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The Impact of Perinatal Palliative Care Simulation on Undergraduate Nursing Students

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THE IMPACT OF PERINATAL PALLIATIVE CARE SIMULATION ON UNDERGRADUATE NURSING STUDENTS

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Abstract

Background: Nurses who have limited exposure to perinatal palliative care often avoid interactions with patients, limiting the quality of care provided. Undergraduate nursing students are often not afforded opportunities for experiencing perinatal palliative care during direct patient care clinicals. Simulation may provide an opportunity for students to have these experiences.

Methods: A review of the literature was conducted resulting in six articles addressing the evidence-based education question, do undergraduate nursing students report feeling more prepared to provided perinatal palliative care to patient and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone? The Johns Hopkins Nursing evidence-based practice model was used to critically apprise the articles.

Results: Following a synthesis of the appraisal results, it was determined that simulation-based learning activities did provide students with increase knowledge, confidence, and skills in providing perinatal palliative care. Additionally, students were able to better understand the role of the professional nurse in palliative care scenarios.

Implications: Due to the limited amount of available research regarding student preparedness in providing perinatal palliative care after simulation, translation to educational practice can not be recommended. Instead further research is needed.

Keywords: baccalaureate nursing student, nursing student, undergraduate student, end-of-life care, inter-uterine fetal demise, neonatal death, perinatal palliative care, pediatric death, grief, grief preparation, patient simulation, simulation-based learning experience, outcomes of education

DEDICATION

To all the families who have allowed me to be part of their perinatal loss experience. To RES for being my editor and cheerleader. To my husband, son, and parents. Words cannot begin to express my gratitude, for without your support I would not be where I am today. Thanks be to God who has carried me through the last five years.

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To Dr. Zinsmeister at Messiah College. Your support has been instrumental to my academic, professional, and personal growth. You have fostered in me a desire to use evidence-based practice to drive nursing care for the betterment of patients and students alike. Your support and encouragement have allowed me to broaden my understanding of a nurse educator and believe that I am capable to move into a future as nurse educator and leader.

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CHAPTER I

INTRODUCTION

Nurses provide care to patients from conception to death. On any given day, a nurse can be found bringing new life into the world or holding the hand of a patient who takes his or her last breath. Regardless of the specialty a nurse may choose to pursue, most nurses will be entrusted to the care of an actively dying or recently deceased patient. The support and presence of a nurse is vital to the patient and family's perception of a "good death" (Heise, Wing, & Hullinger, 2018). The profound impact end-of-life (EOL) care has on an individual is not only felt by the patient and their loved ones, but is also experienced by the nurse (Willis, 2019). Regrettably, nurses can encounter emotional distress and grief while providing EOL care.

Nursing care of vulnerable populations, including the incredibly young, is a component of developing a well-rounded graduate nurse (American Association of Colleges of Nursing [AACN], 2008). As with many nursing specialties, nurses can experience patient death while caring for the pediatric population. An often daunting task for a graduate nurse is providing palliative and/or EOL care to children who have died before or shortly after birth. The most recent published statistics from the Center for Disease Control and Prevention indicated that 23,595 fetal deaths occurred in 2013 (MacDorman & Gregory, 2015). Additionally, UNICEF (2019) reported that the 2018 mortality rate for children under 5-years-of-age in the United States was 25,497; of which, 13,727 were neonates who died within the first 28 days of life (see Figure 1). Though neonatal death contributed to only a fraction of the 3.9 million children born in 2018 (UNICEF, 2019), nurses would have been involved in the care of a huge percentage of the children accounted for in those numbers. For nurses who perform perinatal palliative care

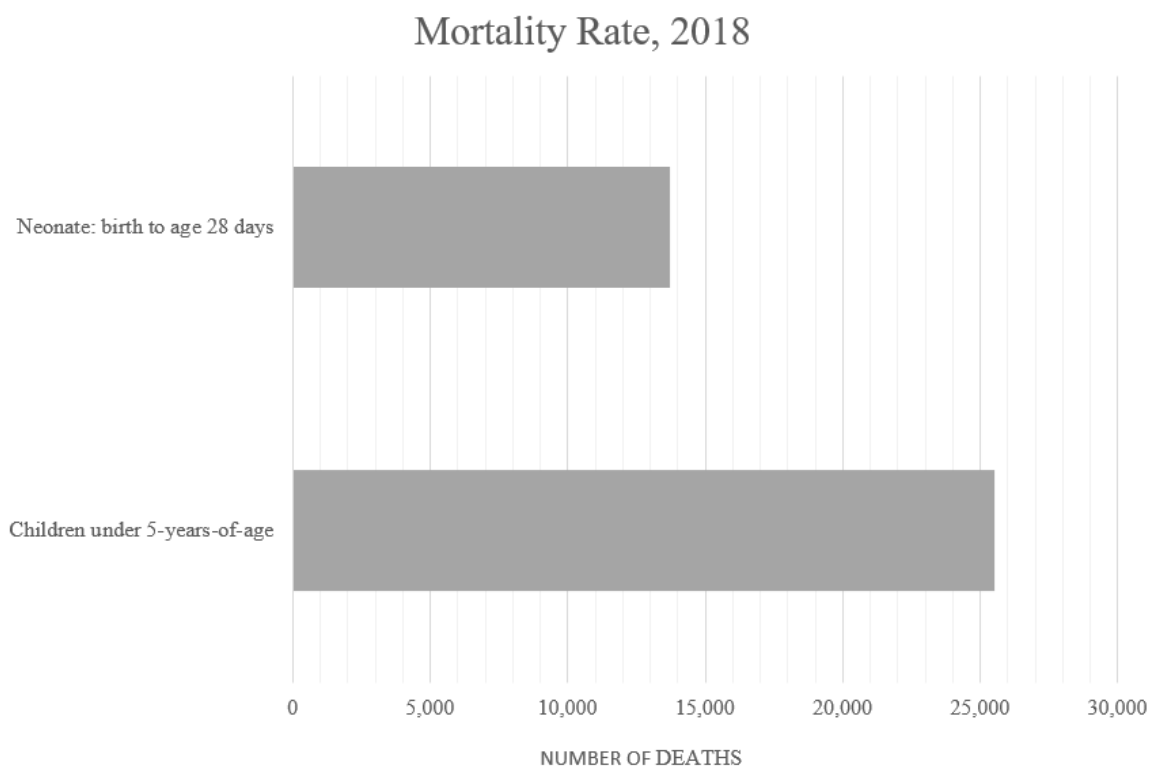

Figure 1. 2018 United States mortality rates for neonates and children under 5-years-of-age.

(PPC), managing one's own emotions, including ethical dilemmas, while continuing to provide EOL care to a pregnant or postpartum woman, and her family, can be particularly challenging (Willis, 2019).

Background and Need

Limited education regarding EOL care has been provided to nursing students in undergraduate textbooks and lectures, despite *The Essentials of Baccalaureate Education for Professional Nursing*, (AACN, 2008) having indicated that the baccalaureate nurse graduate should be equipped to provide evidence-based, culturally-sensitive, holistic care while advocating for the patient. Additionally, the Quality and Safety Education for Nurses (QSEN,

2019) project faculty outlined competencies which include patient-centered care. QSEN also outlined that nurses should be competent to address ethical and legal implications of care, as it related to discrepancies between institutional and patient or family rights. Often, practicing nurses did not report feeling adequately prepared for their role in providing care to patients during or after death (Alt-Gehrman, 2017). Initial exposure to EOL care influenced nurses' career and personal lives, particularly if the experience were unpleasant (Heise et al., 2018).

Even with the adult population, clinical experiences in EOL care were not guaranteed for nursing students in the hospital or outpatient setting (Gillan, van der Riet, & Jeong, 2014). Reduced exposure to EOL care resulted in students who were ill-prepared for professional roles and were at risk of experiencing intimidation, helplessness, distress, anxiety, and being fearful of their own emotions (Heise et al., 2018; Lippe & Becker, 2015). Negative experiences, emotional responses, and the personal perception of competency involving EOL care as a nursing student may have contributed to the avoidance of interactions with a dying patient, therefore having impacted the care provided to this population (Dame & Hoebeke, 2016; Dimoula et al., 2018).

