Implementing Education for Maternity Nurses to Improve Nurses’ Knowledge, Attitudes, and Practices Regarding Postpartum Depression: A Quality Improvement Initiative

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Implementing Education for Maternity Nurses to Improve Nurses’ Knowledge, Attitudes, and Practices Regarding Postpartum Depression: A Quality Improvement Initiative

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Abstract

BACKGROUND: Postpartum depression (PPD) is the most common complication of childbirth, but often goes undiagnosed. Adequate patient education on PPD increases the patient’s knowledge and supports enhanced communication between patients and provider. Maternity nurses have continued interaction with new mothers and are in a vital position to educate patients regarding PPD. However, maternity nurses may lack confidence in delivering the appropriate education and resources for PPD to postpartum women.

LOCAL PROBLEM: Within the given microsystem, there was currently a gap that existed between PPD education for nurses and the delivery of PPD patient education.

METHODS: Utilizing the Plan-Do-Study-Act model, a pre-/posttest survey design, along with supplementary educational materials were provided to maternity nurses within the microsystem. Responses were examined to assess maternity nurses’ knowledge of postpartum depression risk factors, signs, symptoms, and resources as well as, confidence in caring for postpartum women.

RESULTS: Data analysis suggests an increase in maternity nurses’ knowledge and confidence after implementation of educational materials. After reviewing the educational materials, 77% of nurses now feel confident educating patients on resources for PPD, 77% feel confident educating patients on local support groups for PPD, 62% are aware of the facilities resources for PPD, 85% of respondents are now aware of online support groups for PPD, 69% are familiar with in person support groups for PPD, and 85% are familiar with the Postpartum Support International Hotline.

CONCLUSIONS: The results reveal that most of the nursing staff who participated feel as if their knowledge and confidence increased after implementation of the intervention. The data suggests that maternity nurses within this microsystem have an increased awareness of the postpartum resources that are available to patients when provided with additional educational
materials. Nurses appear to be more proficient and confident in educating postpartum women regarding the signs, symptoms and risk factors for postpartum education when provided with educational resources. Increased awareness and education in maternity nurses’ aids in early identification of postpartum depression and decreasing the prevalence of the disorder.

*Keywords:* postpartum depression, education, quality improvement, maternity nurses
Introduction

Problem Description

Postpartum depression (PPD) is a major healthcare concern that has become increasingly prevalent in patients. The United States has the highest incidence of depression in postpartum women compared to other countries (Slomian et al., 2019). While it is common for new mothers to develop the baby blues, roughly one in seven will go on to develop PPD (Mughal et al., 2023). Women who experience the baby blues often recover quickly, however, PPD can last much longer and negatively impact normal functioning in postpartum women. PPD most often occurs in the first six weeks following childbirth and occurs in approximately 6% to 20% of women (Mughal et al., 2023). Common symptoms of PPD include despair, loss of interest or pleasure in activities, changes in appetite, difficulty sleeping, loss of energy, feelings of guilt, irritability, anxiety, and suicide ideation (Slomian et al., 2019). Although it is the most common complication of childbirth, PPD often goes undiagnosed (Payne & Maguire, 2019). New mothers typically are not evaluated until four to six weeks following childbirth, but may already have symptoms of PPD (Lewis, 2019). There are numerous maternal risks of PPD, including alcohol and drug use, problems with relationships, difficulty breastfeeding, and persistent depression (Slomian et al., 2019). PPD has not only negative maternal implications, but can result in adverse effects in infant behavioral, emotional, and cognitive development (Payne & Maguire, 2019). Infants of mothers with untreated PPD were shown to have an increased risk of developing behavioral inhibition, violent tendencies, psychiatric disorders, emotional maladaptation, and poor cognitive functioning (Slomian et al., 2019). Due to these maternal and infant risks, early identification of PPD in new mothers is crucial.
Maternity nurses often have continued interaction with new mothers and are in a key position to education to patients regarding PPD (Lewis, 2019). Sufficient patient education on PPD increases the patient’s knowledge and supports enhanced communication (Lewis, 2019). If nurses can provide postpartum patients with accurate education and tools to identify symptoms of PPD, early identification and treatment may be achieved (Lewis, 2019). Therefore, increasing maternity nurses’ knowledge on PPD improves patient understanding and awareness on the importance of PPD. Since new mothers typically are not seen until six weeks following childbirth, it is essential for women to be educated on the signs and symptoms of PPD immediately after giving birth. This ensures that postpartum women have the capability to acknowledge the disorder and pursue the appropriate care (Link et al., 2019). Research shows that postpartum women living in rural areas are more likely to experience PPD, with the rates ranging from 23% to 58% in rural areas, compared to rates of 16% to 32% in nonrural areas (Link et al., 2019). This may be due to the fact the women in rural areas may not have as much access to mental health services. Additional factors that may contribute to this increase in PPD rates in rural areas include lower educational levels, limited access to mental health resources, less access to PPD resources, and increased stigma from the community (Link et al., 2019). Therefore, maternity nurses that work at rural inpatient hospitals play a central role in providing postpartum mothers with the proper education and resources on PPD prior to discharge.

