

5-2018

# Early Fetal Loss in the Emergency Department and Nurses' Perceptions of Care: Implementation of a Framework for Care

Sandy Langheld

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Early Fetal Loss in the Emergency Department and Nurses' Perceptions of Care:  
Implementation of a Framework for Care

by

Sandy G. Langheld

A DNP project submitted to the faculty of  
Gardner-Webb University Hunt School of Nursing in  
partial fulfillment of the requirements for the degree of  
Doctor of Nursing Practice

Boiling Springs, NC

2018

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## Abstract

Women and families widely report dissatisfaction with miscarriage care received in the emergency department (ED). Nurses in the ED are not formally trained in principles of perinatal bereavement, including meeting the complex psychological needs of clients experiencing the loss of an early pregnancy. Nurses may lack the confidence, preparedness, and knowledge needed to care for these clients holistically. This project hypothesized ED nurses' perceptions (knowledge, confidence, and preparedness) would improve subsequent to education and implementation of an evidence-based framework for care. Emergency department nurses' perceptions (knowledge, confidence, and preparedness) of care significantly increased after education and implementation of an evidence-based education framework for care. There was a significant increase in the nurses' post-survey perception of knowledge (paired t-test 2.4398, P-value 0.01106, M= 3.038462, SD= 0.958364) compared to pre-survey knowledge (M= 2.653846, SD= 0.8458041). There was a significant increase in the nurses' post-survey perception of confidence (paired t-test 2.5754, P-value 0.008157, M= 3.269231, SD= 0.9615692) compared to pre-survey confidence (M= 2.769231, SD= 0.9922779). There was a significant increase in the nurses' post-survey perception of preparedness (paired t-test 1.9174, P-value 0.03334, M= 3.076923, SD= 1.055389) compared to pre-survey preparedness (M= 2.692308, SD= 1.086986).

*Keywords:* fetal loss, miscarriage, spontaneous abortion, pregnancy loss, perinatal loss, emergency department, emergency room, nurses, healthcare professionals, clients, patients, experiences, and perceptions.

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## Acknowledgments

*“LORD, you are my God; I will exalt you and praise your name, for you have done marvelous things, plans made long ago in faithfulness and truth”. Isaiah 25:1*

Thank you God, I praise you and I know you have lead me through this journey. I humbly give glory to you and seek to use this degree and my nursing knowledge for your plans.

I would next like to express my sincerest gratitude to my wonderful husband Steve; he is my rock. Without his unwavering support, this doctoral degree would not have been possible. He has made many sacrifices to facilitate this journey and never says no to anything I need help with. I love you Steve Langheld; this is as much your degree as it is mine.

I also give deep gratitude to Dr. Yvonne Smith for serving as my project chair. She is an amazing and remarkable resource; she also seemed to be intuitive as to when I needed a push forward along this journey. Thank you, Dr. Smith, for you dedication; your drive is amazing.

Without the support of my committee member Beth Canipe, this project would not have been possible. Thank you, Beth, for advocating to make this project possible and connecting me with the key stakeholders. This is evidence to how committed you are to excellence in women’s health. I also need to express gratitude to the project facility’s many team members and other committee members who worked with me and supported this project. Thank you, Michelle Remillard, for your support as a committee member and for seeing the value in this project. Without your support, this project would not have been possible. I also need to extend a very special thank you to Larry Hord and

Alvina Scaff; their unwavering support was critical to this project. I owe the deepest gratitude to the project faculty for affording me the opportunity to complete this project.

Another committee member I must thank is Dr. Allison Abernathy; you are a wonderful role model. Thank you for serving as a committee member and for being a dedicated nursing leader.

I need to thank Dr. Karen Kelly, of *Through the Heart* and Ashley Friel, of *Wings for Chloe*, for their very gracious donations of materials to this project and also for their continued work through their nonprofit organizations for families experiencing perinatal loss.

Additionally, I need to express profound gratitude to Dr. Joyce Engel and Dr. Lynn Rempel; they are leading researchers on the subject matter and were more than willing to share knowledge, advice, and a key miscarriage survey tool. I also want to thank, Dr. Joyce Merrigan, another leader in the subject matter. Her blog was the catalyst for the project idea and I thank her for her support.

Lastly, I need to thank Debbie Brendley, April Hargett, Shelia Smallwood, and Tammy Linton of my DNP cohort. I would not have survived this journey without support from these amazing women. Thank you all and I love you all dearly.

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## **SECTION I**

### **Introduction**

Early fetal loss in pregnancy (also known as a miscarriage or spontaneous abortion) is a common presenting problem that brings women to the emergency department (ED) (Zavotsky, Mahoney, Keeler, & Eisenstein, 2013). Early fetal loss or miscarriage is defined in the clinical setting as the spontaneous death of a fetus before 20 weeks gestation. Approximately one in four women will experience a miscarriage during their life. Miscarriage occurs in up to 20% of documented pregnancies (Geller, Psaros, & Kornfield, 2010). Miscarriage is a significant loss for a mother and the loss should not be discounted. Previous research has indicated women experiencing fetal loss are dissatisfied with care provided in the ED (Edwards, Birks, Chapman, & Yates, 2016).

### **Background**

In the United States (U.S.), 1.6% of ED visits surround the symptom of vaginal bleeding in early pregnancy. Recent trends indicate an increasing number of ED visits related to a lack of primary provider availability in early pregnancy. Many women experiencing miscarriage will go to the ED due to logistical reasons. Approximately 500,000 ED visits annually across the United States (US) are coded as vaginal bleeding in early pregnancy (Quinley et al., 2015). Vaginal bleeding in pregnancy is a common manifestation of miscarriage bringing women to the ED (Zavotsky et al., 2013). Many women present to the ED to obtain prompt intervention and support. Emergency department providers are trained to quickly diagnose, prioritize, and manage emergent problems. Emergency department care is primarily focused on providing lifesaving interventions and stabilizing critical illness and/or injury. It can be challenging to

provide holistic care to women experiencing an actual or suspected fetal loss in this fast-paced environment (Bacidore, Warren, Chaput, & Keough, 2009).

Clients and families experiencing early fetal loss need holistic care. It is well documented in the literature women experiencing early fetal loss often experience intense psychological effects such as: grief, anxiety, anger, self-blame, depression and post-traumatic stress. Women report the experience of a miscarriage as highly emotional and stressful. The miscarriage experience is sometimes minimized by providers and by the community as well (Edwards et al., 2016).

In a large systematic review, Gold (2007) examined parent experiences with fetal loss, stillbirth, and early infant loss, and the interactions with health care providers. Sixty-one studies were included in the review, exploring over 6,200 parents and their interactions from 1966 to 2006, in the U.S. Gold found parents highly valued emotional support and attentiveness. Parents viewed emotional support and grief education as valuable. Insensitivity, avoidance, and poor communication from staff were cited as most distressing to parents experiencing a loss. Interactions with healthcare providers have profound effects on the parents experiencing a fetal loss, stillbirth, or infant death. Many interactions with providers were considered insensitive and thoughtless (Gold, 2007).

### **Problem Statement**

Miscarriage occurs in 20% of documented pregnancies (Geller et al., 2010). Holistic care of women experiencing miscarriage can improve the psychological impact for the client and the ED staff. Women report being dissatisfied with care received in the ED during an early pregnancy loss. Women report privacy, dignity, compassion,

sensitive care, and the acknowledgement of a loss as being important themes surrounding early pregnancy loss. The ED's fast-paced environment and a possible lack of staff awareness to this problem are barriers to providing holistic care to women experiencing miscarriage.

Emergency department nurses are ill equipped to meet the psychological needs of women during a miscarriage. Nurses in the ED are not formally trained in principles of perinatal bereavement, including meeting the complex psychological needs of clients experiencing the loss of an early pregnancy. Nurses may lack the confidence needed to care for these clients. The proposed study facility is a busy level III trauma center, in the southeastern U.S., providing care to around 100,000 clients per year and is the second busiest ED in project state. According to queried diagnosis codes surrounding miscarriage (in 2016-2017), the department sees over 200 clients annually, up to 27 clients a month, and the mean number of clients impacted each month is 20. There is no existing early fetal loss protocol for this population or special training in the ED at this facility. The lacking protocol, training, and/or awareness of the issue can result in client's psychological, spiritual, and holistic needs being unmet and leads to client dissatisfaction with care. The project study facility has a satellite ED. The satellite ED does not have the same direct, easily accessible obstetrical nurse support as the main facility ED.

Nurses are in a position to provide more holistic care to these clients in the emergency room with a guiding framework for managing pregnancy loss in the ED. At the core of nursing is respect for human dignity and kindness; this ethical principle extends to the women and her fetus, a sometimes unrecognized client. A framework or

protocol for care surrounding miscarriage can help meet the complex psychological, spiritual, and holistic needs of women experiencing a loss in the ED. A framework can also increase nurses' confidence in caring for this population.

### **Needs Assessment**

A needs assessment is a systematic process for the identification of discrepancies between current practice and what is desired practice or ideal. A needs assessment was completed early in the DNP project process. The systematic process includes: population identification, identification of stakeholders, development of objectives, goals, and scope, completing a strengths, weaknesses, opportunities, and threats (SWOT) analysis, team selection and consideration of a cost-benefit analysis (Zaccagnini & White, 2017).

### **PICOT Statement**

The PICOT acronym is frequently utilized to keep the elements of: (P) population, (I) intervention, (C) comparison, (O) outcome, and (T) timeframe in mind when beginning the development of a research hypothesis or project question. Utilization of these five elements indicates the project question is rooted in an evidence-based problem (Terry, 2015) and helped to concisely identify the target population for this DNP project.

- P =Nurses in the ED caring for clients and families experiencing miscarriage
- I = Education on fetal loss/perinatal bereavement principles (a framework for care)
- C = Pre and post-survey on nurses' perceptions (knowledge, confidence, and preparedness)
- O = Increased knowledge, confidence and preparedness



- T = September 2017 for education and implementation

### **Identified Sponsors and Stakeholders**

Identified Sponsors and Stakeholders included:

- Emergency Department Director, ED Manager, ED Assistant Managers, ED Team Leaders, ED nursing staff and other ED staff.
- The Women's and Children's Service Line. The unit agreed to collaborate and provide support for the project impacting women experiencing miscarriage outside of an obstetrical unit.
- The Association for Women's Health, Obstetrical, and Neonatal Nurses (AWHONN) sponsored a blog that was the catalyst for the project idea. This organization is currently in the process of drafting a position statement for care of the client experiencing miscarriage in the ED.
- The National Perinatal Association supports this project with its position statement on the care of the client experiencing miscarriage in the ED.
- Several local and regional miscarriage support organizations partnered with the project mission to supply bereavement kits, comfort kits, grief materials and support groups.
- The clients experiencing miscarriage and their families were the most important stakeholders.

### **Team Selection**

After key stakeholders and sponsors were identified, a team with the correct skillset was assembled to conduct the project. The project team consisted of: the project administrator (DNP student), ED Manager, ED Staff Educator, and ED nurse focus

group. Women's and Children's Health Services (WCHS) staff members including the bereavement committee, unit manager, assistant managers, staff nurses, and clinical nurse specialist were also critical team members for collaboration and success of the project. The project team also heavily relied on community partners and non-profit fetal bereavement organizations for support.

### **SWOT Analysis**

A SWOT analysis was completed and is depicted in Table 1. The SWOT analysis is a powerful, but simple tool for the identification of internal strengths and weakness; it also examines external opportunities and threats. The SWOT analysis process provided the opportunity for the project leader to evaluate and consider solutions for direction of the project (Zaccagnini & White, 2017).

Table 1

*SWOT Analysis*

SWOT Analysis	
Strengths ( <i>internal</i> )	Weaknesses ( <i>internal</i> )
<ul style="list-style-type: none"> <li>• Engaged and committed WCHS Director and ED Director sponsor project</li> <li>• Engaged and committed ED manager and ED staff developer</li> <li>• Women’s unit will support and partner with the ED for help in some cases</li> <li>• Focus group of ED staff engaged and positive towards idea, wanted specialized education</li> <li>• Large, busy ED with the client population to support this intervention</li> <li>• Cost-savings in relation to possible patient satisfaction scores for outcomes</li> <li>• Former Magnet facility (with intent to re-apply) a driver for EBP, nursing process improving and shared governance</li> </ul>	<ul style="list-style-type: none"> <li>• No current standardized process or protocol for fetal loss in ED</li> <li>• Very busy ED environment</li> <li>• Some staff may not “buy in” or commit to the idea</li> </ul>
Opportunities ( <i>external</i> )	Threats ( <i>external</i> )
<ul style="list-style-type: none"> <li>• To increase knowledge, skill and attitudes of staff</li> <li>• To increase client satisfaction with care</li> <li>• Collaboration with other areas within the project facility that serve women experiencing miscarriage (main operating room, outpatient surgery, obstetrical offices)</li> <li>• To collaborate with national stakeholders, or other professional organizations on future research and for the development of a “position statement for miscarriage care in the ED”</li> </ul>	<ul style="list-style-type: none"> <li>• Limiting (shortening) the length of the bereavement education framework during implementation to be cost effective</li> <li>• Support for continuation of the ED fetal loss framework</li> </ul>

## **Objectives, Goals, and Scope of the Project**

### **Objective**

The objective of this DNP project was to measure ED nurses' perceptions of care surrounding the experience of miscarriage (loss of a pregnancy at <20 weeks) in the ED, both pre and post implementation of an evidence-based framework for care of this population.

### **Goals**

Goals of this project were to:

- increase the knowledge, confidence, and preparedness of ED nurses caring for this population
- implement a framework to care for clients experiencing miscarriage in the ED
- to subsequently meet the psychological, spiritual, and holistic needs of clients experiencing miscarriage in the ED

### **Scope**

The scope of the DNP project was to ensure ED nurses at the project facility have the training, knowledge, skills, and confidence to provide high quality, compassionate, individualized care to women and their families experiencing a miscarriage.

### **Project Question**

This project hypothesized ED nurses' perceptions (knowledge, confidence, and preparedness) would improve subsequent to education and implementation of an evidence-based framework for care. This DNP project sought to answer the following questions:

(1) What perceptions (beliefs, practices, knowledge, preparedness, and confidence) do ED registered nurses have surrounding the care of women experiencing miscarriage?

(2) Will the perceptions (knowledge, preparedness, and confidence) of ED registered nurses change significantly (measured with a pre and post-survey) after education and implementation of an evidence-based framework for care?

### **Definition of Terms**

For the purpose of this project, the use of education sessions (an evidenced-based framework for care) was the independent variable, with the nurses' perceptions being defined as the dependent variables. Conceptual and operational definitions are listed below in Table 2.