Experiences with perinatal death only compounded the nurses' negative experiences, in turn affecting the future care of patients in similar scenarios (Willis, 2019). During PPC, nurses struggled with their emotions, carrying on in the moment, being present for the patient and family, both internal ethical and social conflict, maintaining self-care, and detaching from the experience (Willis, 2019). Patients and families who have experienced a perinatal loss deserve the same sensitive and empathic care any other patient may receive. Unfortunately, a nurse's inability to cope while providing PPC resulted in a nurse who was task-focused and ill-equipped to provide holistic care to the mother and family during an extremely sensitive situation (Willis, 2019). A lack of quality PPC impacted parents, families, and siblings, as well as future

pregnancies (O'Connell, Meaney, & O'Donoghue, 2016). Willis (2019) suggested that nurses desire education regarding PPC to decrease their anxiety and fear during the act of care; to provide examples of emotional and physical self-care tools; and to improve the quality of care they provide.

Statement of Problem

Heise et al. (2018) surveyed 2,480 undergraduate nursing students and found that only 24% reported having didactic instruction on EOL care, despite 41% having been present at a patient's death. Also reported was that only 17% of the students believed the education they received provided adequate preparation in caring for a patient at the EOL. Gillan et al. (2014) discovered that undergraduate nursing curricula which incorporates the care of a dying patient is often lacking. Therefore, students were prevented from fully developing the knowledge and skills needed to support patients, families, and themselves, during EOL care. Students who were uncomfortable with caring for a patient at EOL developed into nurses who were more likely to avoid and distance themselves from the patient, family, and situation in an attempted to preserve one's self (Zheng, Lee, & Bloomer, 2017). The results of sparse EOL education for students was an inability of the nurse to meet the needs of the patient, which resulted in inadequate care (Colwell, 2016; Gillan et al., 2014).

The same is true, if not intensified, for PPC. Students desired education concerning communicating with parents and families experiencing a perinatal loss (Cole & Foito, 2019). A lack of confidence in providing PPC resulted in students avoiding interactions with the dying patient which impacted the physical and emotional care families deserved (Colwell, 2017; Dame & Hoebeke, 2016; Dimoula et al., 2019; O'Connell et al., 2016).

Purpose Statement

The purpose of this evidence-based synthesis paper was to investigate the impact simulation-based learning experiences (SBLE) had on preparing undergraduate nursing students to care for the maternal patient, neonate, and the family following a perinatal loss.

Evidence-Based Practice Question

The guiding evidence-based education question for this project was: Do undergraduate nursing students report feeling more prepared to provide perinatal palliative care to patients and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone?

Significance to Nursing Education

Traditionally, education regarding EOL care for undergraduate nursing students has been passive learning, via didactic instruction, which limited the opportunities for students to consider their personal beliefs, emotions, or expectations (Alt-Gehrman, 2017; Gillan et al., 2014). Often opportunities for students to participate in EOL care during clinical placements was limited due to site availability, staff nurse reluctancies, and clinical instructor perceptions of student preparation and what experiences students value (Carmack & Kemery, 2018; O'Connor, 2016). Likewise, there were limited situations where students could experience fetal demise and perinatal death. Students were seldom, if ever, permitted to participate in the care of the deceased neonate, limiting critical thinking and practical nursing care opportunities (Bailey & Bishop, 2017). Providing an experience for students to develop and implement a plan of care for a perinatal or neonatal death aligns with the AACN (2008) and QSEN (2019) competencies of providing safe quality care to the patient. Increased exposure to EOL care experiences has been

found to increase the ability of the student to cope and has positively affected the care provided as a professional nurse (Ferguson & Cosby, 2017).

Clinical experiences involving PPC have been scarce but may prove to be beneficial for the undergraduate nurse. Since adequate EOL care competencies have not be achieved through clinical requirements, SBLE could be considered within the curricula. Simulation-based learning experiences provide an alternative to clinical sites and limited 'real world' experiences in a safe and controlled environment (Shellenbarger & Hagler, 2015). Additionally, SBLE have provided opportunities for students to participate in active learning, which allowed students to develop critical thinking and explore personal feelings without the risk of patient harm, both physical and emotional (Gillan et al., 2014; Lippe & Becker, 2015). Moreover, SBLE has been shown to guide the student beyond cognitive knowledge and provide kinesthetic and affective learning through the lived experience of participation (Lippe & Becker, 2015). Both high and low fidelity simulation opportunities have been used to improve student knowledge and confidence by providing exposure to a dying experience, which may help to foster positive attitudes about EOL care in the student (Carmack & Kemery, 2018).

Definition of Terms

End-of-life (EOL) care. Comfort, supportive, and palliative care provided to patients who have chosen to forgo treatment or life-sustaining measures (National Cancer Institute [NCI], n.d.).

Fidelity. The extent to which a mannequin or model resembles a human being during simulation-based learning experiences (Shellenbarger & Hagler, 2015).

Neonatal. The portion of a human's life from birth to 28-days-of-age (UNICEF, 2019).

Palliative care. Care provided to patients, who have a grave medical condition or life-threatening diagnosis, which improves the quality of the life remaining. Palliative care includes treating symptoms, limiting treatment side effects, and supporting the psychological, spiritual, and social concerns related to the condition or treatment regimen (NCI, n.d.).

Perinatal. The distinction of a fetus beginning at 22 weeks gestation, through delivery, and lasting for the first 7 days of the neonate's life (World Health Organization, n.d.).

Perinatal palliative care (PPC). Providing physical care or comfort measures to a fetus or neonate who has a life-limiting condition. Additionally, PPC incorporates supportive care to the mother and her support persons including, but not limited to, physical care, psychological support, and providing spiritual resources (Limbo & Wool, 2016).

Simulation-based learning experience (SBLE). Techniques used to provide instruction to students that are close to real-life experiences, in a controlled learning environment, and may include low-, mid-, or high-fidelity patient models or standardized patients among others (Shellenbarger & Hagler, 2015).

Standardized patient. A person who portrays a patient situation in a scripted or regimented way; therefore, providing similar learning scenarios for multiple students or groups during simulation-based learning experiences (Shellenbarger & Hagler, 2015).

Chapter Summary

End-of-life care instruction in undergraduate nursing programs has been lacking (Gillan et al., 2014); particularly, the provision of care to perinatal patients and their families after a loss (Bailey & Bishop, 2017). It has been established that negative experiences with EOL care impacted not only the nurse but the quality of care provided to the patient (Willis, 2019). Historically, there has been a lack of clinical sites and instructors who are willing to allow

students to participate in the care of a perinatal loss patient and family. Simulation-based learning experience may be a method of instruction that allows students the opportunity to learn about PPC, practice skills, and consider the emotional process of death (Cole & Foito, 2019). The goal for this evidence-synthesizing capstone paper was to review and critically appraise current literature on PPC education for undergraduate nursing students. After presenting a detailed critique of the literature, the author synthesized the evidence and considered the impact of SBLE on student's perception of their ability to care for perinatal patient, and their families, during or after a perinatal death.

CHAPTER II

METHODS

Undergraduate nursing students have seldom been provided opportunities to participate in the care of an actively dying or recently deceased patient, a result of limited clinical sites and assumptions by instructors of what student experiences should entail (Carmack & Kemery, 2018; Gillan et al., 2014). Limited opportunities for students to learn about EOL care resulted in nurses who avoid dying patients, therefore having a negative impact on the quality of care provided (Willis, 2019). Simulation-based learning experiences may provide opportunities for students to move beyond the passive learning of a classroom and consider the patient experience, communication, emotional response of the nurse, and skills needed for PPC (Cole & Foito, 2019). The purpose of this evidence-synthesis paper was to investigate the impact of SBLE, beyond the passive learning of didactic instruction on preparing undergraduate nursing students to care for maternal patient, neonates, and the family, following a perinatal loss. Specifically, the guiding evidence-based education question for this project was: Do undergraduate nursing students report feeling more prepared to provide perinatal palliative care to patients and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone?

Data Collection of Evidence

A review of literature was conducted to determine the evidence available pertaining to SBLE for PPC in undergraduate nursing curricula. A compilation of literature was conducted using Cumulative Index to Nursing and Allied Health Literature (CINAHL), PUBMED, Medline, Cochrane Library, and Education Resources Information Center (ERIC). Key terms were entered into each database, including: “baccalaureate,” “nursing student,” “undergraduate

student," "end-of-life care," "(inter-uterine) fetal demise," "neonatal death," "perinatal palliative care," "pediatric death," "grief," "preparation," "patient simulation," "simulation-based learning experience," and "outcomes of education" (see Figure 2). Expert opinions, national guidelines, dissertations, and nonresearch articles were not excluded from database results. Parameters for inclusion consisted of literature written in the English language, peer-reviewed journals, and literature published between 2009 and 2019. A large volume of literature was found investigating perceptions of the EOL patient or PPC families. However, persistent manipulation of search terms was needed to populate literature which would answer the guiding evidence-based education question involving SBLE and nursing students. Database results were screened for redundancies and reviewed to determine if they applied to the guiding evidence-based education question; the result were six articles, all of which will be included for critique.