There are several tools that may be utilized to determine new mothers’ risk for PPD, including the General Health Questionnaire (GHQ), the Beck Depression Inventory (BDI), the Postpartum Depression Screening Scale (PDSS), and the Edinburg Postnatal Depression Scale (EPDS). For this quality improvement initiative, a maternity unit at a rural Seacoast hospital in New England was examined. Currently, this unit utilizes a Patient Health Questionnaire (PHQ-9)
as a postpartum screening tool. The PHQ-9 is a nine-item depression screening scale based on the criteria from the *Diagnostic and Statistical Manual of Mental Disorder-IV* (Zhong et al., 2015). Each question asks patients to rate the incidence of a depressive symptoms experienced in the two weeks prior to screening. While women are currently screened for PPD on this unit, they are not provided with the proper education and tools to identify the early signs symptoms of PPD. Furthermore, patients are not offered available resources or opportunities for support during their admission on this unit. Research has demonstrated that postpartum women benefit from social support, whether it be family support or outside support (O’Neill et al., 2019). Support groups for postpartum women regarding depression provide a safe environment for individuals to connect with others in the same situation, obtain information, reassurance, and optimism (Cook, 2019). Therefore, it is imperative that postpartum women are provided with the proper resources on PPD. Maternity nurses working in rural hospitals are in direct contact with postpartum women and can provide these patients with the proper education on identifying PPD, as well as resources for treatment or support groups after discharge. However, nurses may lack confidence in offering postpartum women the appropriate education and resources for PPD. Since current literature demonstrates that there is a lack of perinatal education revolving around PPD, which is essential to delivering education to patients, it is essential that additional education be provided to nurses on this maternity unit to enhance patient education and overall care (Lewis, 2019).

**Available Knowledge**

A review of the literature was conducted to examine the effect of perinatal nurse education on PPD for enhanced patient care, as well as the risk factors, signs, symptoms, and
impact of social support for PPD. The databases that were utilized include PubMed, EBSCOhost, and Google Scholar. Boolean Phrases were applied to help narrow and reduce the number of articles disclosed. The Boolean Phrases included *Postpartum Depression, Maternal Risks, Infant Risks, Nurse Education, and Support Groups*. Inclusion criteria was limited to peer-reviewed studies within the last five years, patients experiencing PPD, support groups, educational interventions, and hospital settings. Exclusion criteria eliminated studies that were not within the past five years and outside of the United States. These search methods yielded ten research articles that were analyzed.

**Critical Appraisal of Evidence**

Mughal et al., (2023) discusses the common symptoms of PPD, and assesses strategies for the detection and management of the disease to enhance patient outcomes. Mughal et al., (2023) states that PPD affects roughly 6% to 20% of women within the first six weeks following childbirth. Risks factors of PPD include a history of depression and anxiety, high risk pregnancies, lack of support, domestic violence, and negative lifestyle habits (Mughal et al., 2023). When evaluating patients for PPD, it is important to assess drug and alcohol history, smoking habits, and all prescription and over-the-counter-drug medications that are being used (Mughal et al., 2023). Screening can be done within the first six months of childbirth with the use of several screening tools available, and most commonly the EPDS (Mughal et al., 2023). PPD has been linked to negative effects on postpartum women, fathers, and infants (Mughal et al., 2023). Therefore, emphasis should be placed on early prevention. Nurses play an important role during both the admission and discharge of patients by identifying prior histories of depression or the current presence of postpartum blues. This literature review effectively
highlights the reasons as to why postpartum women need education and support on available treatments for PPD.

Furthermore, the review by Payne & Maguire (2019) discusses the incidence of PPD and focuses physiological explanations. The authors found that PPD is the most common complication of childbirth and accounts for roughly 20% of postpartum deaths (Payne & Maguire, 2019). Therefore, it is imperative to understand the underlying biological mechanisms that play a role in the disease. Overall, stress and adverse life events were found to place patients at risk for PPD (Payne & Maguire, 2019). There also appears to be a biological influence between stress and epigenetics that contribute to PPD (Payne & Maguire, 2019). This review is a valuable tool that encloses the suspected pathophysiological mechanisms underlying PPD.

There is a growing need for potential approaches to help identify women who are at risk for PPD. The comprehensive review by Guintivano et al., (2019) further deliberates the risk factors of PPD, including pre-pregnancy and perinatal risk factors. Pre-pregnancy risk factors are important to understand because they may not be considered during routine screening for PPD. Inherit risk factors for PPD include genetics, epigenetics, psychiatric history, and adverse life events (Guintivano et al., 2019). Perinatal risk factors may be identified during perinatal care visits and delivery. These include maternal age, socioeconomic status, obstetric outcomes, preterm births, and other high-risk pregnancies (Guintivano et al., 2019). While this review demonstrates that biomarkers for PPD show a lot of promise, future steps are need for clinical use. Although there is not one way to predict PPD, the literature shows there are numerous approaches healthcare providers can take to determine patients who are at increased risk for PPD. This review outlines the significance of completing assessments for psychiatric history and
adverse life events during routine perinatal care, while simultaneously observing for adverse obstetrical outcomes.