Table 2

*Conceptual and Operational Definitions*

Conceptual and Operational Definitions	
Conceptual Definitions	
Perceptions	A combination of the way someone understands something, including their beliefs, attitudes, practices, knowledge, confidence and preparedness.
Operational Definitions	
ED Nurses	Nurses working in the project facility's department of emergency medicine
Miscarriage	The spontaneous death of a fetus before 20 weeks gestation, also called early fetal loss or spontaneous abortion
Evidence-based Framework	A formal education session for training ED nurses in principles of perinatal bereavement based on current standards of practice
Miscarriage Survey	A pre and post-survey tool used to collect and measure the ED nurses' perceptions surrounding care of women experiencing miscarriage in the ED

**Cost Benefit Analysis**

This project presented a budget to outline costs. Cost versus benefit considerations were: hours spent training staff, bereavement/miscarriage kit supplies, printing and paper/supplies costs versus the impact of possible improved staff perceptions. The impact of improved perceptions is difficult to monetize. Many times DNP leaders implement a process change for client advocacy, ethical reasons, and because everyone deserves human dignity, respect, and holistic care; not because it is cost effective. This project has the potential to improve patient satisfaction scores and

outcomes, which effects reimbursement. Implementation of a fetal loss framework for care can also improve client outcomes for successful grief resolution impacting future costs for addressing unresolved grief.

## **SECTION II**

### **Review of Literature**

#### **Current Protocols and Position Statements**

Perinatal bereavement programs and protocols (including psychological support) are the standard of care for clients experiencing the loss of a fetus, stillbirth, or neonatal death. The National Perinatal Association (2017) published an updated position statement on interdisciplinary guidelines for the care of women presenting to the emergency department with pregnancy loss. National guidelines state the ED healthcare team should: (1) provide holistic, patient-centered, family focused, and compassionate care, (2) offer effective bereavement support and sensitivity to clients experiencing perinatal death, (3) provide privacy, dignity, safety, and a designated marker that designates pregnancy loss for each client to alert all staff, (4) give acknowledgement of the loss and attempt to clarify the meaning of the pregnancy loss, (5) provide families with an explanation of how the products of conception are discarded (related to state regulations), and (6) offer emotional and psychological support including grief and bereavement materials. Similar position statements exist from the Canadian Pediatric Society (2017), the Pregnancy Loss and Death Alliance (2016), and the National Standards for Bereavement Care following Pregnancy Loss and Perinatal Death (Health Service Executive, 2016).

The guidelines are commonplace in obstetrical units and are the standard of care. However, women who experience an early pregnancy loss in the ED, home setting, clinic, or in the operating room may be negatively impacted by a lack of perinatal bereavement programs or protocols implemented in these areas. Many emergency rooms



do not have an early pregnancy loss protocol in place, despite national recommendations. The project facility did not have a policy or protocol in place in the ED.

### **Review of Literature**

The purpose of this literature review was to analyze and synthesize published research on nurses' perceptions or clients' perceptions of care received in the emergency department surrounding early fetal loss. This review of the literature will support the problem statement and will answer the question, "why this project now"? The questions that guided the literature review process were:

- (1) What are nurses' perceptions and clients' perceptions of care given in the emergency room during an early fetal loss or miscarriage?
- (2) What are evidence-based solutions to improve the miscarriage experience for clients in the ED?

A search of articles between January 2007 and January 2018 was conducted via CINAHL (Cumulative Index for Nursing & Allied Health Literature), Gardner-Webb Bulldog Onesearch, Pub-med and Google Scholar. The following keywords were combined in various combinations to produce a robust amount of literature: "fetal loss", "early fetal loss", "miscarriage", "spontaneous abortion", "pregnancy loss", "perinatal loss", "emergency department", "emergency room", "nurses", "healthcare professionals", "clients", "patients", "experiences" and "perceptions". Additionally, the following keywords were combined in various combinations: "evidence-based solutions", "protocols", "practice standards", "fetal loss", "early fetal loss", "miscarriage", "spontaneous abortion", "pregnancy loss", "perinatal loss", "emergency department" and "emergency room". After the initial searches with keywords, articles with the following

inclusion and exclusion criteria were selected to perform this review. Inclusion criteria consisted of research articles in peer reviewed journals, published from 2007-2018, that examined nurses' perceptions or clients' perceptions of care surrounding early pregnancy loss with some portion of the study focus or population occurring in the ED or hospital. Exclusion criteria included studies not printed in the English language and non-research articles.

### **Search Outcome**

The total initial combined searches resulted in a combined yield of (n=1861). Duplicate articles were then deleted from the combined results. The remaining articles were examined by reading the abstract to determine if the article met the inclusion criteria. A total of 28 articles were found for inclusion in this review. Reference lists from the review articles were examined to identify additional studies (ancestry method) and this resulted in additional articles included in the review. Articles were also searched for using "smart findings" to search for articles with similar text resulting in additional articles.

### **Findings**

The studies were examined according to the following elements: level of evidence, design, research question/focus, sample, setting, methods, framework, measures, reliability, validity, finding, conclusions, strengths, limitations and recommendations. Studies were then sorted by emerging themes for the presentation of findings. Studies were conducted in Australia, Brazil, Canada, France, Ireland, the United Kingdom (UK) and the United States (US). Miscarriage, early fetal loss, fetal loss, and spontaneous abortion were defined as the death of a fetus before 20 weeks

gestation. Perinatal loss was defined as the death of a baby at any point from conception to the first 28 days of life. Findings were thematically sorted from emerging themes in the literature, including: insensitive care, acknowledgement of the loss/need for validation, psychological impact/grief, lack of information and the healthcare providers' perceptions of care given to clients that miscarry. A final section with evidence-based solutions is presented.

### **Insensitive Care**

There are numerous studies citing client's perceptions of insensitive care from healthcare providers during miscarriage. In a national survey on public perceptions of miscarriage, including 1,084 persons, across 49 states in the US, 43% of the participants felt they had not received adequate responses from medical providers and were dissatisfied with care perceived as insensitive (Bardos, Hercz, Friendenthal, Missmer, & Williams, 2015). Ujda and Bendiksen (2000) conducted a qualitative study to examine factors having an impact on parents' perception of care after a pregnancy loss and to determine if provider support has an effect on grief resolution. Thirty-four women and six men, in a small Midwest town participated. Parents highly valued healthcare professionals' care during miscarriage and this impacted grief resolution. Many parents expressed concern with insensitive care, specifically the emergency room.

Harvey, Moyle, and Creedy (2001) conducted qualitative, unstructured interviews to describe experiences of women who experienced early miscarriage. Women expressed negative thoughts about the care received in the hospital, including the negativity of healthcare professionals, lack of information, and a lack of understanding. Miscarriage was a significant life event and the event was perceived as not being significant to the

providers. Koziol-McLain et al. (1992) examined perceptions and knowledge about the human experience of miscarriage with 34 women who had experienced a miscarriage in a Midwestern ED. Women reported nursing care that had been both “caring” and “not caring”. It was important for the nurse to “be present” in the moment during care.

McLean and Flynn (2013) investigated women’s experiences in the hospital for miscarriage and the treatment they received. Six women experiencing miscarriage in Melbourne Australia reported the perception of inadequate, insensitive hospital care. Rowlands and Lee (2010) similarly found women cited poor, insensitive medical care during miscarriage in a qualitative study of nine women in Australia.

Wong, Crawford, Gask, and Grinyer (2003) sought to explore women’s experiences of miscarriage care. Eighty-two women who had miscarried and received care in a gynecology ward in the UK participated. Themes emerged to characterize the experience of patients and their perceptions including: normalization of the miscarriage event by the providers and a perceived lack of compassion or insensitive care. Wong et al. (2003) also found clients noted great variability in the care and skills of the providers. The clients’ accounts of care ranged from highly satisfied to very low satisfaction, even feelings of disgust were cited.

Warner, Saxton, Indig, Fahy, and Horvat (2012) conducted qualitative research to describe the experience of women with early pregnancy care problems in the emergency room. Sixteen women, across five hospital ED’s in Australia participated. Several themes emerged surrounding the experience. Overall, women felt privacy, dignity, compassion, and respect were important themes surrounding the experience. Many

women reported they were distressed by the care in the ED. Overall care by the staff was reported to be compassionate, but not all women reported this.

### **Acknowledgment of the Loss and Need for Validation**

Multiple research articles included findings supporting the clients need for acknowledgement of the loss, clients having a sense of a loss, and/or clients needing validation of the loss. Many results of studies found women and partners felt they had “lost a baby” and wanted acknowledgment of their loss (Bardos et al., 2015; Harvey et al., 2001; Koziol-McLain et al., 1992; Ujda & Bendiksen, 2000). Clients also felt their loss was marginalized by healthcare providers (MacWilliams, Hughes, Aston, Field, & Moffatt, 2016).

Corbet-Owen and Kruger (2001) conducted qualitative interviews, to examine how women construct the social context of pregnancy loss. Eight women in the western cape of South Africa were studied. All women wanted their thoughts and feeling validated, even in the presence of the pregnancies having different meanings to each woman. The women wanted more knowledge, information and explanations. Most women expressed a need for mourning a loss and the need for creating memories or remembering the event.

MacWilliams et al. (2016) held structured face-to face interviews, to describe the experiences of women in the ED having a miscarriage. The sample consisted of eight women in three ED's in Canada. Several themes emerged surrounding the women's experiences, including women feeling their loss was not acknowledged, the loss was dismissed, and felt their experience was marginalized. Rowlands and Lee (2010) identified ways to support women who miscarry and examined Australian women's

challenges in coping with miscarriage. Themes emerged including: need for acknowledgement of the miscarriage, poor medical care, and a lack of information.

Zaccardi, Abbott, and Koziol-McLain (1993) conducted a study to describe the consequences of miscarriage in women after ED treatment and to identify variables associated with loss and grief. Sixty-one women at a university hospital in Denver, Colorado participated in the telephone study approximately 17.5 days after their miscarriage. Findings indicated that 70% of women wanted their pregnancy after knowing they were pregnant, 82% of women felt a sense of loss after the miscarriage.

### **Psychological Impact and Grief**

Miscarriage has a profound effect of psychological and emotional wellbeing. Many studies indicate women feel guilt, grief, and isolation following a pregnancy loss (Bardos et al., 2015; Koziol-McLain et al., 1992; Murphy & Philpin, 2010). Domingos, Merighi, and De Jesus (2011) sought to understand the experience of women with miscarriage and the experience of nurses caring for them. The qualitative study was conducted in Brazil with 13 women and seven nurses in public and private healthcare institutions. Social phenomenological methods resulted in finding miscarriage an unexpected, difficult time with sadness/grief, and women wanted more support, care and information.

Kong, Lok, Lam, Yip, and Chung (2010) conducted a cross sectional survey and interviews to assess patients and healthcare professional's attitudes about the psychological impact of miscarriage. The study included (n=2,788) 1,269 healthcare professionals (including nurses) and 1,519 pregnant women. Healthcare professionals were less aware of the psychological impact of miscarriage. Patients believed the

psychological impact of miscarriage was more serious. More patients believed routine psychological care was more important following miscarriage than healthcare professionals.

Prettyman and Cordle (1992) investigated the attitudes of healthcare professionals surrounding the psychological aspects of miscarriage. Healthcare professionals (n=156), (including general practitioners, midwives, nurses, and others) in the UK participated. Professionals agreed miscarriage is associated with psychological distress and women should explore feelings following this event. Professionals noted a lack of systematic follow-up of this population. There was an acknowledged gap between the perceived need for psychological care in clients with miscarriage and the actual provision of care in these clients.

Sejourne, Callahan, and Chabrol (2010) conducted a study of 305 women in France who had experienced miscarriage to determine the desire for support following miscarriage and to determine the content, type, and/or timing of such support. The majority of women wanted psychological support following miscarriage. Women indicated they felt poorly informed after miscarriage and had difficulty dealing with the emotional aspect of miscarriage. Zaccardi et al. (1993) found that 77% of women experienced limitations (such as insomnia, anorexia, impaired ability to work, and/or function) with daily function related to grief reactions. Grief and loss reactions are pervasive after a miscarriage (Zaccardi et al., 1993).

### **Lack of Information**

Multiple research articles included the clients citing a lack of information, wanting more information and education regarding miscarriage. Women consistently

expressed a desire for wanting more support, care and needing more information during and after the miscarriage experience (Domingos et al., 2011). Five additional studies, all similarly found clients noted a lack of information being provided during the miscarriage experience (Corbet-Owen & Kruger, 2001; Sejourne et al., 2010; Rowlands & Lee, 2010; Warner et al., 2012; Wong et al., 2003). A small, qualitative study examined women's experiences with miscarriage and the treatment they received in hospitals. Six women experiencing miscarriage in Melbourne, Australia participated and revealed there was little to no acknowledgement of miscarriage and all cited a lack of information was given. The women also perceived the hospital care as inadequate and wanted more information given (McLean & Flynn 2013).

### **Healthcare Professionals' Perceptions of Miscarriage Care Given to Clients**

Many healthcare professionals understand the importance of miscarriage care and recognize the event as distressing and having a high impact on patients and families. Domingos et al. (2011) sought to understand the experience of women with miscarriage and the experience of nurses caring for them. Their qualitative study found nurses often seek information about miscarriage care and are aware of the need for comprehensive care. Nurses also provide guidance and support in helping women overcome the moment or situation of miscarriage. The nurse's role is paramount in planning and caring for these women to provide comprehensive care (Domingos et al., 2011).

A mixed method study by Engel and Rempel (2016) explored the relationships between attitudes, beliefs, and practices of healthcare professionals caring for women and families experiencing miscarriage in the ED. The study included 174 participants (including 63 registered nurses) working in three ED's in Canada. Healthcare



professionals believed miscarriage was a significant, distressing event that had a high impact on women and their families. Confidence was the most important predictor for delivery of support by healthcare professionals. Nurses in the ED reported the least amount of confidence and knowledge surrounding caring for clients with miscarriage and their families. The availability and the level of awareness of services for this population were identified as a barrier to care. Care in the ED was restricted by a lack of understanding about miscarriage and its significance, and it was found miscarriage may be marginalized. There were concerns about the business and privacy of care in the ED with this population from the provider's viewpoint (Engel & Rempel, 2016).

Gergett and Gillen (2014) explored the perceptions of healthcare professionals caring for women with early pregnancy loss. The study was qualitative in design, with focus groups and one-on-one semi-structured interviews. A purposive sample of 39 healthcare professionals (including nurses and nurse midwives caring for parents and their families experiencing early fetal loss) was obtained from one large healthcare trust in Northern Ireland. Emerging themes were derived and explored. Swanson's Theory of Caring provided a framework for the study and analysis. The theory is comprised of five processes: knowing, being, doing, enabling, and maintaining. This theory is used to frame research into clinical study areas of caring in nursing. Healthcare professionals considered early fetal loss as the "loss of a baby"; they also classified it as having a "different gradients of loss". Some providers were more influenced by the actual visualization of the fetus. Ectopic pregnancies were not acknowledged to the same extent as other visible losses. Most healthcare professionals valued the care given to women

experiencing early fetal loss; however, the care given may be influenced by their own perceptions and environmental/institutional factors (Gergett & Gillen, 2014).