Evidence-Based Practice Model

The evidence-based practice model for this evidence-synthesis paper and literature critique was the Johns Hopkins Nursing evidence-based practice model (JHNEBP). The JHNEBP is comprised of three key principles: inquiry, practice, and learning — each represent a crucial step in evidence-based practice (Dang & Dearholt, 2018). The cornerstone of evidence-based practice is inquiry, the desire of the nurse to question why and how the "science of nursing" is performed (Dang & Dearholt, 2018). Yet, nurses are not able to consider improvements to patient care without first providing care. Nursing practice, according to Dang and Dearholt (2018), includes the application of nursing actions guided by policies, protocols, and current evidence. Nursing practice provides the nurse with opportunities to question "why" and "how" care is provided. For nurse with a "spirit of inquiry," practice and learning are closely intertwined. Learning creates an avenue for a practice problem to be investigated and

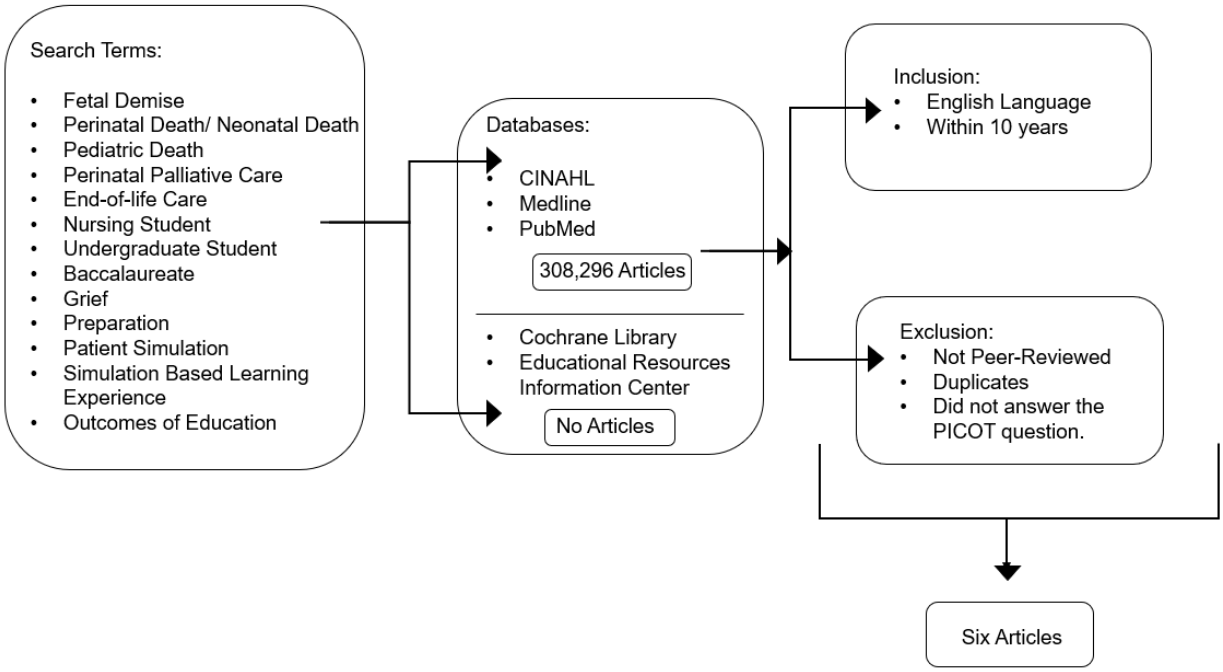

Figure 2. Data collection process.

results in the translation of new knowledge into practice, if appropriate (Dang & Dearholt, 2018).

Encompassing the progression of clinical inquiry to translation of new knowledge into practice is the JHNEBP PET process. The PET process begins by the identification of a *practice* issue and developing an answerable practice question, which includes a population of interest, intervention, comparison, and a measurable outcome (Dang & Dearholt, 2018). After identification of a practice question, *evidence* (e.g., research articles, community standards, position statements, expert opinions, and practice guidelines), is collected with a goal of answering the practice questions. After a comprehensive appraisal of evidence, new knowledge is synthesized and recommendations are developed for *translation* in the form of practice change or for further research of the topic to determine if translation is feasible (Dang & Dearholt, 2018).

Critical Appraisal of Evidence

Appraisal of the available literature was conducted using the JHNEBP model. All six articles discovered during data collection were appraised using the JHNEBP evidence appraisal tool for research and nonresearch evidence, as appropriate. The level of evidence was determined by distinguishing the design of the evidence, research or nonresearch. Dang and Dearholt (2018) noted that the higher the level of evidence on the hierarchy, the more likely the information contained in that piece of literature is to represent best practice. Research articles, both qualitative and quantitative, were assigned a rating of Level I to Level III, and nonresearch evidence encompassed Level IV and Level V. The quality rating distinction for both evidence appraisal tools was a subjective assessment of the ability of the author to draw conclusions and make recommendations, as well as the ability of the results to be transferred or generalized to other populations (Dang & Dearholt, 2018).

Chapter Summary

In this chapter, the JHNEBP model (Dang & Dearhold) was described and presented as the framework for this project. Included was the discussion of how the JHNEBP model was used to formulate the evidence-based question and retrieve evidence to help to answer the evidence-based question (EBP) question. Additionally, an explain was provided of the JHNEBP model designation of level and quality of evidence following critical appraisal. The critical appraisal of evidence is presented in Chapter 3.

CHAPTER III

LITERATURE REVIEW AND ANALYSIS

The AACN (2008) and QSEN (2019) have developed guidelines and competencies which a graduate nurse should possess, including providing culturally-sensitive, holistic, patient-centered care. These guidelines do not exclude the realm of EOL care. Perinatal palliative care adds a difficult nuance to EOL care for many nurses. Nurses who have worked with patients experiencing a perinatal or neonatal death reported wishing they had previous opportunities to develop skills in caring for families, as well as themselves, during this challenging situation (Willis, 2019). Education opportunities for students have been limited in the clinical setting due to faculty perceptions and the availability of clinical sites (Carmack & Kemery, 2017). Providing students with SBLE has been one way to create a safe and supportive environment where students can participate in psychomotor, cognitive, and affective learning (Knight, Dailey,& Currie, 2015). To help answer the guiding evidence-based education question, "Do undergraduate nursing students report feeling more prepared to provide perinatal palliative care to patients and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone?", a detailed critique of six articles was conducted. Using the JHNEBP model and appraisal tools, articles were identified by literature type, level of evidence, and quality of the information presented (see Appendix A). Upon review of the pieces of evidence, two prominent themes became apparent. The themes included SBLE providing opportunities for learning and skill development and the theme of fostering growth of the professional nurse. The purpose of this chapter was to present each piece of evidence, including a summary of the article, level of evidence, and quality of evidence.

Opportunities for Learning and Skill Development

O'Shea, et al. (2015) believed that healthcare providers should not develop an understanding of competent and family-centered pediatric and perinatal EOL care after becoming licensed practitioners. Instead, the authors believed that knowledge and skills pertaining to effective, holistic care of these patients and families should be developed in a prelicensure program. To ascertain if specialized EOL care education, using the End-of-Life Nursing Education Consortium (ELNEC) format, improved students' understanding of perinatal and pediatric palliative and EOL, O'Shea et al. (2015) developed a quasi-experimental, matched pretest – posttest, quantitative study. Fifty-nine students attending one of two baccalaureate universities in the northeast United States volunteered to participate in the study by completion of a simulation pretest and posttest survey. The students who comprised the control group, n=19, were enrolled in both a pediatrics and maternal child health course during their seventh semester at a state-run university. In contrast, the intervention group consisted of liberal arts university students, n=40, enrolled in either a pediatrics or maternal child health course during their sixth semester. These intervention group students then completed the alternative course the following semester. Study participants were primarily single, white, females, without children, and under 25-years-of-age.

