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Pregnancy Loss in the Emergency Department

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Abstract

The aim of this project is to improve the care for patients experiencing pregnancy loss in the emergency department (ED). Objectives are to enhance understanding of staff about the patients’ experience and their knowledge on how to best care for emotional needs, thus improving quality of patient care, work satisfaction, knowledge, confidence and comfort levels, while decreasing experienced stress. The project was implemented in a midsized community hospital with 117 beds, which discharged 74 patients with “interrupted pregnancies” over the previous year from the ED. The project was directed toward nurses, doctors, care partners, chaplains, and social workers. The implementation method included introductions at shift and unit meetings, and delivering an educational module to three social workers, two ED nurses and a chaplain. Using pre-existing materials and staff input, a PowerPoint presentation was created. It described the development of a position paper on the care of pregnancy loss in the ED and suggestions for implementation of some of the multidisciplinary guidelines posted in the paper and translation into best practices. Implementation proved challenging due to an external disaster affecting the hospital. A pre- and post-intervention questionnaire showed an increase in confidence and knowledge levels and the need for pregnancy loss specific training. Given the positive response to this first PDSA cycle, the recommendation is to continue offering the presentation to ED personnel.

Keywords: pregnancy loss, education, emergency department, patient experience, staff satisfaction
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Clinical Leadership Theme

This project is titled “Pregnancy Loss in the Emergency Department”, with the theme for this project centering around staff education on taking care of a woman and her family experiencing threatened or actual loss of a pregnancy in the emergency department (ED). The process begins with an assessment of workflow conditions and educational needs of the staff. The process ends with an evaluation of the educational component delivered. By working on this project, I expect improved understanding of the staff about the patients’ experience, improved staff knowledge on how to best assess and intervene for any emotional needs of these patients, improved patient care, reduction in staff distress, and improved staff satisfaction. It is important to work on this now because we have identified the need to improve patient care, patient satisfaction, and staff knowledge and confidence.

The American Association of Colleges of Nurses (AACN, 2007) states that the clinical nurse leader (CNL) “assumes accountability for patient-care outcomes through the assimilation and application of evidence-based information to design, implement, and evaluate patient-care processes and models of care delivery” (p.4). The clinical leadership themes for this project combine nursing leadership elements with the function of advocate and clinical outcomes management elements with the functions of educator and outcomes manager as a framework for this project (AACN, 2007; Harris, Roussel, & Thomas, 2014). Interweaving threads of ethics, assessment, clinical decision-making, professional values and especially communication are used to execute CNL role competencies, particularly to facilitate learning of other health care professionals (educate), to effect change through this for a specific patient population (advocate), and thus to achieve client care outcomes (AACN, 2007; Harris et al., 2014). The global aim of
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this project points toward improving care for patients experiencing threatened or actual miscarriage in the ED.

Statement of the Problem

When pregnancy loss occurs after 20 weeks gestation, women are usually admitted to inpatient Maternal Child Services and offered comprehensive bereavement services. Women under 20 weeks gestation who come to the ED with miscarriage, an ectopic pregnancy or fetal demise may receive appropriate physical care, but the evidence-based psychological and bereavement support they need is provided less consistently, or, more often, not at all. Early pregnancy loss is one of the most common pregnancy complications, but when women experience miscarriage in the ED their care is still not as standardized as for later losses cared for in inpatient units. The goal is to provide teaching to the ED staff to translate research findings and best practice guidelines into implementation of standardized care practices in the ED.

Project Overview

This project is not a research project, but demonstrates translation of research into practice, specifically, an evidence-based activity conducted in the emergency department of a midsized community level hospital in Northern California. It consists of an educational component directed at staff presenting recently established national guidelines for the care of a special patient population. Using improvement methodology, this teaching intervention represents the “Plan-Do-Study-Act” (PDSA) cycle of performance improvement (Institute for Healthcare Improvement [IHI], 2017). The goals were to inform staff of nationally adopted guidelines for standard of care and to provide implementation suggestions under consideration of staff feedback to increase knowledge and comfort. A special focus of the educational intervention deals with the presentation and disposition of fetal remains, an objective identified through microsystem assessment interviews and discussions. Examples of communication,
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what to say and not to say, were also included, as well as other practical suggestions, as requested by staff during workflow observations and shift change huddles. The education is directed toward a multidisciplinary group of healthcare providers, consisting of but not limited to, nurses, social workers, and chaplains.

In contrast to the global aim, which puts the theme into context to provide a focus for the improvement theme, the specific aim pinpoints the focus on the details needed to achieve the test of change and to maintain improvement intention and focus, based on process analysis and observation (Nelson, Batalden, & Godfrey, 2008). The specific aim statement for this project targets an improvement intervention that can be achieved within a set time: Knowledge and confidence of ED staff about appropriate interventions and interdisciplinary guidelines for the care of women with pregnancy loss will be increased through an educational presentation delivered before November 30, 2017. The desired outcomes will be increased staff knowledge and understanding about appropriate interventions and interdisciplinary guidelines for the care of women and families with pregnancy loss, resulting in increased staff satisfaction and confidence and decreased staff distress. Improved patient care and satisfaction are other desired outcomes of this project.