Hill et al. (2014) examined the meaning, experiences, and behaviors of nurses caring for women with a perinatal loss. The study was qualitative with focus groups to explore the experiences of nurses caring for women experiencing fetal death. The population studied included 24 registered nurses working in obstetrics, post anesthesia, and the ED at two large acute care hospitals in Kentucky. Swanson's Theory of Caring was used as a framework. Results indicated all nurses demonstrated Swanson's Theory of Caring behaviors; however, nurses used them preferentially based on situational demands and level of rapport. Several themes emerged including: strategies for coping in the moment, making meaning of the experience, situations that make care more difficult/or easier, and priority of care. Nurses also described symptoms of compassion fatigue including: anger, sorrow, feeling incompetent, feeling overwhelmed, exhausted, and wanting to avoid client care. But even under these traumatic circumstances, nurses do their best to give care to clients experiencing fetal death (Hill et al., 2014).

MacConnell, Aston, Randel, and Zwaagstra (2013) conducted qualitative research to describe the experiences of nurses who provided bereavement follow-up with families after the death of a child or pregnancy loss and to explore facilitators, barriers, and challenges in these situations. Eight registered nurses with experience in giving bereavement care after the loss of a pregnancy or child participated. Nurses described complex relationships with clients, families, hospital practice/policy, and social norms surrounding bereavement care. Themes included: relationships, self-care, closure, professional boundaries, and the nature of institutional policy/practice/support. Nurse's

recommendations for change included providing bereavement support. Nurses were strongly committed to providing bereavement care (MacConnell et al., 2013).

Murphy and Merrell (2009) conducted a qualitative ethnographic study to explore women's experiences of having an early miscarriage in the hospital. Eight women and 16 healthcare professionals (including nurses) at a hospital gynecological unit in the United Kingdom (UK) were included. Findings included the importance of the nurse's role in providing sensitive, engaged care to meet the holistic needs of the women. The hospital experience is important for shaping care and influencing women's experiences.

### **Evidence Based Solutions**

Perinatal bereavement protocols and education are the standard of care for clients experiencing the loss of a fetus, regardless of the gestation age. Interdisciplinary guidelines for the care of women presenting to the emergency department with pregnancy loss are available and was updated in 2017 (National Perinatal Association, 2017). The guidelines are commonplace in obstetrical units and are the standard of care. Similar position statements exist from the Canadian Pediatric Society (2017), the Pregnancy, Loss and Infant Death Alliance (2016), and the National Standards for Bereavement Care following Pregnancy Loss and Perinatal Death (Health Service Executive, 2016). These guidelines, programs, or protocols seek to address the problems cited in this literature review.

The busy ED environment may need to examine innovative ways to better ensure privacy, compassion, and respect are provided (Warner et al., 2012). Bereavement frameworks for caring for this population should be implemented. It is known that obstetrical nurses are aware and well-prepared to care for clients experiencing the loss of

a baby; mentoring between obstetrical units and the ED units can help to bridge a gap in knowledge (Hutti et al., 2016). Nurses are in a unique position to address the problems cited in this literature review. Nurses can provide holistic care to clients in the emergency room experiencing fetal loss. Perinatal bereavement education programs and a framework for managing pregnancy loss in the ED is a proposed solution to increase confidence in ED nurses caring for these clients.

Bacidore et al. (2009) developed a collaborative fetal loss framework (a simple tool/acronym) for care based on literature to provide a focused method to meet the needs of women experiencing miscarriage. The framework represents an interdisciplinary model for care and contains similar, but more condensed content when compared to the National Perinatal Association's interdisciplinary guidelines for the care of women presenting to the emergency department with pregnancy loss. Zavotsky et al. (2013) utilized this fetal loss framework in a project at a large level one trauma center in the northeastern U.S., seeing 75,000 clients per year. This project was aimed at first determining the ED staff satisfaction with a fetal loss program, and secondly to implement a new fetal loss program with ED staff using the framework developed by Bacidore et al. (2009). Zavotsky found that ED staff (7 physicians and 38 nurses) were not satisfied with the current fetal loss program. After implementation of the new fetal loss framework, the overall staff satisfaction score with the fetal loss program (measured on a 1-10 scale) increased to 7.8 from 3.6 pre-intervention. Five physicians and 28 nurses completed the post-survey. A simple tool in conjunction with education, or a framework for care can help to satisfy the needs of ED nurses and clients (Zavotsky et al., 2013). This framework was chosen for this project to best fit the needs of the facility.

### **Strengths of Literature**

There was a robust amount of literature to support the project problem statement. The studies ranged from small qualitative studies to a large national quantitative survey on perceptions of miscarriage, including 1,084 persons, across 49 states. Studies were conducted in Australia, Brazil, Canada, France, Ireland, the United Kingdom (UK), and the United States (US).

### **Limitations of Literature**

There was limited research aimed at outcomes after the application of bereavement protocols in the ED and its effects on nurses' care, nurses' perceptions, clients' perceptions, and clients' outcomes. There were limited research studies available aimed at ED nurses' perceptions and feelings about caring for clients in the ED. Because of the great diversity of the study designs, results may not be generalizable.

### **Literature Review Summary**

Women expressed negative thoughts about the care received in the hospital during a miscarriage, including the negativity of healthcare professionals, lack of information, and a lack of understanding. Women and families widely reported dissatisfaction with miscarriage care and they consistently cited care perceived as insensitive. Women wanted acknowledgement of the loss of the fetus and wanted more information about miscarriage. Privacy, dignity, compassion, and respect were important concepts surrounding the miscarriage event and care in these areas was lacking. Women can also experience profound, psychological impacts from miscarriage such as grief. Miscarriage is an unexpected, difficult time with sadness/grief, and women wanted more support, care, and information about how to deal with grief.

Professionals knew miscarriage was a distressing event and is associated with psychological distress. Professionals noted a lack of follow-up and resource allocation for this population. There was an acknowledged gap between the perceived need for psychological care in clients with miscarriage and the actual provision of care in these clients. Staff working in the ED may not have the same knowledge and confidence as others. Clearly, the literature supports women's and family's needs during miscarriage events are not being met.

### **Theoretical Framework**

Nursing theory guides nursing practice; it gives meaning and provides a framework for understanding practice approaches. Theory-guided practice improves care, gives structure, defines boundaries for nursing actions, and gives a framework to measure the effectiveness of interventions (Zaccagnini & White, 2017). The Doctor of Nursing Practice applies middle range theory to practice in the effort to advance client centered care and best practice (Butts & Rich, 2015). Swanson's Middle Range Theory of Caring was chosen for this DNP project's theoretical framework. Nursing theory is foundational to the construct of the DNP project. Swanson's theory gives meaning to this project, acts as a cornerstone, and is significant to describe how nurses relate to and care for clients during miscarriage events.

### **Theory Origin and Major Concepts**

Swanson developed the caring theory across many years during which she studied women who miscarried, mothers with infants in the intensive care unit, and other mothers with social risks (Swanson, 1991; Swanson, 1993; Swanson, 1999). Swanson defined caring as a "nurturing way of relating to a valued other toward whom one feels a personal

sense of commitment and responsibility” (Swanson, 1991, p.162). Swanson’s Theory of Caring is composed of five basic caring processes that nurses use in their work: *knowing*, *being with*, *doing for*, *enabling*, and *maintaining belief* (Swanson, 1991). *Knowing* is striving to understand the meaning of a life event of another. It includes striving to understand the event from the client’s viewpoint, avoiding personal assumptions, and assessing the client’s perspective. *Knowing* extends to using gathered information to determine interventions to promote well-being. *Being with* is being emotionally present to the other. It includes showing an emotional presence with the client and being connected. *Doing for* means to do for others what they would want or do for themselves. It includes anticipating needs, meeting needs, providing comfort, performing competently, and preserving dignity. *Enabling* is to facilitate the other’s passage through a life event or unfamiliar transition. It includes informing, explaining, and supporting the client during the life event. *Maintaining belief* means to sustain faith in the other’s ability to transition through a life event. It includes the nurse’s attitude and confidence toward the client. The combination of all the caring process provide for enhanced client well-being (Swanson, 1991; Swanson, 1993; & Swanson, 1999). The key theoretical concepts of Swanson’s theory are defined and listed in Table 3 below and Key Concepts Related to Miscarriage Care are defined in Table 4.

Table 3

*Swanson's Theory of Caring: Definitions of Major Concepts*

Concept	Definition
Knowing	To strive to understand the meaning of a life event of another
Being with	To be emotionally present to the other
Doing for	To do for others what they would want or do for themselves
Enabling	To facilitate the other's passage through a life event
Maintaining Belief	To sustain faith in the other's ability to transition through a life event

Table 4

*Key Concepts Related to Miscarriage Care*

Concept	Definition
Knowing	Striving to understand the miscarriage event as it has meaning to (in the context of) the client's perspective
Being with	Being in the moment with the client, conveying availability, giving time to the client during miscarriage
Doing for	Enacting for the clients during the miscarriage experience by anticipating their needs and performing nursing skills with confidence
Enabling	Empowering the client's passage through the miscarriage experience by informing, explaining, validating (acknowledgement) and creating memories.
Maintaining Belief	Believing in the client's ability to get through the miscarriage experience and offering realistic optimism and what to expect (psychological aspects)



### **Conceptual, Theoretical, and Empirical Concepts**

The formation of a Conceptual-Theoretical-Empirical (C-T-E) model linked the project theoretical underpinnings, concepts, and its empirical indicators. The C-T-E helped the project provide a more specific version of the middle range theory's specific application to the problem (Fawcett & Garity, 2009). In this project, Swanson's theoretical concepts are: knowing, being with, doing for, enabling, and maintaining belief. These concepts explain and are paramount to the nurse's ability to: understand the miscarriage event from the client's perspective, be in the moment with the client, convey their availability, giving time to the client during miscarriage, anticipate needs, perform with confidence, empowering the client, and ease the passage through the miscarriage experience by informing, explaining, validating, and creating memories. The empirical indicators were collected and measured by the miscarriage survey and selected survey questions (10, 11, 12, knowledge, preparedness, and confidence) are linked in the C-T-E to the theory's concept (such as knowing/knowledge, doing for/confidence). Many of the theory's other concepts are an important part of the nurse's role and are interwoven in the education sessions and the framework for care. The C-T-E model for the project, using Swanson's Theory of Caring, is outlined in Figure 1 below.

## Project Method

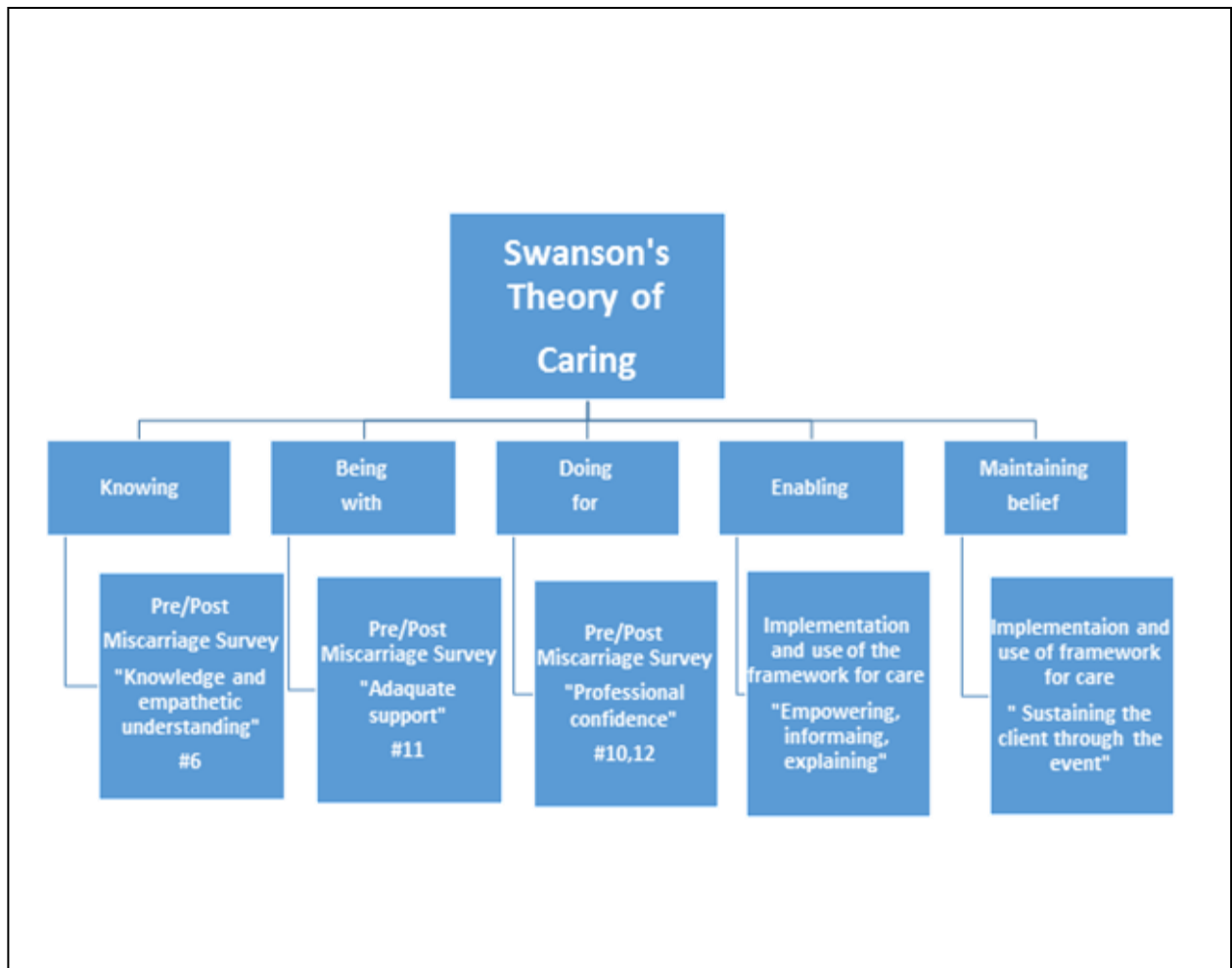


Figure 1. C-T-E

## **SECTION III**

### **Project Setting, Sample, and Design**

#### **Setting**

This project took place at a busy, level III trauma center and department of emergency services providing care to around 100,000 clients per year in a southeastern U.S. state. The department consists of a main ED and a community satellite ED located within the same county. The department sees over 200 clients annually with miscarriage related diagnosis codes, according to queried data. The department employees approximately 80 registered nurses.

