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I, Brittany E Punches, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Nursing Research.

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The Experience of Pregnancy Loss in the Emergency Department

A dissertation submitted to the
Graduate School
of the University of Cincinnati
in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy

of the College of Nursing
by

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March 8, 2017

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Abstract

**Background:** Annually, over 1.4 million women present to an emergency department (ED) for a problem with pregnancy. While threats to pregnancy such as vaginal bleeding are common, half will end in a miscarriage. The ED environment is not always sympathetic to the emotional and psychological needs of women grieving the loss of a pregnancy; yet, healthcare providers can have a great impact on women’s experience of pregnancy loss.

**Purpose:** The purpose of this research study is to examine the healthcare experience of women diagnosed with pregnancy loss in the ED.

**Theoretical Framework:** The theoretical underpinnings for this study are guided by three theories, all of which pertain to loss. Constructs are included from Swanson’s Middle Range Theory of Caring, Swanson’s Human Experience of Miscarriage Model, and Bowlby’s Attachment Theory.

**Methods:** The study used a qualitative descriptive research design. Women diagnosed with a pregnancy loss in the ED were interviewed. An electronic medical record based prompt completed by nurses was implemented in two Midwestern US EDs to assist participant screening. Initial data analysis consisted of descriptive statistics of the sample and content analysis of the interviews.

**Results:** The results of the eight participant interviews were five themes related to the ED as part of the crossroads of motherhood and pregnancy loss. The themes that came from the participants’ voices were (a) Decisions to get help, (b) The environment of Emergency Care, (c) Not knowing, (d) Finally knowing and moving on, and (e) Assisting with the grieving process.

**Conclusion:** Understanding the common needs of women diagnosed with pregnancy loss in the ED allows practitioners to provide more holistic, compassionate care directed at the specific
needs of this population, guiding improvement in overall care for this population. Through the knowledge of these pregnancy loss experiences, further intervention and research will assist in the improvement of future patient care, and potentially will positively impact the women’s recovery and transition to normalcy.
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This work is dedicated to my children. Somewhere along the way of writing this dissertation, I came to the realization that the true reason why I am obtaining my PhD is to show them that no matter the oppositions, you can and will achieve through hard work and determination whatever your heart desires.
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Table of Contents

Abstract ................................................................................................................................. ii
Copyright ............................................................................................................................... iv
Acknowledgements ............................................................................................................... v
Table of Contents ................................................................................................................ vii
List of Tables ......................................................................................................................... xii
List of Figures ....................................................................................................................... xiii
List of Appendices ................................................................................................................. xiv
CHAPTER 1: INTRODUCTION ........................................................................................... 1

Statement of the Problem ........................................................................................................ 2
Pathophysiology of Pregnancy Loss ........................................................................................ 2
Psychology of Pregnancy Loss ............................................................................................... 3
Theoretical Guidance ............................................................................................................. 4
Swanson’s Middle Range Theory of Caring ......................................................................... 4
Swanson’s Human Experience of Miscarriage Model .............................................................. 5
Attachment Theory .............................................................................................................. 6
Summary of Theoretical Guidance ......................................................................................... 7
Pregnancy Loss in the Emergency Department .................................................................... 8
Managing Pregnancy Loss in the ED ................................................................................... 9
Women’s Satisfaction and Experience ............................................................................... 11
Study Purpose ....................................................................................................................... 12
Significance ........................................................................................................................... 12
Assumptions .......................................................................................................................... 13
Definitions .............................................................................................................................. 14
Research Design and Methods ............................................................................................. 15
Mixed Methods Inquiry ......................................................................................................... 15
Critical Realism .................................................................................................................... 16
Rationale for Mixed Methods Research ..................................................17
Researcher Perspective ......................................................................17
Research Questions .........................................................................18
Setting ...............................................................................................18
Sample ...............................................................................................19
  Inclusion and Exclusion Criteria .......................................................19
Procedures .........................................................................................20
  Community Advisory Panel .............................................................20
Recruitment .......................................................................................21
Data Collection ..................................................................................22
Instrumentation .................................................................................23
Data Analysis ....................................................................................24
  Research Question # 1: What is the experience of women diagnosed in the
  ED with a pregnancy loss? .................................................................24
  Research Question # 2: What are the specific behaviors exhibited by
  healthcare providers in the ED that affect women’s experience when
  diagnosed with pregnancy loss in the ED? ........................................25
  Research Question # 3: What is the relationship between the behaviors of
  healthcare providers and women’s satisfaction with their ED care when
  diagnosed with pregnancy loss? .........................................................26
Trustworthiness ..................................................................................27
Credibility ..........................................................................................27
Transferability ....................................................................................27
Dependability .....................................................................................27
Confirmability .....................................................................................28
Protection of Human Subjects ............................................................28
Informed Consent........................................................................................................28
Incentive....................................................................................................................29
Potential Risks..........................................................................................................29
Privacy and Confidentiality......................................................................................30
Potential Benefits....................................................................................................30
Data Management and Storage...............................................................................31
Limitations.................................................................................................................31
Personal Safety.........................................................................................................31
Manuscript Option Dissertation................................................................................32
  Manuscript # 1........................................................................................................32
  Manuscript # 2........................................................................................................32
  Manuscript # 3........................................................................................................33
Future Studies and Trajectory..................................................................................33
Chapter Summary....................................................................................................34
References.................................................................................................................36

CHAPTER 2: LITERATURE REVIEW.........................................................................44
Abstract....................................................................................................................44
An Integrative Review of the Management of Pregnancy Loss in the Emergency
Department..............................................................................................................45
Methods....................................................................................................................46
Results......................................................................................................................46
Recommendations for Clinical Management.........................................................47
  Diagnostic Evaluation............................................................................................47
Trustworthiness

Results

Description of the Sample

Findings from the Interview Transcripts

Decisions to get help

The environment of emergency care

Not knowing

Finally knowing and moving on

Assisting with the grieving process

Discussion

Recommendation 1: Decisions to Get Help

Recommendation 2: The Environment of Emergency Care

Recommendation 3: Keeping the patients informed throughout the process

Recommendation 4: Assisting with the Grieving Process

Limitations

Conclusion

References

CHAPTER 4: BARRIERS TO ED RECRUITMENT

Abstract

Barriers to the Recruitment of Women Experiencing a Pregnancy Loss in the ED

Methods
Results…………………………………………………………………………………………93

Barrier 1: Triggers for the EMR Prompt to Flag Participants……93
Barrier 2: Unscreened Participants………………………………..94
Barrier 3: In-person Interviews…………………………………..94

Discussion………………………………………………………………………………94

EMR Screening Tool Missed Potential Participants………………94
Barriers to Screening Participants in the ED……………………..95
Left Without Being Seen…………………………………………..95
ED Visit Recidivism………………………………………………….96
Barriers with Face-to-Face Interviews…………………………….96

Conclusion………………………………………………………………………………97

References………………………………………………………………………………101

CHAPTER 5: DISCUSSION, RECOMMENDATIONS, AND FUTURE RESEARCH...103

Discussion………………………………………………………………………………103

Manuscript Option Dissertation……………………………………103

Research Questions Answered……………………………………104

Research Question # 1: What is the experience of women
diagnosed with a pregnancy loss in the ED?…..........104

Research Question # 2: What are the specific behaviors
exhibited by healthcare providers in the ED that affect
women’s experience when diagnosed with pregnancy loss in
the ED?...........................................................................................................105
Research Question #3: What is the relationship between the behaviors of healthcare providers and women’s satisfaction with their ED care when diagnosed with pregnancy loss? 106

Theoretical Guidance .......................................................... 106

Knowing ............................................................................. 107

Behaviors of healthcare providers ........................................... 107

Well-being, satisfaction with care, and transition to normalcy .... 108

Study Limitations .................................................................. 108

Recommendations and Implications ....................................... 109

Recommendation 1: Provide further education to ED healthcare workers on grief and bereavement for patients suffering a pregnancy loss ........................................ 109

Recommendation 2: Keeping the patients informed throughout the process ........................................ 110

Recommendation 3: Increase patient education surrounding pregnancy loss both in OB-GYN offices and EDs, including details related to psychosocial support after a loss ........ 110

Recommendation 4: Increase participant enrollment through EMR based participant screening ....................... 110

Future Research .................................................................... 111

Chapter Summary .................................................................... 112

References ............................................................................. 114
List of Tables

Table 2.1: Literature Review Findings.................................................................54
Table 3.1: Sample Description........................................................................84
Table 6.1: Quantization of Healthcare Provider Behaviors.............................113
List of Figures

Figure 1.1: Swanson’s Middle Range Theory of Caring.............................................. 5
Figure 1.2: Theoretical Underpinnings of Pregnancy Loss in the ED.........................7
Figure 2.1: Results for the Integrative Review of Management of Pregnancy Loss in the
Emergency Department................................................................................................................56
Figure 3.1: Theoretical Underpinnings of Pregnancy Loss in the ED............................70
Figure 3.2: Thematic diagram. ED as Part of Motherhood and Pregnancy Loss ..........83
Figure 4.1: Recruitment over time.........................................................................................99
Figure 4.2: Recruitment Flow Diagram..............................................................................100
Figure 6.1: Theoretical Underpinnings of Pregnancy Loss in the ED............................107
List of Appendices

Appendix A: Telephone Screening Questionnaire..............................................142
Appendix B: Demographic Information Questionnaire......................................144
Appendix C: Pregnancy Loss Experience Tool..................................................149
Appendix D: Interview Question Guide.............................................................151
CHAPTER 1: INTRODUCTION

Over 1.4 million women presented to an emergency department (ED) in the United States in 2011 for a problem with pregnancy (National Hospital Ambulatory Medical Care Survey, 2015). These problems often included potential threats to the pregnancy such as low abdominal pain and/or vaginal bleeding which can be common in early pregnancy (Bigrigg & Read, 1991; Brownlea, Holdgate, Thou, & Davis, 2005; O’Rourke & Wood, 2009). Vaginal bleeding during early pregnancy (VBEP) affects approximately 21-31% of all pregnancies (Everett, 1997; Mukherjee, Velez Edwards, Baird, Savitz, & Hartmann, 2013; Wilcox et al., 1988; Yang et al., 2004), and of these pregnancies 50% experiencing bleeding will miscarry (Wittels, Pelletier, Brown, & Camargo Jr, 2008). In the United States, approximately 500,000 women per year present to the ED with VBEP (Wittels et al., 2008). For many of the women, presenting to the ED for evaluation of this threat to their unborn child may be the first time they have seen a healthcare provider for this pregnancy.

The hurried and crowded ED can be an intimidating place, especially for women when a pregnancy is threatened. In the ED there is often a sense of chaos. The noise from cardiac monitors, ambulance sirens, overhead paging systems, and emergency medical personnel tending to emergent situations can be overwhelming; most patients experience a high level of anxiety in the ED (Byrne & Heyman, 1997). This fast-paced, hectic department is frequently where the women, who may be frightened due to bleeding or pain with their pregnancy, arrive and seek treatment for their unborn child. Women who experience cramps and/or bleeding with their pregnancy have a sense of helplessness with an impending pregnancy loss (Stack, 1980). They may present to the ED seeking immediate help to prevent the loss or learn the future of their pregnancy; however, they may wait hours to learn the fate of their unborn child. There appears to be a disconnection between the urgency that women feel when their pregnancy is threatened
and the speed of the care received. It has been reported that women felt as though their pregnancy loss was not treated as an emergency and received low priority (Friedman, 1989).

Unfortunately, if a pregnancy loss is impending, there is no emergency medical treatment to prevent the loss. Women who are hemodynamically stable during pregnancy loss may receive a lower priority compared to a more unstable patient (Zavotsky, Mahoney, Keeler, & Eisenstein, 2013).

**Statement of the Problem**

Pregnancy loss is a life-changing event, and the care provided for women during this time is pivotal in the acknowledgement and recovery from this experience (Swanson-Kauffman, 1986), which may have a significant impact on their lives. As a healthcare provider in the ED, understanding the experience of a pregnancy loss in the ED is the first step towards improving care for the women and their families. Therefore, this study examined the experience of women diagnosed with pregnancy loss in the ED and behaviors of healthcare providers which may impact their experience.

**Pathophysiology of Pregnancy Loss**

There are many terms to define an early pregnancy loss (prior to 20 weeks gestation), such as a miscarriage and spontaneous abortion (Mattingly, 2014). The cause of pregnancy loss is often elusive, and women may suffer from ongoing psychological symptoms such as grief and anxiety, promoted by the lack of a definitive reason or medical explanation (Stirtzinger & Robinson, 1989). Embryonic abnormalities, including chromosomal abnormalities, are the most frequent cause of first trimester pregnancy loss with gestational ages less than 12 weeks (Gaufberg, 2014). During the second trimester, 12-28 weeks gestation, the most frequent cause
of pregnancy loss is maternal chronic health problems such as uncontrolled diabetes, hypertension, endocrine, and various other continuing medical issues (Gaufberg, 2014).

The diagnostic classifications of pregnancy loss are often a source of confusion for women and their families. Terms used to classify pregnancy loss are miscarriage, spontaneous abortion, missed abortion, incomplete abortion, complete abortion, septic abortion, along with the terms inevitable abortion, ectopic pregnancy, and threatened abortion. Women unfamiliar with medical jargon may interpret the diagnosis “spontaneous abortion” to mean that they caused the pregnancy loss; they may feel judged, or have some other strong feelings toward the term. Providers may not be aware of the negative connotation that the term “spontaneous abortion” carries (Stead, 1996) and that terms such as miscarriage, pregnancy loss, and fetal loss can be used in exchange for spontaneous abortion. Medical jargon, especially when it is not thoroughly explained to patients may negatively influence the perception of their care (Castro, Wilson, Wang, & Schillinger, 2007; Pyper, Amery, Watson, & Crook, 2004). Due to the negative connotation that spontaneous abortion causes for women and in order to aid consistency, this event will be referred to as a pregnancy loss for the remainder of this dissertation.

**Psychology of Pregnancy Loss**

A pregnancy loss can be an overwhelming experience for women and their families, a life event that most will never forget. Pregnancy loss can cause many different reactions from women, including grief, a sense of loss, anxiety, depression, and/or guilt (Huffman, Swanson, & Lynn, 2014; C. Lee & Slade, 1996; Neugebauer et al., 1992; Zavotsky et al., 2013). No matter the reaction to this experience, the women and their families can be greatly affected by this loss. Neugebauer et al. (1992) interviewing 232 women within 4 weeks of a pregnancy loss found that women who lost unwanted pregnancies had equal rates of depression as women who lost wanted
pregnancies. Additionally, there was no significant difference in depressive symptoms regardless of gestational age of the fetus lost (Neugebauer et al., 1992). A barrier to recovery for the women is the perceived lack of significance that others, including healthcare providers, display towards the loss of a pregnancy (Stirtzinger & Robinson, 1989). It is the healthcare providers’ responsibility to provide sympathetic, non-judgmental healthcare no matter the expression of feelings women and their families have toward the loss.

Grief is a common experience of pregnancy loss; however, a cascade of other emotions including numbness, guilt, anxiety, and relief have been reported with women experiencing pregnancy loss (Huffman et al., 2014; Koziol-McLain et al., 1992; Lee & Slade, 1996; Neugebauer et al., 1992; Zavotsky et al., 2013). Grief for early pregnancy loss may be dismissed by society (Stirtzinger & Robinson, 1989). Women may hide early losses from friends, coworkers, and family members for this very reason.

**Theoretical Guidance**

The theoretical underpinnings for this study are guided by three theories, all of which pertain to loss. The investigator of the study has included constructs from Swanson’s Middle Range Theory of Caring, Swanson’s Human Experience of Miscarriage Model, and Bowlby’s Attachment Theory.

**Swanson’s Middle Range Theory of Caring**

In 1991, Kristen Swanson published a Middle Range Theory of Caring (Figure 1.1), which was developed through evaluating qualitative research of multiple perinatal patient experiences (Swanson, 1991). This theory was derived from three studies involving perinatal circumstances. A phenomenological study of 20 married women who had recently miscarried highlighted the human experience, as well as the process of confronting a pregnancy loss.
Swanson asked the women about what caring behaviors of providers were helpful during a pregnancy loss (Swanson-Kauffman, 1988). This theory was chosen due to Swanson’s findings that women’s experience improved with the nursing care provided (Swanson, 1991; Swanson, 1993; Swanson, 1999).

Swanson’s Middle Range Theory of Caring


Swanson’s Human Experience of Miscarriage Model

Swanson also developed the Human Experience of Miscarriage Model, observing six universal human experiences including: (1) coming to know, (2) losing and gaining, (3) sharing the loss, (4) going public, (5) getting through it, and (6) trying again (Swanson-Kauffman, 1986). Swanson’s findings suggest that women experiencing a pregnancy loss in the ED are in the initial stage of the Experience of Miscarriage Model, “coming to know” the loss. In this stage of the model, women are learning and experiencing an impending pregnancy loss instead of the once known healthy pregnancy (Swanson-Kauffman, 1986). This model is important to the study as it enables nurses and other health care providers to more clearly understand pregnancy loss, as well as providing information on the human response to pregnancy loss.
Attachment Theory

Bowlby’s (1980) theory states that with any loss a prior attachment bond between the individuals must occur. Bowlby did not specifically address early pregnancy loss; he discussed loss with long standing attachment relationships. According to Bowlby’s theory on loss, when examining grief, the relationship between the individual lost (fetus) and the person mourning the loss must be considered (Bowlby, 1980).

There is dissonance in the literature regarding the ability for attachment to a child at a young gestational age. Rubin (1984) states that attachment begins at quickening (the mother’s ability to recognize fetal movement), which occurs at approximately 20 weeks (Rubin, 1984), although widely variable across gestational ages. Grief and loss has been studied and described with pregnancy losses at much earlier than 20 weeks gestation (Kersting & Wagner, 2012).