Rationale

The care of women with pregnancy loss in the emergency department has received increased attention during the past year with the development of a Position Statement and Interdisciplinary Recommendations on the Pregnancy Loss Needs of Women and Families in the Emergency Department (Catlin, 2017). A multidisciplinary panel of experts based these guidelines on research that has been conducted over the years, showing that the care of these women can be standardized and improved through
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education of the care provider in the emergency department while also acknowledging that training programs are needed to facilitate the implementation of these guidelines.

Given that the intended location for my project, the Kaiser Permanente Santa Rosa emergency department is not my home unit, and I had only recently joined the Kaiser Permanente healthcare system, a comprehensive microsystem assessment had been difficult to accomplish. Data collection to assess the magnitude of the problem by identifying the annual patient volume affected through collation of applicable International Classification of Diseases (ICD) codes was conducted by an informatics analyst. A list of 30 terms were collated under the heading “interrupted pregnancies” and provided for search to the data consultant (see Appendix A for a listing of search terms for interrupted pregnancies). The report indicated that between 09/01/2016 and 08/31/2017, out of 120 applicable patient situations, 74 were experienced in the emergency department, signifying 62% of the annual patient volume of interrupted pregnancies, followed in second place by 34 patients in the operating room, or 28% (see Appendix B for hospital discharge locations of interrupted pregnancies). Since Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) data are not collected for non-inpatient units like the ED, and due to the sensitive nature and privacy concerns around this topic other unit data, audits, or patient surveys were not available; on an informal basis some anecdotal patient satisfaction issues were shared with me and informed the educational intervention.

One of the first assessment tools I utilized was a fish-bone diagram, a mapping tool which allows for the exploration of possible causation on the issue or problem (Nelson et al., 2007). The problem my project addresses is the issue of unmet patient
needs with pregnancy loss in the ED (see Appendix C for the fishbone diagram). The categories identified leading to the current status quo are a list of deficits: lack of recognition of the problem by staff, lack of resources in equipment or human form to address the issue if recognized, lack of education specific to pregnancy loss and in improvement methodology, lack of commitment, and lack of mentorship to guide any willing champions. Other deficits relate to a lack of structure; no processes are in place to simply begin implementation of such a practice change, and a policy, procedure or standard of care are missing. Cost and time were other categories I identified on the fish-bone diagram.

These factors were corroborated by informal interviews with personnel from the ED and nursing and social services, in addition to the lack of support services, such as spiritual care support or volunteer services. A workflow assessment conducted over two shifts confirmed previous impressions and obtained new insights, such as staff responding differently based on their gender, and the impact of lack of staff at times of high census or high acuity. This makes it important for the staff to utilize their resources by triaging according to the highest risk patient, which is not usually the patient presenting with a miscarriage and stable hemorrhage (Zavotsky, Mahoney, Keeler, & Eisenstein, 2013). Another observation relates to the lack of privacy during the intake and triage process, which takes place near the open waiting area, presenting privacy concerns. Considering this information, themes identified through research describing the experience of miscarrying in emergency departments as being dismissed and marginalized need to guide further assessment and interventions (MacWilliams, Hughes, Aston, Field, & Moffatt, 2016). Additionally, weight needs to be given to
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properly support the staff in times of potentially conflicting priorities, for instance through education and coping skills (Zavotsky & Chan, 2016).

I utilized a “SWOT analysis” to contrast the identified deficits with available assets (see Appendix D for the SWOT analysis). This is a useful tool to identify potential negative and positive elements impacting the intended project through internal and external sources (King & Gerard, 2016). Significant weaknesses identified include the lack of a formal educator involvement, my (and my preceptor’s) lack of ED experience and us not being actual members of the ED team. In addition to the ED culture and practice approach, which makes relationship based care difficult, processes are also performed through potentially different theoretical frameworks, like Chaos Theory, or Maslow’s Hierarchy of Needs (Hall, 2015). Threats could be found in the costs to maintain the educational offering and implementation, and additional resources needed outside the scope of our project, such as staff support for emotional distress triggered through the project. Internal strengths are the existence of unit champions from both the day and night shift, leadership support from the ED manager and medical director, staff support expressed informally and buy-in from the unit council where a presentation of this project received positive reaction. Positive external factors are the expressed support from the Northern California Kaiser Permanente leadership for perinatal bereavement education in all EDs, the contribution of national ED healthcare workers to the development of the guidelines, and the recognition of the position statement through professional associations. Also, perinatal bereavement education is already available which can be tailored to the needs of the ED department as identified by the staff. Finally, this project fits in with the Kaiser Permanente organization and
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ED department mission statements, to “provide affordable, high quality healthcare services to improve the health of our members and communities we serve…”, with the goal “…for each family to feel that they have had a personalized, caring, and safe experience…” (Kaiser Permanente, 2017).

Stakeholders include the nursing staff, with specific attention to “champions” capable and interested in increasing staff buy-in. Any staff interested in sharing feedback and furthering the standard of care, doctors, social workers, spiritual care support, also the manager, educator, system’s ethicist, patient representatives and mental health liaison, were also encouraged.