Students in the control group were provided the standard course content which comprised of a limited discussion regarding fatal prognoses for applicable medical conditions. Students in the intervention group were provided instruction which integrated ELNEC modules into the course curriculum; including case-studies, simulation, and role-play. The ELNEC simulations were used throughout the semester of each course with an aim to broaden the understanding of maternal and newborn morbidity and mortality.

Data collection was facilitated by the Pediatric Palliative and End-of-Life Care test (as cited in O'Shea et al., 2015), modified from adult EOL care content to apply to perinatal and pediatric. According to O'Shea et al. (2015), revisions to the original test were reviewed by six content experts also credentialed as ELNEC trainers for the purpose of ensuring content validity. Questions on the test were also evaluated and revised at the suggestion of an item writing expert who was used to decrease bias and improve construction of the 50 question multiple choice format. Reliability of the test was analyzed for both pretest and posttest, with a Cronbach's alpha of 0.75 and 0.74, respectively. Furthermore, test-retest reliability was established by the control group, resulting in a Cronbach's alpha of 0.76. Lastly, four Likert scale items were developed to assess the students' experiences with loss. The students were asked to indicate if they were "very uncomfortable" (1), "moderately uncomfortable" (2), "indifferent" (3), "moderately comfortable" (4), or "very comfortable" (5) regarding personal and profession experiences with loss, grief or bereavement; previous training in palliative or EOL care; and comfort level in providing EOL care or palliative care to patient and families. Each group of students were provided a pretest before beginning the pediatrics and/or maternal child health courses. The post-test was administered after the completion of both courses (see Figure 3).

O'Shea et al. (2015) began analysis of data by annotating correct pretest and posttest items as a "1" and incorrect items as "0". Items which were not answered by students, 1.4% of the total questions, were coded as incorrect. Pretest Likert question review identified that over 90% of students in both the control and intervention groups had experienced loss, grief, or bereavement in their personal lives before the course. An average of 50% of students in both groups had previously

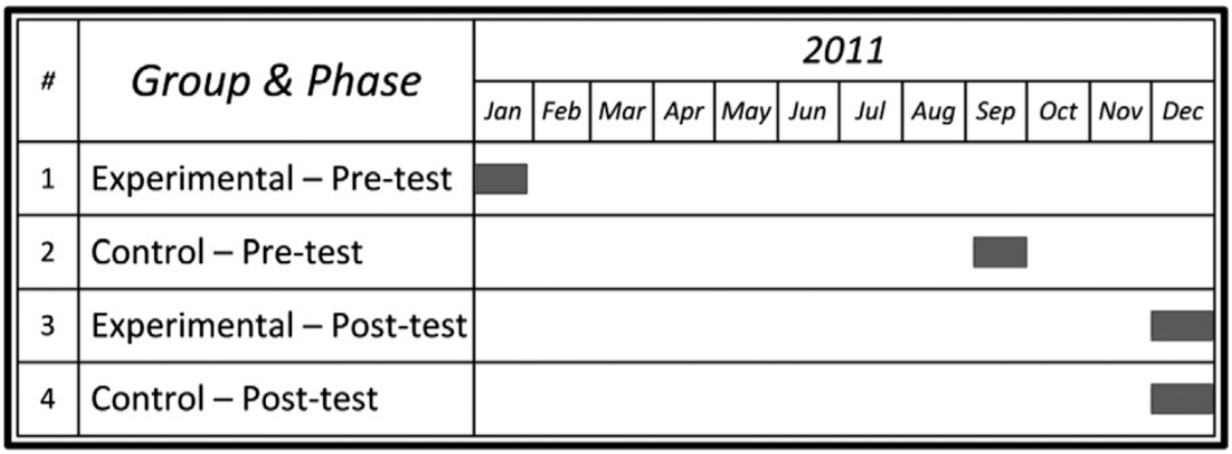

Figure 3. Timeline for Data Collection. From "Effectiveness of a perinatal and pediatric end-of-life nursing education consortium (ELNEC) curricula integration," by E. R. O'Shea, S. H. Campbell, A. J. Engler, R. Beauregard, E. C. Chamberlin, and L. M. Currie, 2015, *Nurse Education Today, 35*, p. 767. Copyright 2015 by Elsevier LTD.

received education regarding EOL or palliative care. Students who had reported having worked with patient and families who were experiencing any form of loss prior to the study comprised 58.8% of the control group and 38.5% of the intervention group. Furthermore, 23.5% of the control group and 30% of the intervention group indicated on the pretest that they were moderately comfortable with palliative or EOL care; no students reported being "very comfortable" with EOL care.

O 'Shea et al. (2015) used a repeated measure analysis of variance (ANOVA) to determine the difference in pretest and posttest scores between the control and intervention groups. Mean scores for the pretest of the control group and intervention group were M = 37.42 (SD = 4.06) and M=34.78 (SD = 4.42) respectively. To ensure that pretest scores were not impacted by previous student experience, a univariate ANOVA was conducted. Students who

had experience with loss (M = 36.76, SD = 3.7) and those who did not (M = 34.88, SD = 4.67) were compared, showing no statistically significant difference in pretest scores, F(1,55) = 2.73, p = 0.104. Posttest mean scores were M = 37.00 (SD = 3.28) for the control group and M = 37.78 (SD =4.96) for the intervention group. Students in the intervention group showed a statistically significant increase in knowledge in perinatal and pediatric palliative and EOL care after receiving the ELNEC curriculum (Wilks'Lambda = 0.90, F(1,57) = 6.70, *p*=0.12) and when compared to the posttest scores of the control group (Wilks'Lambda = 0.83, F(1,57) = 11.79, *p*=0.001).

O'Shea et al. (2015) determined students who were provided specific education and simulation experiences in pediatric and perinatal palliative and EOL care had a statistically significant increase in knowledge compared to students who received traditional baccalaureate education. Students who had previous experience with EOL care for pediatric or perinatal patients were not more knowledgeable on the pre-test exam than their counterparts, which supported the finding that student learning in PPC promotes holistic, family centered care throughout the lifespan in alignment with the previously presented recommendations of the AACN and QSEN.

Because the participants of the O'Shea et al. (2015) study included an experimental and control group, manipulation of a variable (i.e. the ELNEC curriculum), and were not randomly assigned, the level of evidence for this study was II and the quality rating was B, according to the JHNEBP model. A post-hoc evaluation of the pretest scores of the two groups addressed threats to internal validity. O'Shea et al. (2015) presented how the ceiling effect was invalid for the study since only 25% of the control group received a score over 40 out of 50 on the posttest. Another potential threat to interval validity was the students' previous experience with loss.

However, the threat was unfounded after conducting the univariant ANOVA. Threats to validity identified by the authors included a smaller number of participants in the control group and the differences in semester at the time of pretest. Consideration was also given to the intervention group having had received ELNEC content in year two of their program. Though the pretest scores were lower in the intervention group, addressing ELNEC material again during the third and fourth year may have allowed for students to remember concepts and therefore increased posttest scores. The homogeneous, small, convenience sample was a threat to external validity and limited the study findings from being easily transitioned into practice. Furthermore, since the students volunteered for the study by completing the pretest and posttest there may be bias, as the results of the students who did not volunteer are unknown. Therefore, O'Shea et al.'s (2015) study was deemed to be level II, good quality, grade B.

In a published case report, Cole and Foito (2019) outlined the process for and outcomes of a pediatric EOL care simulation for undergraduate nursing students. For this simulation case report, faculty, aided by professional experts in pediatric EOL care, developed a simulation to link the didactic cognitive learning to the application of nursing practice within the pediatric curriculum. The simulation was offered to 216 junior and senior undergraduate nursing students, over three semesters, after having received traditional didactic instruction. Symptom management, communication, and family centered care were intended to be the primary focus of the simulation. Students were assigned pre-simulation work, including completing short answer questions, which was reviewed the day of simulation. During the pre-simulation meeting, faculty provided cases from their practice and scenarios relating to several topics covered in the preparatory work, as well as discussing effective therapeutic communication and spirituality.