Slomian et al., (2019) considers both the maternal and the infant concerns of undiagnosed PPD. Untreated PPD has been shown to pose undesirable effects on both infants and mothers. The aim of this study was to assess the maternal effects of untreated PPD and its impact on children between zero and three years of age. Children of mothers with untreated PPD have been correlated with higher rates of poor cognitive functioning, behavioral inhibition, emotional disturbances, violent tendencies, externalizing, and psychiatric and medical disorders in adolescence compared to mothers without PPD (Slomian et al., 2019). Additionally, maternal risks of untreated PPD include weight problems, alcohol and illicit drug use, persistent depression, troubles with relationships, difficulties breastfeeding when compared to women who have received treatment for PPD (Slomian et al., 2019). This systematic review effectively examines the impacts of untreated maternal PPD in both mothers and their children. Limitations to this review include a lack of double-blinded method and an assessment of the studies’ methodological quality. All in all, this review analyzes the vital effects PPD has on maternal psychological health, quality of life, interactions with their infant and other relationships (Slomian et al., 2019).

Sansawang et al., (2019) inspected the effectiveness of current interventions that aim to prevent PPD in adolescent women. Thirteen studies were included in this review that examined the success of PPD interventions on 2236 adolescent women in the United States. All interventions were categorized as either psychosocial or psychological interventions. Psychosocial interventions included home visits, prenatal antenatal or postnatal educational
programs, support groups, early intervention programs and massage therapy (Sansawang et al., 2019). Psychological interventions included psycho-educational and cognitive behavioral therapy, and group interpersonal therapy (Sansawang et al., 2019). The results from these studies found that all psychosocial and psychological interventions discussed were effective in reducing rates of PPD symptoms in adolescent mothers compared to mothers in a control group (Sansawang et al., 2019). One limitation to this review the authors did not find evidence of the most effective intervention for preventing PPD symptoms in adolescent mothers. Overall, this review discourses several interventions that are beneficial to implement in the antenatal care for pregnant women.

Maternity nurses in rural hospitals play a central role in delivering education postpartum mothers regarding PPD. The study by Link et al., (2019) used a self-report tool to assess perinatal nurses' confidence in postpartum depression teaching, self-esteem, stigma, and feelings toward getting help for mental illness. Thirty-eight perinatal nurses who worked in a rural hospital partook in the study. The results of this study demonstrated that perinatal nurses' likelihood to education patients on PPD were related to self-efficacy, social encouragement by supervisors, previous success with teaching on other postpartum care topics, and observing other nurses teach about PPD (Link et al., 2019). Additionally, perinatal nurses who displayed positive attitudes toward obtaining mental health care were more likely to deliver PPD education (Link et al., 2019). This study contributes to the growing body of evidence concerning nursing management of postpartum women that perinatal nurses' PPD teaching behaviors are connected to confidence in delivering PPD education.
Cook et al., (2019) investigated the experiences of women with or at high risk for developing PPD who participated in a postpartum support group. Women who were at least eighteen years of age, who had given birth within the past 2 years, currently attending, or had attended the PPD support group within the past year were included in this study. The results of this study found that participating support groups with other women experiencing similar symptoms can reduce feelings of insufficiency, stigmatization, and the fear of being judged (Cook, 2019). Furthermore, women with PPD symptoms were more likely to disclose their symptoms to other women in the same position (Cook, 2019). One limitation to this study was the fact that most participants were mostly Caucasian, English-speaking participants with a higher socioeconomic status, which limits generalizability of the findings. The results of this study demonstrate that nurses work with childbearing women should be aware of postpartum support resources in their community to refer them to patients when needed.

Lewis (2019) explains the implementation of an education intervention that aided in the increase nurses’ knowledge and delivery of enhanced patient education regarding PPD. This study revealed that gap in the literature exists between PPD education for nurses and the delivery of PPD patient education. Therefore, the author reformed a needs assessment of the PPD nursing education, initiated an educational intervention to support nurses in the delivery of patient education, and assessed the impact of the educational intervention. The results of this intervention revealed that nurses had a significant increase in PPD knowledge from pretest to posttest. Furthermore, the educational intervention aided in the delivery of enhance PPD education to patients by perinatal nurses (Lewis, 2019). The results of this study imply that nurses are more likely to teach patients on PPD if they are well-informed of the condition. The
basis of this study may be a beneficial tool to help others develop staff education programs that aim to enhance patient education on PPD.

Psychoeducational interventions have been found to be successful in diminishing psychological distress. Missler et al., (2020) studied the effectiveness of a psychoeducational program to prevent PPD, and to improve parental well-being. In this study, 138 pregnant women and 96 partners were randomly placed into either an intervention or a waitlist control group. The education was delivered through a booklet, a video, a home visit, and a telephone call. After childbirth, both groups displayed an increase in distress (Missler et al., 2020). However, the educational interventions were appraised as beneficial and practical by the parents. Approximately 98% of mothers and 85-90% of partners read the information booklet and watched the video before the birth of their child (Missler et al., 2020). Approximately 55% of mothers and 32% of fathers recounted to have used the information after the birth of their child daily or several times a week (Missler et al., 2020). Moreover, participants reported the intervention to be advantageous. The results of this study show that educational interventions are beneficial to avoid postpartum parenting stress, to decrease symptoms of depression and anxiety, and to enhance parental well-being.