An analysis of the costs of the project reveals minimal expenses in “dark green dollars” to the healthcare system (see Appendix E for a cost analysis). I executed most functions of the preparation phase, and utilized already existing work groups or standing meetings. Two additional expenses occurred through other personnel: (1) ICD code search done by the data consultant, which took 30 minutes since all data are embedded already in the informatics application of the healthcare system, estimated at a cost of $35, when considering the median hourly pay for IT consultants at $76.90 at an annual salary range of $48,504 to $118,717 (Payscale, 2017). (2) Hour-long conference with the ED and OB leadership, namely the ED medical director, ED director, OB nursing director and outpatient clinic manager. Nursing director pay ranges from $61,230 – $136,125, with an average hourly pay of $39; the annual pay range for nursing manager lies between $62,016 - $115,342, and a median hourly salary of $36; the annual pay range for an ED physician is averaged between $97,942 -
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$354,493, and delivers a median hourly pay of $169 (Payscale, 2017). This brings the total costs for this meeting to an estimated $280.

Implementation of the educational component will also be done by me at no cost to the healthcare system, and nursing staff attending will be able to do so using their education hours. End-of-life care has been identified as one of the areas that needs special attention in the staff education process, and has also received notice in previous years as a safety issue by national accrediting agencies (Finkelman, 2016; The Joint Commission, 2015). Qualitative benefits can be seen in potential improvements of patient satisfaction issues and improved quality during a possible life crisis, and improved staff satisfaction due to increased comfort and knowledge.

Methodology

The global aim for this improvement project is directed toward improving the care for patients experiencing threatened or actual miscarriage in the emergency department (ED) by raising understanding of the staff about the patient’s experience, increasing their knowledge, confidence and comfort in how to best assess and intervene for the emotional needs of these patients, thereby decreasing any distress they themselves might feel when taking care of patients experiencing a miscarriage, and improving their own satisfaction with the care they are providing. This improvement in patient care will also lead to improved patient satisfaction. The specific change to be tested refers to the knowledge and comfort level of ED personnel altered through an educational intervention.

The ED is a unique microsystem unlike any other in the macrosystem of the hospital environment. Maslow’s Theory of Needs can be used to describe the unit culture and processes: staff need to address first physiological and safety needs e.g.
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hemodynamic stability and pain control (see Appendix F for Maslow’s Hierarchy of Needs adapted to pregnancy). They might be less successful or less interested in attaining higher levels of needs, relating to disposition of baby, end-of-life care, emotional needs for grief and loss of role identification as parent, etc. (Hunsaker, Maughan, & Heaston, 2015). This project hinges on recognition that the psychological needs of the patient can constitute an emotional trauma, and requires staff to “feel” differently about their care. Therefore, Kotter and Cohen’s Model of Change is selected as underlying change theory, given their work showing that people are more likely to change when not only their intellect is addressed with facts and evidence-based information, but when they are emotionally moved by speaking to their feelings (Finkelman, 2016). Their Eight Steps for Successful Change begin with interventions creating a climate for change, followed by actions engaging and enabling the whole organization, which then will lead to strategies implementing and sustaining the change (see Appendix G for the eight-steps process). This is mirrored by Melnyk and Fineout-Overholt (2015), who list essential components for successful implementation of evidence-based practice changes as creating a vision, developing specific goals, identifying a dedicated team, involving experts, promoting engagement by eliminating barriers, prioritizing clinical issues, and evaluating the infrastructure. At a meeting with leadership for the emergency and obstetrics departments I presented vision, plan and goals for this project, and received statements of approval and support addressing Kotter’s steps of increased urgency and creating a vision. On the staff level, I am a member of an interdisciplinary group of engaged personnel across the care continuum of ED, inpatient, clinic, and operating room [OR]) who are planning and implementing
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standardized care interventions for the entire institution. I also presented vision, mission and goals of this project at the ED unit council meeting, and repeatedly at staff huddle meetings at shift change. These activities were designed to increase urgency, build a guiding and dedicated team with engaged experts, state the initial vision, and promote commitment. I provided verbal presentations and written handouts with my contact information, and stressed the opportunity for participation in the project, inviting empowering action and to improve communication for buy-in.

Simultaneously, I had begun the planning stage of what to include in the education module. Since access to patient reports was limited due to the sensitive nature and confidentiality issues, I used literature accounts and qualitative studies to include the voice of the patient, in line with Kotter and Cohen’s model of using patient stories to provoke staff feelings as a motivator for change. I obtained permission from a mother who lost two children before 20 weeks gestation and who shared her experience online, to include some of her photos in my educational presentation. I have received some informal feedback from ED staff, and have also identified two micro system champions inviting their feedback and participation. These actions are designed to get the vision right, empower action, and remove barriers, creating short-term wins and specific goals by involving the experts, promoting engagement and prioritizing clinical issues. I am planning a one-hour PowerPoint presentation with handouts of copies of the presentation and the interdisciplinary guidelines upon which it is based.

I plan to assess the pre-education readiness, confidence and knowledge statements by staff attending the education and compare pre-education answers to post-
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education answers by using a ten-statement questionnaire on a 5-point Likert scale (see Appendix H for the survey). The questions will assess pre- and post – education personal and microsystem changes. The target group of this PDSA cycle consists of staff with a keen interest in improving the standard of care (two nurses, one social worker and one chaplain), representing the interdisciplinary nature of this project and lateral integration of the CNL role. I am confident that the presentation will show an increase in knowledge of fetal loss care issues, and I also expect an improvement in the comfort ratings on the post-intervention survey. I expect a bigger change on statements relating to personal change than unit change, given the small sample of unit representatives.