Wright (2010) developed a theory on perinatal loss which contained the subcategory of “developing a relationship.” Women described getting to know the baby as a person who was part of their family. They described the development of the relationship with the baby, and how the child would fit within their family structure. The women envisioned the child as their first child, second child, etc. Many of the women had named their unborn babies and had assigned personality traits, hobbies, and careers such as “He was going to be the one who would be a surfer (smiling)” (Wright, 2010, p.10).

Early technological advancements in diagnostics including ultrasound advancements and early detection pregnancy tests may allow women to become attached to their unborn child at an earlier gestational age than previous generations (Wright, 2010). These attachment theories support the study, as the investigator recognizes the potential to have an attachment bond...
between the mother and unborn child at an early gestational age; thus, this study included women who had knowledge of their pregnancy prior to arriving in the ED.

**Summary of Theoretical Guidance**

This study was guided by three theories, all of which discuss loss. The theoretical underpinnings of this study are depicted in Figure 1.2. “Knowing” is a construct adapted from Swanson’s Middle Range Theory of Caring, as well as Swanson’s construct “coming to know” in the Human Experience of Miscarriage Model. Knowing consists of the women learning of the pregnancy, as well as learning of the pregnancy loss. Attachment is the bond the women have developed after learning of the pregnancy, but prior to the pregnancy loss (Bowlby, 1980).

Behaviors of Healthcare Providers include caring behaviors as identified by the women, as well as the way in which the providers relay the diagnosis of pregnancy loss. Well-being, satisfaction with care, and transition to normalcy are all constructs which have been shown to be affected by behaviors of healthcare providers (Azizi-Fini, Mousavi, Mazroui-Sabdani, & Adib-Hajbaghery, 2012; Swanson, 1993; Swanson-Kauffman, 1986). Women’s well-being, satisfaction with care, and transition to normalcy will be explored in future studies.

*Figure 1.2. Theoretical Underpinnings of Pregnancy Loss in the ED*
Pregnancy Loss in the Emergency Department

While women may suffer a pregnancy loss anywhere, they often choose to receive care from a healthcare professional. When a pregnancy is threatened, women may present to the ED by request from a primary care provider, or choose to due to the nature of their symptoms, including pain and vaginal bleeding. They may be seeking confirmation of the pregnancy loss, or have the hope that their unborn child may be saved. For some women, this may be the first time they see a healthcare provider with this pregnancy.

After arriving in the ED, a nurse triages the severity of the patient’s complaint and determines if she can wait or needs to be evaluated immediately in the ED. Most EDs in the United States use the Emergency Severity Index to assign acuity levels to patients because it allows nurses and other healthcare workers to quantify the severity of the patient’s complaint (Gilboy, Tanabe, Travers, & Rosenau, 2012). Often, due to crowding, staffing, and limited resources, patients must wait in the waiting room to see a physician or mid-level provider. The women’s threat of pregnancy loss is put into a queue based on the severity of the emergencies that are waiting at the time; therefore, women experiencing pregnancy loss may have to wait hours in the waiting room in order to see a physician or mid-level provider. This can escalate fear and anticipation for these patients and their family members (Ekwall, Gerdtz, & Manias, 2009; Ekwall, 2013). If women experience pregnancy loss after 20 weeks gestation, they will often be triaged to the obstetrical service unit where providers that are more experienced with perinatal loss and grief. Thus, ED providers are tasked with managing women’s pregnancy loss experiences of less than 20 weeks gestation (Zavotsky et al., 2013).

Daily, an unpredictable number of patients with varying acuity levels visit the ED for their healthcare needs. Because the resources available such as beds, physicians, and registered
nurses are limited at any given time, these resources are often allocated to patients whom arrive
with imminent threats to life. Often, due to the demand of acutely ill patients requiring intensive
care or trauma services in the ED, care for women with threatened pregnancies may be delayed.
Additionally, the environment of the ED is not always sympathetic to the emotional and
psychological needs of women grieving the loss, or impending loss, of a pregnancy. Care is
often rushed and interrupted, and frequently women are not given the option to view the fetus
lost (Koziol-McLain et al., 1992). While many EDs have access to social work and
psychologists for consultation, often these resources are limited and families coping with more
obvious traumatic events are given priority.

Managing Pregnancy Loss in the ED

There are several evidence based recommendations for clinically managing a pregnancy
loss in the ED including policies set forth by American College of Emergency Physicians
(ACEP, 2003; Adhikari, Blaivas, & Lyon, 2007; Hoey & Allan, 2004; Isoardi, 2009; Kohn et al.,
2003); however, the number of research articles addressing the emotional care and support of the
women in the ED is sparse. Only three research studies address the emotional support of women
diagnosed with a pregnancy loss in the ED. In a study by Koziol-McLain et al. (1992) follow-up
calls were made to 44 women who had a spontaneous abortion in the ED within 24-48 hours of
their visit. Four common themes emerged from their data. The mothers were: (a) unsure of what
actually happened in the ED; (b) concerned that the pregnancy loss was their fault; (c) worried if
they could ever have a normal pregnancy; and (d) varied in their responses on how to deal with
the pregnancy loss. Many of the women appreciated the follow-up phone call, wanting to speak
with someone about their experience (Koziol-McLain et al., 1992). Women reported
commonalities in decreased quality of life after a pregnancy loss in the ED including difficulty
sleeping, anorexia, disruption in daily activities, and impaired ability to work (Zaccardi, Abbott, & Koziol-McLain, 1993). They expressed grief reactions to their loss in the ED. The only variable associated with loss in the women was the desire for the pregnancy (Zaccardi et al., 1993).

Healthcare providers have a pivotal role in the experience of care women receive in the ED. Communication with healthcare providers is cited by women as a need when experiencing a pregnancy loss in the ED (Koziol-McLain et al., 1992). Providers must be cognizant of the cascade of emotions and lack of knowledge surrounding a pregnancy loss that many women experience in the ED. Many of these care providers may be unaware that a grief reaction could even occur at this gestational age (Zavotsky et al., 2013). In a descriptive study, Ramsden (1995) surveyed 38 Accident and Emergency Department nurses in England regarding their skills related to counseling women with pregnancy loss. Of these nurses, 50% thought that bereavement counseling should begin in the ED. However, only 10% of these nurses had bereavement counseling skills, and only one nurse felt confident in counseling women with pregnancy loss (Ramsden, 1995). Researchers identified a need for improved communication surrounding discharge instructions in the ED measured physician and nursing satisfaction with an education and bereavement packet program (Zavotsky et al., 2013). The intervention included a letter of condolence and additional follow-up resources. Staff satisfaction with services improved with the implementation of intervention (Zavotsky et al., 2013). Healthcare providers’ understanding of the meaning of pregnancy loss is often attributed to their own personal experiences rather than their medical training (Lee & Slade, 1996).

Finally, psychological follow-up care is not routinely provided following discharge from the ED even though many women would benefit from this service (Nikcevic, Kuczmierekzyk, &
Nicolaides, 2007). Additional research addressing the physical and emotional needs of women experiencing pregnancy loss in the ED would have a great impact on advising providers, improving care in the ED, and perhaps subsequent wellbeing for the women and their families.

**Women’s Satisfaction and Experience**

Patients’ perception of the care that they receive greatly affects many facets of healthcare. In 2001, the Institute of Medicine released a report stating healthcare needed improvement, including the catalyst of “patient-centered” care (Institute of Medicine, 2001). Patient satisfaction surveys are now driving aspects of reimbursement for providers (Farley et al., 2014), and patients have increased options as to where they choose to receive care. While a physician or nurse may be providing appropriate medical management, the needs of women with pregnancy loss may be unique. Low satisfaction with care during pregnancy loss has been associated with depression after a pregnancy loss (Lee & Slade, 1996). Because a pregnancy loss may be perceived by care providers as less severe than a potential stroke, heart attack, or other threat to life (Zavotsky et al., 2013), the women may feel that their care was compromised and the lives of their babies were lost due to lack of attention by healthcare providers.

Patient satisfaction is one component of the total healthcare experience. Providing quality, compassionate care is the fundamental goal for healthcare providers; however, this compassionate care is becoming increasingly important. Physicians and nurses have been criticized for giving incomplete, insensitive care for the women often due a lack of education for the provider (Covington & Rickabaugh, 2006; Dougherty, 1994; Hutti, 1988; Säflund, Sjögren, & Wredling, 2004). Women state they feel abandoned by healthcare providers who discredit the symptoms of pregnancy loss (Adolfsson, Larsson, Wijma, & Bertero, 2004). One mother felt physically violated by healthcare providers “To have six doctors in a row come and give you a
medical examination…It shouldn’t be happening” (Abboud & Liamputtong, 2005). In a study of 67 women who have recently been admitted to the hospital for a pregnancy loss, 26% expressed dissatisfaction with their care (Friedman, 1989). Additionally, the women expressed anger if the practitioner discredited their grief, recognizing this as only an early pregnancy, encouraging them to try again (Friedman, 1989). In a literature review by Geller, Psaros, and Kornfield (Geller, Psaros, & Kornfield, 2010), five research studies found that women’s satisfaction with their healthcare after a pregnancy loss was correlated to providers’ recognition of the importance of this life event. If women feel they received uncompassionate care, then they may not return to this hospital and may not follow-up on other healthcare needs.

**Study Purpose**

The purpose of this study was to develop a deeper understanding of women’s experiences of pregnancy loss as diagnosed in the ED. Information from this study will assist providers to care for women with pregnancy loss in the ED more comprehensively. The research questions guiding this study were:

1. What is the experience of women diagnosed with a pregnancy loss in the ED?

2. What are the specific behaviors exhibited by healthcare providers in the ED that affect women’s experience when diagnosed with pregnancy loss in the ED?

3. What is the relationship between the behaviors of healthcare providers and women’s satisfaction with their ED care when diagnosed with pregnancy loss?

**Significance**

While grief and loss have been examined in the literature, the actual experience of pregnancy loss, especially in the ED, has received little attention. Providers caring for the patient have a great impact on the women’s experience of pregnancy loss (Swanson-Kauffman,
However, these caring behaviors are not specific to the ED. Additionally, it is anticipated that the experience of a pregnancy loss in the ED has a lasting impact on the overall life event as well as the psychological and emotional response to that event. The identification of common themes in the experience as well as common behaviors of healthcare providers which may impact the experience of women diagnosed with a pregnancy loss would guide an intervention to improve care. Understanding the common needs of women diagnosed with pregnancy loss in the ED would allow practitioners to provide holistic, compassionate care directed at the specific needs of this population, guiding improvement in overall care for this population. Through the exploration of the women’s experiences in a chaotic environment such as the ED, interpretation and intervention may subsequently assist the transitional process for women recovering from pregnancy loss.

**Assumptions**

This study was conducted with three assumptions throughout the data collection and analysis process. The first assumption was that the experience of a pregnancy loss is not universal for all women. In previous studies, women have expressed feelings of grief, anxiety, and even relief after pregnancy loss. This study sought to understand their experience in order to improve future ED care. The second assumption was that an ED healthcare provider can impact the experience of a pregnancy loss, even after returning to the home environment. The third and final assumption was that the experience surrounding ED care can influence the impact pregnancy loss has on women.
Definitions

The following definitions will be used throughout the study:

1. **Pregnancy**: For the purpose of this study, a pregnancy was defined as a confirmed pregnancy known to the woman either by positive pregnancy test at home or by verification by a healthcare provider,

2. **Pregnancy loss**: A confirmed pregnancy, which has spontaneously ended. For the purpose of this study, the loss may include any stage of pregnancy loss, confirmed by diagnosis from an ED physician or mid-level provider.

3. **Behaviors of healthcare providers**: The manner in which healthcare providers conduct themselves when treating patients in the ED. For the purpose of this study, women described the behaviors of their healthcare providers as they relate to the experience of pregnancy loss. These data were analyzed and quantified by the researchers in this study.

4. **Satisfaction**: A metric which quantifies the degree to which women had a positive feeling towards the healthcare service provided in the ED. For the purpose of this study, satisfaction was measured with a Likert-type scale.

5. **Experience**: Women’s personal interpretation of their encounter in the ED when diagnosed with pregnancy loss. This interpretation not only includes their satisfaction with the healthcare service provided, but also the lasting impression the visit left on them.

6. **Depression**: A spectrum of low moods including extended periods of sadness, emptiness, and anxiety (National Institute of Mental Health, 2011). In this study, risk for depression was assessed using the 10-question Edinburgh Post-natal Depression Scale; any participants identified at risk will be referred for additional follow-up.
Research Design and Methods

The purpose of this study is to develop a description of women’s experiences of pregnancy loss as diagnosed in the ED. The themes of experiences of women diagnosed with pregnancy loss in the ED will inform the development of an intervention to improve care for women experiencing this loss. This section details the methods including study design, setting, sample, procedures, data analysis plan, trustworthiness, and protections for human subjects.

In order to gain a greater understanding of the experience of women diagnosed with pregnancy loss in the ED, a mixed methods approach was necessary. The study used a qualitative descriptive research design in which the researcher quantitized qualitative data (Creswell & Plano Clark, 2011; Sandelowski, Voils, & Knafl, 2009). This study employed a mixed form approach using naturalistic inquiry, collecting both qualitative and quantitative data, and analyzing these data (Patton, 2005). Quantitizing the qualitative data assisted the research team in identifying common behaviors of healthcare providers identified by the women in the interviews. This is a beneficial design as it allows the investigators to collect qualitative data directly from the participants, as well as permitting the statistical analysis of the data gathered.

Mixed Methods Inquiry

The use of mixed methods research allows the investigator flexibility to combine both quantitative and qualitative methods in a single research study (Creswell & Plano Clark, 2011). Patton (2005) states that triangulation of multiple methods, such as using both qualitative and quantitative approaches in a single study strengthens the research. According to Onwuegbuzie and Combs (2011), with mixed methods research, investigators may choose to use a mixed analysis approach. This allows for the transformation of qualitative data through quantitizing in order to statistically analyze the concepts emerging from the data (Sandelowski et al., 2009).
The study is grounded in a critical realist perspective that embraces the thoughtful and meaningful combination of methods to provide a more complete understanding of the phenomenon. While there are multiple philosophies in science that have been adopted by researchers, they are often considered mutually exclusive from one another.

**Critical Realism**

Critical realism holds that both the empirical and postmodern perspectives are beneficial for conducting research, but are mutually exclusive of one another. While the scientific method is beneficial in studying certain phenomena, such as pharmacological and biological aspects of science, many social sciences phenomena cannot be quantified. If the investigator’s research question involves the experience of a population or desires to create theory from an informant’s viewpoint, qualitative, postmodern methodologies may be employed. Critical realists, like positivists, believe that certain aspects of the world are observable and independent of consciousness. Human knowledge of the world is constructed by society; science must study the interpretations of people in their environment (Denzin & Lincoln, 2011).

While many methodologies are rooted in incommensurable paradigms, the critical realist perspective embraces the ability to gain a more holistic understanding of reality through the subjective perspectives of participants. If the investigator carefully honors the philosophical underpinnings of each method, and allows influences from both perspectives to enrich the data, the inquiry can be successful (Denzin & Lincoln, 2011). Therefore, the methods are not mutually exclusive because they can be used in conjunction to understand the perspectives of the informant while becoming closer to understanding the phenomenon.
Rationale for Mixed Methods Research

Mixed methods research is necessary in order to answer the research questions in this research study. Little is known about the experience women have when they are diagnosed with pregnancy loss in the ED; thus, this is best explored through qualitative inquiry. Additionally, it is known that caring behaviors of healthcare providers impact the experience women have with pregnancy loss (Swanson-Kauffman, 1986); however, the specific behaviors of ED healthcare providers have not been identified. This study sought to qualitatively describe ED healthcare providers’ behaviors and quantitize these behaviors, and then determine the relationship these behaviors have with satisfaction, a component of the women’s experience. The results of this study give investigators a more in-depth understanding of the experience women have when diagnosed with pregnancy loss in the ED and the specific behaviors of healthcare providers during this experience.

Researcher Perspective

Each individual brings a predisposition regarding phenomena due to his or her personal background. Thus, it is possible to introduce bias into qualitative research due to these individual perspectives. The researcher for this study believes that the emotional care and support of women diagnosed with a pregnancy loss in the ED is less than adequate to aid psychosocial transition to normalcy. Additionally, the researcher believes that through increased awareness and education, ED healthcare providers have the capacity to provide the much needed holistic care to support women through this life-changing event.
Research Questions

The research questions for this study are:

1. What is the experience of women diagnosed in the ED with a pregnancy loss?

2. What are the specific behaviors exhibited by healthcare providers in the ED that affect the women’s experience when diagnosed with pregnancy loss in the ED?

3. What is the relationship between the behaviors of healthcare providers and women’s satisfaction with their ED care when diagnosed with pregnancy loss?

Setting

The study was conducted at two hospitals located in the Midwest United States. One hospital, a large, urban, academic medical center designated as a Level 1 Adult Trauma Center by the American College of Surgeons. This study involved patients that were treated in the ED of the hospital. The ED is a 56-bed department that provided services to approximately 73,000 patients in 2016. The patient care staff includes nurses, social workers, patient care assistants, paramedics, nurse practitioners, physician assistants, Emergency Medicine residents as well as attending physicians. Nurses in the ED often have a patient to nurse ratio of 5:1. The average time a patient waits to see a physician is approximately 30 minutes; however, during peak hours of the day, patients may wait hours to be evaluated by a physician/mid-level provider.

A second ED was used for recruiting participants for this study. The ED treated approximately 46,000 patients in 2016. The patient care staff includes nurses, social workers, paramedics, nurse practitioners, physician assistants, and attending physicians. Both sites share attending physicians, as well as nurse practitioners and physician assistants.
Sample

The population for this study was women who had experienced a pregnancy loss diagnosed in the ED and then discharged home after their ED treatment. The sample size targeted was 30 participants, or when thematic saturation was achieved.