The simulation began with groups of no more than four students receiving a hand-off report. Students were then asked to assess the high fidelity mannequin, whose clinical presentation was decompensating, and apply critical thinking and clinical judgement to determine what physical care was required; all the while communicating the patient status and answering questions posed by the concerned parents portrayed by faculty members (Cole & Foito, 2019). As the simulation progressed, the students participated in a family meeting with the parents. The physician role was scripted for students during this time to foster collaboration and communication with the family. The students were asked to use therapeutic communication during the discussion of the patient's prognoses, desired resuscitation measures, and EOL care options with the parents. Guided learning, through prompted communication tips, was provided to students who struggled with what to say or do during this somber meeting. The final portion of the SBLE required the nursing student to provide physical care to the patient and continue to communicate with the parents regarding pain management. After 20 minutes, the simulation was aborted, regardless of whether resuscitation wishes of the family members were expressed to the students.

Cole and Foito (2019) described that during debriefing, students were led through a discussion of the scenario and asked to reflect on their experience. Questions about the needs of the patient and family during EOL care were posed to students during this time. Another component of the debriefing was addressing the importance of emotional, physical, and spiritual self-care for nurses following arduous times in the role of professional nurse. At the conclusion of the debriefing, students were asked to complete a survey consisting of four open-ended questions reflecting on the simulation experience. In addition to the emergence of four themes, 57% of students divulged that they had experienced caring for a person at the EOL in the past,

while three students identified a personal encounter with a child's death and the impact on the family.

After review of the 149 returned surveys, Cole and Foito (2019) noted that 61% of students were unsure of "what to say" or how to communicate with families during such grave interactions. Despite this, 37% of students believed their communication skills were improved by participating in the simulation. Students were able to assess for physical symptoms at EOL and manage the comfort of the patient while processing internal ethical dilemmas of pharmacological management. Providing emotional comfort to the patient and family was a skill 26% of students identified as learning during the SBLE. The simulation allowed students the opportunity to consider their own communication effectiveness and facilitate growth within themselves. Students reported becoming aware of their own emotions and addressed fears regarding communicating with a bereaved family. Such a discussion prompted an understanding of the importance of being direct and compassionate with patient and families.

As a case report, the evidence presented by Cole and Foito (2019) was classified using JHNEBP model as level V with a quality rating of B. The article included a clear purpose, an alternative assignment for clinical practice hours during an undergraduate pediatric nursing course. Additionally, the goal of the SBLE was to connect didactic learning with practical application during EOL care. In the clinical setting, students were exposed to critically ill patients but were missing a valuable component of participating in EOL care. Cole and Foito (2019) determined that the simulation provided opportunities for students which they would not otherwise have in standard clinical placements. Students expressed how the skills of communication and providing physical and psychological care to patient and families at EOL

were improved following the simulation experience. Lacking in the case report was a correlation to recent literature and theory regarding SBLE and EOL care.

Bailey and Bishop (2017) presented a case report outlining the development of a formative simulation in PPC for an undisclosed number of senior nursing students, enrolled in a baccalaureate program in United States. The PPC simulation was developed to fulfill content requirements for the women and children area and EOL care during a capstone course. In addition, the PPC simulation provided an opportunity for students to build on critical thinking, develop and apply care plans, facilitate patient education, and exercise patient advocacy.

According to Bailey and Bishop (2017), the simulation process began by creating objectives which encompassed kinesthetic and cognitive domains of learning. Students had previous experiences in the simulation lab and were provided with pre-simulation assignments, including reviewing previous lecture notes, viewing videos, and reading supplemental material. Pre-simulation, students were asked to consider the emotionally charged underpinnings of the simulation and to report any apprehension about participation. Any pregnant or recently postpartum student, as well as student who recently experienced a death of a loved one, were provided the option of taking on an observational role or completing a substitute assignment. Students who choose to participate as observers were provided instruction on which nursing interventions were expected to be observed during the simulation, as well as how to lead a debriefing. All students were provided resources for emotional support both before and after the simulation session.

The simulation space was designed to mimic the environment of a postpartum hospital room, including the availability of a full medical chart for students to review (Bailey & Bishop, 2017). Furthermore, the simulated patient was made to fully assume the appearance of a

postpartum patient, include intravenous infusions and bodily fluids. Students were placed into groups and, after receiving the scenario details in the form of a shift report, self-selected roles of primary and secondary nurse, two family members, and an observer. The students in the role of nurse were provided an opportunity to review the medical chart, while students assuming the roles of family members were given cues to prompt the 'nurses' if a step was missed. The observer's role was to complete a worksheet, which would be used for debriefing and included expected actions of the participates, during the simulation.

Bailey and Bishop (2017) reported that during the 20-30 minute simulation students in the role of "nurse" were expected to complete a physical assessment and standard postpartum care to the simulated patient, who at 28 week gestation was delivered of an inter-uterine fetal demise after not detecting fetal movement for the previous 24 hours. Therapeutic communication was to be provided by students to the patient in discussing patient wishes and interacting with the family of the patient

Following the simulation, a semi-structed debriefing was facilitated by a member of the faculty who had experiences with PPC (Bailey & Bishop, 2017). The technical aspects of the simulation, the physical assessment performed by students, the family interaction with the student nurse, and patient advocacy during the simulation were discussed. Students were also asked to consider the implications of the simulation on their future nursing practice.

A reflection tool, developed by the faculty, was also provided for all students to complete after debriefing because only a portion of students were observed to be comfortable discussing the simulation in a group setting. The tool included four open-ended questions pertaining to pre-simulation emotions and expectations, intra-simulation feelings, learning objectives, and questions regarding the mother's needs of the nurse. The deadline for questionnaires was one

week after the simulation, at which time the faculty reviewed the questionnaires and identified themes, the process for which was not disclosed. At the next didactic learning session, a summary of the themes discovered were presented and discussed with students.

Though details of questionnaire analysis and theme development was lacking, Bailey and Bishop (2017) presented a conclusion that students were grateful for the experiences acquired during this PPC simulation. Additionally, students reported valuing the opportunity to participate in an emotionally changed experiences before being confronted with similar scenarios in professional practice. Students also mentioned that communication skills during critical situations were improved upon because of the simulation experience. Lastly, the authors noted that because of the positive feedback received by participants, simulations on death and EOL care have been implemented in other courses.

Since the Bailey and Bishop (2017) article was a case report, the level of evidence resulting from using the JHNEBP tool was V. The quality of the evidence was C, but was included in this review related to the dearth of literature available for the topic of PPC. The authors presented a clearly developed purpose, a simulation during a senior capstone course used to facilitate learning within the specified content areas and to improve critical thinking among other things. Though the process for executing the simulation was presented, the analysis of student learning outcomes was limited, with no reference to the purpose of fostering critical thinking, the use of care plans, providing patient education, or supporting patient advocacy. Unfortunately, Bailey and Bishop (2017) provided little support from current literature about the implications of PPC simulation for undergraduate nursing students. Beyond suggesting that simulations would be used in other courses moving forward, there was sparse reference to implications for future simulations or improvements.

Fostering Growth of the Professional Nurse

Forster and Donovan (2016) developed an exploratory qualitative research study to determine if an unsuccessful neonatal resuscitation simulation immediately followed by a simulation communicating the resuscitation events and outcome to a mother would improve the ability of undergraduate nurse midwives to support bereaved parents. Ten Australian, undergraduate duel degree, bachelor of nursing and bachelor of midwifery students in their fourth and final year of their nursing curriculum volunteered to participate in the study. Students were randomly assigned to groups of three or four to participate in the SBLE.

The two simulation experiences were developed in consultation with practicing midwives who also provided education to students (Forster & Donovan, 2016). Students first participated in a high-fidelity simulation with a neonatal mannequin pre-programed to perish despite the resuscitative efforts of students. After the unsuccessful resuscitation, students were immediately transitioned to the second simulation involving alerting the mother, portrayed by a nursing faculty member, to the unsuccessful attempt at resuscitation and the neonatal demise. The simulation in total occurred over approximately 30 minutes. With the aid of a faculty facilitator, students participated in debriefing and reflected on the experience while viewing a video recording of the simulation.