Data Source / Literature review

Literature review was guided by the PICOT format, as described by Melnyk and Fineout-Overholt (2015): Population – Intervention – Comparison – Outcome – Time frame. The question was posed: Among Emergency Department (ED) staff, does education on early fetal loss and standard of care guidelines compared to no formal training lead to increased staff knowledge and confidence caring for patients with early fetal loss by November 30, 2017? There is limited literature on application of this knowledge inside of the ED. More recent work suggests that implementation of fetal loss and perinatal bereavement programs in the ED lead to improved patient satisfaction and staff comfort levels (Catlin, 2017; DiMarco, Renker, Medas, Bertosa, & Goranitis, 2002; Hutti et al, 2016; Johnson & Langford, 2015; Warner, Saxton, Indig, Fahy, & Horvat, 2012; Zavotsky et al., 2013). Information about the needs of patients and families, and the impact and implications of fetal loss care on staff provide the rationale for staff education (DiMarco et al., 2002; Hutti et al., 2016; Linnet, Graunegaard & Husted, 2015; MacWilliams et al., 2016;
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Wallbank & Robertson, 2012; Zavotsky et al., 2013). A microsystem assessment was performed, and leadership support, workflow assessments and informal staff interviews revealed a need for staff training. The hospital data on pregnancy losses for the past year (n = 120) show that 62 percent occurred in the emergency department (Appendix A).

This is an excellent time to work on this project: After many years of only anecdotal quality improvement efforts around this issue, a multidisciplinary international summit at a Pregnancy Loss and Infant Death Association (PLIDA) meeting formulated a Position Statement and Interdisciplinary Recommendations on the Pregnancy Loss Needs of Women and Families in the Emergency Department (Catlin, 2017). These guidelines have received endorsement by several professional associations and experts, like PLIDA, Resolve Through Sharing (RTS), and the National Perinatal Association (NPA). So far, they received adoption by the Emergency Nurses Association (ENA), the American Nurses Association (ANA) and the American College of Emergency Physicians (ACEP). Catlin (2017), an internationally known scholar, leader, and consultant in the field of perinatal palliative care, ethical issues and decision making, described the research trajectory founded on a qualitative study of emergency department nurses and utilizing focus groups of perinatal bereavement providers, professional and lay experts, which led to the posing of a national position statement with the main theme focusing on guidelines for care of patients who experience pregnancy loss in the emergency department. These recommendations will be the basis for the teaching intervention, signifying the first PDSA cycle of this project.

Women under 20 weeks gestation who come to the ED with miscarriage, an ectopic pregnancy or fetal demise may receive appropriate physical care, but the evidence-based
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psychological and bereavement support they need is provided less consistently, or, more often, not at all. Since the 1970s, an increasing body of research has looked at various aspects of perinatal loss at any time during pregnancy, leading to the creation of a universally accepted standard of care for inpatients, and more recently to the burgeoning field of perinatal palliative care. Early pregnancy loss is one of the most common pregnancy complications, but when women experience miscarriage in the ED their care is still not as standardized as for later losses cared for in inpatient units (Catlin, 2017).

The literature has described the impact of miscarriage in general and as experienced in the emergency department by women and their families. Lack of staff support or standardized care during a life-altering event, clinical presentation of unhealthy grief reactions, and mental illness are some of the issues and outcomes described on the patients’ side (Covington & Rickabaugh, 2006; Gold, 2007; Hunter, Tussi, and MacBeth, 2017; Meaney, Corcoran, Spillane, & O’Donoghue, 2017; Murphy, Lipp, & Powles, 2012; Radford & Hughes, 2015; Spencer, 2011). A Canadian study used a qualitative design and interpretive phenomenology about the experience of eight women in the ED, conducting semi-structured interviews and analyzing the data using hermeneutics and thematic analysis (MacWilliams et al., 2016). Themes emerged, which provide insight into the patient experience and the implications for emergency care providers. While the researchers describe detailed recall, the time between ED visit and study might have influenced the content of the information. Another problem is the lack of cultural and socioeconomic sample diversity; however, this timely article is very important because of its focus on the project population and resulting practice suggestions.
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Similarly, a qualitative study was conducted by a multidisciplinary group of researchers and clinicians practicing in various institutions and organizations in Australia, being the first study to describe the experience of early pregnancy care in the emergency department from the perspective of women in that country (Warner et al., 2012). Semi-structured interviews with 16 women described their experience and transcribed the results using thematic analysis. Privacy, dignity, compassion, and respect were noted to be important, but at times missing; more information and follow-up was requested as well. Limitations of this study refer to recall bias and lack of sample diversity. This study confirms the vital role of the ED staff, mirrors some of the finding in my microsystem assessment, and provides suggestions for practice strategies included in the educational intervention of my project.