Inclusion and Exclusion Criteria

In order to be included in this study, the women must have been between the ages of 18 and 45, diagnosed in the ED with a confirmed pregnancy loss, aware that they were pregnant before they arrived to the ED, and discharged home to self-care from the ED. Women must have been diagnosed with a confirmed pregnancy loss in the ED, as a threatened pregnancy loss requires additional monitoring and follow-up as an outpatient in order to confirm the loss. This additional outpatient care has the potential to impact the women’s experience of healthcare provided in the ED. Additionally, women needed to be aware of this pregnancy prior to arriving in the ED, as it was a requirement that they be able to have time to build an attachment bond with the unborn child. Finally, the women must have been discharged to self-care from the ED, as inpatient admission would have an impact on the healthcare experience the women received.

The study exclusion criteria included: (1) limited English proficiency; (2) cognitive impairment as identified by the ED physician; (3) induced abortion; (4) Intrauterine insemination (IUI); (5) in-vitro fertilization (IVF); (6) history of more than 2 pregnancy losses; (7) physically traumatic events resulting in pregnancy loss; (8) women who received clinical care in the ED from member of the research team. Women with limited English proficiency as well as women with cognitive impairment identified in the chart review were excluded in order to protect individuals from participating in a research study in which they did not fully understand the procedures, risks, and benefits. Women who had elected to receive an induced abortion were
excluded as there may be immeasurable emotional effects surrounding an unwanted or medically challenging pregnancy, as well as the potential for healthcare providers to have biases towards the elective procedure. Women with a pregnancy loss after either IUI or IVF were excluded due to the increased levels of anxiety as well as emotional and financial investment in the fetus compared to women who have not employed invasive infertility treatments with this pregnancy loss (Reading, Chang, & Kerin, 1989). Traumatic events resulting in pregnancy loss were defined as pregnancy loss related to accident, rape, or natural disaster, as well as acts of domestic violence. This type of event leading to pregnancy loss is managed much differently in the ED, and the level of care received will significantly contrast with the level of care for women without physical trauma; thus, women with physical trauma were excluded from this study. Finally, any women with direct contact with an investigator on this research study while in the ED including during triage or receiving nursing care were excluded due to the potential risk of coercion or bias introduced by the investigator.

Procedures

This section discusses the procedures used for data collection in this study. The procedures include the recruitment of participants after they left the ED, telephone screening, and the interviews of the women who participated in the study. Additionally, this section discusses the Community Advisory Panel and its application to benefit the study.

Community Advisory Panel

The Community Advisory Panel (CAP) was comprised of four women who have experienced the diagnosis of a pregnancy loss after seeking treatment from an emergency department served as advisors for this study. A recruitment flyer was posted in public areas including physician offices specializing in gynecology, around the medical campus including the
colleges of nursing and medicine, as well as distributed to a local perinatal loss support group. At
the beginning of the session, the women were administered the Edinburgh Post-natal Depression
Scale (Cox et al., 1987), a screening tool for risk of depression. If a high risk for depression was
identified (score greater than 13), the panel member would be given appropriate community
resources for follow-up, and excluded from the panel. The CAP reviewed the study procedures,
data collection instruments, and interview questions as well as advised on ways to approach
women who have recently experienced a pregnancy loss. Finally, the interview guide was
piloted with the CAP to review the questions and ensure that the researcher would be
comfortable with the interviews. These data were not included in this study’s findings. The
panel advised on the verbiage used in the interview questions and gave input as to appropriate
measures for compassionately approaching the women after diagnosis of pregnancy loss. Each
member of the CAP was reimbursed with either $100 Target or Kroger gift card for their time
and expert opinion in the research study. The panel participated in member checks and reviewed
the research findings, offering additional comments confirming the themes from the qualitative
data.

Recruitment

Participants were recruited from women who were diagnosed with a pregnancy loss
during a recent visit to an ED. Due to slow recruitment, a second ED was added for recruitment.
Upon discharge from the ED, all potential participants were eligible to be screened for
willingness to be contacted after discharge to participate in this research study. This screening
occurred using a prompt included in the printed After Visit Summary (AVS) during which the
nurse explains the discharge instructions to the patient. These prompts were generated by
engaging with the IS&T team working with the EMR interface. Based on inclusion criteria
including age, pregnancy status, and disposition the EMR generated an advisory to notify the nurse the woman may be eligible to participate in the study. Then a form was included with the discharge instructions. The nurse was prompted by the form to ask the women: "You may be eligible for a research study. Would you be willing to be contacted by telephone after discharge? If selected, you will be compensated for your time.” The women would then be asked to provide a valid telephone number for follow-up. The form was completed and scanned into the miscellaneous media tab of the EMR build where a variety of scanned forms, photos, and consents are stored (Hospital A) or collected with the discharge instructions for collection by the PI (Hospital B).

Each time the EMR prompted the nurse, the encounter was automatically generated into a report that was delivered to the PI. The PI was then signaled to seek the media tab for the form or to collect the form. Then the PI conducted chart reviews, identifying women who agreed to be contacted for the research study and had a pregnancy loss diagnosis. Employing a consecutive sampling strategy, the PI approached women for enrollment that meet the inclusion criteria until thematic saturation was achieved. The PI contacted each of the women within 72 hours of the visit via telephone. The women were screened for the appropriate inclusion and exclusion criteria via the Telephone Screening Questionnaire (Appendix A). This questionnaire contained four questions focusing on the specific exclusion criteria for the study. Based on responses to the Telephone Screening Questionnaire, the women were then scheduled for the in-person interview within 2 weeks of the ED visit.

Data Collection

Interviews focused on the women’s personal accounts of their experience of pregnancy loss diagnosis in the ED. The interview took place in a location convenient for the women,
either in their home or a mutually agreed upon location. A conference room at the University of Cincinnati Medical Center was provided if most convenient. The researcher and participant agreed on an environment that supported participant privacy, had an ambient volume suitable for audio-recording, and was deemed safe for both parties.

First, the women were given approximately 3-5 minutes or until finished to read the study procedures, informed consent, and ask any questions. Informed consent was then obtained. Next, the women were asked to complete the Demographic Information Questionnaire (Appendix B). This questionnaire consists of 14 questions, and provided insight into the make-up of the participant sample. Next, the women were administered the Edinburgh Post-natal Depression Scale (Cox et al., 1987), screening for risk of depression. The PI then began the interview. The interview, lasting approximately 60 minutes, was recorded with a digital audio-recorder. A semi-structured interview guide was used (Appendix D), to increase the likelihood that all the participants received the same crucial questions during their interview. The interviewer could expand upon the semi-structured interview guide in order to allow the woman to elaborate on details and key information that developed during the interview.

**Instrumentation**

Each participant was administered the 10-question Edinburgh Post-natal Depression Scale (Cox, Holden, & Sagovsky, 1987) screening for depression. This scale was validated in women after pregnancy loss, showing a sensitivity of 87.5%, specificity of 85.9% and positive predictive value of 42.4% (Lee et al., 1997). The maximum score on the scale is 30 points; whereas a score of 10 or greater signals possible depression, and scores of greater than 13 indicate a high possibility for depression (Cox et al., 1987).
Women were also given the investigator-developed Pregnancy Loss Experience tool (Appendix C) to complete. This tool consists of two questions regarding this pregnancy loss. The women answered a question related to the impact this pregnancy loss had on their life as well as satisfaction with ED care, both measured by a 4-point Likert-type item.

**Data Analysis**

Data analysis occurred in two sequential phases beginning with the qualitative analysis of the participant interviews and then quantitatively analyzing the data. Descriptive statistics were used to describe the characteristics of the women participating in the study.

**Research Question #1: What is the experience of women diagnosed in the ED with a pregnancy loss?**

Two investigators including the PI and Dr. Gordon Gillespie initially independently read through the interviews, and then analyzed the transcripts using open coding focusing on questions 1-6 and 11-17 in the interview guide (Appendix D), which explores the experience of the women in the ED. This preliminary analysis required careful examination of the data, making notes in the right margin of the transcript. This is referred to as the first cut, developing coding categories (Patton, 2005). Next, the data analysis team again independently read through the transcript and began systematically coding the data, writing the codes in the right margin. Then as a group, the investigators met in order to agree upon the first level of coding and eliminate redundancies. Discrepancies were addressed together, and consensus was obtained for coding based on the emergent categories. In the event the data analysis team could not reach a mutual agreement on discrepancies in coding, the section in dispute were brought to the remainder of the dissertation committee, Drs. Kimberly Johnson, Shauna Acquavita, and Dianne Felblinger.
In the next phase of analysis, each code was sorted into one or more abstract categories as agreed on by the research team. These categories were continually compared to the new and existing categories emerging from the analysis of the transcripts. According to the emerging categories, the researcher was able to ask additional questions in order to gain additional insight into a specific concept discovered within the data. Finally, the investigators compared the relationships between the categories that have emerged from the data, determining themes. The researcher used member checks with the women in order to validate the findings from their analysis. At the conclusion of the data analysis, the researchers had identified themes which come directly from the participants’ voices; thus, giving a better understanding of the experience women have when they are diagnosed with pregnancy loss in the ED.

**Research Question # 2: What are the specific behaviors exhibited by healthcare providers in the ED that affect women’s experience when diagnosed with pregnancy loss in the ED?**

The investigators analyzed the transcripts using open coding focusing on questions 7-11 on the interview guide (Appendix D), which explore the behaviors of healthcare providers. The analysis team began with the first cut, reading through the transcript independently and making notes on coding categories in the right margin (Patton, 2005). Next, the data analysis team again independently read through the transcripts and began systematically coding the data, writing the codes in the right margin. Then together, the investigators met in order to agree upon the first level of coding and eliminate redundancies. Each code was assigned into one or more categories of behaviors that the researchers determine the code appropriately fits. From the emergent categories, the researcher was able to elaborate on interview questions with future participants in order to gain additional insight into a specific behavior discovered in the data. The investigators compared the relationships between the categories that have emerged from the data. Member
checks were used to verify the findings from their analysis as described in research question #1.

When the data analysis was complete, the PI reviewed, discussed, and confirmed the research findings with the CAP in a focus group format. At the completion of this phase of the data analysis, the investigators then determined the common behaviors of healthcare providers in the ED as identified by women experiencing pregnancy loss in the ED.

Research Question #3: What is the relationship between the behaviors of healthcare providers and women’s satisfaction with their ED care when diagnosed with pregnancy loss?

The PI quantitatively analyzed the categories of behaviors which emerged from the qualitative data analysis. The categories were converted into numerical form by assigning values (i.e. 1 = healthcare behavior # 1, 2 = healthcare behavior # 2, etc.); thus, transforming the data from qualitative to quantitative (Onwuegbuzie & Combs, 2011). The researcher used descriptive statistics to quantify the frequencies of behaviors within each participant’s interview as well as across the sample.

Due to the small sample size and limited variance in the satisfaction with ED care results, the relationship between healthcare provider behaviors and satisfaction with ED care was unable to be determined. Therefore, the PI investigated the barriers to ED recruitment for women diagnosed with a pregnancy loss. After the completion of the recruitment process, descriptive analysis of the study screening processes was conducted. The total number of flags generated by the EMR was evaluated, and an analysis was completed describing of the number of participants unscreened as well as those who agreed and declined to be contacted for the study. Finally, a detailed report of the participant follow-up after discharge was displayed. At the completion of
this final phase of the study, an in-depth depiction of the failures of the screening process was
outlined including barriers to recruitment.

**Trustworthiness**

This section describes the rigor to which the study was conducted. Since this research study employed a qualitative descriptive method, the author will describe the rigor of the study in terms of trustworthiness. According to Lincoln and Guba (1985), the criteria for assessing methodological rigor in qualitative research were outlined in four aspects of trustworthiness: (a) credibility; (b) transferability; (c) dependability; (d) confirmability.

**Credibility**

Credibility is related to how truthful research findings are, and is often used in replacement for internal validity in qualitative research (Lincoln & Guba, 1985). This was achieved in this study through member checks and ensuring the sample knows the phenomenon through personal experience. In order to determine that the sample knows the phenomenon of pregnancy loss in the ED, the inclusion and exclusion criteria were strictly adhered to; thus, ensuring the representation of the truthful experience of pregnancy loss in the ED. Additionally, member checks were used in this research study in order to ensure the research team interpreted the women’s statements correctly.

**Transferability**

Transferability is in preference to external validity, and is considered to be the degree to which this study’s results can be applied to another sample of the same population (Lincoln & Guba, 1985). In order to assist the transferability, an in-depth description of the study sites and participant population was provided.
Dependability

Dependability in qualitative research relates to reliability in quantitative research (Lincoln & Guba, 1985). In order to provide dependability in this research study, a thorough description of the methods was provided, as well as an audit trail generated during data analysis. The data analysis team was composed of two investigators both of which concurred on the coding and interpretation during data analysis. The investigators compared and contrasted opinions of the coding and emergent themes. Disagreements ensured limited bias, and if in the instance of an unsettled disagreement between members of the data analysis team, the discrepancy would go to the remaining members of the dissertation committee.

Confirmability

According to Lincoln and Guba (1985), confirmability in qualitative research refers to objectivity. To ensure confirmability, a detailed audit trail was kept and two investigators were included in the data analysis team. Finally, member checks were used in order to verify the findings came from the collective voice of the participants. These were conducted by consulting the CAP.

Protection of Human Subjects

The research study involved human subjects, women who were diagnosed with a pregnancy loss in an ED. Prior to the beginning of the study, the PI received approval from the institutional review board. Additionally, the PI obtained administrative approval from the ED nursing directors at both sites.

Informed Consent

All participants were given time to read over the informed consent, including the purpose of the study and the procedures, and given time to ask questions of the researcher. The women
signed the informed consent before the interview began. A copy of the consent with the researcher’s contact information was provided to the women. Finally, each participant was reminded that participation in the study is voluntary and that she may withdraw from the research study at any time.

**Incentive**

Participants received either a $25 Target or Kroger gift card as a reimbursement for their involvement in the study. Gift cards were given at the beginning of the interview to ensure that the participants would receive compensation, even if the interview is terminated before completion, for example early termination related to emotional distress.

**Potential Risks**

Participants in this study may have experienced emotional discomfort when they discussed their experience with a pregnancy loss in the ED. Often this experience is difficult and sensitive to the women; however, every effort was made to ensure the emotional discomfort was minimal. The specific efforts to ensure minimal emotional discomfort included a calm, peaceful interview environment, a careful, thoughtful approach to the women during their interviews, and the depression screening that was administered.

A study by Farren et al. (2016) states that 39% of women met the criteria for either moderate or severe Post-traumatic Stress Disorder (PTSD) at 3 months after the pregnancy loss. Additionally, approximately 20% of women experiencing pregnancy loss will be symptomatic for depression for up to 3 years after the loss (Nynas, Narang, Kolikonda, & Lippmann, 2015). Prior to the interview beginning, the participants were administered the Edinburgh Post-natal Depression Scale (Cox et al., 1987) screening for risk of depression. This scale consists of 10 questions with results ranging from 0-3, measuring several symptoms of clinical depression.
including difficulty sleeping and guilt. If a participant scored 10 or greater, she was given resources for follow-up after the interview, and the interview proceeded. However, if the score was greater than 13, this signaled a high possibility of a depressive episode. This participant was excluded from the study, but received follow-up resources and reimbursement for time. If in the instance that the participant would have expressed suicidal ideations, the PI would have notified a crisis team and remained with the participant until additional resources would arrive to assist her. If at any point during the interview the participant had become distressed, the researcher would ask the participant if she wished to terminate the interview. Distress would include sobbing, having difficulty speaking due to emotions, or expressing desire to end the interview. The PI ended each interview offering a handout including support options for the women, including local counseling options and perinatal support groups if desired by the participants.

**Privacy and Confidentiality**

There is a potential risk of loss of confidentiality. In order to combat this risk, the only document including the woman’s name was the informed consent. The informed consent was scanned and maintained on a secure server. The original was destroyed at the completion of the study.

**Potential Benefits**

There were no specific direct benefits to the women participating in the study. However, sharing their stories and experiences may have allowed for them to acknowledge any symptoms or lingering feelings, thus assisting transition to normalcy. Additionally, the women may have appreciated the benefit that their experience may improve care for future women with similar diagnoses.
**Data Management and Storage**

Audio recordings were transcribed within two weeks by the PI into a Microsoft Word document. The transcripts were entered into NVivo qualitative data software (QDS) for data analysis. All paper documents were scanned into electronic form and saved onto a password-protected, secure research server owned by the University of Cincinnati College of Nursing (CON). The CON uses a separate, secured research server for storage of all research data which is administered by University of Cincinnati’s central information technology group (UCit) according to university policies and procedures. After securely saved, all paper documents were destroyed by shredding the documents.

**Limitations**

The potential limitations for this study include the nature of the data collected. The qualitative data was limited to the personal accounts of the women’s experiences and were not be correlated to the healthcare provider’s interpretation nor the medical record of what occurred during the ED encounter. Additionally, the recruitment time may have be a limitation as to the participant population the researchers encountered. Finally, due to the two-week window for scheduling the interviews, the women may have forgotten some aspects of the ED encounter.

**Personal Safety**

Since some of the interviews took place in a non-public place, such as the participant’s home, aspects of personal safety were maintained by the PI. As described by Gillespie et al. (2010), it is imperative that healthcare providers recognize risks for violence and create a prevention strategy. This prevention strategy included safety surrounding interviews taking place in the participants’ homes. All interviews were scheduled during daylight hours, primarily between the hours of 8AM and 5PM. The PI called a designated individual when arriving at the
participant’s home, providing the address, and called the designated person upon leaving. If in
the event that the PI did not make contact with the designated person via phone within 3 hours,
this contact would have sought additional assistance.

**Manuscript Option Dissertation**

The PI chose the manuscript option dissertation. This option for dissertation required the
PI to deliver three manuscripts to be written after candidacy for the final dissertation. Each of
the three manuscripts directly contribute to the knowledge of the experience of a pregnancy loss
in the ED. These three manuscripts were submitted to the dissertation committee prior to the
dissertation defense, one has been submitted for publication, and the others will be submitted for
publication to appropriate journals.

