2019), research notes that the use of doulas may decrease the need for a cesarean section (Fortier & Godwin, 2015). Their continuous support can reduce the cesarean birth rate, reduce the use of instruments, and the use of analgesics during labor (Bohren et al., 2017).

Doula support can also reduce costs (Kozhimannil et al., 2013), promote a shorter labor, and improve infant birth outcomes (Gruber et al., 2013). Additionally, mothers using doulas during their birth are more likely to report a positive childbirth experience compared with mothers who did not use a doula (Bohren et al., 2017).

The first doula studies took place in Guatemala when researchers realized the positive outcomes that continuous labor support had on birthing women (Sosa et al., 1980). Doulas gained more traction in the United States in the 1990's as the cesarean rate rose and women desired a more natural approach to birth (Humenick, 2000). The number of available doulas continues to rise via various doula-certifying organizations including Doulas of North America (DONA) International, Doula Trainings International (DTI), Childbirth and Postpartum Association (CAPP), and Birthworks International. DONA International is one of the long-standing organizations that was founded in 1992. To date, they have certified over 12,000 doulas through their program (Doulas of North America International, 2019). Their three-day training starts with a full day childbirth education class and an additional two days of intensive training that includes labor support, implementing comfort measures, coordinating prenatal meetings and postpartum follow-up appointments (Doulas of North America, 2017). Although each doula certifying organization has their own training criteria, research findings continue to reveal that the presence of a doula can improve maternal-child health outcomes.

### *Doula Accessibility*

While doulas can be highly beneficial, they are not always accessible. Currently, Medicaid and private insurance companies do not offer reimbursement for doula services (Strauss et al., 2016). Fees vary from region to region and range depending on the doula's experience; expectant mothers seeking doulas often have to pay out-of-pocket costs. Continuous labor support provided by a doula is necessary, but due to a lack of accessibility to the poor, it is a luxury. This adds to existing maternal health disparities for low-income women and communities of color who may not be able to afford doula services. For example, Native American women are two-three times more likely to die from childbirth complications (Petersen et al., 2019) whereas Black women are three times more likely to die

(MacDorman et al., 2017) compared to Non-Hispanic White women; according to the 2016-2017 National Vital Statistics Report, Hispanic women are more likely to have a cesarean section than Non-Hispanic White and Black women (Martin et al., 2018) which places Hispanic women and infants at a higher risk for cesarean complications.

There are some existing community and hospital-based organizations that offer free doula services which have shown to improve outcomes for low-income communities. When patients among vulnerable populations received doula support, they were less likely to experience preterm birth or cesarean birth (Kozhimannil et al., 2013) and were two times more likely to breastfeed their child six weeks postpartum compared to mothers that did not receive doula support (Nommsen-Rivers et al., 2009). Immigrant mothers who had linguistic and culturally competent doula support were less likely to have a Cesarean birth; nurses felt more confident about the care they provided because on top of providing labor support, the doulas served as translators between mothers and healthcare providers (Dundek, 2006). The purpose of this review is to provide evidence of the benefits for training nursing students as doulas which can be accomplished by updating maternal health nursing curriculum. These recommendations can improve patient outcomes, increase the confidence and skills in new graduate Labor & Delivery nurses and potentially change the incidence of routine interventions thereby lowering the cesarean birth rate.

### **Methodology**

PubMed, CINAHL Complete and Cochrane were utilized to form the literature review using key search terms: “student,” “nurse,” and “doula.” Initially, the search was exclusive to scholarly articles published within the last ten years and studies based in North America. For the PubMed database, the initial search yielded 16 articles, but only 4 were specific to nursing students being trained as doulas. The initial CINAHL Complete search yielded 8 articles, 2 were pertinent to student-nurse doulas, and one focused on the importance of labor support education for nursing students. Due to the limited number of articles, the threshold publication date was expanded to year 2,000. PubMed then yielded 21 results, with 7 being pertinent to nursing student-doulas. For CINAHL, the second search yielded 13 pertinent articles, 5 pertinent specific to nursing student-doulas

and the same one regarding labor support education for nursing students. There were 4 duplicate articles in using the expanded search method and 4 non-duplicated articles totaling to 8 pertinent articles which are included in this review. The Cochrane database did not yield any results regarding nursing students who provide doula support, revealing the limited research on this topic.