Various researchers have investigated specific aspects of the pregnancy loss experience. In a qualitative Danish study, the decision-making process of women and health care providers at an emergency gynecological department at a university hospital in Copenhagen was explored through semi-structured interviews (Linnet Olesen et al., 2015). The specific focus was aimed at the treatment selection, and the conclusion about this aspect of care provided recommendations for health care providers to explore women’s deliberations on treatment and thus their potential needs at this time of crisis. The strength of the study lies in the exploratory qualitative design and triangulation with patients and health care providers, the use of an expert researcher in the field, and other researchers to reduce possible interpretation bias. Weaknesses are the small sample size of six women not representative of other age or backgrounds, or women who did not desire the pregnancy. This study provided insight into the “mismatch” of provider and patient perceived needs addressed in Catlin’s (2017) paper, and can serve as background information for the “voice of the patient” contributions to the educational presentation.
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Limbo, Glaser and Sundaram (2014) are researchers and clinicians with national and international reputations as experts in the field of perinatal end-of-life care. The two-phase qualitative design of their investigation with a dimensional analysis explored women’s experience of miscarriage. “Being sure” emerged as a central process, which implies the responsibility of nursing staff to help women during this experience. Like the research done by Linnet Olesen and colleagues (2015), this study focused on specific aspects of a pregnancy loss experience, and the conclusions provide important practice recommendations, which need to be considered in staff education interventions. Of positive note is the larger sample size with this study (n = 23). An earlier paper by Limbo and colleagues addressed the important aspect of respectful disposition of fetal remains, an area of discomfort for staff identified during staff huddle presentations (Limbo, Kobler, & Levang, 2010).

Increasingly, researchers have also investigated the experiences of nurses taking care of patients with perinatal loss or miscarriage (Jones-Berry, 2014; Murphy & Merrell, 2009; Wallbank & Robertson, 2013). A common theme was the lack of education preparing ED staff to take care of these patients holistically, to the point of dissatisfaction with the care delivered and emotional distress for both staff and patient.

Hutti and colleagues (2016) studied the experiences of nurses taking care of women experiencing miscarriage. The lead author is renowned for 30 years of research in the field of perinatal loss, using a theoretical framework and developing a clinical instrument, Perinatal Grief Intensity Scale (PGIS), that researchers can apply to women with perinatal loss. This study focused on four focus groups, utilizing Swanson’s Theory of Caring, to explore the experiences, and meaning and consequences of 24 nurses working in obstetrical, emergency or surgical care area. Implications supplied by the author include the need for staff debriefing and
self-care opportunities, bereavement education and mentoring, and the need for research into compassion fatigue in this population. This timely research is very important for its focus on the needs of and implications for staff working with patients experiencing fetal loss through the lens of a theoretical framework, while the study design using focus groups might have provided some limitations through potential influence of co-participants and researchers. Given that the focus of the PICOT question is ED staff, this study emphasizes the need for staff education, support and a bereavement program.

Canadian researchers Engel and Rempel (2016) explored beliefs, attitudes, and care practices of 174 multidisciplinary ED personnel taking care of women with miscarriage, and looked at gaps, barriers for support and follow-up services. Using a survey design, they found that with little guidance in policy, reported by 64% of participants, lack of knowledge by healthcare workers was expressed as blame for the woman causing the pregnancy loss, lack of recognition of the impact on the family, and the request that women „...should just get on with it…“ (p. 57). Aside from the important practice implications of developing structure through policy and support through education for staff to promote better care, another important finding was that out of the queried providers, nurses reported the least amount of confidence and knowledge. Strengths of this study include large sample size and the insights it provides about the relationship between confidence and knowledge levels, and the ability to mobilize effective support, mirroring the focus of the PICOT question.

Several studies provided suggestions and anecdotal outcomes for implementation of individual training efforts and bereavement programs (Bacidore, Warren, Chaput, & Keough, 2009; Jones-Berry, 2014; Olson, 2013). With their study, Johnson and Langford (2015), a clinician and scholar team, followed up on experimental research that they published 2010,
investigating the outcomes of a protocol to assist women in recovery after loss. This newer study examined the effects of a secondary bereavement intervention on grieving in women who experienced a miscarriage (pregnancy loss) at 12–20 weeks gestation. Completing the Perinatal Grief Scale (PGS) and using three dependent variables (despair, difficulty coping, and active grieving), analysis of the intervention revealed a significant difference \( p<.001 \). The work of these authors is important given the experimental design with randomized assignment in a field of study with overwhelming qualitative evidence, and the recommendation for bereavement interventions immediately following a miscarriage. Limitations include the need for further research into covariables. The significance to my project lies in the association of interventions like my project, and positive outcomes.

Zavotsky and colleagues (2013) are multidisciplinary clinicians with expertise in the emergency care arena, who looked at staff and patient satisfaction before and after implementation of an early fetal bereavement program. This paper demonstrates a case report of a quality improvement project and evaluation, which is highly valuable for the project at hand, and important due to its focus on improving patient outcomes through intervening at the staff level.

**Timeline**

Most of this project was completed over a four-month’s timeframe, though some actions were achieved outside of this period (see Appendix I for the timeline). Elements of the plan referred to (1) microsystem assessment, (2) development and application of a suitable theoretical framework supporting the plan, (3) garnering staff buy-in and leadership support, and (4) development of the education module designed as the initial PDSA. A leadership meeting was initially held outside of these 16 weeks in late spring,
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since a lack of leadership support for a project in a “foreign” microsystem would have been a major barrier, and impossible to overcome. Ongoing activities throughout all weeks included attendance and participation in the interdisciplinary bereavement work group, simultaneous networking to identify and encourage staff champions, and wide literature searches to identify potential content for the educational intervention.