**Manuscript # 1**

The first manuscript was an integrative review of the management of pregnancy loss in
the ED, describing the current literature and best practices. This manuscript examined original,
research articles dating back to 1990 that discuss management of a pregnancy loss in the ED
environment. The outcomes of this review were threefold: (a) identify recommendations for
clinical practices focusing on diagnostic care, medical treatment, and case management, (b)
identify emotional care behaviors, and (c) identify operational methods for improving ED care
for this population. This manuscript was intentionally written for submission to a journal
targeting emergency nurses, in order to update ED nurses on current best practices and identify
needs for future research.

**Manuscript # 2**

The second manuscript examines the experience of a pregnancy loss in the ED from the
woman’s perspective, including recommendations for improvement. This manuscript identified
common themes from the women’s experiences of ED care when diagnosed with a pregnancy loss. From these themes, specific recommendations for improvement of ED care were established. This manuscript’s targeted audience was ED care providers, including advanced practice and other patient care team members who interact and deliver care to women experiencing a pregnancy loss. Specifically team members who discuss clinical diagnosis, implement operational changes, and provide education to nurses and patients would benefit from these findings.

**Manuscript # 3**

The third and final manuscript discussed the barriers to recruitment of women experiencing pregnancy loss in the ED. Barriers to recruitment in the ED led to slower than anticipated recruitment for this population; therefore, this manuscript aids future investigators who desire to implement recruitment in an ED setting, including those intending to replicate the study. A journal whose target audience implements new research studies including ED patient recruitment was the intended publication.

**Future Studies and Trajectory**

Due to the lack of research surrounding the experience of pregnancy loss diagnosed in the ED, there are several research questions that need to be explored. Due to the scope of this single study, these questions will be investigated in future studies. One of the limitations of this study is that only the experience of women who have personally experienced pregnancy loss diagnosed in the ED were included. In future studies, the experience of partners as well as significant family members who accompanied women in the ED can be examined in order to understand the impact the experience has on these individuals as well. Additionally, another study will include the experience of healthcare professionals when they have cared for women during a pregnancy.
loss in the ED. This will give insight as to knowledge deficits and the lasting impressions that pregnancy loss can have on the healthcare professional. With a more complete understanding of the experience of a pregnancy loss from all perspectives, interventions to improve this experience can be initiated.

Future studies would also benefit from the exploration of long-term implication of the diagnosis of a pregnancy loss in the ED. The lasting impression this care has on the transition to normalcy including well-being and quality of life indicators would be able to identify the impact the pregnancy loss diagnosed in the ED has on women. Finally, being able to identify women whom will be more greatly impacted by pregnancy loss may be able to guide practitioners to refer appropriate consult services and follow-up while they are in the ED setting.

**Chapter Summary**

Each year, approximately 500,000 women experience a threatened pregnancy loss in the ED (Wittels et al., 2008); however, little is known about the experience the women have, or the behaviors of ED healthcare providers which ultimately impact this experience. Patient experience is known to drive many aspects of healthcare, and knowledge of what this experience is will be the first step in improving this experience. Therefore, this study sought to gain a more in-depth understanding of women’s experience of pregnancy loss in the ED. Additionally, this study describes the specific behaviors of ED healthcare providers which may affect this experience. This study employed a mixed methods approach with a qualitative descriptive method. The research explored the experience of women diagnosed in the ED with a pregnancy loss and identified common behaviors of healthcare providers assisting in the grieving process. The data was collected through one-on-one interviews with women who received the diagnosis at one of two EDs. This study is unique as it sought to learn the acute experience of women
diagnosed with pregnancy loss in the ED while also identifying specific behaviors of healthcare providers assisting in the grieving process. Knowledge gained from this study will inform the development of an intervention to assist healthcare providers in improving future care for this population.


Bowlby, J. (1980). *Attachment and loss, volume 3: Loss; sadness and depression*


CHAPTER 2: LITERATURE REVIEW

Abstract

Introduction: An integrative literature review evaluating the current literature discussing the care of patients experiencing pregnancy loss in the emergency department.

Methods: A review of pertinent studies identified through multiple database searches was conducted to determine the existing body of knowledge for the care of emergency department (ED) patients diagnosed with pregnancy loss. Each of the articles were examined for inclusion criteria, and a subsequent analysis of the included articles identified themes related to the care of the women.

Results: Thirty two original research articles and systematic reviews published between 1990 and 2016 were included in the review. Eleven articles addressed recommendations for clinical practice, five reported statistics related to pregnancy outcome and clinical presentation, four discussed the use of speculum exam, four discussed interventions to decrease ED length of stay, and three investigated the use of ultrasound in the emergency department. Only five of the articles reviewed discussed emotional support and/or experiences of women with pregnancy loss in the emergency department.

Discussion: Although there are multiple recommendations for the clinical management of pregnancy loss in the emergency department, the psychological and emotional support of women was infrequently addressed. Additional studies investigating holistic care would be beneficial for ED providers in the management of early pregnancy loss.

Keywords: Pregnancy loss, miscarriage, abortion, emergency department, management
An Integrative Review of the Management of Pregnancy Loss in the Emergency Department

In the United States, approximately 500,000 women per year present to the emergency department with vaginal bleeding during early pregnancy (Wittels et al., 2008)(Wittels, Pelletier, Brown, & Camargo Jr, 2008). Of these patients, 48% will experience a pregnancy loss (Kohn et al., 2003). While early pregnancy complications such as pain and vaginal bleeding are common (Bigrigg & Read, 1991; Brownlea, Holdgate, Thou, & Davis, 2005; O’Rourke & Wood, 2009), often they become an overwhelming experience for women. As an ED healthcare provider, it is imperative to understand the management of early pregnancy loss in order to provide comprehensive and compassionate care to this population.

Pregnancy loss is a life-changing event. The care provided for women during this time is pivotal in the acknowledgement and recovery from this experience, and may have a significant impact on their lives (Swanson-Kauffman, 1986). Patients’ perceptions of the care they receive greatly affect many facets of healthcare. While a healthcare provider may be providing appropriate medical management, the needs of a woman with a pregnancy loss in the emergency department are unique. To determine the needs of this patient population, it is necessary to obtain a comprehensive analysis of the current literature discussing the management of a pregnancy loss in the emergency department. The purpose of this review is to provide a synthesis of the available research and published best practices to practitioners with regard to pregnancy loss.

Methods

A review of the literature was conducted according to the integrative review methodology as outlined by Whittemore and Knafl (2005) on early pregnancy loss management in the emergency department. This type of review process allows for multiple methods such as
qualitative and quantitative primary research to be included in the review (Whittemore & Knafl, 2005). An electronic search of the literature was conducted using the following databases: 1. CINAHL Plus with Full Text, 2. Academic Search Complete, 3. Health and Psychosocial Instruments, 4. Health Source: Nursing/Academic Edition, 5. MEDLINE, 6. PsycINFO Results, and 7. Women’s Studies International. Search terms included “spontaneous abortion” OR "pregnancy loss" OR "miscarriage" AND "Emergency department" OR "emergency ward" OR "emergency room" OR "emergency service, hospital" (See Figure 2.1). Duplicate articles were removed. Each article’s references were reviewed for applicable articles, and then all of the abstracts were reviewed for the following inclusion criteria: Peer-reviewed original research articles and/or systematic reviews, written in English, and published between January 1990 and November 2016. Exclusion criteria consisted of articles including women with fetuses over 20 weeks gestational age, non-pregnancy related complaints, and care occurring outside of the emergency department, and patients less than 18 years old. The outcomes of this review were threefold- (a) identify recommendations for clinical practices focusing on diagnostic care, medical treatment, and case management, (b) identify emotional care behaviors, and (c) identify operational methods for improving ED care for this population. Level of evidence was assessed according to Melynk and Fineout-Overholt hierarchical rating system, whereas a systematic review would be classified as Level 1 evidence, and a qualitative research study would be categorized as Level 6 evidence (Melnyk & Fineout-Overholt, 2011).

**Results**

The initial literature search, restricting for publishing date range and English language, returned 188 articles. An additional nine articles published between 2003 and 2014 were identified by reviewing references of those articles. Restricting to peer reviewed articles and
eliminating duplicates, 67 articles were included. After examination of the articles for remaining inclusion and exclusion criteria, 32 articles remained (see Figure 2.1). Thirty five articles were excluded due to not reporting research evidence or not addressing the management of an early pregnancy loss in the emergency department. The excluded non-research articles included a personal account (Steele, 1992) and four practice-based articles which are not considered original research (Bacidore, Warren, Chaput, & Keough, 2009; Marquardt, 2011; Murtaza, Ortmann, Mando-Vandrick, & Lee, 2013; Stead, 1996).

**Recommendations for Clinical Management**

Eighteen of the research articles discussed general recommendations for clinical management of a woman with early pregnancy loss in the emergency department. These general recommendations included (a) diagnostic evaluation (Butler et al., 2013; Davison, Kaplan, Wenig, & Burmeister, 2004; Hessert & Juliano, 2012; Juliano & Sauter, 2012; Kohn et al., 2003; Kus & Juliano, 2014; Mallin et al., 2012; Seeber, Sammel, Zhou, Hummel, & Barnhart, 2007; Teixeira, Rabaioli, & Savaris, 2015; Warrick et al., 2012), (b) Anti-D rhesus prophylaxis (ACEP, 2003; Weinberg, 2001), (c) speculum exam and ultrasound (ACEP, 2003; Adhikari, Blaivas, & Lyon, 2007; Hoey & Allan, 2004; Isoardi, 2009; Johnstone, 2013; McRae, Murray, & Edmonds, 2009; Seymour, Abebe, Pavlik, & Sacchetti, 2010), and (d) atypical presentations (Holland & Sheele, 2014; Proffitt, Phillips, DeMauro, Conde, & Powell, 2016) for women with an early pregnancy loss (Adhikari et al., 2007).

**Diagnostic Evaluation.** When a woman presents to the emergency department with a chief complaint of vaginal bleeding and/or abdominal pain, a provider will complete a thorough diagnostic workup. This workup often includes the woman’s medical history, pregnancy test, a physical examination, and various diagnostic lab specimens (Kohn et al., 2003).
Threatened abortion. Several of the articles examined diagnostic testing practices to predict pregnancy outcome with a threatened abortion in the emergency department. The thickness of the endometrial layer and lab tests such as qualitative β-hCG testing and serum activin A were shown to be unsuccessful in the diagnosis of abnormal pregnancy (Seeber et al., 2007; Teixeira et al., 2015; Warrick et al., 2012).

Ectopic pregnancy. Nine of the articles reviewed discussed ectopic pregnancy. In a study by Kohn et al. (2003) β-hCG levels were monitored in women with threatened pregnancies, and subsequent pregnancy outcomes were tracked. Approximately 13% of complicated pregnancies are diagnosed as ectopic, and up to 51% of these ectopic pregnancies rupture; β-hCG levels less than 1,500 mIU/mL were highly suggestive of an abnormal pregnancy, with 42% of these being ectopic pregnancies and 37% as abnormal intrauterine pregnancies (Kohn et al., 2003). One case study discussed the potential presence of a simultaneous ectopic pregnancy and intrauterine pregnancy (Sheikh, 2007). Clinical recommendations for these patients guide the provider to arrange follow-up with serial serum hCG levels (ACEP, 2003). However, combining two tests including serum total hCG and CA-125 have been successful in predicting ectopic pregnancy. Whereas a low level of total hCG would include pregnancies that will miscarry, including a threshold of 41.98 U/mL would give a 100% sensitivity and a 24.9% false positive rate for ectopic pregnancy (Butler et al., 2013). These tests suggest an ability to predict an ectopic pregnancy earlier in the emergency department. The recommended treatments for ectopic pregnancy include surgical or medical treatment.

Rhesus Status. Two articles discussed the use of Anti-D immunoglobulin in women with a negative Rhesus status (Hahn, Lavonas, Mace, Napoli, & Fesmire, 2012; Weinberg, 2001). If a woman’s Rhesus status is negative, and she has a threatened or complete abortion, or ectopic
pregnancy, it is a best practice guideline for her to receive Anti-D immunoglobulin (Hahn et al., 2012). However, in a study by Weinberg (2001), 87% (n=97) of women with early pregnancy bleeding who presented to the emergency department were discharged without their rhesus status being checked.

**Speculum Exam and Ultrasound.** The consensus among the three articles that discussed the use of ultrasound in the clinical management of pregnancy loss in the emergency department, transvaginal ultrasonography best confirms viability of pregnancy (ACEP, 2003; Adhikari et al., 2007; McRae et al., 2009). A systematic review of the literature by McRae, Edmonds, and Murray (2009) found targeted ultrasound in the emergency department is highly specific when identifying intrauterine pregnancies. Women with a confirmed intrauterine pregnancy via targeted ultrasound may be safely discharged to home with outpatient follow-up (McRae et al., 2009). However, the benefit of routine pelvic exams in early pregnancy bleeding is not supported by the literature (Isoardi, 2009; Johnstone, 2013; Seymour et al., 2010). In the diagnosis of pregnancy loss, a speculum exam changed clinical management in only 3 of 236 women (1.3%) of the cases and diagnosis in 10 of the women (4.2%) (Hoey & Allan, 2004).

**Atypical presentations.** Two case studies discussed the atypical presentations of fetal decapitation diagnosed in the emergency department. One of the studies discussed an abnormality of amniotic band sequence and intrauterine demise found on ultrasound (Proffitt et al., 2016) while the other warned of retained products of conception with an atypical presentation of fetal tissue (Holland & Sheele, 2014). The case studies discuss the importance of counseling the patient that subsequent pregnancies are not at a greater risk of spontaneous abortion.
Emotional Care Behaviors

Only five of the 32 studies addressed the need of emotional support for women. In a study by Koziol-McLain (1992), follow-up calls were made to women who had a spontaneous abortion in the emergency department within 24-48 hours (Koziol-McLain et al., 1992). Four common themes emerged from their qualitative data. The mothers were: a) unsure of what actually happened in the emergency department, b) concerned the pregnancy loss was their fault, c) worried if they could ever have a normal pregnancy, and d) were coping with the pregnancy loss in diverse ways. In another study, 44 women were contacted by telephone after a spontaneous abortion in the emergency department. Women reported difficulty sleeping, anorexia, disruption in daily activities, and impaired ability to work (Zaccardi, Abbott, & Koziol-McLain, 1993). They were all eager to discuss their experience, and needed repetition of discharge teaching and instructions. Ramsden (1995) surveyed 38 ED nurses regarding their skills related to counseling women with pregnancy loss. Of these nurses, 50% thought bereavement counseling should begin in the emergency department. However, only 10% of these nurses had bereavement counseling skills, and only one nurse felt confident in counseling a woman with pregnancy loss (Ramsden, 1995). Another study measured physician and nursing satisfaction with an educational intervention and bereavement packet program. Staff satisfaction with services improved with the implementation of intervention (Zavotsky, Mahoney, Keeler, & Eisenstein, 2013).

In another recent study, eight women were interviewed and discussed their experience of a pregnancy loss in the emergency department (MacWilliams, Hughes, Aston, Field, & Moffatt, 2016). The study described poor psychological and emotional support of patients diagnosed with
a pregnancy loss in the emergency department. The participants elaborated on the need for
thorough discharge instructions and emotional support.

**Operational Methods for Improving ED Care**

Four articles investigated the implementation of an early pregnancy problem service in
order to improve treatment and decrease ED length of stay (LOS). These services included either
following a protocol or referring the patient to a clinic for standardization with early pregnancy
related problems. These tools demonstrated a positive impact on metrics surrounding LOS in the
emergency department and time to see a provider (Brownlea et al., 2005; O’Rourke & Wood,

**Discussion**

During the literature review process, several evidence based recommendations for the
management of early pregnancy loss in the emergency department contained policies set forth by
the American College of Emergency Physicians (ACEP, 2003), including the use of serial hCG
for possible ectopic pregnancies, anti-D immunoglobulin in cases of 1st trimester loss and
targeted ultrasound for serum hCG <1000. Additionally, this review included descriptions of
interventions to improve ED operations optimizing the clinical care of women experiencing a
pregnancy loss in the emergency department. However, only 5 of the 32 research studies
discussed the holistic needs of this patient population including emotional care and follow-up for
psychological needs. The paucity of this topic discussed in the literature mirrors the criticism of
physicians and nurses for giving incomplete, insensitive care for women often due a lack of
education for the provider (Covington & Rickabaugh, 2006; Dougherty, 1994; Hutti, 1988;
Säflund, Sjögren, & Wredling, 2004). Women have reported feeling “abandoned by healthcare
providers” who “minimized or ignored the symptoms of pregnancy loss” (Adolfsson, Larsson, Wijma, & Bertero, 2004).

While not included in the results, there were a few practice articles written for nursing care (Bacidore et al., 2009; Marquardt, 2011; Murtaza et al., 2013; Stead, 1996), but these articles lack specifics on mechanisms for psychosocial support and emotional care in the emergency department. While several clinical based articles offer guidance for the management of clinical care, few discuss guidance on the psychosocial and emotional support for this patient population. Finally, while only one article spoke to the emotional pain, isolation, and loneliness (Marquardt, 2011) that can be experienced by fathers, none of the articles addressed the emotional support of fathers or other family members present in the emergency department. Additional research is needed to determine what the needs of this patient population truly are and the specific interventions that are needed to improve care and long-term well-being for women.