The articles were compiled into a literature review table and the text was analyzed based on research design, intervention(s), sample characteristics, results as well as limitations. About half of the studies were comprised of qualitative and quantitative surveys of nursing/nurse-midwifery students experiences who were trained as doulas and provided support, and some included information on patients' impressions of the nursing student-doulas. The table also included articles that were original reviews of university-based doula training programs and 3 retrospective reviews that analyzed birth outcomes.

## **Results**

Of the 8 nursing-student doula articles, 4 of them reference Johns Hopkins' University (JHU) Birth Companion program. One of the articles summarizes the Birth Companion program and provides quantitative surveys regarding the experiences of clients served through the program and the experiences of nursing student-doulas (Jordan et al, 2008). The other 3 articles referring to JHU are retrospective reviews of the Birth Companion program which include: a secondary analysis that examine the outcome of nursing-student doula interventions (Paterno et al., 2012), a quantitative evaluation of the birth outcomes for vulnerable women who had nursing-student doula support (Van Zandt et al., 2016), and a quantitative review of the incidence of epidural usage on women who had nursing student-doulas (Van Zandt et al., 2005).

Saxell et al (2009) included a quantitative study based on nursing student-doulas experience with pre and post surveys. O'Brien and Hotelling (2018) provided quantitative survey results and qualitative student reflections regarding their experiences after doula training. Muñoz and Collins (2015) provide a summary of a volunteer doula program that nurse-midwifery students participated in. Kipnis' (2011) article did not explicitly describe the process of nursing students becoming doulas, but rather, she

specified the benefits of nursing students learning how to provide continuous labor support through customized childbirth education.

### *Efficacy and Safety of Nursing Student Doulas*

The JHU Birth Companion program is one of a few Bachelor of Science Nursing programs in the United States that offers doula training to students as a complement to the Maternal nursing curriculum. After students take *Nursing the Childbearing Family* theory and clinical courses, students have the option of enrolling in *Community Perspectives on the Childbearing Process* which explains the doula's role. A DONA instructor teaches sixteen hours of the course where students learn about, "providing emotional reassurance, physical massage techniques, and helping the woman in labor find an ideal position" (Jordan et al., 2001, p. 90). Part of the course requirements are to serve as a volunteer doula by attending a birth, along with a prenatal visit and postpartum follow-up; students must also document the birth story and gather information about the client and birth. Students can continue to be a volunteer doula for the school's Birth Companions Community Service Program where they would receive an hourly stipend for each birth that they attend. Students have the option of taking leadership roles by working with faculty to facilitate the group, assign clients, contact community organizations for client referrals, and offer 24 hour on-call support to student volunteers (Jordan et al., 2001).

The Birth Companion program nursing student-doulas were an asset to the community. Data from 405 births between 1998 and 2006 that had student-doula support were analyzed and results indicated that 87% of mothers thought the students were a "big help" physically, 80% thought they were a "big help" emotionally, and 71% thought they were a "big help" to the mother's family or friend who was also attending the birth (Jordan et al., 2008). Furthermore, vulnerable women such as refugees, non-English speakers, teens, and women of low socioeconomic status who had Birth Companion support during labor had a lower cesarean rate (26.8%) when compared to the current national average (31.9%) (Van Zandt et al., 2016; Martin et al., 2018). Of the 89 vaginal Birth Companion-supported births analyzed (1999-2002), results showed that when student doulas implemented more interventions, there was a decreased chance of the client receiving an epidural or cesarean birth; when the client had received an

epidural, she was more likely to have a longer labor (Van Zandt, et al., 2005; Paterno et al., 2012). These results are similar to other studies that illustrate how continuous labor support reduces the likelihood of medical interventions (Bohren et al., 2017; Ahlemeyer & Mahon, 2015; Papagni & Buckner, 2006). The student-doulas also felt that they benefited by volunteering for the Birth Companion program. 80% of the Program's alumni added their doula background to their resumé and 50% of the volunteers thought it helped them gain employment (Jordan et al., 2008). One of them wrote that “the doula experience is very useful in my practice as a Labor and Delivery nurse” (Jordan et al., 2008, p. 121).