The microsystem assessment was accomplished with workflow observations and informal staff interviews, completed before the major project effort began. Receiving the hospital data did not happen until the project was well underway. Final global and specific aim formulation, and deciding on theoretical framework guiding the change and intervention process occurred early on. Staff buy-in activities occurred during the first month, with introductions at repeated shift change huddles and a presentation at the ED unit council. Staff input utilized for the educational module was obtained when opportunities presented during workflow observations, staff interviews, and shift and unit meetings. Absent access to patient data and surveys, literature insights to collate educational and practice implications were utilized, with the first draft of the educational component completed as a PowerPoint presentation during the third month.

A natural disaster closed the hospital for 17 days, and the resulting personal and professional challenges caused an academic hiatus of four weeks. Once the hospital was open again, the educational component was presented to a group of multidisciplinary professionals working in the ED, with an accompanying pre-and post-intervention survey, and analysis and comparison of survey results and any feedback received. The sustainability plan is that the unit champions will use this first PDSA cycle to bring
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continued educational efforts to the ED, completing an extended program goal beyond the capability of this academic project.

**Expected Results**

Specific to pregnancy loss in the ED, research described a mismatch between the focus on physical care provided by nurses and the emotional needs of patients, high levels of stress in the staff, and the need for more education and training since it had been shown that bereavement programs made a difference (Catlin, 2017). Citing work published by Melnyk in 2012, Wallis also reports low numbers of consistent EBP use, and the need for “EBP mentors at the bedside ... to create a context ... and sustain change” (p. 15, 2012). In focus groups, Tacia et al. (2015) identified institutional and cultural barriers, lack of knowledge, lack of motivation, time management, physician and patient factors and limited access to appropriate technology as themes hindering the promotion of evidence-based practice (EBP) in a midwestern rural community hospital. Certainly, the first four issues could be applied as problematic in this project in the ED setting as well. Additional barriers include the issue that the emotional needs of patients were not part of the ED nurses’ concern, and the lack of support services, including spiritual care and social workers. Further pursuing this project, and the implementation of the initial PDSA cycle with the educational component delivered to a multidisciplinary group will confirm these barriers. Conversely, if the project is taken up by ED personnel, it will confirm the theory that education, training, and a formal bereavement program can minimize the “mismatch” between care delivered and care needed, and decrease the stress of staff. This project will hopefully lead to more unit champions coming forward as “EBP mentors” who will sustain changes.
Nursing Relevance

King and Gerard (2016) describe EBP as a composition of “…best and current evidence, patient’s preferences, and the clinician’s expertise or judgment” (p.267). This project applies all three components by using lateral integration of care practices, patient advocacy, and performance improvement methodology to further the standard of care of fetal loss in the ED. According to Begun, Tornabeni and White (2006), the CNL “…serves as a lateral integrator for the healthcare team and facilitates, coordinates, and oversees the care provided by the healthcare team…” (p.19). Thus, lateral integration of care is a special form of teamwork: bringing together different experts and healthcare providers inside and outside of the microsystem for the common goal of improving a patient’s or a clinical population’s care and outcomes. In this case, strategies involve educating multidisciplinary ED personnel about the existence of interdisciplinary care guidelines and providing implementation suggestions for sustaining the efforts beyond the initial PDSA cycle. Perhaps the most important driver for these activities is the concept of patient advocacy, defined as a professional nursing duty by the Code of Ethics for Nurses by the American Nurses Association (2017) and a core competency of the CNL (AACN, 2007). Research leading to the creation of guidelines drafted in a national position paper identified the lack of acknowledgement and treatment of physical and psychological pain associated with the loss of a desired pregnancy (Catlin, 2017). Patient advocacy requires continued working toward integration of holistic care principles according to those research issues identified by patients and families.

This project is the first step toward informing care and applying an evidence-based standard of care in a community based emergency department in northern California in
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the Kaiser Permanente system, a large healthcare organization which operates 38 medical centers, with the potential for systemwide implementation. The increasing endorsement through professional organizations, three at the time of this writing, and the support of the system’s leadership, will enable staff champions to pursue further educational efforts geared toward the whole department, while finding increasing acceptance and sustainability.

Summary

The aim of this project was to improve the care for patients experiencing pregnancy loss in the ED. Objectives were to enhance understanding of staff about the patients’ experience, and their knowledge on how to best care for emotional needs, thus improving quality of patient care, work satisfaction, knowledge, confidence and comfort levels, while decreasing experienced stress. The project was implemented in a mid-sized hospital with 117 beds, which discharged 74 patients with “interrupted pregnancies” over the previous year from the ED. The project was directed toward nurses, doctors, care partners, chaplains, and social workers. The implementation method included introductions at shift and unit meetings, and delivering an educational module to three social workers, two ED nurses and a chaplain. Using pre-existing materials and staff input a PowerPoint presentation was created. It described the development of a position paper on the care of pregnancy loss in the ED and suggestions for implementation of some of the multidisciplinary guidelines posted in the paper and translation into best practices.