Conclusion

In order to provide comprehensive care while being sensitive to the needs of a woman experiencing pregnancy loss, healthcare providers must have adequate, complete education on the needs of these patients. There are multiple evidence based recommendations for the clinical management of early pregnancy loss in the emergency department; however, there is a paucity of research available related to communication, psychosocial interventions, or bereavement strategies for women experiencing a pregnancy loss in the emergency department. None of the articles discussed nursing management of pregnancy loss in the emergency department, but one did provide recommendations for a bereavement packet for discharge home. Providers must be cognizant of the cascade of emotions and lack of knowledge surrounding the pregnancy loss a woman may experience in the emergency department. Kindness, support, and education
surrounding the loss may benefit women and assist in their grieving process. Additional research addressing the needs of women experiencing a pregnancy loss in the emergency department would have a great impact on advising providers and improving care for women. It is the providers’ responsibility to give direction to women relating to what to expect during and after their treatment in the emergency department, as well as how to manage when they go home. Due to the lack of recommendations and best practices for emotional and psychological support for women diagnosed with a pregnancy loss in the ED, these healthcare workers can only provide the care they think a woman with pregnancy loss needs without the guidance of an established evidence base. Therefore, research needs to be conducted to identify the specific needs of women and to determine the best practices to care for this population.
<table>
<thead>
<tr>
<th>1st Author, Year (Level of Evidence)</th>
<th>Design</th>
<th>Sample</th>
<th>Outcome</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACEP, Clinical Policy Committee, 2003 (I)</td>
<td>Systematic review of literature</td>
<td>66 articles were included for topics including use of serum hCG levels, &amp; ectopic pregnancy</td>
<td>Recommendations for clinical practice</td>
<td>Level B: Use of serial hCG in ectopic, level of hCG for presumptive ectopic; Use of anti-D immunoglobulin in cases of documented 1st trimester loss; Level C: ultrasound for IUP/ectopic when hCG &lt; 1000mIU/mL, rate of failure with methotrexate for ectopic</td>
</tr>
<tr>
<td>Isoardi, 2009 (I)</td>
<td>Systematic review of literature</td>
<td>28 articles</td>
<td>Clinical examination or diagnosis of Early Pregnancy Bleeding</td>
<td>In the ED pelvic exam has low sensitivity.</td>
</tr>
<tr>
<td>McRae, 2009 (I)</td>
<td>Systematic review of literature</td>
<td>12 articles</td>
<td>Clinical impact of ED targeted ultrasonography</td>
<td>ED targeted ultrasonography specific for intrauterine pregnancy; confirmed IUP can be safely discharged to home with follow-up</td>
</tr>
<tr>
<td>Hahn, 2012 (I)</td>
<td>Systematic review of literature</td>
<td>Update to previous clinical policy, additional 29 articles included in review</td>
<td>Pelvic u/s in stable pregnant patient, sensitivity of β-hCG, implications for ectopic pregnancy</td>
<td>Recommendations were developed for clinical management in conjunction to previous ACEP Clinical Policy (ACEP, 2003)</td>
</tr>
<tr>
<td>Torre, 2012 (II)</td>
<td>Randomized clinical trial</td>
<td>182 women with spontaneous abortion (SAB)</td>
<td>Success of delayed medical treatment</td>
<td>Delaying medical treatment increases risk of unplanned surgical intervention</td>
</tr>
<tr>
<td>Johnstone, 2013 (II)</td>
<td>Randomized clinical trial</td>
<td>135 women with vaginal bleeding in early pregnancy</td>
<td>Diagnostic accuracy</td>
<td>No significant improvement with diagnostic accuracy in use of vaginal exam</td>
</tr>
<tr>
<td>Zavotsky, 2013 (III)</td>
<td>Experimental</td>
<td>7 MD and 38 RN</td>
<td>Satisfaction with fetal bereavement</td>
<td>Staff satisfaction rose with implementation of fetal bereavement packet</td>
</tr>
<tr>
<td>Zaccardi, 1993 (IV)</td>
<td>Prospective, telephone interviews</td>
<td>Consecutive 44 women with SAB</td>
<td>Identify variables associated with SAB</td>
<td>84% of the women felt a sense of loss with the SAB. Wanting the pregnancy was the only variable associated with loss.</td>
</tr>
<tr>
<td>Ramsden, 1995 (IV)</td>
<td>Descriptive, questionnaire</td>
<td>38 ED nurses from 10 hospitals</td>
<td>Psychological care from nursing staff</td>
<td>Only 1 nurse felt counseling skills were adequate during SAB</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Study Type</td>
<td>Outcome Measures</td>
<td>Findings</td>
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</tr>
<tr>
<td>Weinberg</td>
<td>2001</td>
<td>Retrospective</td>
<td>112 women with diagnosis of SAB less than 12 week gestation</td>
<td>Determine whether the guidelines for Rhesus were followed. 87% of patients were discharged home without rhesus status being checked, 15 Rh D negative patients were discharged without anti-D immunoglobulin.</td>
</tr>
<tr>
<td>Kohn</td>
<td>2003</td>
<td>Retrospective</td>
<td>730 women with abdominal pain/bleeding and elevated hCG</td>
<td>Pregnancy outcome. 13% had ectopic, 35% had abnormal intrauterine, 52% had normal intrauterine. Abnormal pregnancies (either intrauterine or ectopic) had similar hCG levels.</td>
</tr>
<tr>
<td>Hoey</td>
<td>2004</td>
<td>Prospective, correlational</td>
<td>236 women with vaginal bleeding</td>
<td>Change of ED course after speculum exam. 1.3% of patients had a change in management and 4.2% had a diagnosis change after speculum exam.</td>
</tr>
<tr>
<td>Brownlea</td>
<td>2005</td>
<td>Retrospective</td>
<td>346 women with pain and/or bleeding during first 12 weeks</td>
<td>ED Length of Stay. Repeat ED visits. After Early Pregnancy Problem Service clinic, ED LOS was significantly shorter for patients who did not require admission.</td>
</tr>
<tr>
<td>Adhikari</td>
<td>2007</td>
<td>Retrospective</td>
<td>76 pregnant patients with complication</td>
<td>Classification of ectopic pregnancy. Use of bedside US exam by ED MD can be a successful diagnostic tool.</td>
</tr>
<tr>
<td>Seeber</td>
<td>2007</td>
<td>Prospective, correlational</td>
<td>576 women with symptomatic early pregnancy</td>
<td>Endometrial stripe thickness. No clinical significance correlating pregnancy outcome with differences in endometrial stripe thickness.</td>
</tr>
<tr>
<td>Sheikh</td>
<td>2007</td>
<td>Case Study</td>
<td>Woman with intrauterine and ectopic pregnancy</td>
<td>ED Diagnostic outcome. Add differential diagnosis of ectopic pregnancy when intrauterine pregnancy and continued bleeding and pain.</td>
</tr>
<tr>
<td>O'Rourke</td>
<td>2009</td>
<td>Experimental, chart review</td>
<td>230 women with early pregnancy problems</td>
<td>Triage time, ED Length of Stay. Intervention had no effect on triage time, OBGYN consult earlier, less unnecessary testing, decreased ED LOS.</td>
</tr>
<tr>
<td>Seymour</td>
<td>2010</td>
<td>Prospective, correlational</td>
<td>50 with early pregnancy</td>
<td>ED Diagnostic outcome. Evaluation of women with early pregnancy problems did not require formal pelvic exam; Without pelvic exam cannot test for STD.</td>
</tr>
<tr>
<td>Hessert</td>
<td>2012</td>
<td>Retrospective</td>
<td>117 symptomatic early pregnancy</td>
<td>Pregnancy outcome. 30% with intrauterine yolk sac had SAB; 41.2% of women with bleeding had SAB.</td>
</tr>
<tr>
<td>Juliano</td>
<td>2012</td>
<td>Retrospective</td>
<td>293 symptomatic early pregnancy</td>
<td>Pregnancy outcome. Symptomatic pregnancy and indeterminate ultrasound, 10% ectopic pregnancy, 65% SAB, 24% carried to at least 20 weeks.</td>
</tr>
<tr>
<td>Mallin</td>
<td>2012</td>
<td>Prospective, observational</td>
<td>61 documented IUP and fetal cardiac activity</td>
<td>Pregnancy outcome. 15% of participants experienced SAB.</td>
</tr>
<tr>
<td>Reference</td>
<td>Study Type</td>
<td>Sample Size</td>
<td>Population/Setting</td>
<td>Key Findings</td>
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<tr>
<td>Warrick, 2012 (IV)</td>
<td>Retrospective chart review</td>
<td>289</td>
<td>Symptomatic early pregnancy</td>
<td>Serum activin A is not a useful biomarker to predict ectopic pregnancy</td>
</tr>
<tr>
<td>Wendt, 2012 (IV)</td>
<td>Observational cohort</td>
<td>4958</td>
<td>Symptomatic early pregnancy</td>
<td>ED LOS decreased when Early Pregnancy Assessment Clinic initiated</td>
</tr>
<tr>
<td>Butler, 2013 (IV)</td>
<td>Prospective cohort, correlational</td>
<td>376 pregnant women with abdominal pain</td>
<td>Prediction of ectopic pregnancy</td>
<td>Serum hCGt and CA125 testing was effective at detecting all ectopic pregnancies at initial presentation</td>
</tr>
<tr>
<td>Wendt, 2013 (IV)</td>
<td>Descriptive, comparative</td>
<td>584</td>
<td>Women with early pregnancy complication</td>
<td>Time to see clinician &amp; admission rate dec, diagnostic tests inc</td>
</tr>
<tr>
<td>Kus, 2014 (IV)</td>
<td>Retrospective chart review</td>
<td>Indeterminate ultrasound ED</td>
<td>Pregnancy outcome</td>
<td>Indeterminate ED ultrasound and β-hCG &lt;3,000 mIU/mL with follow-up within 48-72hr</td>
</tr>
<tr>
<td>Teixeira, 2015 (IV)</td>
<td>Observational cohort</td>
<td>803</td>
<td>Women visiting OB ED</td>
<td>Testing was neither sensitive or specific in ED setting</td>
</tr>
<tr>
<td>Koziol-McLain, 1992 (VI)</td>
<td>Qualitative, telephone interviews</td>
<td>34 women with SAB</td>
<td>Themes of experiences of SAB</td>
<td>Women were unsure of what happened in the emergency department, blaming self for loss, and concerned with their future pregnancies</td>
</tr>
<tr>
<td>Davison, 2004 (VI)</td>
<td>Case Study</td>
<td>Pain, neg urine hCG, with molar pregnancy</td>
<td>Diagnostic accuracy in the emergency department</td>
<td>Qualitative urine hCG can be negative in the case of a molar pregnancy</td>
</tr>
<tr>
<td>Holland, 2014 (VI)</td>
<td>Case Study</td>
<td>Abnormal presentation</td>
<td>Diagnosis of SAB</td>
<td>Decapitated fetus with retained fetal head discovered upon vaginal exam</td>
</tr>
<tr>
<td>MacWilliams, 2016 (VI)</td>
<td>Qualitative, interviews</td>
<td>8 women with SAB</td>
<td>Themes of women’s experiences of SAB</td>
<td>Women dissatisfied with ED care. Loss of baby treated like an illness.</td>
</tr>
<tr>
<td>Proffitt, 2016 (VI)</td>
<td>Case Study</td>
<td>Intrauterine decapitation</td>
<td>Diagnosis of fetal demise</td>
<td>Amniotic Band Sequence resulted in intrauterine fetal demise</td>
</tr>
</tbody>
</table>
Figure 2.1: Results for integrative review management of pregnancy loss in the emergency department
References


doi:10.1016/j.annemergmed.2012.02.008


doi:10.1016/j.ajem.2011.09.014


doi:10.1136/emj.2003.012443


doi:10.1155/2014/327836


Warrick, J., Gronowski, A., Moffett, C., Zhao, Q., Bishop, E., & Woodworth, A. (2012). Serum activin A does not predict ectopic pregnancy as a single measurement test, alone or as part of a multi-marker panel including progesterone and hCG. *Clinica Chimica Acta, 413*(7), 707-711.


doi:10.1016/j.jen.2012.08.006
CHAPTER 3: QUALITATIVE RESULTS

Abstract

**Background:** Annually, over 1.4 million women present to an emergency department (ED) for a problem with pregnancy (National Hospital Ambulatory Medical Care Survey, 2015). While threats to pregnancy such as vaginal bleeding are common, half will miscarry. The ED environment is not always sympathetic to the emotional and psychological needs of women grieving the loss of a pregnancy. Healthcare providers have a great impact on women’s experience of pregnancy loss.

**Purpose:** The purpose of this research study is to examine the healthcare experience of women diagnosed with pregnancy loss in the ED.

**Theoretical Framework:** The theoretical underpinnings for this study are guided by three theories, all of which pertain to loss. Constructs are included from Swanson’s Middle Range Theory of Caring, Swanson’s Human Experience of Miscarriage Model, and Bowlby’s Attachment Theory.

**Methods:** The study used a qualitative descriptive research design. Women diagnosed with a pregnancy loss in the ED were interviewed. Initial data analysis consisted of descriptive statistics of the sample and content analysis of the interviews.

**Results:** The results of the eight participant interviews were five themes related to the ED as part of the crossroads of motherhood and pregnancy loss. The themes that came from the participants’ voices were (a) Decisions to get help, (b) The environment of Emergency Care, (c) Not knowing, (d) Finally knowing and moving on, and (e) Assisting with the grieving process.

**Conclusion:** Understanding the common needs of women diagnosed with pregnancy loss in the ED allows practitioners to provide more holistic, compassionate care directed at the specific
needs of this population, guiding improvement in overall care for this population. Through the knowledge of these pregnancy loss experiences, further intervention and research will assist in the improvement of future patient care, and potentially will positively impact the women’s recovery and transition to normalcy.

**Keywords:** Abortion, Emergency Department, Miscarriage, Qualitative
Women’s Experience of Pregnancy Loss in the ED

By age 39, 25% of women will experience a pregnancy loss (Blohm, Fridén, & Milsom, 2008). The majority of these pregnancy losses occur within the first trimester (Wilcox et al., 1988), often before the woman is able to establish a first obstetrics appointment. Over 1.4 million women presented to an emergency department (ED) in the United States in 2011 for a problem with pregnancy (National Hospital Ambulatory Medical Care Survey, 2015). Vaginal bleeding during early pregnancy affects approximately 21-31% of all pregnancies (Everett, 1997; Mukherjee, Velez Edwards, Baird, Savitz, & Hartmann, 2013; Wilcox et al., 1988; Yang et al., 2004), and of these pregnancies 50% experiencing bleeding will miscarry (Wittels, Pelletier, Brown, & Camargo Jr, 2008). Loss of a pregnancy is an emotional, life changing experience that leaves deep impressions on a woman’s perception of a healthcare experience.

The hurried and crowded ED can be an intimidating place, especially for women when a pregnancy is threatened. In the ED there is often a sense of chaos. The noise from cardiac monitors, ambulance sirens, overhead paging systems, and emergency medical personnel tending to emergent situations can be overwhelming; most patients experience a high level of anxiety in the ED (Byrne & Heyman, 1997). This fast-paced, hectic department is frequently where the women, who may be frightened due to bleeding or pain with their pregnancy, arrive and seek treatment for their unborn child. Healthcare providers have a great impact on the women’s experience of pregnancy loss (Swanson-Kauffman, 1986); however, little is known about the healthcare provider behaviors in the ED and patient experience during a pregnancy loss. Often to individuals without personal experience of a pregnancy loss, the event itself is often perceived as a medical diagnosis instead of a death. Physicians and nurses have been criticized for giving incomplete, insensitive care for the women often due to a lack of education for the provider
This perceived insensitive care can lead to lower satisfaction among patients. Low satisfaction with care during pregnancy loss has been associated with depression after a pregnancy loss (Lee & Slade, 1996). Women’s satisfaction with their healthcare after a pregnancy loss is correlated to providers’ recognition of the importance of this life event (Geller, Psaros, & Kornfield, 2010). Women have stated they feel abandoned by healthcare providers who discredit the symptoms of pregnancy loss (Adolfsson, Larsson, Wijma, & Bertero, 2004). Patient experience is known to drive many aspects of healthcare, so knowledge of what the ED experience for women diagnosed with a pregnancy loss is important in improving this experience. Each year, approximately 500,000 women experience a threatened pregnancy loss in the ED (Wittels et al., 2008), and about half of these will end in pregnancy loss (Everett, 1997). Because a pregnancy loss may be perceived by care providers as less severe than a potential stroke, heart attack, or other threat to life (Zavotsky, Mahoney, Keeler, & Eisenstein, 2013), the women may feel that their care was compromised and the lives of their babies were lost due to lack of attention by healthcare providers. The purpose of this study was to describe the healthcare experience of women experiencing a pregnancy loss in the ED.

**Theoretical Guidance**

The theoretical underpinnings for this study are guided by three theories, all of which pertain to loss. The investigator of the study has included constructs from Swanson’s Middle Range Theory of Caring, Swanson’s Human Experience of Miscarriage Model, and Bowlby’s Attachment Theory.
Swanson’s Middle Range Theory of Caring

In 1991, Kristen Swanson published a Middle Range Theory of Caring, which was developed through evaluating qualitative research of multiple perinatal patient experiences (Swanson, 1991). This theory was derived from three studies involving perinatal circumstances. A phenomenological study of 20 married women who had recently miscarried highlighted the human experience, as well as the process of confronting a pregnancy loss (Swanson, 1999).

Swanson asked the women about what caring behaviors of providers were helpful during a pregnancy loss (Swanson-Kauffman, 1988). This theory was chosen due to Swanson’s findings that women’s experience improved with the nursing care provided (Swanson, 1991; Swanson, 1993; Swanson, 1999).

Swanson’s Human Experience of Miscarriage Model

Swanson also developed the Human Experience of Miscarriage Model, observing six universal human experiences including: (1) coming to know, (2) losing and gaining, (3) sharing the loss, (4) going public, (5) getting through it, and (6) trying again (Swanson-Kauffman, 1986). Swanson’s findings suggest that women experiencing a pregnancy loss in the ED are in the initial stage of the Experience of Miscarriage Model, “coming to know” the loss. In this stage of the model, women are learning and experiencing an impending pregnancy loss instead of the once known healthy pregnancy (Swanson-Kauffman, 1986). This model was important to the study as it enables nurses and other health care providers to more clearly understand pregnancy loss, as well as providing information on the human response to pregnancy loss.