Other nursing programs that trained their students as birth doulas include the Vanderbilt School of Nursing (Muñoz & Collins, 2015) and Duke University's School of Nursing (O'Brien & Hotelling, 2018); similarly to the Johns Hopkin's Birth Companion program, these nursing students increased doula access in their respective communities and gained more clinical experience to complement their nursing education. Van Zandt et al. concluded that this type of service-learning can enhance a nursing student-doulas academic experience by allowing students to practice their communication and case management skills (2016). The University of British Columbia's Collaboration for Maternal and Newborn Health (CMNH) included training nursing, nurse-midwifery and medical students to serve as volunteer doulas for marginalized women (Saxell et al., 2009). In analyzing the program's post-evaluation surveys, it illustrated that the students learned how “poverty, violence, and substance use” adversely affected women from low socio-economic backgrounds (Saxell et al., 2009, p. 318). These student volunteer experiences allow for students to become more aware of issues afflicting marginalized communities. Doula experiences can also give students an opportunity to practice their patient communication skills which enhances patient outcomes (Sheldon & Hilaire, 2015).

Doula training can teach nursing students how to provide labor support techniques which may not be included in their Maternal Health curriculum. Kipnis (2011) asserts that when nursing students are taught customized labor support techniques, they can be a valuable asset in Labor and Delivery settings to both the patients and staff which can help students gain more confidence in their role. Adams and Bianchi (2008) and Burgess

(2014) assert that Nursing education has changed; there is more of a focus on the medicalization of birth, such as electronic fetal monitoring, and less of a focus on how to provide physical and emotional support to laboring mothers. While new graduate nurses feel more comfortable with the technological aspect of Labor and delivery units, they may not have the tools to provide essential labor support which can lower obstetric intervention rates (Barrett & Stark, 2010). Older nurses tend to have more experience and confidence in providing labor support but as these nurses retire, there may be less labor support offered to patients (Barrett & Stark, 2010).

Nursing programs and nursing students are in an ideal position to increase doula accessibility in low-income communities. Nursing students must enroll in Childbirth Education training prior to their Maternal Health clinical rotations, which is a major step into becoming a doula. Both hospitals and nursing education programs have existing relationships due to student placement at clinical sites; students can serve as volunteers at their clinical site where they already have an established connection with the unit and staff. The future nurse graduate can also learn skills and gain experience in helping expectant mothers (Van Zandt et al., 2005).

### **Discussion**

There is a continuing need for doula support to enhance the birth experience and promote positive maternal-infant outcomes. Moreover, a solution to increasing access to doula care for all women is to train and utilize nursing students, who are already on the labor and delivery units, for their clinical rotations. Many nursing programs require a childbirth education requirement, very similar to DONA requirements for doula certification (DONA International, 2017). Doula training gives the student additional knowledge to assist patients and practice their skills while the student completes labor and delivery clinical rotations.

Nursing student-doulas also have the potential to improve nurse and doula relationships. Papagni and Buckner (2006) note that when patients perceived the nurse's and doula's interactions as negative, they felt it had a negative impact on their birthing experience. Unfortunately, nurses and doulas may have an adversarial relationship and not see one another as part as the same team. This is partly due to a lack of understanding of the doula's

role and lack of information regarding the benefits of continuous labor support that they provide. When nurses and doulas have a clear understanding of each other's roles, it can foster a more complementary relationship (Waller-Wise, 2018). According to Pecukonis et al. (2008), interprofessional training for healthcare providers can lead to “effective, competent, and culturally sensitive health care delivery” (p. 417); training nursing students to serve as doulas is one strategy to achieve camaraderie among Labor and delivery professionals. When the new graduate nurse who provides doula support comes across another doula, there will be a sense of understanding that may facilitate a more positive experience for everyone involved.