Implementation proved challenging due to an external disaster affecting the hospital. A pre- and post-intervention questionnaire was used to provide data to evaluate the effectiveness of the educational module and demonstrated a post-intervention change on all questions. Highest improvement with a gain of 47%, 59%, and 41% compared to pre-intervention ratings related to
PREGNANCY LOSS

questions about presentation of remains, communication with family, and the arrangement of interdisciplinary care (see Appendix J for results). This increase in confidence and knowledge levels after the education not only documents the effectiveness of the educational module, but points to the need for pregnancy loss specific training. Given the positive response to this first PDSA cycle, my recommendation is to continue offering the presentation to ED personnel. To maintain the momentum achieved through this project the next PDSA cycle needs to utilize information learned from the previous cycle. The plan includes adjustment of the educational module and planning incentives for staff, such as frequent presentation times and offering continuing education hours (CEUs). The do-phase consists of providing education to multidisciplinary ED personnel with the administration of a pre- and post- survey. The study phase is used to analyze the questionnaire data and possibly modify the module. The act-phase will then consider further widening of the previous PDSA cycle. Special recommendations include to maximize the influence the unit council can have on staff buy-in, considering how to bring the projects to physicians, and utilizing the patient advisory council for bringing the “voice of the patient” to the bedside implementation. Continuously working on presenting the project at meetings and refining the educational component will aid in the sustainability of the change, by strengthening the staff’s recognition of the problem and the intervention, potentially gaining additional champions, and increasing familiarity and collaboration among personnel and stakeholders, while also considering potential barriers. Preserving energy sources by focusing on manageable goals, allowing enough time for accomplishments, and celebrating success at the unit level are other strategies, as suggested by Melnyk and Fineout-Overholt (2015).

Implementing change into the inpatient standard of care for the patient and family experiencing pregnancy loss in obstetrics and neonatology has taken years to permeate practice
PREGNANCY LOSS

settings across the country, and palliative perinatal care has found introduction into the clinical areas only within the last few years. Working on improving the care for these patients in the ED, and considering the needs of the staff in the process, will take time and determination, but are important enough to be pursued.
PREGNANCY LOSS

References


PREGNANCY LOSS


PREGNANCY LOSS


PREGNANCY LOSS


PREGNANCY LOSS


PREGNANCY LOSS

### Appendix A

Search terms for interrupted pregnancies by ICD 10 codes

<p>| | |</p>
<table>
<thead>
<tr>
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<tr>
<td>Cervical incompetence</td>
<td>Complete legally induced abortion</td>
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<tr>
<td>Cervical incomplete</td>
<td>Complete spontaneous abortion</td>
</tr>
<tr>
<td>Chromosome abnormal</td>
<td>Complete pregnancy loss</td>
</tr>
<tr>
<td>Incomplete legal induced</td>
<td>Incomplete pregnancy loss</td>
</tr>
<tr>
<td>Incomplete SAB</td>
<td>Incomplete spontaneous abortion</td>
</tr>
<tr>
<td>Intrauterine death</td>
<td>Intrauterine fetal</td>
</tr>
<tr>
<td>Other ectopic PG with</td>
<td>Other abnormal Pro</td>
</tr>
<tr>
<td>Ovarian pregnancy</td>
<td>Pregnancy comp</td>
</tr>
<tr>
<td>Retained POC after</td>
<td>Retained products</td>
</tr>
<tr>
<td>Ruptured tubal pre</td>
<td>SAB/Spontaneous ab</td>
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<tr>
<td>Tubal pregnancy</td>
<td>Twin Pregnancy w/fetal loss</td>
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<tr>
<td>Unspecified legally induced</td>
<td>Unspecified spontaneous</td>
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Appendix B
Hospital discharge locations for interrupted pregnancies

Distribution of “Interrupted Pregnancies” by Hospital Location

Kaiser Permanente Santa Rosa Medical Center
The Permanente Medical Group, Inc.
Emergency Department
ED Diagnoses of "Interrupted Pregnancies"
ED Visits between 9/1/2016 and 8/31/2017

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<th>Date</th>
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<th>Disch. Unit</th>
<th>2W</th>
<th>3N</th>
<th>3W</th>
<th>ED</th>
<th>LD</th>
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<td></td>
<td>11</td>
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<td>2</td>
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<td>7</td>
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<tr>
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<td>1</td>
<td>34</td>
<td>120</td>
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Appendix C

Fishbone diagram

Unmet patient needs with pregnancy loss in ED
Appendix D

SWOT Analysis

**Strengths**
- Unit champions
- Management support
- Interest of chaplains and social workers
- Informal staff support
- Buy-in from unit council

**Weaknesses**
- Lack of formal training
- CNL & preceptor: not members of ED team, lack of ED experience
- Microsystem culture, practices and theoretical framework specific to ED
- Lack of staff buy-in
- Lack of structure and resources

**Opportunities**
- Executive leadership support
- Multidisciplinary guidelines adopted by Emergency Nurses Association, American Nurses Association, American College of Emergency Physicians
- Educational materials available
- Fits with HC system and ED motto