#### **Sample**

A sample of 55 registered nurses was obtained from 80 ED nurses. Fifty-five nurses initially volunteered to participate in the entire study which consisted of: a pre-survey, attendance to an education session (*Fetal Loss in the ED: A Framework for Care*), and completion of a post survey. Inclusion criteria for the study consisted of meeting all the following: voluntary participation in the study, working as a registered nurse in the ED, completion of the pre-survey, attendance of the educational session, and completion of the post-survey. Twenty-six nurses met the inclusion criteria (n=26) and are included in the results section.

#### **Design**

This DNP project utilized a pre and post-survey design to measure the perceptions (beliefs, practices, knowledge, preparedness, and confidence) of ED registered nurses surrounding the care of women experiencing miscarriage. The project sought to measure if the perceptions (knowledge, preparedness, and confidence) of ED registered nurses

would change significantly after education and implementation of an evidence-based framework for care. Quality improvement models and the DNP project steps serve as design methodologies for the process.

### **Protection of Human Subjects**

Prior to the implementation phase of the DNP project, the project administrator obtained approval from the Internal Review Board (IRB) of the project study facility and from the IRB at the University. Written, informed consent was provided to participants prior to the data collection process. A copy of the project consent form, detailing the project and rights of participants was given to the participants prior to administration of the surveys and educational sessions (the consent form is presented in Appendix A). There were no foreseeable risks to participation in the project, including physical, psychological, or social harm. Participation was voluntary. There was no more risk than a professional nurse would encounter in their daily work caring for clients with fetal loss. However, counseling services through the facility's Employee Assistance Program (EAP) were available if any situation occurs requiring emotional debriefing.

### **Instruments**

A 14-item survey previously developed and utilized in a research study to collect attitudes, beliefs practices, and perceptions of healthcare providers caring for women and families experiencing miscarriage was used for the pre and post-survey. The survey was used with permission from the original researchers (Engel & Rempel, 2016) and written permission is noted in Appendix B. The survey was examined for content validity by a panel of subject matter experts (judgement of expert approach). The survey titled:

“Emergency nurses’ caring for women and their families who are experiencing early pregnancy loss survey” is presented in Appendix C.

### **Data Collection and Implementation**

This project utilized a pre and post-survey implementation design. The 14-item pre-survey was distributed to nurses by printed paper copy during the 0700 and 1900 ED huddle (shift change) by ED managers, team leaders and/or the project administrator. Pre-surveys were also administered during the ED annual competency fair prior to educational sessions. The nurses were asked to fill out the survey and participation was voluntary. Completed surveys were placed in a secure survey collection box placed at the competency fair. The project administrator collected and secured the surveys. The surveys contained no identifiable data, other than a participant generated number and color (used as a code for the project administrator) to sort pre and post-surveys. The collected surveys were stored in a locked file cabinet, in a locked office of the project administrator. The administrator holds the keys to the cabinet and office.

After completion of the pre-survey, the project administrator implemented an evidence-based education program, “Early Fetal Loss in the ED: A Framework for Care”, based on standards for perinatal bereavement care for clients experiencing miscarriage in the ED. See Appendix D for the educational session presentation slides. Learning outcomes for the class included the participants would be able to:

- Cite the ED nurse’s role in supporting clients experiencing fetal loss/miscarriage
- Identify women’s perceptions of care given during fetal loss/miscarriage
- Plan evidence-based care for an individual (and/or family) experiencing fetal loss/miscarriage in the ED using a framework

- Discuss the interdisciplinary guidelines for care of women presenting to the ED with pregnancy loss

Learning activities for the class included:

- Poster presentation, PowerPoint presentation with small group  
Examining fetal loss kits, miscarriage care kits, (see Appendix F) and bereavement packets
- Small group discussion

The educational sessions were given during the ED annual competency fair in fall of 2017. The sessions were re-occurring, every 30 minutes, during the fair over two days. Follow-up educational sessions for nurses that missed the initial education were held as roaming in-services conducted by the project administrator during October, as needed on the unit. The post-survey was administered after educational sessions and post-implementation of a framework for care to determine if nurses' perceptions (beliefs, attitudes, practices, and confidence) surrounding the care of women experiencing a miscarriage had changed as a result of the education and implementation of a framework for care. Participation in the survey was voluntary. The post-surveys were also distributed to ED nurses by printed paper copy during fall of 2017 after completion of the education and implementation of the framework. The nurses were asked to complete the survey and told participation was voluntary. Completed surveys were placed in the designated locked survey collection boxes. The project administrator collected the completed post-surveys. The collected surveys were stored in a locked file cabinet, in a locked office of the project administrator. The administrator holds the keys to the cabinet and office.

After conclusion of the project, the data will be secured at the project administrator's university (nursing department) for three years and then destroyed.

### **Data Analysis**

After completion of education, post-implementation of the framework for care and after survey collection, the project administrator monitored use and distribution of miscarriage kits monthly. The administrator also worked with the leadership teams to distribute weekly (initial three weeks) and then three-monthly practice change alerts between both ED facilities in September, October, November, and December of 2017. The project administrator met with ED leadership team and fetal bereavement committee monthly to report and discuss the project progress. The project administrator evaluated and monitored the use of miscarriage kits distributed in both ED locations.

The project was monitored by the collection of data. Descriptive type survey data was obtained (such as level of education, years in practice, use of resources...etc.). This included survey questions (1, 2, 3, 4, 5, 6, 7, 8, 9, 13, and 14). The data from these questions was aggregated and presented as demographics and/or characteristics of the study population.

Advanced statistical measures were conducted between the groups of pre-survey participants and post-survey participants on specific questions (10, 11, and 12). These questions involved the collection of categorical data related to perceptions of care provided by staff including confidence, knowledge and preparedness. Paired t-testing was used to evaluate if there were significant differences in perceptions of care after education and implementation of a framework to care for clients experiencing miscarriage in the ED.

### Timeline and Budget

A timeline (Table 5) and a Gantt chart (Figure 2) were developed for project management. The Gantt chart was used in conjunction with the timeline to keep the project on task. The Gantt chart allows for projection on which tasks can be done in parallel and sequentially (Zaccagnini & White, 2017).

Table 5

#### *Timeline Phases*

	Task	Start and End Dates
Phase One	Problem recognition, NEEDS assessment, goals/objectives, theory application, IRB approval, and work planning	May 1, 2017 thru August 1, 2017
Phase Two	Implementation (education sessions and practice change) (and fetal loss framework for care implementation)	September, 2017 thru October 15, 2017
Phase Three	Monitor use, evaluation of use of miscarriage kits, interpretation of data and dissemination of results	Nov 1, 2017 thru April 20, 2018



**GANTT CHART: Early Fetal Loss in the Emergency Department  
and Nurses' Perceptions of Care:  
Implementation of a Framework for Early Fetal Loss**

NEEDS assesemnt (initial)	3/1/2017	4/1/2017	14	31.00	0.00	100%
Problem Statement	3/1/2017	4/15/2017	20	45.00	0.00	100%
Literature Review	3/1/2017	4/30/2017	30	60.00	0.00	100%
SWOT analysis	4/1/2017	4/8/2017	7	7.00	0.00	100%
Team selection	4/1/2017	4/8/2017	7	7.00	0.00	100%
Define scope of problem	4/1/2017	4/30/2017	14	29.00	0.00	100%
Project goals and mission	4/1/2017	4/30/2017	10	29.00	0.00	100%
Theory to support project framework	5/1/2017	6/30/2017	20	60.00	0.00	100%
Project proposal to stakeholders	5/1/2017	5/21/2017	20	20.00	0.00	100%
Timeline and budget	5/15/2017	6/9/2017	25	25.00	0.00	100%
Evaluation plan developed	5/30/2017	6/19/2017	20	20.00	0.00	100%
IRB approval, facility and university level	6/15/2017	7/25/2017	40	40.00	0.00	100%
Project Implementation, education and framework	9/20/2017	10/20/2017	30	30.00	0.00	100%
Interpretation of data	1/1/2018	2/20/2018	50	25.00	25.00	50%
Dissemination of inforamtion (oral, written)	3/30/2018	4/19/2018	20	10.00	10.00	50%

Figure 2. Gantt Chart

### Project Budget

Project expenses are listed as non-recurring & recurring, see Table 6. Many of the items for the project were donated, received at a reduced rate or previously budgeted for, thus reducing the overall cost of the project.

Table 6

*Budget for the DNP Project*

Item	Amount	Source of funding	Comments
RN staff and room use	\$0.00 (previous) \$-1,126.80	Unit had previously budgeted for hours for annual training	Estimated cost savings \$-1,126.80 80 nurses (.5 hours pay at hourly mean wage 28.17) to the unit Not reoccurring. (nursesalary.net, 2018)
Professional poster presentation board (tri-fold)	\$0.00 (donation) \$-99.00	Community partner donated use of Velcro poster presentation board	Estimated cost savings \$-99.00 Not reoccurring.
Poster presentation slides (laminated Velcro slides)	\$ 36.82	DNP student project administrator	(Laminated Velcro slides, formatted at office depot) Not reoccurring.
Miscarriage information booklets	\$30.12	Community partner printing department offered reduced rate for community/employee printing needs	50 booklets (will need bi-annually reoccurring orders, or as used)
100 pre-post surveys and informant consent	\$21.82	Community partner printing department offered reduced rate for community/employee printing needs	Not reoccurring.
Fetal loss framework pocket cards (100)	36.25	DNP student project administrator	Formatted and printed at local print shop. Not reoccurring.
Fetal loss kits (advanced gest age)	\$0.00 (donation) \$-250.00	Non-profit organization committed to fetal loss bereavement	Estimated cost savings \$-250 10 kits at \$25.00 (estimated to need to be ordered annually)
Miscarriage Comfort Kits	\$0.00 (donation) \$-300.00	Non-profit organization committed to fetal loss bereavement	Estimated cost savings \$-300 60 kits at \$25.00 (estimated to need to be ordered annually)
Travel, postage, and office supplies	\$212.00	DNP student project administrator	Travel to and from various meeting with stakeholders, community partners, small office supplies, and postage for miscarriage kit shipments Not reoccurring.
	-1,775.8	Cost saving in donated material	
Total	\$337.01	DNP student project administrator actual costs	

## Quality Improvement

The project utilized the Plan-Do-Study-Act (PDSA) cycle methodology for quality improvement. The PDSA model was used to improve the quality of the delivery of healthcare. The Plan step includes identifying the problem, setting aims, developing goals, and identifying a team. The Do step identifies the interventions needed to make the identified changes occur. The Study step looks at the results of the process change with data, graphs, and lessons learned. The Act step lists next steps to sustain performance, indicate future modifications, and a plan for dissemination of the project (Terry, 2015; Zaccagnini & White, 2017). A PDSA model (see Figure 3) concisely explains the project process.

After following the PDSA model of process improvement, the project administrator and ED nursing leadership team developed an improved process plan for clients and families experiencing miscarriage in the ED. This process change may result in improved confidence, knowledge, and preparedness for nurses caring for this population. This process change may also result in improved care experiences and outcomes for women experiencing miscarriage. The DNP is charged with advocating for practice changes to improve outcomes. Nursing leaders are well equipped to investigate, design, and monitor process improvement initiatives by using the PDSA model when paired with the DNP project steps. These quality models are similar to the nursing process and nurses are well equipped in using the nursing process for many situations. This project identified a problem (assessment), reviewed selected literature (data collection), listed improvement strategies (planning), developed an application model (implementation), and was evaluated (evaluation).

<b>PDSA    Early Fetal Loss in the ED: A Framework for Care</b>
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### PLAN a change or improvement

#### *The Problem*

1. Women experiencing miscarriage in the ED report dissatisfaction of care
2. No protocol for fetal loss in the ED
3. Nurses in the ED are not formally trained in principles of perinatal bereavement, including meeting the complex psychological needs of clients experiencing the loss of an early pregnancy.
4. ED nurses may lack the confidence needed to care for these clients.

#### *Aim/Goal* The goals of this DNP project are to:

1. To collect emergency department (ED) registered nurses' perceptions (knowledge, confidence and preparedness) surrounding the care of women experiencing a miscarriage (loss of a pregnancy at <20 weeks) in the ED.
2. To measure if perceptions (knowledge, preparedness, and confidence) of ED registered nurses change significantly after education and implementation of an evidence-based framework for care.

#### *Team*

- ED manager
- ED staff educator/clinician
- ED staff nurses
- WCHS department bereavement committee members
- DNP student, project administrator

### DO the improvement, make the change

#### *The Interventions-*

What Changes do you plan to make?

1. Collection of nurse perceptions by survey
2. Implementation of a new practice change (framework for care)
3. Education
4. Monitor use
5. Analyze data

### STUDY the results and examine data

#### *Data:*

- Emergency department nurses' perceptions (knowledge, confidence, and preparedness) of care of women experiencing miscarriage **significantly increased** after education and implementation of an evidence-based education framework for care.
- 24 miscarriage kits distributed over four months to clients and families experiencing miscarriage since the project implementation in the project facility's main ED, satellite ED and the women's surgical unit.

### ACT to sustain performance and spread change

#### *Next Steps:*

- ED leadership team in conjunction with the fetal bereavement committee (women's services department) will continue utilizing the framework, distributing miscarriage kits
- New ED nurse employees will be educated on the early fetal loss framework during orientation and in conjunction with education provided on fetal loss/bereavement care by the Women's and Children's Services Clinical Nurse Specialist.
- Oral and Written Dissemination at Project Administrators University
- Oral Dissemination at Project Facility to Evidenced-based Practice and Research Council
- Dissemination at specialty organization conferences and at local/regional like ED's

*Figure 3. PDSA*

### **Project Closure**

The project administrator relinquished management of the project March 1, 2018. The ED leadership team in conjunction with the fetal bereavement committee (women's services department) will continue utilizing the framework, distributing miscarriage kits, and monitoring use post-completion of the DNP project. New ED nurse employees will be educated on the early fetal loss framework during orientation and in conjunction with education provided on fetal loss/bereavement care by the Women's and Children's Health Services Clinical Nurse Specialist.

## SECTION IV

### Results

#### Sample

A sample of 55 registered nurses was obtained from 80 ED nurses. Fifty-five nurses initially volunteered to participate in the entire study which consisted of: a pre-survey, attendance to an education session (*Fetal Loss in the ED: A Framework for Care*), and completion of a post-survey. Inclusion criteria for the study consisted of meeting all the following: voluntary participation in the study, working as a registered nurse in the ED, completion of the pre-survey, attendance of the educational session, and completion of the post-survey. Twenty-six nurses met the inclusion criteria ( $n=26$ ) and are included in the results section. This DNP project sought to answer the following questions:

- (1) What perceptions (beliefs, attitudes, practices, knowledge, preparedness, and confidence) do ED registered nurses have surrounding the care of women experiencing miscarriage?
- (2) Will the perceptions (knowledge, preparedness, and confidence) of ED registered nurses change significantly after education and implementation of an evidence-based framework for care?