Attachment Theory

Bowlby’s (1980) theory states that with any loss a prior attachment bond between the individuals must occur. Bowlby did not specifically address early pregnancy loss; he discussed
loss with long standing attachment relationships. According to Bowlby’s theory on loss, when examining grief, the relationship between the individual lost (fetus) and the person mourning the loss must be considered (Bowlby, 1980).

There is dissonance in the literature regarding the ability for attachment to a child at a young gestational age. Rubin (1984) states that attachment begins at quickening (the mother’s ability to recognize fetal movement), which occurs at approximately 20 weeks (Rubin, 1984), although widely variable across gestational ages. Grief and loss has been studied and described with pregnancy losses at much earlier than 20 weeks gestation (Kersting & Wagner, 2012).

Wright (2010) developed a theory on perinatal loss which contained the subcategory of “developing a relationship.” Women described getting to know the baby as a person who was part of their family. They described the development of the relationship with the baby, and how the child would fit within their family structure. The women envisioned the child as their first child, second child, etc. Many of the women had named their unborn babies and had assigned personality traits, hobbies, and careers such as “He was going to be the one who would be a surfer (smiling)” (Wright, 2010, p.10).

Early technological advancements in diagnostics including ultrasound advancements and early detection pregnancy tests may allow women to become attached to their unborn child at an earlier gestational age than previous generations (Wright, 2010). These attachment theories support the study, as the investigator recognized the potential to have an attachment bond between the mother and unborn child at an early gestational age; thus, this study included women who had knowledge of their pregnancy prior to arriving in the ED.
Summary of Theoretical Guidance

This study was guided by three theories, all of which discuss loss. The theoretical underpinnings of this study are depicted in Figure 3.1. “Knowing” is a construct adapted from Swanson’s Middle Range Theory of Caring, as well as Swanson’s construct “coming to know” in the Human Experience of Miscarriage Model. Knowing consists of the women learning of the pregnancy, as well as learning of the pregnancy loss. Attachment is the bond the women have developed after learning of the pregnancy, but prior to the pregnancy loss (Bowlby, 1980).

Behaviors of Healthcare Providers include caring behaviors as identified by the women, as well as the way in which the providers relay the diagnosis of pregnancy loss. Well-being, satisfaction with care, and transition to normalcy are all constructs which have been shown to be affected by behaviors of healthcare providers (Azizi-Fini, Mousavi, Mazroui-Sabdani, & Adib-Hajbaghery, 2012; Swanson, 1993; Swanson-Kauffman, 1986). Women’s well-being, satisfaction with care, and transition to normalcy will be explored in future studies.

Figure 3.1. Theoretical Underpinnings of Pregnancy Loss in the ED
Methods

Study Design

The study used a qualitative descriptive research design. This study employed a naturalistic inquiry approach, collecting qualitative data (Patton, 2005). This is a beneficial design as it allows the investigators to collect data directly from the voice of the participants.

Setting and Sample

From June 2016 through January 2017 women were recruited after a visit at two Midwestern US hospitals after a confirmed diagnosis of pregnancy loss during their ED stay. Participants were recruited from two sites: one a large, urban, academic Level 1 Trauma Center ED, and the other a suburban academic Level 3 Trauma Center ED. The population for this study was women who had experienced a pregnancy loss diagnosed in the ED and then discharged to home from the ED after their treatment. All women who had experienced a pregnancy loss diagnosed in the ED were considered for participation. In order to be included in this study, the women must be between the ages of 18 and 45, diagnosed in the ED with a confirmed pregnancy loss, and discharged home to self-care from the ED. The study exclusion criteria were: (1) limited English or Spanish proficiency, (2) cognitive impairment as identified by the ED physician, (3) induced abortion, (4) invasive fertility treatments, and (5) history of more than 2 pregnancy losses.

Procedures

A community advisory panel (CAP) of four women was formed prior to participant recruitment to better understand the population needs and compassionate recruitment. The CAP met to discuss the demographic questionnaire, the Edinburgh Depression Scale, and the
interview guide. They gave suggestions on recruitment as well as the interview guide. These suggestions then were used to guide recruitment and data collection.

**Recruitment**

Upon discharge from the ED, all discharging nurses were prompted by the electronic medical record to screen potential participants for willingness to be contacted at home to participate in this research study. Chart reviews were conducted, identifying women who had a pregnancy loss diagnosis and had agreed to be contacted for the research study. The women then were contacted by phone within 72 hours of the diagnosis, and interviews were conducted within two weeks of the visit. In-depth, semi-structured interviews were conducted by the first author. Employing a consecutive sampling strategy, the first author approached women for enrollment that met the inclusion criteria until thematic saturation was achieved.

**Data Collection**

Prior to the interview beginning, each woman completed the Edinburgh Post-Natal Depression Scale (Cox et al., 1987) as well as a demographic questionnaire. This scale consists of 10 questions with results ranging from 0-3, measuring several symptoms of clinical depression including difficulty sleeping and guilt. If she scored 10 or greater, she was given resources for follow-up after the interview, and the interview proceeded. However, if the score was greater than 13, this signaled high possibility of a depressive episode and the participant was given resources for follow-up after the interview, and then excluded from the sample. The women were interviewed focusing on their personal experience of pregnancy loss diagnosed in the ED. A semi-structured interview guide was used (Appendix D), to increase the likelihood that all the participants received the same crucial questions during their interview. The interviews were audiotaped and subsequently transcribed.
Two of the authors independently read through the interviews, and analyzed transcripts using open coding technique while exploring the experience of the women in the ED. This preliminary analysis required careful examination of the data, making notes in the right margin of the transcript. This is referred to as the first cut, developing coding categories (Patton, 2005). Next, the data analysis team again independently read through the transcripts and systematically coded the data, writing the codes in the right margin. Important statements were grouped together to develop the first level of coding. Then together, the two authors met in order to agree upon the first level of coding and eliminate redundancies to develop a coding schema. Then line-by-line each interview was analyzed and coded per the developed coding schema, continually comparing to previous transcripts. In the next phase of analysis, each code was sorted into abstract categories and agreed on by the research team. After five transcripts were coded, all categories were identified. Recruitment was continued, and after eight interviews no new findings were discovered and data saturation was achieved. Finally, critically evaluating each of the categories, the investigators determined emerging themes from the data. Member checks then were used by consulting the CAP to review the themes that resulted from the data analysis.

**Trustworthiness**

According to Lincoln and Guba (1985), the criteria for assessing methodological rigor in qualitative research were outlined in four aspects of trustworthiness: (a) credibility, (b) transferability, (c) dependability, (d) confirmability. Credibility is related to how truthful research findings are, and is often used in replacement for internal validity in qualitative research (Lincoln & Guba, 1985). This was achieved through member checks and ensuring the sample knows the phenomenon through personal experience, strictly adhering to the inclusion and
exclusion criteria. Transferability is considered to be the degree to which this study’s results can be applied to another sample of the same population (Lincoln & Guba, 1985). In order to assist the transferability, an in-depth description of the study sites and sample description were provided (Table 3.1). In order to provide dependability, an audit trail was developed during data analysis. To ensure confirmability the audit trail was kept and member checks were used to validate the themes.

Results

Description of the Sample

Eight women between the ages of 21 and 34 were interviewed about their experiences of pregnancy loss in the ED. The results of their demographic surveys are described in Table 3.1. 50% (4/8) were of African American descent and 50% (4/8) were Caucasian. The majority of the women (5/8) had never experienced a pregnancy loss before, one participant experienced a single pregnancy loss previously, and two had experienced two prior pregnancy losses. Participant’s Edinburgh scale scores ranged from 1-12 with 50% (4/8) between 5 and 10. Three potential participants were excluded with Edinburgh scores above 13. Additionally, 75% (6/8) of the participants stated this pregnancy loss had a significant impact on their life, and 87.5% (7/8) stated they were “mostly” or “very much” satisfied with their ED care.

Findings from the Interview Transcripts

From the analysis of the eight transcripts, 14 categories were developed and then subsequently clustered into five themes (Figure 3.2). The themes that emerged from the data were (a) Decisions to Get Help, (b) The Environment of Emergency Care, (c) Not Knowing, (d) Finally Knowing and Moving on, and (e) Assisting with the Grieving Process.
Decisions to get help. There were two categories of data coded that related to women’s decision to get help for this pregnancy. “Seeking care” was the first category, and this category represents women realizing there is something wrong and seeking medical help. “Seeking care” consisted of going to the ED or calling the 24 hour pregnancy hotline. One woman, describing her decision: “I decided to wait for at least a little while. So at 8, about 8PM, I changed one pad. That’s when I got sc…It got even scarier and I decided to go to the hospital.” The second category was “bleeding”. This category depicts the symptoms and situations surrounding when women realized something was wrong. Women described their experiences of bleeding that caused them to get help for the pregnancy: “I was at work and I was, started bleeding a little bit and passing some clots but it was just like a period…I started cramping a little bit and bleeding a little bit more, but on Tuesday it was like really intense, the cramping was really bad and I was bleeding a whole lot um, and I was passing more clots and bigger ones.”

The environment of emergency care. Two categories emerged referring to the Environment of Emergency Care. One category, “perceptions of clinical care” discusses women’s perceptions of the care they received from their healthcare providers, including anticipating needs. Some women discussed a lack of privacy with their care, while other women discussed that the healthcare providers just didn’t get it, when referring to their miscarriage symptoms: “It’s like I’m not going to put on a robe and walk down the hallway…I didn’t think that they realized that when you ask someone to go to the restroom then you have to give them a pad. Like I had to ask for like 6 pads. Like they didn’t know, they didn’t get it.” A second category was described by the participants as a “chaotic emergency room”. Some women said that there was a lot going on that day with lots of people coming in and out. Participants refrained from asking anyone anything because they didn’t want to bother the busy nurses. One
woman stated: “Kinda seem chaotic, little bit like a lot of people coming in and out. And lot of
people are frustrated. Like this guy in the room next to me came in and he was so pissy drunk he
didn’t even know he was at the hospital. Like he’s peeing all over the place so that the nurses
are getting frustrated and it was just a lot. It seem like a lot going on that day.”

Not knowing. There were four categories that the women described all relating to not
knowing whether they had lost the pregnancy. One category, “doctor knew and didn’t tell me”,
ocurred when the women perceived that the healthcare providers knew they were having a
miscarriage but didn’t tell, couldn’t tell, or never really explained what was happening. One
participant described her perception: “They did the ultrasound too and they was talking amongst
each other, didn’t really tell me, you know like ‘oh this is what we see and this is what’s going
on.’…They were talking amongst each other like ‘well maybe this is this, and this is that’ when
they could have been telling me too.” The second category within this theme was “didn’t know
what was going on.” This occurred when the women and/or the healthcare workers felt
confusion or didn’t know what was happening. One woman stated: “they was kinda like scaring
me because … it was too many doctors coming in there like trying to figure out what’s going
on.” This also referred to when she went to another healthcare provider and was not diagnosed
with a loss, but later found out she lost the pregnancy. A third category, “had to wait, wanted to
get it over with”, discusses the agonizing wait while in the ED for test results, the OB/GYN
consult, the ultrasound and waiting for answers. A participant shared: “They came back and put
the ultrasound equipment in and I’m basically waiting to find out if my baby’s alive or dead.
And they…just he’s…like I waited for like two hours before the OB/GYN from upstairs. He
refused to do the ultrasound until they came down, that he didn’t want to have to redo it when he
came back down. I felt like he was trying to help me, but it was frustrating because I just ready
to get it over with.” The last category grouped under the theme not knowing was that of “frustrated and upset.” This describes the emotional turmoil and roller coaster ride while waiting for diagnosis: “So it was just frustrating because it was like they was telling me the baby’s okay, then is not, then it’s okay, then it’s not. So it’s like a rollercoaster ride.”

**Finally knowing and moving on.** Three categories clustered under the category of Finally Knowing and Moving on, where the women eventually learned that they had a pregnancy loss. They “couldn’t find a fetus” reflects when the provider was performing an ultrasound and the women learned that they were no longer pregnant. One woman described her experience: “He sat back and he said, ‘I couldn’t find the baby,’ that’s when it hit and it was like…this can’t really be happening, like this can’t really be happening.” The second category was described as “I just lost my baby”. The women learned they had a pregnancy loss and the baby was gone. Some women said that they “just knew it,” while others described a “shocked” or numb feeling. A participant describes her response: “I was so surprised, because it, I couldn’t believe that it was actually happening. I mean, it started just that evening. I couldn’t believe that in under 5 hours I was…I lose my baby, just like that…I was so shocked. I thought maybe it was just a blood clot or something. Maybe it’s not my baby, [pause] heartbreaking. It didn’t even get a chance to live, just come out like that.” Finally, some participants discussed their mechanisms for dealing with the loss of her pregnancy, these were named “coping with the loss.” Some prayed and wrote poetry, while others tried not to think about the pregnancy loss: “I just broke down. It’s like I was…I’m a Christian…It was just hard to believe that after I …because I prayed for my baby and I wanted it. It was just hard to believe that it was gone. I just try not to think about it now uh…I don’t know, I write poetry so…I just took my baby’s ultrasound in my
wallet and put it in a book so I can write a poem and just leave it all there. It’s not for me to understand, I just gotta deal with it.”

Assisting with the grieving process. Three categories were determined to be related to how the healthcare providers including physicians and nurses chose to assist the woman in her grief. The category “don’t worry” reflects when the women were told to subside their fears, and they often felt brushed off or invalidated by these caregivers. One woman described her confusion: “I told him that my doctor said my levels were low and he was like well we tested your levels and everything looks fine. So had me believing that my doctor was wrong and that maybe I was okay.” “Comforting me” refers to when the caregiver or other healthcare worker tried to alleviate the women’s grief, this was primarily positive. One participant described an experience where “the doctor sat down at the end of the bed and then she [the nurse] came over to the other side with the tissues, and just kinda like, I felt surrounded, I felt comfortable. Which was…it was still hard though. But they definitely helped…she had tissues, patting my tears away…it was so sweet. I wish I could remember her name.” The final category was called “don’t blame yourself.” This is where someone told the participant it isn’t her fault and/or this happens all of the time: “I was blaming myself. I said if I had come earlier maybe the baby would have been okay. So she said not, not to tell myself that, it was out of my control. You know first trimester pregnancies, you know when they terminate, it is out of the patient’s control. And I shouldn’t blame myself. It’s nothing I could do…could have dealt with.”

Discussion

Many early pregnancy losses are managed in the ED; however, ED providers are often unfamiliar and feel unprepared with their bereavement support (Ramsden, 1995). Additionally, the environment of the ED is not sympathetic to the emotional and psychological needs of
women grieving the loss, or impending loss, of a pregnancy. Care is often rushed and interrupted, and frequently women are not given the option to view the lost fetus (Koziol-McLain et al., 1992). For healthcare providers in the ED, the psychosocial needs of the hemodynamically stable woman experiencing a pregnancy loss is often overlooked.

This study leaves implications for healthcare professionals as many of the significant negative experiences are able to be mediated by individuals aware of women’s needs during this life-changing event. Future intervention and education may provide the resources to healthcare providers thus creating a positive impact of the experience women have when seeking care for a pregnancy loss. Several recommendations for practice have been developed from the themes as described by participants.

**Recommendation 1: Decisions to Get Help**

While providers are not able to predict or prevent the symptoms of pregnancy loss, this recommendation is related to additional education for women surrounding the symptoms of pregnancy loss. Women described uncertainty related to their symptoms and six of the eight women stated that they visited the ED more than once for their symptoms. Specifically, advanced practice providers should be aware of the need for thorough discharge instructions including what to expect (i.e. amount of bleeding, passage of fetal tissue), what concerns and when to seek care, as well as depression symptoms and emotional care resources. EDs can provide resource packets to patients including 24-hour hotlines for psychiatric symptoms, as women described feelings of shock and not fully comprehending instructions from the providers.

**Recommendation 2: The Environment of Emergency Care**

The participants described their perceptions of clinical care. There were several implications for improvement for ED care. One concern of the participants was related to
privacy, both within the room and when using the restroom. Women described using the public restroom and fears of losing the baby in the toilet as well as crying in front of other patients. Many EDs do not have the physical capability of providing a private restroom; however, it is advised to choose a room closest to the bathroom for women experiencing pain or bleeding in a pregnancy. Finally, anticipating the physical needs of women with bleeding such as sanitary napkins and absorbent cloths can reduce embarrassment due to requests for these items. These awareness aspects can be placed into new hire packets and/or education surrounding gynecologic care in the ED.

**Recommendation 3: Keeping the patients informed throughout the process**

One category clustered under the theme of “Not knowing” was that the “Doctor knew and didn’t tell me.” While some aspects of waiting and not knowing the outcome of the pregnancy is unavoidable, the participants described feelings of being excluded from pertinent information. Several women felt that the healthcare workers knew they were having a pregnancy loss and didn’t tell them, or that information was withheld during the course of their ED stay. Some providers may try to not frighten patients or be blamed for a potential diagnosis (Fallowfield, 1993); however, women experiencing symptoms of pregnancy loss are already concerned with the potential loss of their baby. Thus, keeping women and their families included on clinical course and decisions will alleviate these concerns.

**Recommendation 4: Assisting with the Grieving Process**

The women in this study made statements related to their perception of clinical care in the ED. These were that they felt that the healthcare providers “didn’t get it” and it was “like nobody had any sympathy.” This is reflected in the literature where healthcare workers have been criticized for lack of compassionate care for women with a pregnancy loss (Covington &
Rickabaugh, 2006; Dougherty, 1994; Hutti, 1988; Säflund et al., 2004). While it is difficult to understand without a personal experience of a loss, additional bereavement training in the ED may overcome this obstacle. While attempts at consoling women were made, including “Comfort me” and “Don’t blame yourself” the behaviors were not universal. Incorporating a bereavement training into continuing education or staff meetings is possible; however, optimally it would be initiated in the ED nurse orientation in a structured platform such as computer based education modules or an in-service with social work upon hire. This bereavement training should include all aspects of end-of-life care while also adding a specific module on pregnancy and perinatal loss. This training could be applicable to all ED healthcare workers as well as other areas of critical care as these care providers support those coping with death and loss.