**Threats**
- Costs for education and implementation
- Support for staff experiencing emotional distress
## Appendix E

### Cost Analysis

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COMMENT</th>
<th>EXPENSE</th>
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<tr>
<td><strong>Personnel</strong></td>
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<td></td>
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<tr>
<td>CNL student</td>
<td></td>
<td>No Cost</td>
</tr>
<tr>
<td>ED staff</td>
<td>Shift huddles, standing meetings</td>
<td>No Cost</td>
</tr>
<tr>
<td>ED staff</td>
<td>Unit council, standing meeting</td>
<td>No Cost</td>
</tr>
<tr>
<td>Unit champion</td>
<td>Voluntary</td>
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<tr>
<td>Bereavement group members</td>
<td>Standing meeting</td>
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<td><strong>ED leadership – presentation – 1 hour</strong></td>
<td>ED physician</td>
<td>$169</td>
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<tr>
<td>ED manager</td>
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<td>OB manager</td>
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<td>$36</td>
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<tr>
<td>OB director</td>
<td></td>
<td>$39</td>
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<tr>
<td>IT consultant</td>
<td>data retrieval – ½ hour</td>
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<td><strong>Education module</strong></td>
<td>PPT presentation</td>
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<td>Handouts</td>
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<td><strong>Environment / Equipment</strong></td>
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<td>A/V equipment supplied</td>
<td>Existing</td>
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<td><strong>Attendees</strong></td>
<td>Multidisciplinary</td>
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<td>Voluntary, use of Ed time, CEUs</td>
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<td><strong>TOTAL</strong></td>
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<td>$325</td>
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Appendix F

Maslow’s Hierarchy of Needs Adapted to Pregnancy

Hierarchy of Birth Needs

- **Physiological Needs**: Basic needs for air, food, water, sleep, shelter, etc.
- **Safety & Security Needs**: Free of fear, secure and comfortable in body, birth place, resources, use of medical interventions, etc.
- **Social Needs**: Connected to, supported, encouraged & respected by doctors, nurses, family, etc.
- **Esteem Needs**: Sense of accomplishment, confidence, empowerment
- **Self-Actualization Needs**: Fulfillment of full potential, hopes, creation, etc.
- **Self-Transcendence Needs**: Peak Exp., oneness, wholeness, beyond self

© Copyright Design by Brooke Radloff, 2013. Based on Maslow’s Hierarchy of Needs
Appendix G

Kotter & Cohen: Eight Steps for Successful Change
Appendix H

Pre- and post-education questionnaire

Pre- and Post- Education Survey:
Knowledge and Comfort Levels of Staff
Taking Care of Patients Experiencing Pregnancy Loss in the Emergency Department

Please circle a number on how much you agree or disagree with each statement:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interdisciplinary guidelines contain beliefs, ideas and interventions, which form the basis for pregnancy loss care.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>1. Implementing interdisciplinary guidelines offers patients with pregnancy loss improved quality of care.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>1. I feel confident in arranging interdisciplinary care for patients with pregnancy loss.</td>
<td>1</td>
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<td>5</td>
</tr>
<tr>
<td>1. I am confident in my knowledge of care for the patient with pregnancy loss.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1. I am comfortable assisting and communicating with the family with pregnancy loss in the emergency department.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>1. My emergency department would benefit from having more education and training on pregnancy loss.</td>
<td>1</td>
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<td>5</td>
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<tr>
<td>1. My hospital provides sufficient support for patients with pregnancy loss.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1. I feel comfortable with the presentation and disposition of fetal remains.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1. Training would increase my comfort in taking care of patients with pregnancy loss.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1. My colleagues in the ED have the knowledge to take care of the patient with pregnancy loss.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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Appendix I

Timeline

Key:

- Preceptor
- CNL student

Pregnancy Loss in the ED

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<tr>
<th>Event Description</th>
<th>Start Date</th>
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<td>ED unit council</td>
<td>1/11/2017</td>
<td>9/1/2017</td>
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<tr>
<td>Global and specific aim formulation</td>
<td>6/19/2017</td>
<td>8/30/2017</td>
</tr>
<tr>
<td>Hospital data ICD codes</td>
<td>8/24/2017</td>
<td>9/10/2017</td>
</tr>
<tr>
<td>Informal staff interviews</td>
<td>8/13/2017</td>
<td>9/13/2017</td>
</tr>
<tr>
<td>Interdisciplinary harm reduction workgroup</td>
<td>6/30/2017</td>
<td>11/10/2017</td>
</tr>
<tr>
<td>Literature review</td>
<td>11/11/2017</td>
<td>11/19/2017</td>
</tr>
<tr>
<td>PPT presentation and survey</td>
<td>8/15/2017</td>
<td>9/18/2017</td>
</tr>
<tr>
<td>Shift huddle presentations</td>
<td>10/23/2017</td>
<td>11/30/2017</td>
</tr>
<tr>
<td>Teaching module development</td>
<td>1/18/2017</td>
<td>7/21/2017</td>
</tr>
<tr>
<td>Theoretical framework</td>
<td>6/18/2017</td>
<td>6/25/2017</td>
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<tr>
<td>Workflow observations</td>
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<td>2017</td>
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Appendix J

Results

pre- and post- intervention survey results

SURVEY QUESTIONS 1 THROUGH 10

POSSIBLE LIKERT-SCALE POINTS

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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POSSIBLE LIKERT-SCALE POINTS

SURVEY QUESTIONS 1 THROUGH 10