O’Neill et al., (2019) evaluated interventions that emphasize social support for women experiencing PPD. The authors of this study examined how perceived changes over time in the support of significant others, family, and friends in individuals who participated in postpartum support groups related to changes in depression. The results of this study found that that social support contributed to a decrease in depression in the group of postpartum women (O’Neill et al., 2019). Depression decreased significantly by roughly 55% in postpartum women and perceived
social support increased significantly for each of the three types of social support (O’Neill et al., 2019). This study has limitations, including a relatively small sample size and a retrospective design. All in all, the results of this study show that there is a need for future research on group support for postpartum women that are suffering from depression.

**Evidence Synthesis**

Postpartum depression affects up to 20% of women after childbirth (Mughal et al., 2023). Therefore, it is essential that screenings for depression be completed within the first six months after childbirth. Risk factors for PPD, such as a history of depression and anxiety, high risk pregnancies, lack of support, domestic violence, and negative lifestyle habits, should also be considered (Mughal et al., 2023). PPD has negative effects on not only mothers, but also infants. Maternal risks of untreated PPD include weight problems, alcohol and illicit drug use, insistent depression, problems in relationships, and trouble breastfeeding when compared to women who have received treatment for PPD (Slomian et al., 2019). The children of mothers with untreated PPD have been found to have poor cognitive functioning, behavioral inhibition, emotional instability, violent habits, psychiatric disorders, and medical condition when compared to mothers without PPD (Slomian et al., 2019). Due to these complications, it is imperative that providers identify and treat PPD in the early stages.

There is currently a gap that exists between PPD education for nurses and the delivery of PPD patient education. However, educational interventions have been found to support nurses in the delivery of patient education. Nurses are also more likely to teach patients on PPD if they are well-informed of the condition (Lewis, 2019). There are several successful interventions that have been identified for PPD, including psychosocial or psychological interventions.
Psychosocial interventions that are effective include home visits, prenatal antenatal or postnatal educational programs, support groups, and early intervention programs (Sansawang et al., 2019). Additionally, postpartum women who participate in support groups with other women experiencing similar symptoms can reduce feelings of insufficiency, stigmatization, the fear of being judged, and are more likely to disclose their symptoms to other women in the same position (Cook, 2019). Educational interventions are beneficial to avoid postpartum parenting stress, to decrease symptoms of depression and anxiety, and to enhance parental well-being (Missler et al., 2020).

**Rationale**

Self-Efficacy Theory was utilized as a model for this quality improvement project. This theory proposes that an individual's belief in his or her ability to achieve a goal is predicted by past success, social encouragement, secondhand experience, self-esteem, and mindset (Link et al., 2019). Self-efficacy has been found to be correlated with work engagement and performance among nurses (Link et al., 2019). Furthermore, PPD teaching amongst perinatal nurses has been found to be related to nurses' self-efficacy about delivering PPD education. Encouragement and support from supervisors were determined to be associated with increased teaching on PPD from nurses (Link et al., 2019). Educating postpartum mothers on PPD is also related to perinatal nurses' self-esteem. Prior proficiency, the achievement of continuing education on PPD, and observing other nurses provide PPD education increases perinatal nurses’ self-esteem and overall PPD teaching behaviors (Link et al., 2019).

The Plan-Do-Study-Act (PDSA) cycle was utilized to promptly implement this quality improvement project, collect, and analyze the data. The PDSA cycles involved a pretest survey
to determine maternity nurses’ current knowledge on PPD signs, symptoms, risk factors and available resources, providing maternity nurses with education on PPD, educational handouts for patients, patient resources, as well as local support groups, and a posttest survey to establish whether their knowledge regarding PPD has increased. PDSA cycles were applied in this quality improvement initiative because they allow for finetuning and modifications to be made to the interventions, as well as offering fast results. The Plan element of this project involved determining a problem on the maternity unit, gathering information on current interventions, identifying key stakeholders and buy-in, and outlining the global and specific aim. The Do element involved conducting a pretest survey for maternity nurses, creating a PowerPoint with education materials on PPD with online resources, local support groups, and educational handouts for postpartum patients, and conducting a posttest survey to determine whether nurse’s knowledge on the risk factors, signs, symptoms, and resources available for patients increased. The Study element of this PDSA cycle determined the number of participants who had an increase in knowledge on the pre/posttest survey following the implementation of educational materials. The Act element involved finetuning and adjusting the interventions as needed, extracting data, and obtaining key findings from the intervention.

Global Aim

The global aim of this quality improvement project was to increase maternity nurses’ knowledge and confidence in caring for patients with postpartum depression.

Specific Aims
The specific aim of this quality improvement project was to increase nurses’ knowledge regarding available resources and support opportunities for PPD. The goal was to have at least 80% of participants report an understanding of the signs, symptoms, risk factors, and resources for PPD.

Methods

Context

The clinical microsystem is a maternity unit at a Seacoast hospital in New England. This unit offers a personalized birthing experience for parents before, during, and after delivery. The maternity unit recognizes that each delivery and baby is unique. The healthcare team offers prenatal care and maternity classes to help prepare parents for labor and delivery. During labor, the care ranges from advanced technology for high-risk pregnancies to doula’s who direct patients through a low-intervention birth. Postpartum care includes support for patients during their stay and for the first few weeks at home following birth by offering counseling and screenings for depression. These are some of the many reasons as to why labor and delivery experiences at this hospital was voted “Best in the Seacoast” by patients.