According to Forster and Donovan (2016), an audiotape of the debriefing, as well as the subsequent transcription, were analyzed using social constructionism and grounded theory qualitative assessment. Themes were identified, coded, categorized, and systematically checked to review and refine the themes. Four themes were discovered during analysis, “feeling unprepared,” “communication changes,” “the value of simulation,” and “personal reaction to neonatal death.” Students reported that the skills used for the technical aspects of resuscitation

did not cause alarm; however, when students were asked to communicate with the bereaved family, they reported feeling ill-prepared for the task. Struggles pertaining to "what to say" to families were not the only communication issue students faced. Awareness of non-verbal communication, decreasing the use of medical terminology, and a lack of confidence and sense of direction were indicated as skills students wished to improve upon in the future. Students valued the opportunity to participate in the simulation and considered the interactions among staff, which could positively impact the support provided to the bereaved mother Additionally, the students saw in themselves the skills which would need to be developed to better support families in similar situations. Students reported feeling 'hopeless' and 'terrible' when interacting with the mother after the unsuccessful resuscitation. Students felt guilty that the child perished and were not sure if the mother saw them as contributing to the demise due to ineffective resuscitation. The students believed that the ability to provide therapeutic communication was impacted by the emotions of the parents. Lastly, students recognized the need for self-care and time to process the unexpected events before engaging with the mother. Forster and Donovan (2016) believed that exposure to simulation provided students with opportunities to acknowledge gaps in interpersonal skills before providing care as professionals. Students became aware of the need to move beyond didactic instruction and instead participate in experiential learning for PPC and neonatal EOL care content.

The Foster and Donovan (2016) qualitative piece of evidence falls under level III and quality C using the JHNEP model. This C quality evidence was included in this review because of the limited evidence available on the topic of PPC. There was no mention of the research question despite an explanation of the purpose for the study. When considering quality, there were significant issues in the credibility of the research. The sample size of 10 students could be

reasonable considering the qualitative nature of the study, even so, there was no mention of data saturation for each of the four themes discussed. Confirmability and dependability cannot be established since there was no mention of congruent interpretations by the reviewer or researchers. Furthermore, the identity of the reviewer in relation to the study was not presented. Member checking to confirm interpretation of data and verification of themes were not undertaken by the researchers. No mention of self-scrutiny of the reviewer was stated, therefore leaving the impact of bias unaddressed. Conversely, auditability and fittingness can be verified; the findings did fit the data collected and the study was explained to the reader making it possible to reproduce the study.

Colwell (2017) presented a case report involving a simulation developed to aid pediatric and midwifery nursing students in formulating techniques to manage a neonatal death and cope with emotional stressors encountered by healthcare professionals. The simulation was piloted to 16 students at a university in the United Kingdom. Five learning outcomes were established for the simulation session and included understanding the progression of a neonate from critical condition to death, differentiating coping techniques of the healthcare provider, considering what constitutes a peaceful or quality death for a neonate, promoting confidence in communicating with a family experiencing a neonatal death, and to understand the role of nurse in PPC and EOL care. The simulation experience began by orienting the students to the simulation space and introducing them to the team of instructors and experts who would help to facilitate the simulation. Due to the highly stressful nature of the simulation, students were also encouraged to discuss with the facilitators any significant emotional stresses which developed during the case, at which time they could be excused from the experience.

The entire exercise consisted of four focused discussions and two simulation experiences. Colwell (2017) explained that an initial, two part, discussion included an investigation into students' previous experiences with loss and grief. In addition, students considered the topics of support for professionals during or after a patient death and what creates a "good death" for the patient. The second discussion portion included visual aids illustrating the neonatal intensive care unit (NICU), a "Snowdrop Suite" created to mimic a home environment within the NICU, and further discussion of which location would be most suited for a patient and family to experience a neonatal death. An audio recording of a mother who experienced a neonatal loss was then played for the students to consider the family perspectives of neonatal death. Following the discussions, the first simulation commenced. One student assumed the role of nurse while a faculty member portrayed the child's mother. Aided by a practicing nurse expert, the student was to communicate the option of moving to a designated bereavement room, the snowdrop suite, in the hopes of providing a more peaceful, less medical environment for the child and family. The third discussion followed as a debriefing from the simulation. Initially students considered the emotional response of the parent when the withdrawal of intensive care was discussed. The debriefing then transitioned to a discussion of the professional nurse role. Simulation two was conducted in the snowdrop suite, where life sustaining support to the neonate would be withdrawn. Recommendations for care were provided as a guide to students, including supporting the mother, establishing expectations, and creating mementos for the family (e.g. a lock of hair, footprints, bathing and dressing the baby). The final debriefing consisted of student considerations regarding communicating with the family the physical responses of the neonate who is being extubated. Additionally, pain management with morphine, collection of

mementos for the family, and legalities regarding disposition of the body, organ donation, and notification of the coroner were discussed with students.

According to Colwell (2017), all students present for the SBLE completed a Likert scale evaluation. At the conclusion of the evaluation two open ended questions were asked. Most students, 81%, believed that the simulations portions were the "best feature of the session" (Colwell, 2017, p. 71). Several students indicated that they would have preferred to be more active participants during the simulation. All students agreed that they learned a lot from the session; 87% of students reported an increase in confidence with PPC which they could transfer to nursing practice. The author then deduced that SBLE outcomes were met because of these positive remarks by students. Colwell (2017) summarized how the SBLE provided students with an opportunity to engage in learning which increased the confidence of students when providing PPC.

As with the previously critiqued case reports, the article by Colwell (2017) is a level V piece of evidence. The quality rating according to the JHNEBP model is B. The article provided a detailed process for carrying out the simulation, including outlines of the simulations themselves. Relevant theory pertaining to PPC was provided for the reader, which included the benefit of bereavement education for clinicians, the use of simulation to allow students to be submerged in the content, the benefit of active learning for students who wished they had more involvement in simulation, the connection between student "enjoyment" of learning and success, and the importance of debriefing. The quality rating was selected after considering the inability of the SBLE to meet the objectives outlined by the authors. There was no discussion of knowledge gained about the progression to death of a critically ill neonate. Colwell (2017) also neglected to present if students believe they had developed a greater appreciation for coping

skills of the nurse during bereavement situation, students' thoughts on a peaceful death, and a broader understanding of the role of nurse in PPC. Lastly, the differences, if any, between the curriculum of the pediatric and nurse midwifery students were not addressed by the author.

In a case report by Knight et al. (2015), 108 undergraduate nursing students participated in a PPC simulation. After an initial simulation, an interprofessional expert panel was formed and implemented during the subsequent simulation and debriefing. The goal of the interprofessional panel was to better prepare students for the simulation and support them during and after debriefing. The purpose of the simulation was to expose students to unexpected grief in a safe and controlled environment, foster learning in the affective domain, to consider students' perceptions of the PPC simulation experience, and aid students in developing behaviors to support them as professional nurses (Knight et al., 2015).

At the initiation of the simulation, three students were provided a brief synopsis of the presenting complaint and upon entering the room were encouraged to conduct a history and physical (Knight et al., 2015). Furthermore, external fetal monitoring was applied to the patient, played by a medical student, however no fetal heart rate was detected. At that time, a faculty member portraying the obstetrician entered the room and used an ultrasound, showing a video clip of an intrauterine fetal demise, to confirm the death. The parents who were standardized patients played by medical students were given the grave news by the physician player and the nursing students were left to observe the reactions of the grief-stricken parents. Knight, et al. (2015) did not provide any further discussion of the simulation. Discussion of the debriefing was limited, mentioning only that the interprofessional panel participated. Knight et al. (2015) addressed an unintended, but student led and beneficial focus of the debriefing, which were the roles of each medical team member during an emotionally distressing time.

A simulation evaluation, approved by the institutional review board, was completed by 85 of the 108 participating students (Knight et al., 2015). Students were asked to indicate if they agreed to, remained neutral to, or disagreed with seven statements pertaining to the simulation. Ninety-four percent of students felt that the simulation objectives were met and had refined skills they could use in the future to manage unexpected grief. Increased comfort with therapeutic communication towards parents and families and managing their own emotions during a PPC event were also expressed by students after completing two open-ended questions. Ninety-five present of students indicated that the simulation would benefit their future patient care. The authors concluded that an interdisciplinary panel was beneficial for students in considering their role in the interdisciplinary team. The simulation experience also allowed students to process their feelings and emotions before being confronted with similar scenarios in professional practice. Students were able to expand upon skills of effective communication during EOL care.