#### Demographical Data and Sample Characteristics

The total population size ( $n$ ) was 80 ED nurses; all were invited to participate in the study. Fifty-five nurses initially volunteered to participate and began the study. A final sample of ( $n=26$ ) ED nurses met the inclusion criteria and completed the study. First, using descriptive statistical analysis, the pre-survey answers are presented using

frequency tables (Tables 7 - 11) and bar graphs (Figures 4 - 8). Survey data presented includes: level of education (question 1), number of years of experience (question 2), estimated number of clients cared for with miscarriage in the last 12 months (question 3), previous participation in a perinatal workshop (question 4), inquiry if the ED had a current policy for miscarriage (question 5), and the nurses' perceptions (including questions 6, 7, 8, 9, 10,11, 12, 13, and 14) of their beliefs, attitudes, practices, knowledge, confidence, and preparedness surrounding miscarriage.

The majority of nurses (57.6%, n=15) held an Associate's Degree in Nursing and the majority of nurses (57.6%, n= 15) had less than five years of experience in nursing. Pre-survey data regarding the nurses' perceptions of care given to women who miscarry showed: the majority of nurses (53.8%, n=14) felt somewhat knowledgeable to adequately support women and families following miscarriage, the majority of nurses (46.1%, n=12) felt somewhat prepared to adequately support women and families following miscarriage, and the majority of nurses (57.6 %, n=15) felt somewhat confident to adequately support women and families following miscarriage. Nurses indicating previous participation in a perinatal workshop totaled 11% (n=3). The majority of nurses (57.6%, n=15) stated they were unsure if the ED had a current policy for miscarriage and only 11% (n=3) cited there was no such policy.

Table 7

*Level of Education of the ED Nurses Question 1*

Outcome	Frequency
Registered Nurse (ADN)	15
Registered Nurse (BSN)	6
Registered Nurse (Diploma)	3
Registered Nurse (MSN)	1
No Response	1

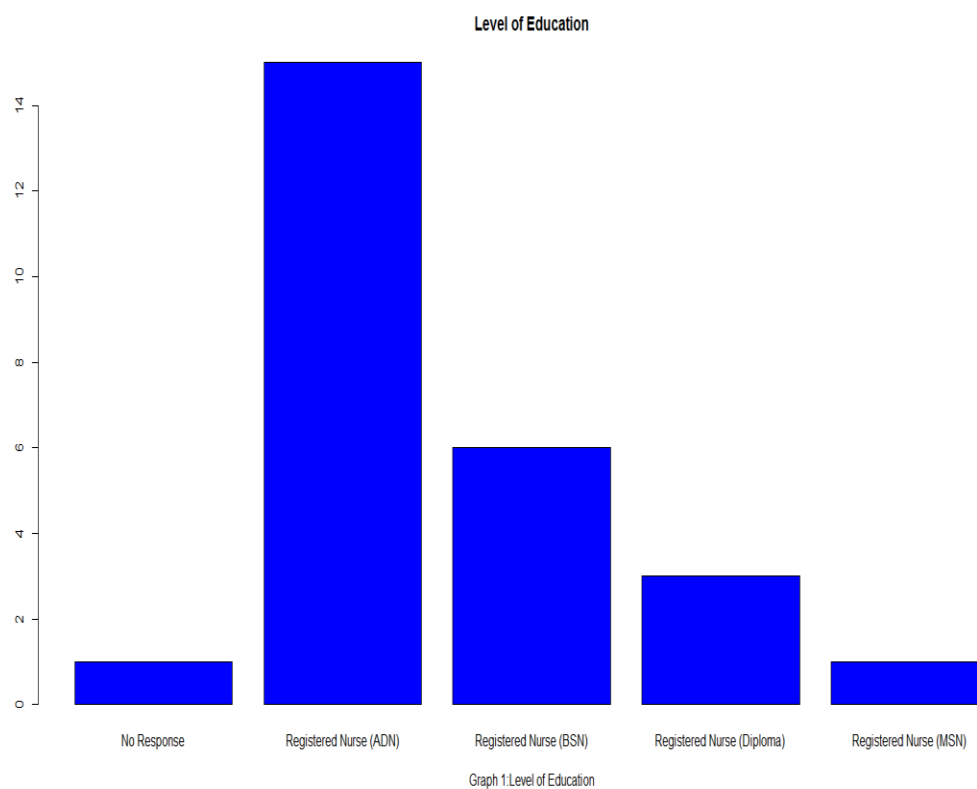
*Figure 4. Level of Education Graph*



Table 8

*Years of Experience of the ED Nurses Question 2*

Years of Experience	Frequency
Less than five years	15
Five to 10 years	5
More than 10 years	6

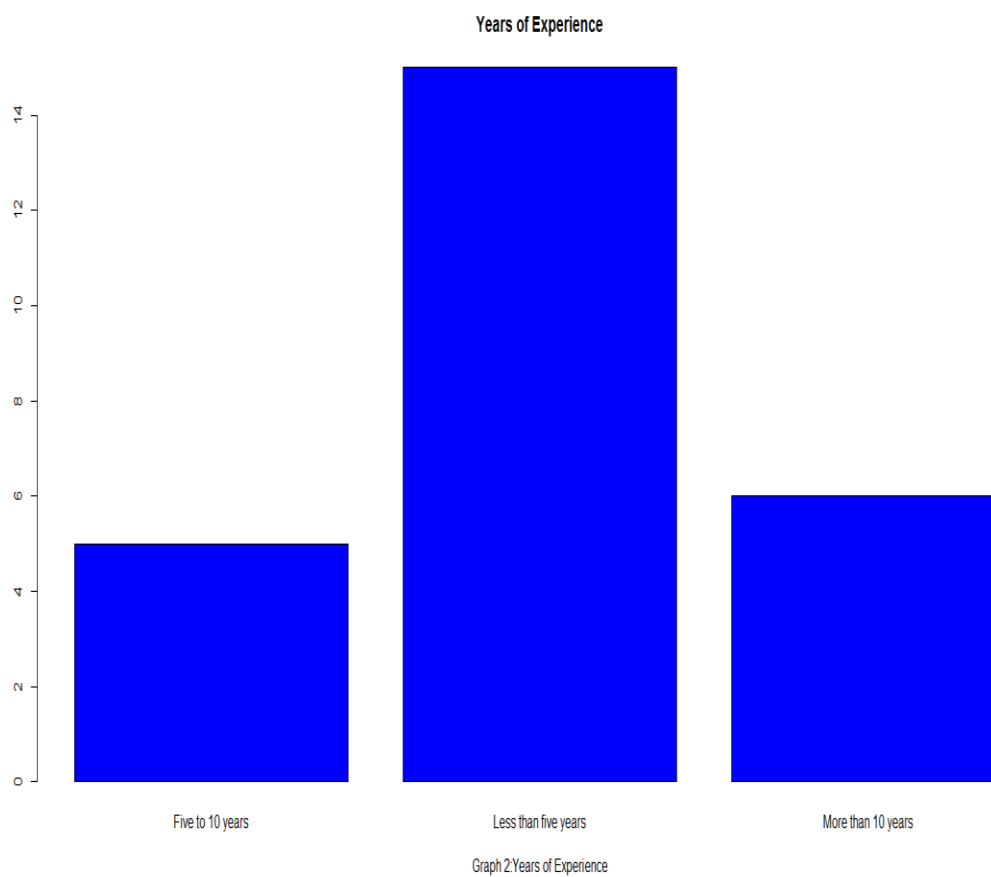
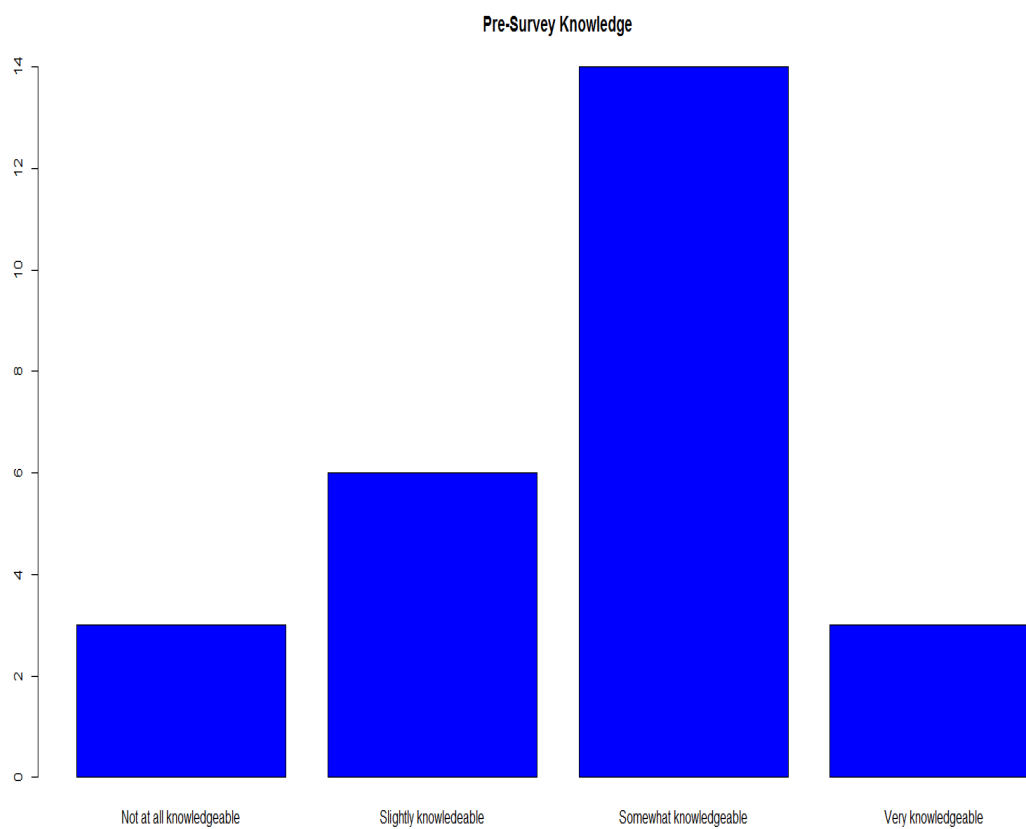
*Figure 5. Years of Experience Graph*

Table 9

*Pre-Survey Knowledge Perceptions of ED Nurses Question 10*

Question 10: How knowledgeable do you feel to adequately support these families following their loss?	Frequency
Not at all knowledgeable	3
Slightly knowledgeable	6
Somewhat knowledgeable	14
Very knowledgeable	3



Graph 3: Pre-Survey Knowledge

*Figure 6. Pre-Survey Knowledge Graph*

Table 10

*Pre-Survey Preparedness Perceptions of ED Nurses Question 11*

Question 11: How prepared do you feel to adequately support these families following their loss?	Frequency
Not at all prepared	6
Slightly prepared	2
Somewhat prepared	12
Very prepared	6

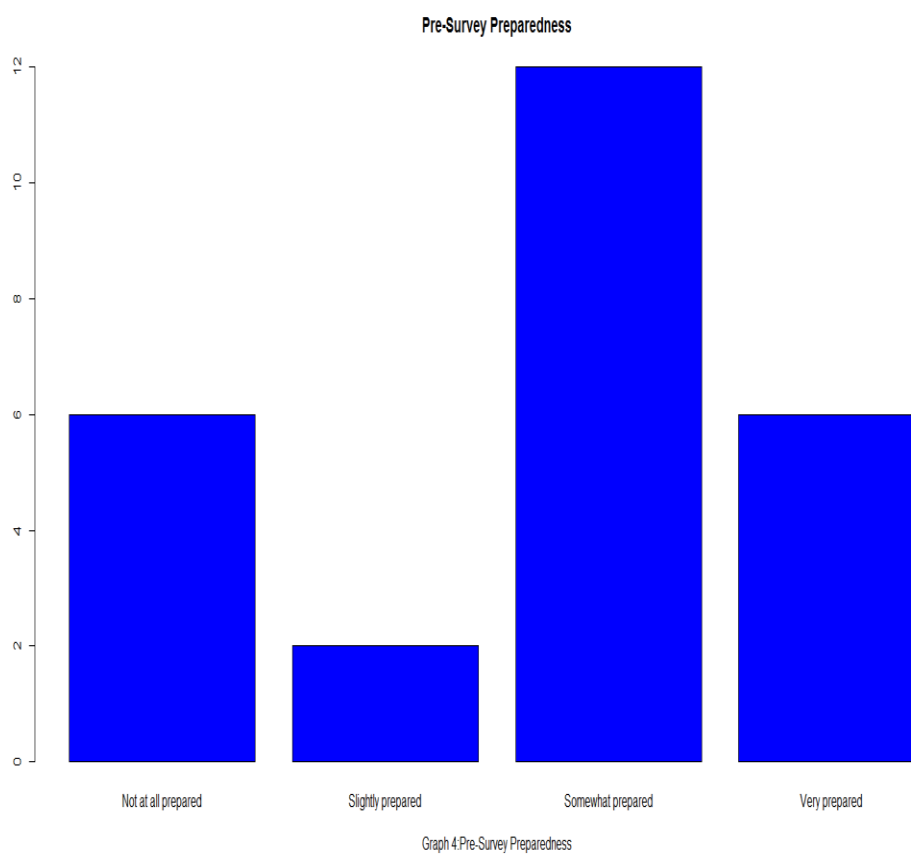
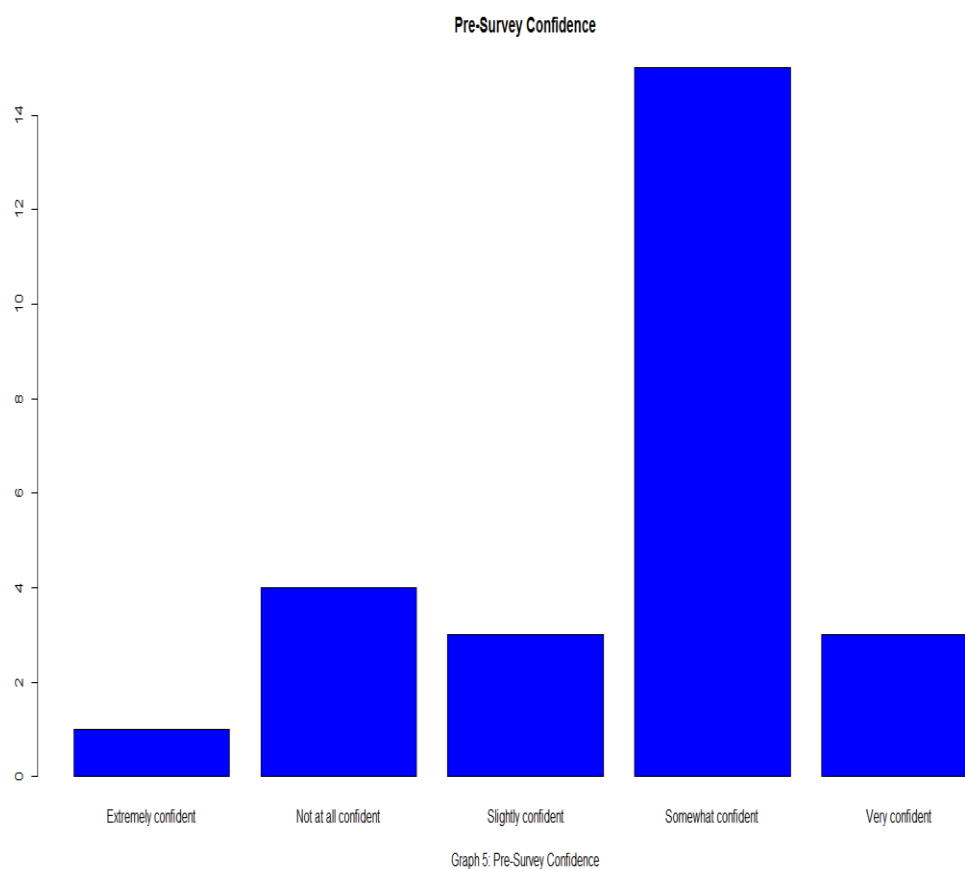
*Figure 7. Pre-Survey Preparedness Graph*