The mission at this hospital is “to serve the community with innovative care delivered with compassion and a commitment to excellence”. The vision is to be known as a healthcare leader in New England by delivering patient care in a safe environment. Specifically on the maternity unit, the goal is to understand the needs of each family to guarantee the safety of both the patient and the baby. This unit provides patients with a remote and serene environment by offering tubs, aromatherapy, music therapy and private bathrooms. Patients can also expect a friendly atmosphere where overnight accommodations are offered to partners. Lastly, patients
have access to a healthcare team 24/7 who are ready for anything with up-to-date technology, resources, and operating rooms nearby. The aim of this hospital is to provide patients with a healthy pregnancy, labor, and delivery, and offer continuous care for the entire family.

The target populations on the unit are mothers, newborns, and their families. This unit cares for women of childbearing age. The average age of mothers is 20-40 with the average length of stay being roughly two to four days. Patients typically stay two days for a vaginal delivery and three to four days for a caesarean section. It is crucial for patients to fully recover after delivery and for mom and baby to undergo the proper tests and examinations. Several complications may arise during pregnancy. The top ten diagnosis of patients are as follows: gestational hypertension, gestational diabetes, preeclampsia, preterm labor, obesity, oligohydramnios, anxiety, depression, infections, and anemia.

The patient census fluctuates greatly as labor and delivery is a unique experience for each patient. In the year of 2022, there were 469 births on this unit. Monthly, there are roughly 40-60 births. So far in 2023, there were 52 births in January, with 22 scheduled in February, 47 in March 23 in April and 18 in May. Spring is typically the slowest season for deliveries, while summer is normally the busiest. To evaluate patient’s experiences of maternity care, surveys are conducted regarding their treatment. Questions revolving around antenatal care, labor and birth, staff during birth, care in hospital after birth, and feeding the baby during the first few days are typically asked.

This maternity unit is comprised of nurses, unit coordinators and lactation consultants. There are thirty-nine nurses, including day shift, night shift, and travelers. There are also unit coordinators, two lactation consultants, a nursing director and a nurse manager. Of all staff, 44% of nurses, 33% of unit coordinators and 100% of lactation consultants are full time (see
Appendix A below). There are also several members of the interdisciplinary team, including obstetrician-gynecologists, midwives, anesthesiologists, pediatricians, surgeons, respiratory therapists, pharmacists, and laboratory technicians. On the unit, nursing staff appear to be very satisfied with their work during personal interviews and conversations. Staff on the unit have commented on excellent unity and teamwork, immense support from leaders and managers, and feelings of reward from their work. The only notable complaint from staff is being required to float to other units when needed.

There are several major processes on this maternity unit. One key process is the nurse report and handoff that occurs in the patient’s room as a part of best evidence-based practice. Medication administration is also a major process that occurs on this unit for pain management revolving around labor and the proper medication management for a speedy recovery. Assessments on both mother and baby are also very important during and after labor and delivery. Mother assessments typically include vital signs, breast examinations, fundal examinations, amount of bleeding, and evaluation of the extremities. Baby assessments comprise of APGAR scores, vital signs, reflexes, muscle tone, color, and respiratory auscultation. Prior to discharge, postpartum women must complete a nine-item patient health questionnaire to aid in the detection of postpartum depression.

There are various important key metrics that are measured on the maternity unit. Early elective deliveries are measured as data shows that scheduled cesarean sections or inductions implemented earlier than thirty-nine weeks of gestation poses risks to both babies and mothers. The number of caesarean sections is also a crucial key metric evaluated and measures the percentage of first-time mothers giving birth to a single baby, at term, in the proper position. Episiotomies, which can be related to several other complications, are measured. Additional key
performance indicators include prenatal screenings, behavioral health risk assessments, breast feeding, glucose screening for gestational diabetes, newborn bilirubin levels, blood clots in mothers undergoing caesarean section, and post-partum follow-ups for depression. In terms of day and night shift, there are a few variations. Deliveries are often unpredictable and may occur during day or night shift. However, scheduled caesarean sections typically will be scheduled during the day with the possibility of emergency caesarean sections occurring during the night. Nursing leadership is regularly present during the day shift and not during the night shift. There are also far more visitors during the day, with night shift being a much quieter environment. The opportunity to collaborate with the team can also be greater during day shift, as more physicians and surgeons are present. Lastly, the newborns may require more care from nursing staff during the night shift as parents are often tired and require sleep. This is when nurses may take over feedings and changings of the newborn.