**Limitations**

Although the sample was diverse in their backgrounds, it is limited by a small sample size. All of the participants spoke English, and were from Southwest, Ohio. Three women scored 13 or greater on the depression scale and were excluded, so that may have impacted some of the results, as we do not know the experience of the women who are at a greater risk of depression. A study by Farren et al (2016) states that 39% of women met the criteria for either moderate or severe PTSD at 3 months after the pregnancy loss. Another limitation was that the qualitative data were limited to the personal accounts of the women’s experiences and were not correlated to the healthcare provider’s interpretation nor the medical record of what occurred during the ED encounter.

**Conclusion**

Threats to a pregnancy such as vaginal bleeding and abdominal pain are common (Everett, 1997; Mukherjee, Velez Edwards, Baird, Savitz, & Hartmann, 2013; Wilcox et al.,
1691 1988; Yang et al., 2004), and many women will decide to seek ED care for their symptoms
1692 (National Hospital Ambulatory Medical Care Survey, 2015). From the results of this study,
1693 women perceive that healthcare workers are withholding information, and that the providers do
1694 not understand what they are going through. Additionally, the participants described methods of
1695 assisting with the grieving process that were beneficial, as well as some that were disconcerting.
1696 The findings of this study and recommendations described are the foundations to further
1697 investigate the phenomenon and develop interventions to improve future ED care and positively
1698 impact the women’s recovery and transition to normalcy.
Figure 3.2. Thematic diagram. ED as Part of Motherhood and Pregnancy Loss
Table 3.1

Sample Description

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Age (range 21-34)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-24</td>
<td>3 (37.5%)</td>
</tr>
<tr>
<td></td>
<td>25-29</td>
<td>2 (25%)</td>
</tr>
<tr>
<td></td>
<td>30+</td>
<td>3 (37.5%)</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
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<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td>4 (50%)</td>
</tr>
<tr>
<td>Caucasian</td>
<td></td>
<td>4 (50%)</td>
</tr>
<tr>
<td>Edinburgh Depression Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-5</td>
<td>3 (37.5)</td>
</tr>
<tr>
<td></td>
<td>5-10</td>
<td>4 (50%)</td>
</tr>
<tr>
<td></td>
<td>10-12</td>
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</tr>
<tr>
<td>Pregnancy Loss a Significant Impact on Your Life?</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Not really</td>
<td>2 (25%)</td>
</tr>
<tr>
<td></td>
<td>Mostly</td>
<td>5 (62.5%)</td>
</tr>
<tr>
<td></td>
<td>Very much</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>Satisfied with ER care?</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not really</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td></td>
<td>Mostly</td>
<td>4 (50%)</td>
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<tr>
<td></td>
<td>Very much</td>
<td>3 (37.5%)</td>
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<tr>
<td>Number of Previous Losses</td>
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</tr>
<tr>
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<td>0</td>
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<td>1 (12.5%)</td>
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<tr>
<td></td>
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</table>
References


CHAPTER 4: BARRIERS TO ED RECRUITMENT

Abstract

**Background:** Women often come to the emergency department (ED) with signs and symptoms suggesting early pregnancy loss; yet, little is known about their experience and how it relates to future outcomes. In order to improve patient outcomes and experiences of women seeking care for a pregnancy loss, research is required. However, recruitment of the participants experiencing an event such as a pregnancy loss is challenging. If specific barriers to research recruitment in the ED are navigated up front, researchers can successfully implement electronic medical record (EMR) screening; thereby, conducting continuous screening of participants to determine eligibility.

**Purpose:** The purpose of this manuscript is to discuss the application of an EMR based participant screening tool recruiting women seeking care for a pregnancy loss in the ED.

**Methods:** This study implemented an EMR based prompt to assist participant screening completed by ED nurses: (a) The prompts were based on inclusion criteria built into triggers that activated a recruitment-screening form to print upon discharge, (b) Nurses completed the form with the patients, asking for willingness to be contacted at home, and (c) Participants were subsequently contacted and enrolled in the study. Data were analyzed through descriptive statistics of the reports built within the EMR signaling when the screening tool flagging participants and subsequently corresponding information to the completed forms.

**Results:** The recruitment tool fired 1,169 times, with 61% (n=714) screened. 50% (n=37) of women experiencing an early pregnancy loss were willing to be contacted at home for research recruitment. Of those approached after discharge (n=24), 33% (n=8) enrolled in the study. Of
note, at one site 14% (81/577) of potential participants with early pregnancy loss symptoms left prior to seeing a provider, and 26% (150/577) of these encounters were repeat visits.

**Conclusion and Implications:** Our research screening program was implemented continuously in two emergency departments. Staff education, nurse reluctance to approach potential participants, and patients that left without being seen by a physician led to barriers in participant screening. Careful monitoring and navigation of barriers within ED participant screening may allow for a more successful participant screening program.

Key words: Abortion, emergency department, miscarriage, screening
Barriers to the Recruitment of Women Experiencing a Pregnancy Loss in the ED

Signs of threatened pregnancy such as lower abdominal pain and/or vaginal bleeding can be common in early pregnancy (Bigrigg & Read, 1991; Brownlea, Holdgate, Thou, & Davis, 2005; O’Rourke & Wood, 2009); however, 50% of all pregnancies with these symptoms will miscarry (Wittels, Pelletier, Brown, & Camargo Jr, 2008). Every year in the United States 500,000 women will come to the emergency department (ED) with vaginal bleeding in pregnancy (Wittels et al., 2008). Little is known of their experience and how it relates to future outcomes. Therefore, in order to learn about their experience and improve future outcomes, it is necessary to engage this population through active research.

Research in the ED is imperative to improve patient outcomes and the healthcare experience when seeking ED care. Recruitment of research participants who have experienced an event such as a pregnancy loss is challenging. However, this type of recruitment allows researchers to better understand the needs of a patient when they are seeking ED care. If specific barriers to research recruitment in the ED are navigated up front, researchers can successfully implement electronic medical record (EMR) based screening; thereby, conducting around-the-clock screening of participants.

Research within the ED has led to important discoveries in a variety of areas including HIV, stroke, and violence against healthcare workers (Adeoye et al., 2011; Gillespie et al., 2010; Lyons et al., 2011). The ED is a unique area of healthcare where a large number of the population with diverse demographics and medical histories are present. However, recruitment of research participants in the ED can be especially problematic, labor intensive, and expensive. This may be due to the uncertainty and fear patients experience in the fast-paced ED environment of which patients are unfamiliar, making it difficult to recruit patients for a research
study. Often, it is the fear of the unknown that defers potential participants from becoming involved in research (Buckley, Irving, & Goodacre, 2016). Finally, research conducted in the ED itself presents other barriers such as patients experiencing acute pain and/or illness, questions regarding the study, and confidentiality which can defer potential participants in research (Buckley et al., 2016). The purpose of this manuscript is to discuss an EMR based screening tool completed by nurses in order to obtain continuous screening of research participants for eligibility criteria into an ED research study focusing on pregnancy loss.

**Methods**

The study employed a prospective design to recruit women experiencing a pregnancy loss in the ED. Recruitment screening was implemented at two sites: (a) large, urban, academic medical center, and (b) community, academic hospital ED both located in the Midwestern United States. From June 2016 through January 2017 patients were screened for willingness to be contacted after discharge. The development of an EMR based recruitment tool was tailored to the two sites based on operational flow of the ED nursing discharge process. Inclusion criteria including age range, pregnancy status (either reported pregnant at triage or hCG level threshold), and disposition status signaled the EMR to create an advisory when the nurse entered the chart. The ED nurses were prompted by the EMR after the discharge order was placed signaling when the women met these pre-determined eligibility criteria. This process started with a form that would print with the patient’s discharge instructions. The nurses would then ask the women upon discharge determining willingness to be contacted, as well as collect a valid telephone number for follow-up contact. Two methods of form collection were trialed: (a) At one site with several nursing stations, forms were deposited in private bins separated from the discharge instructions and collected daily by the PI and (b) At the other clinical site with a centralized
nursing station, the forms were retained with the discharge instructions and subsequently scanned into a miscellaneous media tab in the participant’s EMR. An EMR report was built recording each time the screening tool fired, signaling the researcher to seek the form in either the miscellaneous media tab or in the private bins, and then conduct a chart review. The PI reached out to women who agreed to be contacted about the study and were diagnosed with a pregnancy loss. Telephone screening then occurred determining exclusion criteria unable to be determined through chart review. In-person interviews were scheduled by the PI within two weeks of the visit.

The inclusion criteria for this study were: (a) women must be between 18 and 45 at the time of the loss, (b) reported that they were aware of the pregnancy before arriving to the ED (determined during telephone screening), (c) and then discharged from the ED back to home with a diagnosis of pregnancy loss. The study exclusion criteria include: (a) limited English or Spanish proficiency; (b) cognitive impairment as identified by the ED physician; (c) induced abortion; (d) Intrauterine insemination (IUI); (e) in-vitro fertilization (IVF); (f) history of more than 2 pregnancy losses; (g) physically traumatic events resulting in pregnancy loss and (h) received clinical care in the ED by a member of the research team.

As part of the sustainability of the research study over the recruitment period, the PI used varying strategies including a Community Advisory Panel (CAP) and educational offerings. These strategies attempted to ensure the compassionate approach of participants as well as keep nursing staff aware of the screening process. The CAP of four women was formed, and reviewed the recruitment and study procedures. This panel advised the PI in compassionate recruitment and methods to increase recruitment. The PI designed informative flyers for ED nursing staff, distributing to both sites and placed in weekly newsletters. Additionally, the PI
attended staff meetings at the sites and engaged in one-on-one follow-ups with the nurses to determine barriers to screening.

Results

In the eight months during recruitment (see Figure 4.1), the recruitment tool flagged 1,169 patient encounters with 61% (n=714) of potential participants screened by an ED nurse at discharge (see Figure 4.2). At one site, 14% (81/577) of the patients that sought care with symptoms of a threatened pregnancy left from the waiting room prior to seeing a physician, during a time period when the ED had particularly long waiting room times (M = 3.5 hours, SD = 2.51). 26% of women seeking ED care were repeat visits, whom were prompted each time by the EMR if they continued to meet inclusion criteria triggers for the study. Of the participants with diagnosis of threatened pregnancy and/or pregnancy loss, only 61% (230/376) were screened for recruitment by nursing staff. Of those screened 50% (115/230) agreed to participate, and after chart review 32 met inclusion criteria. Twenty four women were successfully contacted at home. Seventeen women scheduled face-to-face interviews, but only 11 arrived to the interview. After screening for risk of depression, 3 participants were excluded and grief counseling resources were provided. Of those contacted at home, 33% (8/24) were interviewed. From the results of the recruitment screening process, several barriers were identified limiting recruitment.

Barrier 1: Triggers for the EMR Prompt to Flag Participants

The EMR prompt flagged participants for 1,169 encounters. However, it was discovered at one site 81 potential participants left from the waiting room prior to seeing a physician. Additionally, through one-on-one follow-ups the PI discovered that if the nurse did not enter the
pregnancy status during triage and the hCG level returned to zero, the EMR would not prompt
the nurse to screen the participant.

**Barrier 2: Unscreened Participants**

During the recruitment period, 39% (455/1,169) participants were unscreened. Additionally, as depicted in Figure 4.1, the number of unscreened participants sharply increased over the recruitment period. This could occur several ways: (1) the ED nurse did not review the discharge instructions including the study form with the patient, (2) the ED nurse did not know what the recruitment form was and discarded, and (3) the ED nurse chose not to screen the participant. Through individual follow-ups the PI discovered some nurses “did not want to bother the patients with the research screening process” either due to their grief and/or frustration with an aspect of ED care.

**Barrier 3: In-person Interviews**

Of the patients that agreed to participate and met inclusion criteria, 25% (8/32) were not able to be contacted by telephone after discharge. When contacted by telephone, 25% (6/24) later declined to participate. Finally, after scheduling an appropriate time and place for the interviews, 35% (6/17) of the potential research participants did not arrive to the scheduled meeting.

**Discussion**

This study reiterates the difficulties in recruitment of ED patients experiencing a pregnancy loss as cited in other studies (Lawton et al., 2016; MacWilliams et al., 2016).

**EMR Screening Tool Missed Potential Participants**

The first author was informed by two members of the nursing staff that the EMR did not trigger on some women that they believed would have qualified for the study. Upon inspection,
the tool would not fire if the triage nurse did not list the woman as pregnant, the β hCG was
negative, or the ED provider did not choose a disposition. Broadening the EMR criteria to
include all women even those who may not have a complication with pregnancy may allow for
flagging of these patients as potential participants; however, it is an added burden to the
individual enrolling and should be thoughtfully considered.

**Barriers to Screening Participants in the ED**

With 39% of potential participants left unscreened, a large number of women were
missed that potentially could have been approached for enrollment in this study. The PI
attempted to increase screening through additional education at staff meetings, daily huddles, and
one-on-one follow-up when a screening was missed. However, additional education and
individual follow-ups with the staff throughout the study did not improve screening rates.

Anecdotally, some ED nurses made statements that they did not want to bother patients who
were very upset and they thought the study was over. Staff perception of research including
concerns that patients are vulnerable (Donovan, Paramasivan, de Salis, & Toerien, 2014; Shilling
et al., 2011), as well as additional burden placed on ED operations for recruitment (Ross et al.,
1999) have been identified as hindrances to ED research. In future studies, either a non-clinical
person trained in research recruitment approaching the participants in the ED such as a research
coordinator, collecting telephone numbers via chart review, and/or expanding the number of ED
recruitment sites would be advised to obtain a larger sample.

**Left Without Being Seen**

Finally, the study determined at Hospital B (Figure 4.2) there was a large number of
women who had symptoms of a threatened pregnancy but left prior to seeing a physician (14%,
n=81/577), potentially due to long waiting room times. This metric is often measured by hospital
EDs, and can signal higher rates of ED crowding; thus, ED crowding could contribute to decreased recruitment. This unanticipated barrier to recruitment raises another concern with the experience and outcomes of the women seeking care for pregnancy loss, but left for unknown reasons. One study reports that the median percentage for patients who left without being seen was 2.6% of 9.2 million ED visits in 2007 (Hsia et al., 2011). With 14% of women seeking care for a threatened pregnancy leaving prior to emergency medical screening indicates a tremendous need for re-evaluation of care for this study population. This population can have several adverse outcomes including ectopic pregnancy, excessive blood loss, and retained products of conception (Murtaza, 2013).

**ED Visit Recidivism**

Of the encounters at Hospital B with symptoms of early pregnancy loss, 26% (150/577) were repeat visits. While these recidivism factors were beyond the scope of our study; future research into patient education and discharge instructions for women seeking care for pregnancy loss needs to be investigated. A study by Farren et al. (2016) suggested 39% of women experiencing a pregnancy loss will have symptoms of moderate to severe post-traumatic stress disorder up to three months after the diagnosis. Without appropriate education and awareness for this population including discharge instructions and resources for psychological follow-up they may return to the ED continuing to seek care.

**Barriers with Face-to-Face Interviews**

There was a large percentage of participants (35%, n=6/17) that did not arrive for the scheduled interview, or were willing to participate but did not want to meet for a face to face interview (25%, n=6/24). After discussion of this phenomenon with the women who we consulted in the Community Advisory Panel, the panel noted that healthcare fatigue and
frustration with multiple follow-up appointments may have deterred participants from attending an in-person interview. Therefore, due to the acute grieving process after leaving the ED and healthcare fatigue related to outpatient follow-up, it would be advised to offer telephone interviews and/or collect data while participants are still in the ED or at a future outpatient follow-up visit in order to increase enrollment.

**Conclusion**

This article discusses an EMR-based screening program completed by ED nurses. While barriers related to the recruitment of women with a pregnancy loss diagnosis led to a limited sample size, it was determined that a large number of women seek ED care for threatened pregnancies. Barriers related to staff education, patients that left without being seen by a physician, and nurses reluctance to approach potential participants have been identified as hindrances to recruitment. Constant observation of recruitment and navigating operational barriers in real time allows for recruitment screening to continue without impediment. In facilities with longer waiting room times, women with threatened pregnancies may wait for hours, and leave prior to the emergency medical screening exam. Therefore, engaging multiple recruitment sites would be beneficial to increase enrollment.
Figure 4.1: Recruitment over time. This graph represents the screening and enrollment process over eight month study duration.
Figure 4.2: This figure depicts the process by which potential participants were eligible to enroll in the study.
1986

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Signs of threatened pregnancy such as lower abdominal pain and/or vaginal bleeding can be common in early pregnancy (Bigrigg & Read, 1991; Brownlea et al., 2005; O’Rourke & Wood, 2009); however, 50% of all pregnancies with these symptoms will miscarry (Wittels et al., 2008). Every year in the United States 500,000 women will come to the ED with vaginal bleeding in pregnancy (Wittels et al., 2008). Little is known of their experience and how it relates to future outcomes. Therefore, the purpose of this study was to develop a deeper understanding of women’s experiences of pregnancy loss as diagnosed in the ED.

Discussion

This section provides a discussion of the study’s research questions, the integration of the three manuscripts, and addresses the limitations of the study. Additionally, it will provide a description of the participants’ responses and how they fit the theoretical underpinnings of the study.

Manuscript Option Dissertation

The PI chose the manuscript option dissertation. This option for dissertation required the PI to deliver three manuscripts to be written after candidacy for the final dissertation. Each of the three manuscripts directly contribute to the knowledge of the experience of a pregnancy loss in the ED. The manuscripts provide an explanation of the justification of the research, the results of the research, and barriers to recruitment of this population.