Table 11

*Pre-Survey Confidence Perceptions of ED Nurses Question 12*

Question 12: How confident do you feel in your ability to adequately support these families following their loss?	Frequency
Not at all confident	4
Slightly confident	3
Somewhat confident	15
Very confident	3
Extremely confident	1

*Figure 8. Pre-Survey Confidence Graph*

Data regarding the beliefs, attitudes and practices are presented in Tables 12 to 14. Data regarding nurses' beliefs surrounding miscarriage showed: there were mixed beliefs surrounding the perception of miscarriage being a very common normal life event including 61% (n=16) of nurses both equally strongly disagreed (n=8) and equally moderately agreed (n=8) that spontaneous miscarriage before 20 weeks is a very common, normal life event. Other important themes emerging from the data showed: the majority of nurses at 76.9% (n=20) strongly disagreed miscarriage should not be considered a distressing life event for women and families, while 57.6% (n=15) strongly agreed spontaneous miscarriage before 20 weeks can be a very devastating life event for women and families. The majority of ED nurses strongly agreed it was normal for women to: experience sadness for six weeks following pregnancy (50%, n=13), experience overwhelming anxiety in the first six weeks following pregnancy loss (50%, n=13), revisit the miscarriage experience for months following the experience (50% , n=13), worry about what she might have done to contribute to the miscarriage (57.6%, n=15), think about the baby that was lost for years following the miscarriage (57.6% , n=15) and nurses also strongly agreed that women and families require professional follow up in order to cope with the experience of miscarriage (65.3%, n= 17).

Nurses felt other healthcare professionals they work with would moderately approve (at 34.6%, n=9) of offering follow up to all women and their families who experience spontaneous miscarriage before 20 weeks gestation. Nurses' current practices surrounding miscarriage were examined and themes emerged including finding the majority of nurses consistently: included the partner in discussions about the loss (46.1%, n=12), verified with the woman that someone is available for support (34.6 %,

n=9), verified with the partner that someone is available for support (38.4%, n=10), offered a referral to another healthcare specialist (38.4%, n=10), provided information on what to expect next regarding the mother's physical health following miscarriage (38.4%, n=10) and provided guidance as to emotional responses that might be expected following loss (42.3%, n=11).

Nurses were also asked to estimate the number of clients experiencing miscarriage they had cared for in the last 12 months (Question 3). Results varied greatly from 0 to 300 clients. The majority of nurses (38.4%, n=10) estimated caring for approximately 20 clients experiencing miscarriage in the last 12 months. The majority of nurses overwhelmingly indicated they believed the following items should be offered to clients and families experiencing miscarriage: counseling (76.9%, n=20), pastoral services (76.9%, n=20), support groups (73%, n=19) and medical follow up (73%, n=19) should be offered to women who miscarry (Question 13). Nineteen percent (n=5) of nurses indicated they had collaborated with and used the services of the project facility's Women's Services (obstetrical department) for clients experiencing miscarriage (Question 14).

Nurses were also asked to describe other advice guidance or information they provided to women experiencing miscarriage (Question 9). Answers consisted of the following phrases:

- “seek a counselor, specialist or pastor's support”
- “giving comfort to the client”
- “allowing for verbalization of feelings”
- “look to your family to provide support”
- “follow up with your OB/GYN or other specialist if needed”
- “giving support group information”
- “adding recommendations for additional self-care and F/U care”

Table 12

*ED Nurses' Beliefs Surrounding Miscarriage Question 6*

Question 6: Nurses agreement with the following statements:	Strongly Disagree	Moderately Disagree	Unsure	Moderately Agree	Strongly Agree
Spontaneous miscarriage before 20 weeks is a very common normal life event for women and families.	30.7%	7.6%	11.5%	30.7%	19.2%
Miscarriage should not be considered a distressing life event for women and families.	76.9%	11.5%	0%	3.8%	7.6%
Spontaneous miscarriage before 20 weeks can be a very devastating life event for women and families.	15.3%	7.6%	0%	19.2%	57.6%
Women and families who experience miscarriage before 20 weeks should move on with their lives.	34.6%	42.3%	11.5%	11.5%	0%
Women and families who experience miscarriage before 20 weeks should plan another pregnancy relatively soon.	15.3%	38.4%	38.4%	3.8%	3.8%
It is normal for women to experience sadness for six weeks following pregnancy loss.	0%	0%	3.8%	46.1%	50%
It is normal for women to experience overwhelming anxiety in the first six weeks following pregnancy loss.	0%	0%	7.6%	42.3%	50%
It is normal for a woman to revisit the miscarriage experience for months following the experience.	0%	3.8%	11.5%	34.6%	50%
It is normal for a woman to worry about what she might have done to contribute to the miscarriage.	0%	0%	3.8%	38.4%	57.6%
It is normal for a woman to think about the baby that was lost, years following the miscarriage.	0%	0%	3.8%	38.4%	57.6%
Some women and families require professional follow up in order to cope with the experience of miscarriage.	0%	0%	3.8%	30.7%	65.3%

Table 13

*ED Nurses' Attitudes Surrounding Miscarriage Question 7*

Question 7: Nurses agreement with the following statement:	Strongly Disapprove	Moderately disapprove	Neutral	Moderately Approve	Strongly Approve
To what extent would health professionals with whom you work approve of your offering follow up to all women and their families who experience spontaneous miscarriage before 20 weeks gestation?	3.8%	11.5%	26.9%	34.6%	15.3%



Table 14

*ED Nurses' Practices Surrounding Miscarriage Question 8*

Questions 8: Nurses agreement with the following statements:	Never	Rarely	Sometimes	Frequently	Consistently
Include the partner, if the woman desires, in discussions about the loss?	0%	0%	19.2%	34.6%	46.1%
Verify with the woman that someone is available for support during and following the loss?	0%	7.6%	30.7%	26.9%	34.6%
Verify with the partner that someone is available for support during and following the loss?	0%	7.6%	38.4%	15.3%	38.4%
Offer a referral to another healthcare provider (e.g. specialist)?	0%	0%	26.9%	34.6%	38.4%
Provide information on what to expect next in terms of expelling the products of conception?	0%	11.5%	23.0%	26.9%	38.4%
Provide guidance on what to do with the expelled products of conception?	3.8%	11.5%	19.2%	30.7%	34.6%
Provide information on what to expect next regarding the mother's physical health following miscarriage?	0%	7.6%	30.7%	23.0%	38.4%
Provide guidance as to emotional responses that might be expected following loss?	0%	11.5%	30.7%	15.3%	42.3%
Provide guidance on coping with the emotional responses of the miscarriage?	0%	11.5%	26.9%	23.0%	38.4%
Provide information regarding potential causes of early pregnancy loss?	7.6%	11.5%	23.0%	26.9%	30.7%
Provide information about when to consider conceiving again?	23.0%	19.2%	11.5%	15.3%	26.9%

### **Inferential Statistical Results**

Next, the application of advanced statistical measures were necessary to determine if perceptions (knowledge, preparedness, and or confidence) of ED registered nurses changed significantly after education and implementation of an evidence-based framework for care. The pre-survey and the post-survey contained three questions related to the nurses' perceptions (knowledge, preparedness, and confidence) of caring for clients and families during miscarriage:

1. How knowledgeable do you feel to adequately support these families following their loss?
2. How prepared do you feel to adequately support these families following their loss?
3. How confident do you feel in your ability to adequately support these families following their loss?

The possible answers for question 1 were: not at all knowledgeable, slightly knowledgeable, somewhat knowledgeable, very knowledgeable, and extremely knowledgeable. The possible answers for question 2 were: not at all prepared, slightly prepared, somewhat prepared, very prepared, and extremely prepared. The possible answers for question 3 were: not at all confident, slightly confident, somewhat confident, very confident, and extremely confident. These possible answers to the questions were considered as categorical random variables. There was not a numerical scale for the responses, but the above possible answers can be considered as categorical, random variables of the ordinal type for data analysis and converted to an ordinal scale from

1=not at all, 2 =slightly, 3 =somewhat, 4=very, and to 5=extremely, for the application of inferential statistical analysis. The following statistical hypotheses were developed:

Let  $H_0$  (Null Hypothesis): The evidence-based education program (a framework for care) **will not increase** the perceptions (knowledge, confidence, and or preparedness) of ED nurses caring for women experiencing miscarriage.

$H_a$  (Alternative Hypothesis): The evidence-based education program (a framework for care) **will increase** the perceptions (knowledge, confidence, and or preparedness) of ED nurses caring for women experiencing miscarriage.

Let  $H_0$  (Null Hypothesis): The average of the nurses' perceptions (knowledge, confidence, and/or preparedness) of the care of women experiencing miscarriage **before** implementation of the evidence-based education program (a framework for care) and the average of the nurses' perceptions (knowledge, confidence, and or preparedness) of the care of women experiencing miscarriage **after** the implementation of the evidence-based education program (a framework for care) are the **same**.

$H_a$  (Alternative Hypothesis): The average of the nurses' perceptions (knowledge, confidence, and/or preparedness) of the care of women experiencing miscarriage **after** implementation of the evidence-based education program (a framework for care) is **greater than** the average of the nurses' perceptions (knowledge, confidence, and/or preparedness) of the care of women experiencing miscarriage **before** implementation of the evidence-based education program (a framework for care).

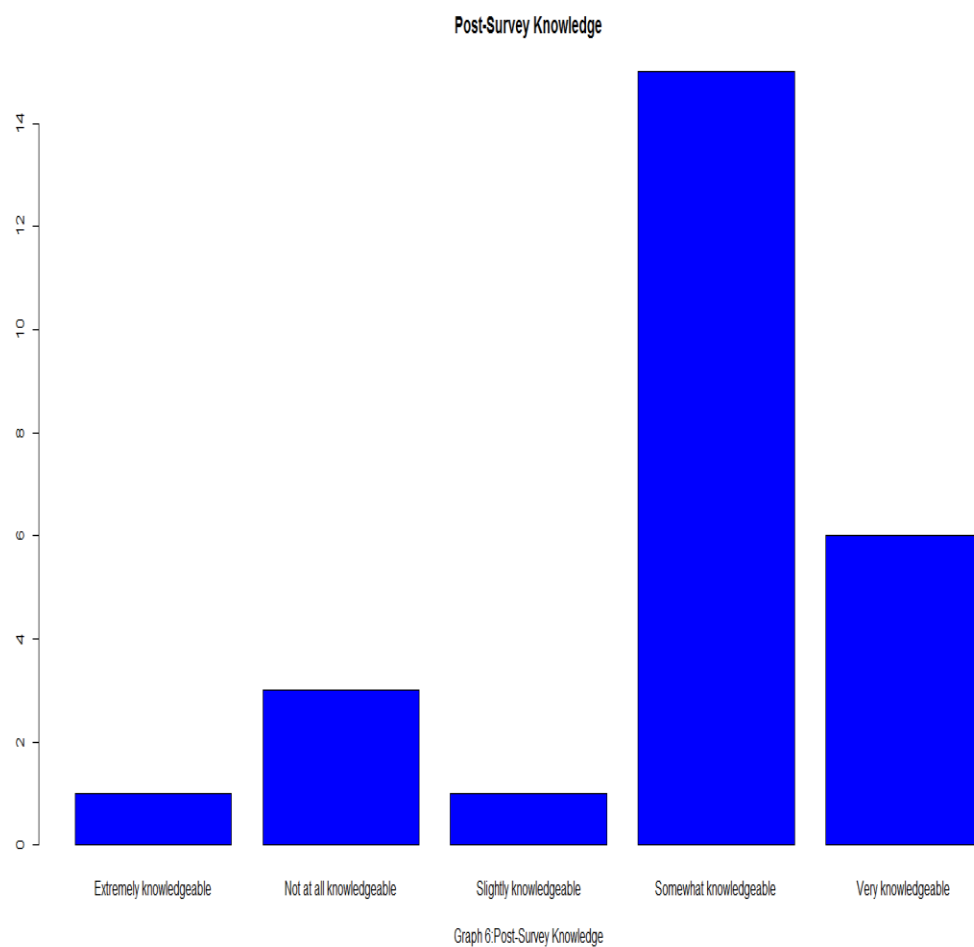
The above null and alternative hypotheses were tested using the pre-survey and the post-survey questions concerning the nurses' perceptions (knowledge, confidence, and preparedness). Table 18 presents the hypotheses testing with paired t-testing results. With inferential statistical analysis, the paired t-test is useful for comparing the values of means from two related samples for statistical significance, such as in a 'before and after' scenario (Mertler & Vannatta, 2013). The post-survey data of the nurses' perceptions (knowledge, confidence, and preparedness) are presented using frequency tables (Tables 15 - 17) and bar graphs (Figures 9 - 11).

The pre-survey knowledge (M= 2.653846 and SD= 0.8458041) mean and standard deviation was compared to the post-survey knowledge (M= 3.038462 and SD= 0.958364). The pre-survey preparedness (M= 2.692308 and SD= 1.086986) mean and standard deviation was compared to the post-survey preparedness (M= 3.076923 and SD= 1.055389). The pre-survey confidence (M= 2.769231 and SD= 0.9922779) mean and standard deviation was compared to the post-survey confidence (M= 3.269231 and SD= 0.9615692).