**Interventions**

The interventions that were implemented on this maternity unit included a pretest survey (Appendix A) to determine maternity nurses’ current knowledge, attitudes, and practices regarding PPD, education for nurses regarding the signs, symptoms, risk factors, available resources for patients and local support groups, and a posttest survey to determine whether nurses’ knowledge has increased. Nurses were provided with an educational PowerPoint describing the risk factors, early signs, and symptoms of PPD, as well as available resources and handout to provide to postpartum patients. An email containing the pretest survey, educational materials, and posttest survey was sent to all nurses on the unit to determine whether they would be willing to participate in this survey. The survey asked questions regarding demographics,
number of years working as a nurse, current practices, current knowledge on the signs, symptoms, and risk factors for PPD, and confidence level in providing postpartum patients with education and resources for PPD. Once the pretest survey was completed, participants were provided with educational materials on the risk factors of PPD, signs and symptoms of PPD, available resources for patients and local support groups. Participants were then provided with a posttest (Appendix B) that was identical to the pretest. This allowed for the intervention to be reviewed to determine success by evaluating whether participant knowledge had increased.

**Study of the Interventions**

This quality improvement project emphasized increased knowledge, attitudes, and practices for maternity nurses on this maternity unit. Increased nursing knowledge on the signs, symptoms, risk factors and resources for PPD determined the success of the intervention. Maternity nurses were asked a series of questions regarding the signs, symptoms, risk factors, their current practices, confidence levels in providing education for postpartum patients, and available resources that they were currently aware of during a pretest survey. After the pretest survey was completed, nurses were provided with education on the above material. Lastly, nurses were tested again on the signs, symptoms, risk factors, and available resources during a posttest survey to determine whether their knowledge, attitudes, and practices had increased.

**Measures**

To determine whether the intervention had been successful, results from the pretest survey were compared to results of the posttest survey. Both the pretest and posttest surveys utilized Likert scales. When utilizing Likert scales, participants choose their degree of agreement
or disagreement with the question. Likert scales were applied because they are simple to create and are likely to yield a highly reliable scale (Taherdoost, 2019).

Analysis

The results of the intervention were analyzed from June to July 2023. The pretest and posttest scores were compared to determine whether the educational material regarding PPD was effective. Participant starting knowledge on the risk factors, signs, symptoms, available resources for PPD, and current practices was initially determined. The results of the identical posttest determined whether the educational intervention improved participant knowledge. Statistical analysis was utilized, with the frequency and percentage reported for the categorical data. Categorical variables, or variables that can be placed into different categories, such as “Agree” or “Disagree” and “Yes” or “No”, were collected from the informal surveys. The results of these surveys were gathered as nominal data since the data fits in one of two categories. To analyze the results of the informal surveys, visual displays of data were utilized. The survey responses were dissected using the Qualtrics platform.

Ethical Considerations

Validity and reliability portray the accuracy with which the intervention measures the rate of early elective deliveries. Validity depicts a measure's precision, while reliability depicts its consistency (Hasan et al., 2021). When transcribing the findings of the proposed intervention, it was imperative to consider dependability, validity, and trustworthiness of the data for interpreters. It was also crucial to remember patient and participant privacy and confidentiality when writing the findings. It was also important that the results of the research were conveyed
accurately on the report. If the results do not support the hypothesis, then the readers must be made aware. Lastly, the study must be authentic, with all studies that were utilized properly referenced. This project was ultimately submitted through the University of New Hampshire Department of Nursing Quality Review Committee and to be determined as exempt from the Institutional Review Board (IRB).

Results

Initial Steps

The initial steps of this QI project included identifying an area of improvement on this maternity unit at a Seacoast hospital in New England. Once it was decided that there was an existing gap between PPD education for maternity nurses and the delivery of PPD patient education, a pretest survey was conducted to gather data regarding maternity nurses’ current knowledge, attitudes, and practices. The survey first inquired about demographics, including current nursing degree, number of years as a nurse, number of years as working at the facility, and whether education regarding PPD was provided by this facility. The pretest survey also asked nurses to rate their current confidence level in a variety of practices, including educating patients on the signs, symptoms, and risk factors for PPD, providing patients with online resources, educational handouts, and local support groups for PPD. Next, a PowerPoint was created for nurses that integrated educational materials regarding the signs, symptoms, risk factors, resources, and local support groups for PPD. Lastly, a posttest was conducted to determine whether nurses’ knowledge, confidence, and intents to educate patients increased after reviewing the educational materials.

Process Measures
The process measures involved gathering data on maternity nurse’s knowledge, practices, and attitudes before and after implementing the intervention. The data was obtained using a Qualtrics survey and measured utilizing Likert scales. They survey results were conveyed as a percentage of maternity nurses choosing a degree of agreement out of the total number of nurses that participated in the survey. A pretest survey was conducted to gather maternity nurses’ initial knowledge, practices, and attitudes on PPD (Tables 1-4). After implementation of the educational intervention, a posttest survey was also conducted to compare maternity nurses’ current knowledge, practices, and attitudes on PPD to their initial responses (Tables 5 and 6).

During the implementation of this quality improvement project, this maternity unit consisted of 17 full-time nurses, 18 per-diem nurses, and 4 travel nurses. A total of twelve responses were received in the one-week time frame for both the pretest and posttest surveys. This response rate is equivalent to 31% of staff nurses.