Training nursing students as doulas before they obtain their licenses may boost their effectiveness in lowering obstetric intervention rates for their patients. In a randomized controlled trial, 6,915 births were evaluated to review the efficacy of nurses who provide continuous labor support by comparing 2,836 continuous-supported births versus a control group of 2,765 births where nurses provided “usual care”; the study concluded that continuous labor support provided by nurses did not lower cesarean and other medical interventions nor did it improve the patient's experience or perception of their birth (Hodnett et al., 2002). The authors point out that this may be due to the hospital environment where intervention rates are routine and overshadow labor support (Hodnett et al., 2002). These nurses received their labor support training after they had begun their practice as opposed to receiving training as novice students whose practice is highly impressionable. As noted with the JHU Birth Companion program, doula experiences influenced the student nurse's future practice; these experiences, when multiplied by many new graduate nurse-doulas, have the potential to influence Labor and delivery unit culture and lower obstetric intervention rates.

Additionally, Nursing students who volunteer as doulas for low-income patients learn about advocating and caring for patients from underserved populations (Van Zandt et al., 2016). Current literature reveals the increased incidence for both obstetric intervention and maternal mortality among women of color (MacDorman, et al., 2017; Martin et al., 2018). Doula service-learning experiences can potentially decrease adverse outcomes and allow students to learn about social inequities that lead to

health disparities for low-income communities (Saxell et al., 2009); this can enhance the student's future practice by increasing their cultural competency. It also allows for nursing programs and students to engage with the school's surrounding community to form partnerships for free doula referrals (Jordan et al., 2001).

### **Implications**

Nursing programs in partnership with hospital clinical sites have the opportunity to establish free doula programs for vulnerable patients. This creates a space for hospitals to incorporate evidence-based practices at the bedside, potentially lowering the obstetric intervention rate and the ability to offer a high-quality birthing experience. By providing doula training in an academic environment, it would allow for the evaluation of doula education programs which can add credibility to the profession. Johns Hopkins is one of a few U.S. nursing programs that has evaluated its doula training program; more research is needed to assess similar school of nursing doula programs in other states with various student and patient populations. Future research should also evaluate how nursing students, trained as doulas, have influenced the perception of doulas on Labor and Delivery units among fellow nurses, midwives and physicians; additionally, it would be noteworthy to learn if these doula-trained nursing students became Nurse-Managers of Labor and Delivery units and if they influenced or encouraged that continuous labor support be provided by nursing staff. Quantifying labor support would allow for documentation of interventions; this would allow researchers to evaluate the effectiveness of labor support techniques which can optimize patient outcomes (Adams & Bianchi, 2008).

### **Conclusion**

To truly influence the practices and attitudes of future labor and delivery nurses, nursing students should be trained as doulas while they are obtaining their nursing education (Van Zandt et al, 2005). Adam and Bianchi (2008) found that intrapartum nurses attend 99% of U.S. births which illustrates the importance of nurses being equipped with knowledge regarding the benefits of continuous labor support as well as supportive labor techniques. Another reason Nursing students should learn early on

about a doula's role is to dispel preexisting misinformation that nurses may have about doulas and continuous labor support (Ballen & Fulcher, 2006).

Teaching nurses how to provide emotional and physical comfort to laboring patients can be intrinsically satisfying, which has the potential to reduce nurse burnout and attract other nurses to the profession (Van Zandt et al., 2005). Nursing educators are in a prime position to positively influence their students' attitudes towards doula support; there is also an opportunity to increase access to doulas which can help narrow birth disparity gaps for underserved patients. Future generations of Labor and delivery nurses and nurse leaders can and should be equipped with labor support knowledge and tools to improve birth outcomes in North America.

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