Table 15

*Post-Survey Knowledge Perceptions of the ED Nurses Question 10*

Question 10: How knowledgeable do you feel to adequately support these families following their loss?	Frequency
Not at all knowledgeable	3
Slightly knowledgeable	1
Somewhat knowledgeable	15
Very knowledgeable	6
Extremely knowledgeable	1

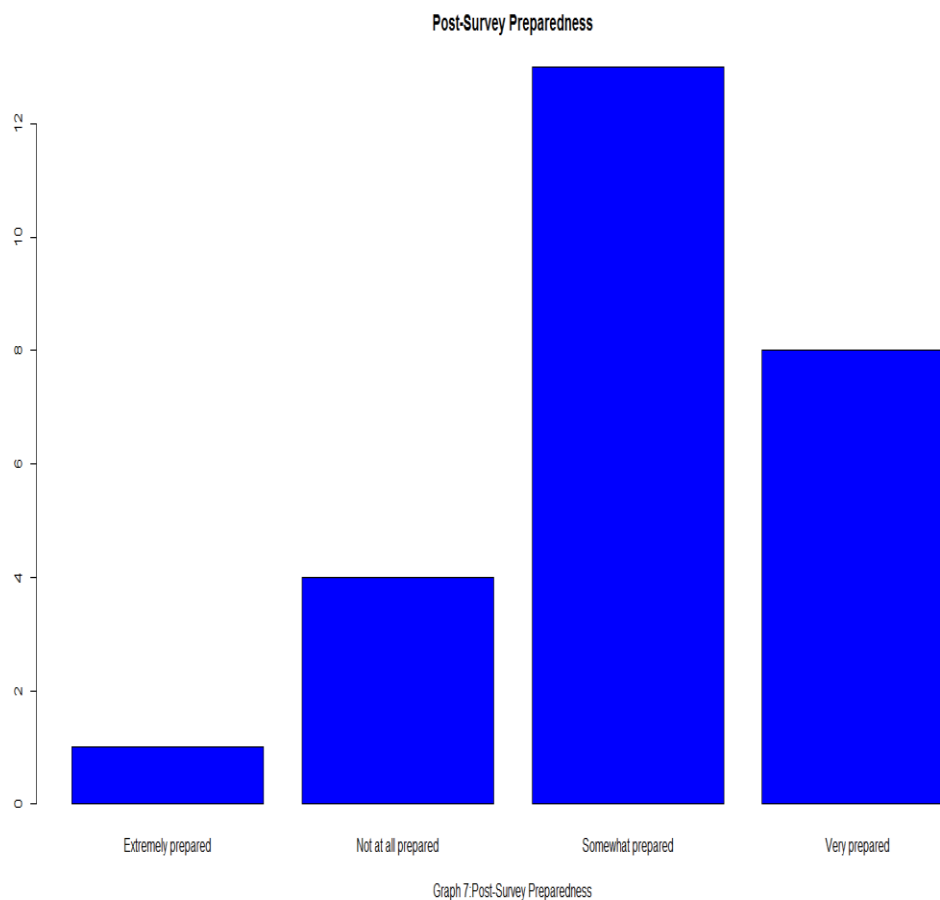


*Figure 9. Post-Survey Knowledge Graph*

Table 16

*Post-Survey Preparedness Perceptions of the ED Nurses Question 11*

Question 11: How prepared do you feel to adequately support these families following their loss?	Frequency
Not at all prepared	4
Somewhat prepared	13
Very prepared	8
Extremely prepared	1

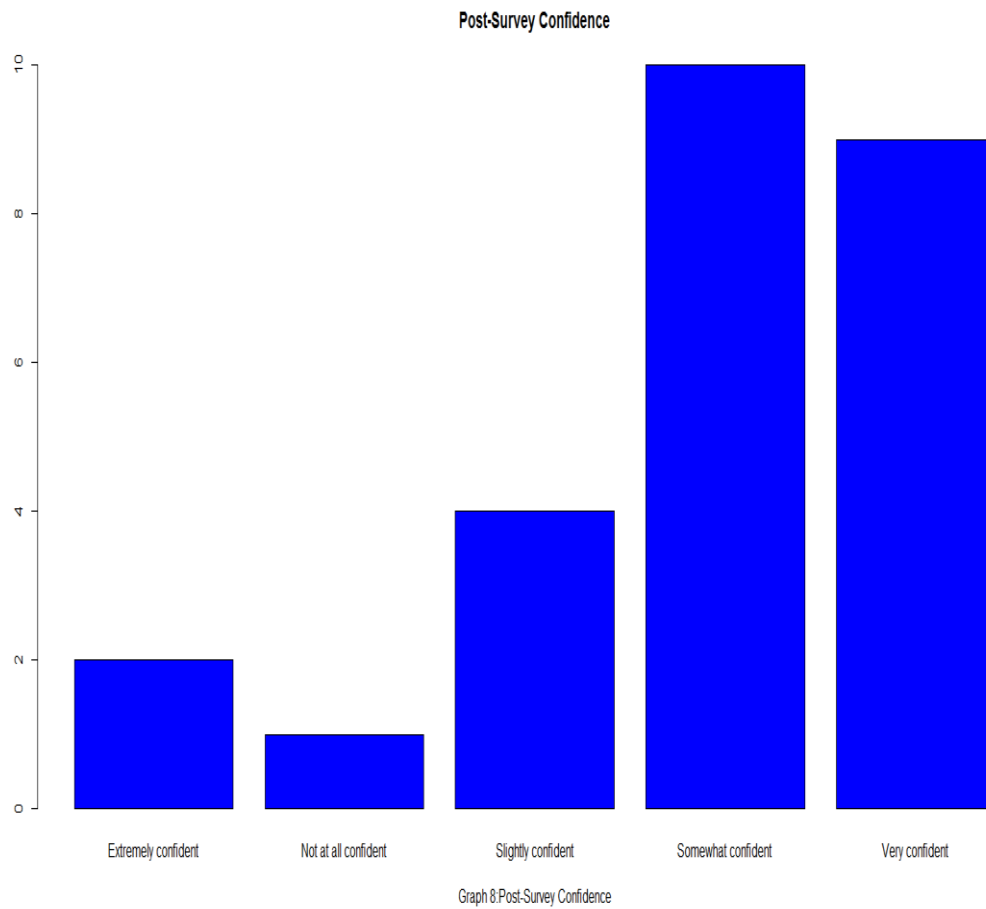


*Figure 10. Post-Survey Preparedness Graph*

Table 17

*Post-Survey Confidence Perceptions of ED Nurses Question 12*

Question 12: How confident do you feel in your ability to adequately support these families following their loss	Frequency
Not at all confident	1
Slightly confident	4
Somewhat confident	10
Very confident	9
Extremely confident	2



*Figure 11. Post-Survey Confidence Graph*

Table 18

*Paired t-Test Output*

Categorical Variables (Questions 10, 11, and 12)	Paired t-test	P-value
Knowledge	2.4398	0.01106
Preparedness	1.9174	0.03334
Confidence	2.5754	0.008157

The significance level ( $\alpha$ ) was 5%. At the 5% significance level ( $\alpha = 0.05$ ) the P-values were all less than the significance level, rejecting the null hypothesis. There is strong evidence to support the claim the average of the nurses' perceptions of knowledge (paired t-test 2.4398, P-value 0.01106), confidence (paired t-test 2.5754, P-value 0.008157) and preparedness (paired t-test 1.9174, P-value 0.03334) of the care of women experiencing miscarriage **after implementation** of the evidence-based education program (a framework for care) was greater than the average of the nurses' perceptions (knowledge, confidence, and preparedness) of the care of women experiencing miscarriage **before** the evidence-based education program (a framework for care).

### **Post-Implementation Program Use Results**

The project administrator monitored use and distribution of miscarriage kits monthly after implementation. Practice change alerts were distributed between both ED facilities in October, November, and December of 2017. The project administrator met with the ED leadership team and fetal bereavement committee monthly post-implementation to report and discuss the project progress. An unforeseen use of the miscarriage kits developed post-implementation. The project facilities women's surgical unit learned of the program, contacted the project administrator, and adopted the use of the miscarriage kit. Use of miscarriage kits (kits appropriate for use only with a complete miscarriage) by unit location are given in Table 19.



Table 19

*Monthly Use of Miscarriage Kits*

Facility	November 2017	December 2017	Jan 2018	Feb 2018
Main ED	2	2	2	1
Satellite ED	4	5	3	2
Women's Surgical Unit			1	2

### Summary of Demographical Results

The majority of ED nurses (57.6%) held an Associate's Degree in Nursing and the majority of nurses (57.6%) had less than five years of experience. The pre-survey data regarding the nurses' perceptions of care given to women who miscarry showed: the majority of nurses (53.8%) felt somewhat knowledgeable to adequately support these women, the majority of nurses (46.1%) felt somewhat prepared to adequately support these women and the majority of nurses (57.6%) felt somewhat confident to adequately support women and families following miscarriage. There were mixed results for nurses' beliefs surrounding the perception of miscarriage being a very common normal life event including 61% of nurses both equally strongly disagreed and equally moderately agreed that spontaneous miscarriage before 20 weeks is a very common normal life event.

Most nurses (34.6%) felt healthcare professionals they work with would moderately approve of offering follow up to all women and families experiencing miscarriage. Most nurses consistently: included the partner in discussions about the loss (46.1%), verified with the woman that someone is available for support (34.6%), offered

a referral to another healthcare specialist (38.4 %), and provided guidance as to emotional responses that might be expected following loss (42.3%).

### **Major Findings**

Emergency department nurses' perceptions (knowledge, confidence, and preparedness) of care of women experiencing miscarriage significantly increased after education and implementation of an evidence-based education framework for care.

- There was a significant increase in the nurses' post-survey perception of knowledge (paired t-test 2.4398, P-value 0.01106, M= 3.038462, SD= 0.958364) when compared to the nurses' pre-survey knowledge (M= 2.653846, SD= 0.8458041) to adequately support women and families following miscarriage post implementation of the evidence-based education program (a framework for care).
- There was a significant increase in the nurses' post-survey perception of confidence (paired t-test 2.5754, P-value 0.008157, M= 3.269231, SD= 0.9615692) when compared to the nurses' pre-survey confidence (M= 2.769231, SD= 0.9922779) to adequately support women and families following miscarriage post implementation the evidence-based education program (a framework for care).
- There was a significant increase in the nurses' post-survey perception of preparedness (paired t-test 1.9174, P-value 0.03334, M= 3.076923, SD= 1.055389) when compared to the nurses' pre-survey preparedness (M= 2.692308, SD= 1.086986) to adequately support women and families

following miscarriage post implementation the evidence-based education program (a framework for care).

Additionally, there were 24 miscarriage kits distributed over four months to clients and families experiencing miscarriage since the project implementation in the project facility's main ED, satellite ED and the women's surgical unit.

## **SECTION V**

### **Discussion**

#### **Implications for Nursing Practice**

Nurses value the care given to women experiencing early fetal loss; however, the care given may be influenced by their own perceptions and environmental factors (Gergett & Gillen, 2014). Nurses recognize their important role in bereavement support; but nurses in the ED may lack the confidence, knowledge, and preparedness needed to provide holistic bereavement care. The education of nurses may assist to address miscarriage misconceptions and increase role confidence, especially for RN's caring for this population (Engel & Rempel, 2016).

This study found that nurses recognize the importance of miscarriage as a distressing event and moderately approve of offering follow up to all women and their families who experience miscarriage. Nurses frequently include the partner, provide recommendations, give information, and give support to women during miscarriage. The implementation of perinatal bereavement education increases the confidence, knowledge, and preparedness of nurses. Future studies should explore the perceptions of nurses further and the effects of implementation of perinatal bereavement programs or protocols. Future research should also be aimed at evaluation of client outcomes of women experiencing miscarriage post implementation of perinatal bereavement programs or protocols.

#### **Application to Theoretical/Conceptual Framework**

Swanson's Theory of Caring was chosen for this project and is significant to describe how nurses relate to and care for clients during miscarriage events. Empirical

indicators collected and measured by the miscarriage survey questions (10, 11, 12, knowledge, preparedness, and confidence) are linked in the C-T-E to the theory's concepts of knowing, doing for, being with. The project resulted in increased perceptions of confidence, knowledge, and preparedness. These perceptions reflect an increase in the nurses' foundational use of theory in practice. Other concepts in the theory are maintaining belief and enabling; these concepts are evidenced by nurses using the framework for care, guiding the client through the journey and distribution of the miscarriage kits.

### **Limitations**

The project results should be interpreted with caution and may not be generalizable. The project had a small sample size with 26 ED nurses. The predominantly female sample may have been influenced by past miscarriage experiences. Additionally, the type of nurse that voluntarily chose to complete both the lengthy pre and post-survey may be a different than the population in some way.

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## Appendix A

### Informed Consent Cover Memo

#### Fetal Loss in the ED: An Evidence-Based Framework for Care

Investigator- My name is Sandy Langheld, and I am a student in the Doctorate of Nursing Practice Program at Gardner-Webb University (GWU), Boiling Springs, NC. I am interested in collecting ED nurses' beliefs and perceptions of care provided to clients who experience a spontaneous miscarriage in the ED. Please feel free to ask any questions that you may have about this DNP Project. I will be happy to explain anything in greater detail. Involvement in this project is voluntary but encouraged to add to nursing's body of knowledge and to raise staff awareness.

If you choose to participate, you will be asked 14 questions by paper pre-survey about your beliefs and perceptions of care provided to clients who experience a spontaneous miscarriage. During annual competency training, ED nurses will be introduced to a framework of basic principles for caring for a client with a miscarriage. After the education and framework is implemented, you will be asked 14 questions by paper post-survey about your beliefs and perceptions. All information will be kept anonymous. This means that your name will not appear anywhere and no one will know your specific answers. In any articles I write or any presentations that I make, no personal names or individual identifying information will be revealed. All participants will have access to publication of this DNP Project.

The benefit of this research is that you will be helping us to understand how to better address the needs of staff who care for these clients in this setting. This information should help improve staff awareness and preparation. This project may also help improve client satisfaction with care. There are no known risks to you for participating in this study or any compensation for participation. If you do not wish to continue, you have the right to withdraw from the study, without penalty, at any time. By completing the attached survey you are consenting to participate.

Contact info: Sandy Langheld, MSN, RN, RNCOB, [slangheld@gardner-webb.edu](mailto:slangheld@gardner-webb.edu) 704-674-4362

DNP Project Chair: Dr. Yvonne Smith, DNP, RN-BC, NCSN, [ysmith@gardner-webb.edu](mailto:ysmith@gardner-webb.edu), 704-406-2517

Participant - All of my questions and concerns about this study have been addressed. I choose to participate in this capstone project. I certify that I am at least 18 years of age.