Of the participants, 8% were between the ages of 18-29, 54% were between the ages of 30-39, 8% were between the ages of 40-49, and 23% were 50 years of age or greater (Figure 1). 31% of participants had an Associate of Science in nursing degree, 31% had a Bachelor of Science in nursing degree, 15% had a Master of Science in nursing degree, and 15% chose other (Figure 1). 23% of participants had been a nurse for 0-5 years, 31% had been a nurse for 5-10 years, 15% had been a nurse for 10-15 years, and 23% had been a nurse for greater than 15 years (Figure 2). 62% of participants had worked at this facility for 0-5 years, 8% had worked at this facility for 5-10 years, 8% had worked at this facility for 10-15 years, and 15% had worked at this facility for greater than 15 years (Figure 2).

**Figure 1**

*Demographics*
Implementing Education for Maternity Nurses

Figure 2

Demographics

Table 1

Pretest Survey Results

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Most of the Time</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you educate Labor patients regarding PPD?</td>
<td>54%</td>
<td>15%</td>
<td>15%</td>
<td>8%</td>
<td>0%</td>
</tr>
<tr>
<td>How often do you educate</td>
<td>62%</td>
<td>15%</td>
<td>8%</td>
<td>8%</td>
<td>0%</td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you provide patients with educational materials regarding PPD?</td>
<td>15%</td>
<td>38%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often are you asked by Supervisors to educate patients regarding PPD?</td>
<td>15%</td>
<td>8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you observe other nurses educate patients regarding PPD?</td>
<td>0%</td>
<td>23%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you screen Postpartum patients for PPD?</td>
<td>69%</td>
<td>8%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Values may not equal 100% due to rounding.

**Table 2**

*Pretest Survey Results*

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you feel confident educating patients on the signs, symptoms and risk factors for PPD?</td>
<td>59%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Note: Values may not equal 100% due to rounding.

**Table 3**
Pretest Survey Results

<table>
<thead>
<tr>
<th>Do you feel confident educating patients on resources for PPD?</th>
<th>Definitely Yes</th>
<th>Probably Yes</th>
<th>Might or Might Not</th>
<th>Probably Not</th>
<th>Definitely Not</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15%</td>
<td>46%</td>
<td>31%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

| Do you feel confident educating patients on local support groups for PPD? | 8% | 23% | 23% | 31% | 15% |

Note: Values may not equal 100% due to rounding.

Table 4

Pretest Survey Results

<table>
<thead>
<tr>
<th>Are you aware of the facilities resources for PPD?</th>
<th>Yes</th>
<th>Sort of</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15%</td>
<td>61%</td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are you familiar with online support groups for PPD?</th>
<th>Yes</th>
<th>Sort of</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15%</td>
<td>23%</td>
<td>54%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are you familiar with any local in person support groups for PPD?</th>
<th>Yes</th>
<th>Sort of</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23%</td>
<td>38%</td>
<td>31%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are you familiar with the Postpartum Support International Hotline?</th>
<th>Yes</th>
<th>Sort of</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38%</td>
<td>0%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Note: Values may not equal 100% due to rounding.

The results of the pretest show that only 15% of respondents provided patients with educational materials regarding PPD. Furthermore, 48% of respondents did not feel confident educating patients on the signs, symptoms, and risk factors for PPD. 15% of respondents felt
confident educating patients on resources for PPD, were aware of the facilities resources for PPD, and were familiar with online support groups for PPD. Moreover, only 8% felt confident educating patients on local support groups for PPD and 23% were familiar with local in person support groups for PPD. 38% of respondents were familiar with the Postpartum Support International Hotline, while 54% were not familiar with the Postpartum Support International Hotline.

**Table 5**

*Posttest Survey Results*

<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Most of the Time</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>After reviewing the materials provided, how often do you plan to educate Labor and Birth patients regarding PPD?</td>
<td>62%</td>
<td>15%</td>
<td>15%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>After reviewing the materials provided, how often do you plan to educate Postpartum patients regarding PPD?</td>
<td>69%</td>
<td>23%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>After reviewing the materials provided, how often do you plan to</td>
<td>77%</td>
<td>15%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
provide patients with educational materials regarding PPD?

After reviewing the materials provided, how often do you plan to screen Postpartum patients for PPD?

<table>
<thead>
<tr>
<th>Yes</th>
<th>Sort of</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>85%</td>
<td>15%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Note: Values may not equal 100% due to rounding.

Table 6

Posttest Survey Results

<table>
<thead>
<tr>
<th>After reviewing the materials provided, do you feel confident educating patients on resources for PPD?</th>
<th>77%</th>
<th>23%</th>
<th>0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>After reviewing the materials provided, do you feel confident educating patients on local support groups for PPD?</td>
<td>77%</td>
<td>23%</td>
<td>0%</td>
</tr>
<tr>
<td>After reviewing the materials provided, are you aware of the facilities resources for PPD?</td>
<td>62%</td>
<td>38%</td>
<td>0%</td>
</tr>
<tr>
<td>After reviewing the materials provided, are you familiar with online support groups for PPD?</td>
<td>85%</td>
<td>15%</td>
<td>0%</td>
</tr>
<tr>
<td>After reviewing the materials provided,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>69%</td>
<td>31%</td>
<td>0%</td>
</tr>
</tbody>
</table>
The results of the posttest survey show that after reviewing the materials provided, 62% of respondents plan to always educate Labor and Birth patients regarding PPD, and 69% always plan to educate Postpartum patients. 77% of respondents plan to always provide patients with educational materials regarding PPD. 85% of respondents plan to always screen Postpartum patients for PPD. After reviewing the materials provided, 77% of respondents now feel confident educating patients on resources for PPD. 77% of respondents feel confident educating patients on local support groups for PPD. After reviewing the materials provided, 62% are aware of the facilities resources for PPD, 85% of respondents are now aware of online support groups for PPD, 69% are familiar with in person support groups for PPD, and 85% are familiar with the Postpartum Support International Hotline.