The JHNEBP model was used to classify Knight et al.'s (2015) case study as level V. Though the purpose of the simulation was clearly presented, only a brief description of the simulation experience was provided, with no mention of any pre-simulation assignments. Knight et al. (2015) presented a brief overview of current theory regarding undergraduate nursing students and their perceived preparedness for managing fetal death. Unfortunately, beyond discussing AACN educational standards, the underpinnings of PPC simulation was missing from the background of the case report. The recommendations of the case study were limited since the authors only addressed a few of the listed objectives. The seven questions asked on the post-simulation questionnaire were not reviewed, which made an interpretation on reflective learning difficult to ascertain. Though students reported meeting simulation objectives, supportive behaviors for future nursing and reflective learning of students were not presented by the

authors. For these reasons, a quality of C has been assigned to Knight et al's (2015) case report but included in this review to provide perspective on the limited existing evidence available regarding the topic of PPC.

Chapter Summary

In this chapter, six pieces of evidence were presented and critically appraised. Two themes were identified from the reviewed literature. Specifically, three pieces of evidence fit with the theme of "Opportunities for Learning and Skill Development", and three pieces of evidence fit with the theme of "Fostering Growth of the Professional Nurse." Even though three of the six articles presented in this chapter were grade C or low quality, these articles were included in this review to contribute additional information to the area of PPC when there is so little information available on the topic.

CHAPTER IV

RESULTS AND SYNTHESIS

Nationally 41% percent of nursing students report having been present at the death of a patient; despite this, surveyed professional nurses did not feel that their pre-licensure curriculum adequately prepared them for the care of an actively dying patient (Gillan et al., 2014; Heise et al., 2018). Students who are uncomfortable with caring for a patient at EOL develop into nurses who are more likely to avoid and distance themselves from the patient, family, and circumstances in an attempted to preserve the emotional and physical toll on themselves (Zheng et al., 2017). Particularly challenging can be the interactions between the nurse and parent(s) following a perinatal or neonatal death. A key role of nurses during these challenging times is to provide sensitive and empathetic care to parents while supporting parenting activities such as bathing the child and obtaining mementos (O'Connell et al., 2016). Disappointingly, students have often missed opportunities to learn about nursing within the realm of PPC and neonatal EOL care. Limited clinical sites and sheltering students from unpleasant situations during direct patient care experiences prevented opportunities for critical thinking and learning within the affective domain (Bailey & Bishop, 2017; Carmack & Kemery, 2018).

Regrettably, a dearth of information from the last 10 years was available to answer the guiding evidence-based practice question, "Do undergraduate nursing students report feeling more prepared to provide perinatal palliative care to patients and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone?" Six articles were identified, reviewed, and critically appraised to determine the quality of each piece of evidence. Several articles addressed multiple components of care and contained overlapping themes; however, two key themes were

discovered during analysis, providing opportunities for learning and skill development and fostering growth of the professional nurse.

Results

After critical appraisal using the JHNEBP model, the results of the six individual pieces of evidence were combined and classified by level of evidence and quality rating (see Appendix B). Due to the minimal research and published articles on this topic, level I (e.g. experimental research studies, mixed method studies, or systematic reviews of experimental research) and level IV (expert panel recommendations) evidence were not found during data collection. One quasi-experimental study was identified and categorized as level II; threats to internal and external validity resulted in allocation of quality B. The level II evidence showed a statistically significant increase in knowledge of PPC and EOL care after having received focused PPC and EOL compared to students who received traditional didactic instruction. Though evidence with the quality of C is not routinely included in a synthesis summary (Dang & Dearholt, 2018), the only level III piece of evidence was a qualitative study with a quality rating of C. For this reason, the evidence was cautiously included for synthesis. The level III evidence showed that after participation in simulation, students became aware of the skills needed to provide PPC, the need for self-care, the need to develop skills for care, and develop a better understanding of how their verbal and non-verbal communication impacted patients. Of the four case reports identified, level V, two articles with a quality rating of B were included for synthesis. The level V synthesized results concluded that simulation provided students with opportunities for cultivating communication skills and participating in the physical and psychological care of patients and families. Additionally, simulation increased the students' confidence and allowed them to visualize how the acquired skill could be used in their future nursing roles. Worth

discussing is that the quality C, level V, evidence correlated with the results of the quality B findings by concluding that SBLE supplied students with active participation in care. Active learning through SBLE provided students with interactions which prompted them to process their emotions and build upon therapeutic communication.

Synthesis of Results

After synthesizing the conclusions of the available evidence, SBLE was determined to be a valid option to provide active learning opportunities for nursing students to enhance therapeutic communication skills and participate in providing patient-centered physical and psychological care. Simulation-based learning experiences allowed students opportunities to increase their knowledge of PPC, compared to those students who received standard education. Ultimately, students who participated in SBLE reported increased confidence in proving care and transferring the care into the professional role of nurse.

Chapter Summary

Regrettably, only six pieces of evidence pertaining to SBLE and the perceived preparedness of undergraduate nursing students to care for patients and families experiencing a perinatal or neonatal death were identified following a literature search. A lack of level I, IV and quality A evidence was discovered. After completing a synthesis of each level of evidence consideration was given to how the evidence related to the evidence-based education question. Simulation-based learning experiences were found to provide students with active learning experiences, the opportunity to participate in care and practice skills before advancement to professional nurse, and to become more confident in the PPC or neonatal EOL care they may provide as a practicing nurse.

CHAPTER V

DISCUSSION AND CONCLUSION

Nursing students who are uncomfortable with providing EOL care have the potential to develop into practicing nurses who, to preserve themselves, avoid patient interactions (Zheng et al., 2017). Situations involving perinatal death and palliative care are no exception. Exposure to PPC is a desire of practicing nurses, with the hope of elevating fears and providing useful examples of self and patient care (Willis, 2019). Unfortunately, students are often limited in participating during direct patient care experiences involving PPC. Simulation-based learning experiences can provide active learning opportunities where students feel comfortable making mistakes and processing their own emotions in a safe, controlled environment (Shellenbarger & Hagler, 2015). Learning within the affective domain and development of critical thinking are also benefits to implementing SBLE (Lippe & Becker, 2015).

To answer the evidence-based education question, "Do undergraduate nursing students report feeling more prepared to provide perinatal palliative care to patients and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone?", a review of the literature was conducted. Despite manipulation of search terms within several data bases, only six articles were found for evidence-synthesis to answer the established question. A detailed critical appraisal, using the JHNEBP model, was performed on each piece of evidence. A synthesis of the findings led to the determination that SBLE increased student knowledge and confidence in providing PPC by supporting development of communications skills and practical nursing skills. Additionally, students were found to believe that SBLE with PPC provided preparation for their roles as professional nurses.

Implications of Findings

Regrettably, the limited quality of evidence and quantity of qualitative, quasi-experimental, or experimental studies prevents translation of the evidence-synthesis into education practice. However, dissemination of the findings could prove helpful in facilitating professional discussions regarding benefits of such education, networking for collaboration, and further research studies.

Discussion of Findings and Limitations

The quantity and quality of evidence supporting the impact of SBLE on the nursing student is limited. A possible reason for the dearth of scholarly information available on the topic of PPC is the nature of the topic itself. Of the six articles available for critique, the quality of half was rated as C by the JHNEBP mode. The result was three quality pieces of evidence to support the evidence-based education question, only one of which was a research study. Much of the literature uncovered during data collection discussed PPC as it related to the practicing nurse; however, little was available investigating how best to prepare nurses for providing such care (Willis, 2019). The evidence-synthesis did answer the evidence-based practice question and showed that students believed SBLE provided them with increased knowledge, confidence, and skills for providing PPC to patients and families. Though further research is needed, this evidence-synthesis project provides a background for future investigation and integration of PPC simulations into undergraduate curriculum.

Identified Gaps in the Findings

Undergraduate nursing programs are designed to prepare a nurse generalist upon graduation. The argument could be made that there is little room in an already extensive curriculum for a focused topic such as PPC. However, PPC SBLE provide an avenue beyond

nursing care of the neonate and may provide students with active learning within the affective domain. Additionally, students could be challenged to actively consider the needs of a patient from a holistic perspective, participate with therapeutic communication during an emotionally trying scenarios, and consider self-care practices. Holistic, culturally-sensitive, patient-centered care to a vulnerable population while advocating for the patient would also align with the AACN (2008) and QSEN (2019) competencies. Additional qualitative and quantitative research is needed before SBLE could be recommended as best-practice for providing students with PPC education and preparedness for professional practice. Qualitative research could be considered to address affective learning through PPC SBLE. Longitudinal quantitative research could be performed to investigate the implications of PPC on students, regardless of the specialty they enter upon graduation. Finally, measurement of patient outcomes after nurses had received PPC SBLE in pre-licensure curriculum may be an informative quality of care investigation.