Sandy Gantt Langheld, MSN, RN, RNCOB, DNP-candidate, project investigator

## Appendix B

### Permission to Use Miscarriage Survey from Original Authors

**From:** Sandy Langheld [[Langheld.Sandy@gaston.edu](mailto:Langheld.Sandy@gaston.edu)]  
**Sent:** Monday, June 19, 2017 10:12 AM  
**To:** Joyce Engel; Lynn Rempel  
**Cc:** [ysmith@gardner-webb.edu](mailto:ysmith@gardner-webb.edu)  
**Subject:** RE: Fetal Loss Research

Good Afternoon Dr. Engel and Dr. Rempel

I hope this email find you well and hopefully you are having an enjoyable summer!! I wanted to follow up with you in regards to my DNP project. I am approaching the time in my DNP Project : Fetal Loss in the Emergency Department: An Evidence Based Framework for Care. Soon I will be applying for IRB approval. I would like formal permission to use your survey from your research on miscarriage in the ED. I plan on administering the survey to ED Nurses to gather information on attitudes, knowledge and confidence in August,2017 . After the implementation of early fetal loss education, a process and/or protocol, I plan to administer the same survey and gather data if the knowledge, attitudes and/or confidence changed.

Can you please send me your survey and permission to use it? Any other information on the validity and reliability that were not provided in published research would also be wonderful.

Please let me know how to proceed and I thank you enormously for your willingness to share nursing knowledge and research!

Sincerely,

Sandy Langheld, MSN, RN, RNC-OB  
 Instructor, Associate Degree Nursing  
 Gaston College, Dallas Campus  
 704 922 6373

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**Lynn Rempel, RN, PhD**  
 Associate Professor  
 Brock University, Department of Nursing  
 Niagara Region | 1812 Sir Isaac Brock Way | St. Catharines, ON L2S 3A1  
[brocku.ca](http://brocku.ca) | T 905 688 5550 x4774 | F 905 688-6658

Please consider the environment before printing this email.



On Jun 20, 2017, at 1:21 AM, Joyce Engel <[jengel@brocku.ca](mailto:jengel@brocku.ca)> wrote:

Hello Sandy

You have my permission to use the survey from our research - Lynn, are you okay with it, as well? And, Lynn, have you a copy handy (I am off campus for a few days and do not have access to the hard drive on my computer).

All the best with your research!

Joyce

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## Appendix C

### Miscarriage Survey

# Emergency nurses' caring for women and their families who are experiencing early pregnancy loss survey

Questionnaire Code: \_\_\_\_\_

MMDDYYYY (Record a Family Member's Date of Birth, followed by your favorite color). Please remember your code and use the same code for a future survey.  
Example: 01012000yellow

1. What is your **level of education**?

- a) Registered Nurse (diploma)
- b) Registered Nurse (ADN)
- c) Registered Nurse (BSN)
- d) Registered Nurse (MSN)
- e) Registered Nurse (other) please specify \_\_\_\_\_

2. How many years have you practiced in the emergency department?

3. Estimate how many women and families who are experiencing spontaneous or threatened miscarriage at 20 weeks gestation or less for whom you provided care in the past 12 months.

4. Have you previously participated in a perinatal and/or pregnancy loss workshop?

Yes  No

5. Does your primary area of practice (Emergency Department) have policies or procedures regarding care of women and families who experience spontaneous miscarriage?

- a) Yes
- b) Unsure
- c) No

If yes: Are you familiar with the content of those policies?

Yes  No

6. Please indicate your agreement with the following statements:	Strongly Disagree	Moderately Disagree	Unsure	Moderately Agree	Strongly Agree
a. Spontaneous miscarriage before 20 weeks is a very common normal life event for women and families.					
b. Miscarriage should not be considered a distressing life event for women and families.					
c. Spontaneous miscarriage before 20 weeks can be a very devastating life event for women and families.					
d. Women and families who experience miscarriage before 20 weeks should move on with their lives.					
e. Women and families who experience miscarriage before 20 weeks should plan another pregnancy relatively soon.					
f. It is normal for women to experience sadness for six weeks following pregnancy loss.					
g. It is normal for women to experience overwhelming anxiety in the first six weeks following pregnancy loss.					
h. It is normal for a woman to revisit the miscarriage experience for months following the experience.					
i. It is normal for a woman to worry about what she might have done to contribute to the miscarriage.					
j. It is normal for a woman to think about the baby that was lost, years following the miscarriage.					

k. Some women and families require professional follow up in order to cope with the experience of miscarriage.					
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	Strongly Disapprove	Moderately disapprove	Neutral	Moderately Approve	Strongly Approve
7. To what extent would health professionals with whom you work approve of your offering follow up to all women and their families who experience spontaneous miscarriage before 20 weeks gestation?					
8. When a woman is experiencing early pregnancy loss, how often do you:	Never	Rarely	Sometimes	Frequently	Consistently
a. Include the partner, if the woman desires, in discussions about the loss?					
b. Verify with the woman that someone is available for support during and following the loss?					
c. Verify with the partner that someone is available for support during and following the loss?					
d. Offer a referral to another health care provider (e.g. specialist)?					
e. Provide information on what to expect next in terms of expelling the products of conception?					
f. Provide guidance on what to do with the expelled products of conception?					
g. Provide information on what to expect next regarding the mother's physical health following miscarriage?					
h. Provide guidance as to emotional responses that might be expected following loss?					



i. Provide guidance on coping with the emotional responses of the miscarriage?					
j. Provide information regarding potential causes of early pregnancy loss?					
k. Provide information about when to consider conceiving again?					

9. What other advice, guidance, or information do you provide to women and their families who are experiencing miscarriage?

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10. How knowledgeable do you feel to adequately support these families following their loss?

- a. Not at all knowledgeable
- b. Slightly knowledgeable
- c. Somewhat knowledgeable
- d. Very knowledgeable
- e. Extremely knowledgeable

11. How prepared do you feel to adequately support these families following their loss?

- a. Not at all prepared
- b. Slightly prepared
- c. Somewhat prepared
- d. Very prepared
- e. Extremely prepared

12. How confident do you feel in your ability to adequately support these families following their loss?

- a. Not at all confident
- b. Slightly confident
- c. Somewhat confident
- d. Very confident
- e. Extremely confident

13. Which of the following should women/families who experience a spontaneous loss of pregnancy at or before 20 weeks be offered? (Please indicate **all** that you think apply)

- a) Counseling
- b) Pastoral services
- c) Self-help services
- d) Support groups
- e) Medical follow-up
- f) Other agencies (please describe) \_\_\_\_\_
- g) None

14. Have you used any service provided by Women and Children's Services/ The Birthplace at CaroMont for your clients experiencing miscarriage?

Yes  No

If "yes", what services have you used? \_\_\_\_\_

**Thank you for your participation, if you choose to do so.**

You may choose to place your completed survey in a sealed envelope and drop it into a designated locked box in your department (**ED Staff Break Room**).

If you have questions about this survey, please contact:

Sandy Langheld, MSN, RN, RNCOB

[langheld.sandy@gaston.edu](mailto:langheld.sandy@gaston.edu)

704-674-4362

704-922-6373

*Survey used and adapted with permission from the original researchers, Joyce Engel, PhD, RN and Lynn Rempel, PhD, RN.*

Engel, J., & Rempel, L. (2016). Health professionals' practices and attitudes about miscarriage. *The American Journal of Maternal Child Nursing*, 41(1), 51-57

## Appendix D

### Slides for Educational Presentation

# Fetal Loss in the ED: A Framework for Care

## Emergency Nurses Role in Education and Support

Sandy Langheld, MSN, RN, RNCOB



## Definitions

- ▣ Pregnancy loss : Miscarriage: Spontaneous abortion
  - Loss of pregnancy without outside intervention before the 20<sup>th</sup> week of gestation
- ▣ Other terms you may hear
  - Threatened abortion / miscarriage
  - Inevitable abortion / miscarriage
  - Incomplete abortion / miscarriage
  - Missed abortion / miscarriage
  - Septic abortion / miscarriage
  - Complete abortion / miscarriage
  - Recurrent abortion / miscarriage

## Emotional Impact and Psychological Support

- Mother and families response have wide range
  - Minor setback / relief
  - Raging grief
- Mom may be at risk for profound depression and anxiety
- Feelings of guilt
- Finding cause may assist in alleviation
- Culture plays a large role
- Pregnancy wantedness

(Bardos et al., 2015; Domingos et al., 2011, Koziol-McLain et al., 1992; Murphy & Phillipin, 2010)

## ED Nurse: Holistic Caring Role

- ▣ Challenge may be to provide the psychosocial support for the woman and her family experiencing the loss.
- ▣ Presentation to ED
  - May be source of primary care
  - Fear of symptoms and amount of bleeding may force many to the ED
  - May be unable to secure appointment with PCP in timely manner.
- ▣ Privacy and chance for family to grieve and get information they need

## Women's Perceptions of Care

- Dissatisfied with several aspects:

*In insensitive care*

*No acknowledgement of the loss and wanting validation*

*Lack of information on support, grief and what to expect*

(Bardos et al., 2015; Corbet-Owen & Kruger, 2001; Domingos et al., 2011; Harvey & Moyle, 2011; Koziol-McLain et al., 1992; MacWilliams et al., 2016; McLean & Flynn, 2013; Rowlands & Lee, 2010; Sejourne et al., 2010; Ujda & Bendiksen, 2000; Wong et al., 2003)

## ED Nurses Perceptions of Care

- Miscarriage was a significant, distressing event
- Confidence was the most important predictor for delivery of care
- Nurses in the ED self-reported the least amount of confidence and knowledge
- Cited a lack of resources, training and time barriers

## Guidelines for care of women presenting to the emergency department with pregnancy loss.

- (1) holistic, patient-centered, family focused, and compassionate care, (2) offer effective bereavement support and sensitivity to clients experiencing perinatal death, (3) provide privacy, dignity, and safety (4) give acknowledgement of the loss and attempt to clarify the meaning of the pregnancy loss, (5) provide families with an explanation of how the products of conception are discarded and (6) offer emotional and psychological support including grief and bereavement materials.

(National Perinatal Association, 2016).

## FETAL LOSS: A Framework for care

(Bacidore et al.2009)

- Focused physical exam
- **Early information**  
**EXPLORE meaning and acknowledge loss**
- TLC
- Anniversary Phenomenon
- Let out feelings
- Link up with a social worker (offer)
- Outpatient care (resources)
- Social support for grief and sensitivity, spiritual care
- Supply with loss kit, comfort kit

## Using the Bereavement Support Packet/Kit

- Offers the TLC, support, sensitivity and acknowledgement
- Encourages the patient to explore and let out feelings
- Underscores the need for social support
- Provides information

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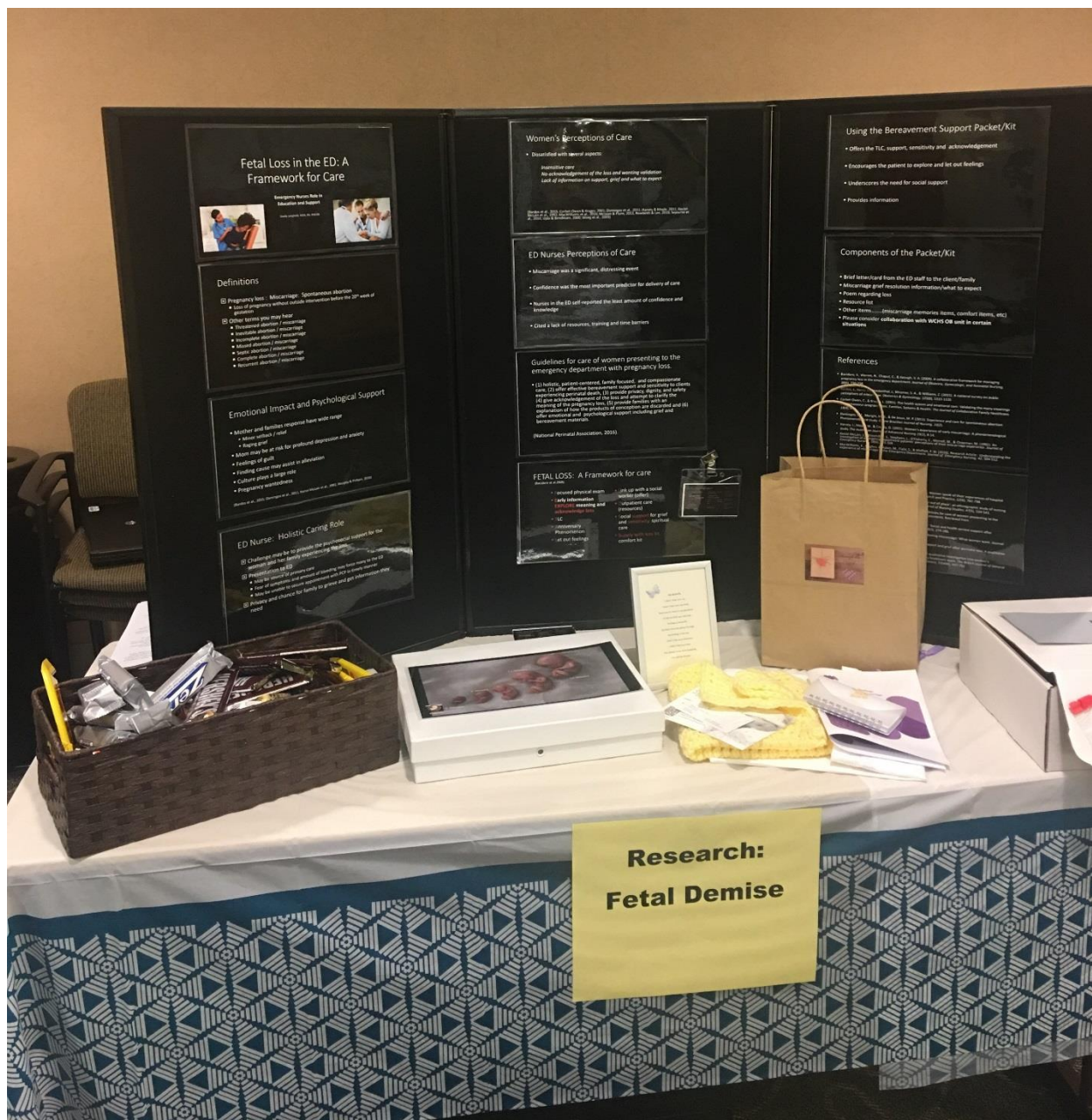


Slide shown at presentation (was to scale) showing the actual size of each gestational age and appearance



## Appendix E

### Education Session Booth Fetal Loss in the ED



(Presentation poster board with fetal loss kits and materials)

## Appendix F

### Non-profit Fetal Bereavement Organization (donations to support project)



Fetal loss kits (more advanced gestational age, or per client request)



Miscarriage comfort kit (lesser gestational age or threatened miscarriage)