The first manuscript is an integrative review of the management of pregnancy loss in the ED, describing the current literature and best practices. This manuscript examines original, research articles dating back to 1990 that discuss management of a pregnancy loss in the ED environment. The outcomes of this review are threefold: (a) identify recommendations for
clinical practices focusing on diagnostic care, medical treatment, and case management, (b) identify emotional care behaviors, and (c) identify operational methods for improving ED care for this population. The second manuscript examines the experience of a pregnancy loss in the ED from the woman’s perspective, including recommendations for improvement. This manuscript identifies common themes from the women’s experiences of ED care when diagnosed with a pregnancy loss. From these themes, specific recommendations for improvement of ED care were established. The third and final manuscript discusses the barriers to recruitment of women experiencing pregnancy loss in the ED. Barriers to recruitment in the ED led to slower than anticipated recruitment for this population; therefore, this manuscript aids future investigators who desire to implement recruitment in an ED setting, including those intending to replicate the study.

Research Questions Answered

The research questions of this study were (a) What is the experience of women diagnosed with a pregnancy loss in the ED, (b) What are the specific behaviors exhibited by healthcare providers in the ED that affect women’s experience when diagnosed with pregnancy loss in the ED, and (c) What is the relationship between the behaviors of healthcare providers and women’s satisfaction with their ED care when diagnosed with pregnancy loss.

Research Question #1: What is the experience of women diagnosed with a pregnancy loss in the ED? The primary research question of this study was to develop a better understanding of the experiences women have when diagnosed with a pregnancy loss in the ED. Results of this study described the ED as part of the crossroads of pregnancy loss and motherhood while women wait to learn the future of their pregnancy. Five themes developed from the participants’ voices including (a) Decisions to get help, (b) The environment of
emergency care, (c) Not knowing, (d) Finally knowing and moving on, (e) assisting with the
grieving process. Decisions to get help, consisted of two categories, “Seeking care” and
“Bleeding” discussing when the women realized there was something wrong and sought medical
treatment. The environment of emergency care consisted of two categories including “perceptions of
clinical care” and “chaotic emergency room.” This theme represented the impressions of ED
care on the women’s experience. Four categories were described by the women relating to Not Knowing whether they had lost the
pregnancy. Additionally, three categories clustered under the category of Finally Knowing and
Moving on, where the women eventually learned that they had a pregnancy loss. Each of these
themes has implications for future improvement of ED care related to the women’s experiences
as discussed in Chapter 5.

Research Question # 2: What are the specific behaviors exhibited by healthcare
providers in the ED that affect women’s experience when diagnosed with pregnancy loss in
the ED? The second research question for this study was to learn specific behaviors which
healthcare providers displayed that impacted the experience of a pregnancy loss in the ED. The
women described a theme of methods to which healthcare workers assisted with the grieving
process. This theme encompassed three categories including (a) Don’t worry, (b) Comforting
me, and (c) Don’t blame yourself. The category of “Don’t worry” were methods to which the
providers attempted to give reassurance to women that their concerning symptoms were nothing
to worry about; however, this was often perceived as negative and disconcerting. The categories
of “Comfort me” and “Don’t blame yourself” were both perceived positively and participants
provided statements such as it “felt like she cared. She understood what I was going through.”
Research Question #3: What is the relationship between the behaviors of healthcare providers and women's satisfaction with their ED care when diagnosed with pregnancy loss? The behaviors of healthcare providers were quantified (Table 6.1). The frequency, the number of participants identifying the behaviors, as well as the intensity, the number of times the behavior was discussed in the entire sample, are displayed. The “Comfort me” behavior was most frequent and most intense with 7/8 participants discussing it and the behavior is mentioned 36 times in the entire sample. The least frequent behavior was “Don’t blame yourself” which was identified by three participants and mentioned seven times in the entire sample. Although women’s satisfaction with their ED care was measured, due to the limited sample size and small variance in satisfaction scores, no relationship was able to be identified between satisfaction and the health care behaviors displayed. Therefore, it was decided that describing the barriers to enrollment of this unique population would be beneficial. Recommendations for improving the recruitment of ED patients were provided in order to improve enrollment of similar populations into future studies.

Theoretical Guidance

The theoretical underpinnings of the study were guided by three theories pertaining to loss. These underpinnings are depicted in figure 6.1. Each of the constructs described in the model including (a) knowing, (b) behaviors of healthcare providers, (c) well-being, (d) satisfaction with care, and (e) transition to normalcy were embedded in the ED experience. Finally, attachment, which was derived from Bowlby’s Theory of Loss (1980) depicts the bond the women may or may not have developed after learning of the pregnancy (Bowlby, 1980).
**Figure 6.1.** Theoretical Underpinnings of Pregnancy Loss in the ED

**Knowing**

“Knowing” was a construct adapted from Swanson’s Middle Range Theory of Caring, as well as Swanson’s construct “coming to know” in the Human Experience of Miscarriage Model. In this study, the point of knowing also developed as a theme which emerged from the participant’s voice. The participants described agony of not knowing while waiting to learn whether they have lost their baby. After the pivotal point of learning they lost their baby, the women described feelings of shock and grief; however, some who had on-going symptoms of pregnancy loss felt they were finally able to move on after the diagnosis. The investigator acknowledges the potential for an attachment bond to occur even in early pregnancy. During this study, 50% of the participants referred to the embryo/fetus as a baby. Additionally, 75% (6/8) responded that this pregnancy loss had a significant impact on their life.

**Behaviors of healthcare providers**

One aspect of the model were the “Behaviors of Healthcare Providers” which include caring behaviors as identified by the women. The women described three methods to which healthcare providers assisted with their grieving process. “Don’t worry” was a category of
behavior statements that the women described as healthcare workers putting off their concerning symptoms of pregnancy loss; however, this was often seen as negative instead of reassuring. “Comfort me” were behaviors that the providers used which were comforting in the grieving process, and were all positive in nature. Finally, “Don’t blame yourself” was a method that was used to reassure the participants that they had no fault in losing the pregnancy. This was also perceived as positive.

Well-being, satisfaction with care, and transition to normalcy

Well-being, satisfaction with care, and transition to normalcy are all constructs which have been shown to be affected by behaviors of healthcare providers (Azizi-Fini et al., 2012; Swanson, 1993; Swanson-Kauffman, 1986). Satisfaction with care was measured in this study; however, due to the small sample size and limited variance, a relationship was not able to be determined. Well-being and transitioned to normalcy were not investigated in this study.

Study Limitations

This study has several limitations. Although the sample was relatively diverse in their ethnic, socioeconomical, and educational backgrounds, it is limited by a small sample size. Additionally, all of the participants spoke English and located in Ohio/Northern Kentucky. Due to the exclusion criteria of women at a greater risk of depression, three women consented to participate but were later excluded from the study. As a result of this, we do not know the experience of the women who are at a greater risk of depression. Finally, the women’s personal accounts of their experience were not triangulated to the healthcare provider perceptions nor the medical record; therefore, we are limited to the participant’s discernment.
Recommendations and Implications

Upon completion of this study, there are several recommendations that were identified.

This section will provide recommendations for future researchers and stakeholders in healthcare including ED healthcare workers (physicians, nurse practitioners, nurses, and management), women’s healthcare providers, and researchers interested in implementing future studies on pregnancy loss within an ED.

**Recommendation 1: Provide further education to ED healthcare workers on grief and bereavement for patients suffering a pregnancy loss.**

The women made statements related to their perception of clinical care in the ED. These were that they felt that the healthcare providers “didn’t get it” and it was “like nobody had any sympathy.” This is reflected in the literature where healthcare workers have been criticized for lack of compassionate care for women with a pregnancy loss (Covington & Rickabaugh, 2006; Dougherty, 1994; Hutti, 1988; Säflund et al., 2004). While it is difficult to understand without a personal experience of a loss, additional bereavement training in the ED may overcome this obstacle. This bereavement training could be incorporated into continuing education or staff meetings; however, optimally it would be initiated in the ED nurse orientation in a structured platform such as computer based education modules or an in-service with social work upon hire.

This bereavement training should include all aspects of end-of-life care while also adding a specific module on pregnancy and perinatal loss. This training could be applicable to all ED healthcare workers as well as other areas of critical care as these care providers support those coping with death and loss. Additionally, if social work and/or chaplain services are available in the ED they should be considered for consult for women for desire this service.
Recommendation 2: Keeping the patients informed throughout the process

One category clustered under the theme of “Not knowing” was that the “Doctor knew and didn’t tell me.” The participants echoed a frustration with their perception that they were left out of the loop when providers knew they were experiencing a pregnancy loss; however, they were not informed. While some providers may try to not frighten patients or be blamed for a potential diagnosis (Fallowfield, 1993), the women are seeking care for a threatened pregnancy loss and stated that they want to know what is happening along the way.

Recommendation 3: Increase patient education surrounding pregnancy loss both in OB-GYN offices and EDs, including details related to psychosocial support after a loss

This study discovered a 26% ED recidivism rate for women who sought care for symptoms of pregnancy loss. While the factors preceding these repeat visits were not explored, some women described the need for more resources for psychological support for both themselves and their partners. Finally, further education to women about their options related to the fetal remains would allow women to make a more informed decision prior to disposition from the ED.

Recommendation 4: Increase participant enrollment through EMR based participant screening

Several barriers were identified with the EMR based screening tool that lowered the potential participant pool for this study. However, the tool was successful at identifying eligible participants. Recommendations for a similar implementation would be to eliminate the burden on ED operations by removing the option of not screening the participants. This could be done through a report generated on all participants meeting criteria delineated in the EMR and asking the participants if they wanted to “opt-out” of a research study. Additionally, a research
coordinator trained in recruitment may approach participants while they are in the ED instead of relying upon the nursing staff to complete the screening. Adding additional sites can increase the participant pool, as 14% of patients with population seeking care left without seeing a physician during the study period, and may have chosen to seek care at another ED.

Finally, due to the acute pain and grief the women may have chosen not to participate. In previous studies of women experiencing a pregnancy loss, 39% had symptoms of moderate to severe Post Traumatic Stress Disorder at 3 months after the loss (Farren et al., 2016). This was also a sentiment of the Community Advisory Panel, which stated it would be difficult to interview women within 2 weeks of a loss. Expanding the inclusion criteria of the study to follow-up with participants at an increased interval from diagnosis may increase enrollment; however, it limits the recollection of the event.

**Future Research**

This study leads to several recommendations for future trajectories of research. With the results of the qualitative findings, a survey may be provided to a larger sample to determine patient satisfaction with care related to their healthcare experience. Additionally, the development of an intervention related to provider bereavement and patient education is warranted to study the impact it has on patient perception of care. While the participants described aspects of healthcare workers assisting with their grieving process, it was not uniform. Certain approached used by healthcare workers were more beneficial than others. Additionally, in a study by Ramsden (1995), only 10% of the nurses had bereavement skills and only one felt confident in consoling women experiencing a pregnancy loss. Therefore, a uniform bereavement counseling such as the End-of-Life Nursing Education Consortium and/or in-services with Social Work or Pastoral Care would be beneficial to ED nurses and other healthcare providers.
Previous research has shown that providers do not always acknowledge pregnancy loss as a death (Zavotsky et al., 2013); thus, minimizing the grief response women and their families can endure.

It was discovered at one site that 14% of women seeking care for a potential pregnancy loss left prior to seeing a physician, and the women had an average time of 3.5 hours in the waiting room prior to leaving. It is not known what the perception, outcome, or long-term implications of this lengthy wait time and leaving without treatment may have on the woman seeking care. Further investigation of their experience is warranted. Additionally, an evaluation of the triage assessment and Emergency Severity Index tool (Gilboy et al., 2012) used when assessing women with pregnancy loss symptoms may impact future care related to waiting room times.

Chapter Summary

It is known from previous studies that during pregnancy loss, low satisfaction with care has been associated with depression (Lee & Slade, 1996), and women’s satisfaction with their healthcare is correlated to providers’ recognition of the importance of this life event (Geller et al., 2010). This study describes the experience women have when diagnosed with a pregnancy loss, as well as healthcare provider behaviors related to alleviating women’s grief symptoms. Each of the themes described from the participants’ voices may lead to implications to improve future care for women diagnosed with a pregnancy loss. Additionally, this study was challenged by the difficulties in recruiting a patient population suffering from the acute phase of grief after a diagnosis of a pregnancy loss in the ED. While there were many barriers to the enrollment of participants, recommendations were developed to encourage ED enrollment for future studies with similar patient populations.
Table 6.1

Quantization of Healthcare Provider Behaviors

<table>
<thead>
<tr>
<th>Behaviors</th>
<th>Frequency</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Don’t Worry”</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>“Comfort Me”</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>“Don’t Blame Yourself”</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>


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Appendix A:

Telephone Screening Questionnaire
Participant Number: ____________________________

Today’s Date: _____/ _____/201__

Current Age: _______

1. Can you speak and read English fluently?

☐ (0) Yes
☐ (1) No

2. When did you first learn you were pregnant?

☐ (0) Before checking into emergency department
☐ (1) After checking into emergency department

3. Was this pregnancy the result of either Intrauterine Insemination or In-vitro fertilization?

☐ (0) Yes
☐ (1) No

4. Have you ever had a pregnancy loss before?

☐ (0) Yes; number of losses: __________________________
☐ (1) No

5. Please give me a date and time when you would be available to meet with me for one to one and a half hours.
Appendix B:

Demographic Information Questionnaire
Demographic Information Questionnaire

Participant Number: ________________________

Today’s Date: ___/____/201__

Current Age: ______

1. How many times have you been pregnant?
   ___ ___ Number of pregnancies

2. How many children do you have?
   ___ ___ Number of children living with you; Ages: ________________________________

3. What is your zip code? __________

4. What is your highest educational degree you have earned? (check only one box)

   [ ] (0) Less than high school diploma, enter last grade completed: (a)____
   [ ] (1) High school diploma or GED
   [ ] (2) Some College
   [ ] (3) Trade or Tech School
   [ ] (4) Associates Degree
   [ ] (5) BA/BS/Other 4-year college degree
   [ ] (6) Some graduate school
   [ ] (7) Graduate Degree (MD/PhD/MA/MS)
5. **What is your annual household income?**

- [ ] (0) Less than 15,000
- [ ] (1) 15,000-24,999
- [ ] (2) 25,000-49,999
- [ ] (3) 50,000-74,999
- [ ] (4) 75,000-99,999
- [ ] (5) 100,000-149,999
- [ ] (6) 150,000 or greater

6. **What is your current living situation?**

- [ ] (0) Alone
- [ ] (1) Parents/Caregivers
- [ ] (2) Spouse/Significant Other/Family Members
- [ ] (3) Roommates (Non-family members)
- [ ] (4) Supported or transitional housing
- [ ] (5) Transient/Stay Where you Can
- [ ] (6) Homeless

7. **What is your race? (check all that apply)**

- [ ] (a) White
- [ ] (b) Black or African American
- [ ] (c) Other, please specify: (d)________________________
8. **What is your ethnicity?**

- [ ] (0) Not of Hispanic, Latino or Spanish origin
- [ ] (1) Mexican, Mexican American or Chicano
- [ ] (2) Puerto Rican
- [ ] (3) Cuban
- [ ] (4) Other Hispanic, Latino or Spanish origin,
- [ ] (5) Other, please specify: (a)_______________________

9. **What is your current relationship status?** *(check only one box)*

- [ ] (0) Single
- [ ] (1) In a relationship
- [ ] (2) Divorced
- [ ] (3) Separated
- [ ] (4) Widowed
- [ ] (5) Married/Cohabitating
- [ ] (6) Other, please specify: (a)_______________________
10. What is your current or usual work/employment status? *(check all that apply)*

☐ (a) Employed *(full or part-time)*

☐ (b) Unemployed

☐ (c) Student

☐ (d) Retired

☐ (e) Homemaker

☐ (f) Disabled

☐ (g) Other, specify: (h) _____________

11. What kind of health insurance do you have? *(check all that apply)*

☐ (0) Self-Pay

☐ (1) Government

☐ (2) Private Insurance

☐ (3) Other

12. Have you or your spouse ever been diagnosed with fertility problems?

☐ (0) No

☐ (1) Yes, Please explain: (a) _______________________________________________________

13. Have you received prenatal care (excluding prenatal vitamins) for this pregnancy?

☐ (0) No

☐ (1) Yes
Appendix C:

Pregnancy Loss Experience Tool
### Pregnancy Loss Experience Tool

Considering this pregnancy loss and visit to the emergency department:

<table>
<thead>
<tr>
<th></th>
<th>Very much</th>
<th>Mostly</th>
<th>Not really</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. This pregnancy loss had a significant impact on my life</td>
<td><a href="4">☐</a></td>
<td><a href="3">☐</a></td>
<td><a href="2">☐</a></td>
<td><a href="1">☐</a></td>
</tr>
<tr>
<td>15. I am satisfied with the care I received in the emergency department</td>
<td><a href="4">☐</a></td>
<td><a href="3">☐</a></td>
<td><a href="2">☐</a></td>
<td><a href="1">☐</a></td>
</tr>
</tbody>
</table>
Appendix D

Interview Question Guide
Interview Questions

1. Tell me about your decision to go to the Emergency Department for this visit?
2. Tell me about what happened leading up to coming to the ED.
3. What kind of symptoms did you have?
4. What was your experience when you arrived to the Emergency Department?
5. What was it like waiting to be seen?
6. Tell me about your nurse.
7. Tell me about his/her attitude and care provided in the ED. Tell me about his/her caring behaviors.
8. Tell me about your physician/ mid-level provider. What was he/she like? Tell me about his/her attitude and care provided in the ED. Tell me about his/her caring behaviors.
9. Tell me about anyone else who cared for you in the ED.
10. Did you speak with a social worker during your ED visit? If so, tell me about that.
11. What kind of tests did you have in the emergency department?
12. Tell me about the experience of having a pelvic exam in the ED, if you had one.
13. Tell me about the environment of the emergency department.
14. What were you thinking about before you received your diagnosis while waiting in the Emergency Department?
15. Did your doctor/ mid-level provider explain your diagnosis? What words did he or she use?
16. How did you feel after your doctor told you about this?
17. Tell me about your discharge instructions.