Chapter Summary

Following a critical appraisal of the available evidence and synthesis of four pieces of literature, PPC simulation was shown to provide undergraduate nursing students with increased confidence and feelings of being more prepared to provide care the patients and families, therefore, answering the evidence-based practice question. Because a limited amount of quality literature was identified, the evidence-synthesis cannot be translated into educational practice at this time. Further investigation on the implications on affective learning, development of quantitative and qualitive research, and longitudinal studies should be considered.

Project Summary

Negative emotions and traumatic initial experiences with EOL care and perinatal death can influence the care a professional nurse provides to patients and families (Heise et al., 2018; Willis, 2019). Unfortunately, students have limited opportunities to care for families requiring PPC due to staff nurse hesitancies and clinical instructor perceptions of quality experiences (Carmack &Kemery, 2018). Students have been sheltered from providing direct care, preventing a broadening of physical and psychological nursing skills and cultivation of critical thinking for this vulnerable population (Bailey & Bishop, 2017; Cole & Foito, 2019). Simulation-based learning experiences have been shown to provide students with active learning experiences in a controlled environment, which are difficult to obtain in the direct care clinicals (Shellenbarger & Hagler, 2015). The purpose of this evidence-synthesis paper was to investigate the impact of SBLE on undergraduate nursing students' perceptions of feeling prepared to care for neonates, maternal patients and families following a perinatal loss. Specifically, the guiding evidence-based education question was, "Do undergraduate nursing students report feeling more prepared to provide perinatal palliative care to patients and families after receiving didactic instruction along with simulation-based learning experiences, compared with nursing students who receive didactic instruction alone?" After a review of the literature, six pieces of literature were discovered and critically appraised using the JHNEBP model. Three articles were of good quality, rating B, and included in the synthesis of data. The only discovered qualitative study was also included for synthesis, despite a lower quality of grade C. The results of the evidence-synthesis concluded that SBLE provided students with active learning scenarios where they could participate in active learning, develop practical nursing skills, participate in therapeutic communication, and gain knowledge and confidence in providing PPC. Despite the findings,

translation into educational practice is not recommended until further investigation and research is conducted. Consideration for future research include longitudinal studies and outcomes of patient care following student PPC education via SBLE.

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Appendix A

Evidence Summary Table

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
1	Bailey & Bishop 2017	Case Report	Unknown number of senior level undergraduate nursing students in a BSN program at DeWitt School of Nursing, Stephen F. Austin State University, Tx.	Simulation provides opportunities for students that would not otherwise have in standard clinical placements. Students appreciated having the opportunity to participate in a highly emotional scenario before becoming exposed to similar situations as a practicing nurse.	Not applicable	No details about the simulation exercise were presented. Authors provided only a brief discussion of how future SBLE will be used. One goal was for students to develop higher order reasoning regarding family dynamics, patient advocacy and patient and	V - C

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
						family education. The findings for this goal were not addressed. No reference to current relevant research or theory. Limited ability to generalize findings or translate the results to practice since the article is a case report.	
2	Cole & Foito 2019	Case Report	149 students completed the post-simulation survey. Simulation participants	Simulation provides opportunities for students that would not otherwise have	Not applicable	No reference to current relevant research or theory.	V - B

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
			included a total of 216 junior and senior level undergraduate nursing students enrolled in a pediatric nursing course at Sacred Heart University, College of Nursing, Ct. Students were pursuing their first professional degree.	in standard clinical placements. Students expressed how the skills of communication and providing physical and psychological care to patient and families at EOL was improved upon following simulation. Students were provided a window to their role at EOL.		Limited ability to generalize findings or translate the results to practice since the article is a case report.	
3	Colwell 2017	Case Report	16 pediatric and nurse midwifery, first degree, students	SBLE provide students with engaging educational opportunities	Not applicable	Student outcomes of four simulation objectives	V – B

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
			in the United Kingdom	promoting learning and increasing student confidence in providing PPC.		were not discussed No discussion of differences in program preparation for pediatric of nurse midwifery students. Limited ability to generalize findings or translate the results to practice since the article is a case report.	
4	Forster & Donovan 2016	Qualitative, Exploratory study using grounded theory	10 fourth year undergraduate nursing, duel degree (Bachelor of Nursing and Bachelor of	Participating in simulation fosters an understanding of skills needed. Students recognize the	Audiotape and transcription of debriefing session .	No mention of data saturation. No evidence of member checking or ascertaining agreement of	III - C

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
			Midwifery) students in Australia.	importance of self-care in providing PPC and EOL care. Importance of nonverbal and verbal communication during PPC. As well as acknowledge what communication skills were lacking.		themes between multiple researchers. Author self-scrutiny to prevent bias was not addressed in the article.	
5	Knight, Dailey, & Currie 2015	Case Report	85 of a possible 108 pre-licensure, undergraduate nursing students in the United States.	The simulation experience allowed students to process their feelings before being confronted with similar scenarios in professional practice.	Not applicable	No correlation between current research or theory. Limited discussion of pre-simulation preparatory work and the	V - C

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
				Students gained skills in effective communication during EOL care.		simulation process. Brief discussion of affective learning through the simulation. Evaluation form completed by students was not presented by authors in detail. Limited ability to generalize findings or translate the results to practice since the article is a case report.	
6	O'Shea et al. 2015	Quantitative, Quasi-experimental,	59 full-time undergraduate baccalaureate nursing students	Students who were provided specific education and	Students' knowledge of perinatal and	Threat to internal validity: no randomization	II - B

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
		Pretest-Posttest Design	at two non-affiliated universities in the northeast United States Control Group: n = 19; state-run university Intervention Group: n= 40 liberal art university Similar in demographics for age, gender, ethnicity, marital status, and if they had children.	simulation experiences in pediatric and perinatal palliative and EOL care had a statistically significant increase in knowledge compared to students who received traditional baccalaureate education.	pediatric EOL care as measured by posttest scores.	of students between groups. Control group scored higher on pretest than intervention group. Participant selection was voluntary for intervention & control groups. Control group was one semester further than intervention group. The intervention group had received basic ELNEC	

Article #	Author & Date	Evidence Type	Sample, Sample Size, & Setting	Findings which answer the EBP question.	Observable Measures	Limitations	Evidence Level & Quality
						instruction in semester two of their program. Threat to external validity: Small convenience sample with homogeneity of participants. Limited ability to use as a transition for practice due to sample size.	

Note: Adapted from "Individual Evidence Summary Tool," by D. Dang & S. L. Dearholt, S. L. (2018). *Johns Hopkins nursing evidence-based practice: Model and guidelines (3rd* ed.) Indianapolis: IN, Sigma Theta Tau International.

Appendix B

Synthesis Summary Table

Category (Level/ Type of Study)	Total Number of Sources per Level	Overall Quality Rating	Synthesis of Findings
Level 1: -Experimental -Randomized Control Trial (RCT) -Systematic Review of RCT -Explanatory mixed methods design	0	-	Not applicable.
Level 2: -Quasi-experimental -Systematic review of RCT and quasi-experimental or quasi-experimental only	1	B	There was a statistically significant increase in knowledge of PPC and EOL care after having received focused PPC & EOL care education and simulation.
Level 3: -Nonexperimental -Systematic review of RCT, quasi-experimental, & nonexperimental, or nonexperimental only -Qualitative	1	C	Through participation in simulation, students became aware of the skills needed to provide PPC, the need for self-care, the need to develop skills for care, and understanding of how their verbal and non-verbal communication impacts patients.
Level 4: -Opinions of respected authorities and/or reports of nationally recognized experts, consensus panels based on scientific evidence	0	-	Not applicable.
Level 5: -Literature reviews -Quality improvement -Program or Financial Evaluation -Case Reports -Opinion of experts based on experiential evidence	4	B	Simulation provided opportunities for learning which allowed students to prepare for PPC and EOL care. Important skills in communication and providing care to the patient and families, both physical and psychological, were developed. Simulation increased students' confidence and slowed them to anticipate their roles as future nurses.

Note: Adapted from "Synthesis Process and Recommendations Tool," by D. Dang & S. L. Dearholt, S. L. (2018). *Johns Hopkins nursing evidence-based practice: Model and guidelines (3rd* ed.) Indianapolis: IN, Sigma Theta Tau International.