**Contextual Elements**

A noteworthy contextual element that played a role in this intervention was the fact that participants of this survey more often are either assigned to labor patients, postpartum patients, and even pediatric patients. This is important to note because nurses who care for postpartum patients play a greater role in the prevention of PPD compared to nurses caring for labor patients. Furthermore, recruitment was limited to those who agreed to participate in the project. All nurses on this maternity unit were sent an email containing the link to the Qualtrics survey, as well as
the education materials regarding PPD. This allowed any nurse on the unit to take the survey on their own time if they chose to do so, regardless of their experience working with labor, postpartum, or other patients.

**Associations**

This quality improvement project was promoted by management on the unit, which likely boosted nursing participation in the pretest and posttest surveys. Nurses also had the opportunity to participate at their convenience, which also may have increases nursing staff’s willingness to participate in this project. However, the total time allotted for nurses to participate in this survey was roughly one week, which may have decreased the number of total participants. Additionally, this hospital acquired several new hires during the implementation of this quality improvement project, as a local hospital’s maternity unit was shut down. This resulted in those nurses being transferred to the maternity unit at this Seacoast hospital. Due to the chaos of orienting new staff, conflicting priorities, and other concurrent projects, participation in this quality improvement project may have been hindered.

**Unintended Consequences**

While this project was overall successful, there still were some unintended consequences that existed. There was a significant delay in the implementation of the intervention due to complications in the project and difficulties along the way. There also was a second quality improvement project occurring at the same time as this project on the maternity unit at this Seacoast hospital. This resulted in an increased workload for staff, which may have hindered nurses from participating in this project. The survey responses acquired in this project may have been limited since staff participation was voluntary. Furthermore, the delay in the
implementation of the intervention resulted in only one week allotted for survey response, which may have also limited the number of responses obtained. Some nursing staff may have also missed the opportunity to participate in this survey due to completing schedules, vacation time, or other responsibilities outside of work. Lastly, the pretest and posttest surveys were only available in electronic format, which may have deterred nursing staff from participating in the project.

**Discussion**

**Summary**

The purpose of this quality improvement project was to enhance maternity nurse’s knowledge, attitudes, and practices on postpartum depression. The key findings from this project demonstrate that nursing staff benefited from the educational intervention regarding postpartum depression. After reviewing the educational materials provided, there was an increase in nursing confidence in caring for and educating patients on PPD. There was also an increase in nursing intent to educate both labor and postpartum patients, screen for PPD, and provide educational materials regarding PPD for patients. Furthermore, the data disclosed an increase in nursing confidence in educating patients on both local and online resources and support groups.

The PDSA cycle was successfully implemented in this quality improvement project to collect and analyze the data. A pretest survey was conducted to determine nurses’ current knowledge on PPD signs, symptoms, risk factors and available resources. Nurses were then provided with education on PPD, educational handouts for patients, patient resources, as well as local support groups. Lastly, a posttest survey was implemented to establish whether nursing knowledge regarding PPD increased. This quality improvement project partially met the specific
aims of this project, which was for at least 80% of all surveyed nurses will report an increase in knowledge regarding available resources and support opportunities for PPD. The specific aims were met for nursing knowledge on online resources and support groups. However, the specific aims were not met for nursing knowledge on in person support groups for PPD.

There were several strengths to this quality improvement project. One strength to this project is the acknowledgment of previous research on the topic. Current literature has demonstrated that there is a lack of perinatal education revolving around PPD (Lewis, 2019). Maternity nurse education is essential to delivering appropriate PPD education to patients, therefore proper educational materials were provided to nurses on this maternity unit to enhance patient education and the overall quality of postpartum care. Furthermore, this quality improvement project is generalizable and has external validity. The results of this project can be generalized to other maternity nurses and applied to other maternity units. Additionally, a strength to this project is that it is replicable and reproducible. This is significant since it allows other researchers to replicate this quality improvement project to achieve consistent findings, as well as build off current data.

**Interpretations**

**Outcomes**

The results of this quality improvement project establish that most of the nursing staff who participated in the both the pretest and posttest surveys feel as if their knowledge regarding postpartum depression and confidence in educating patients has increased after implementation of the intervention. After participating in the posttest survey, 77% of nurses had the intent to always provide patients with educational materials regarding PPD and 85% plan to always
screen postpartum patients for PPD. Furthermore, 77% of nurses now feel confident educating patients on resources for PPD, 77% feel confident educating patients on local support groups for PPD, 62% are aware of the facilities resources for PPD, and 85% of respondents are now aware of online support groups for PPD. The data gathered from this project proposes that maternity nurses within this microsystem have an increased awareness of the postpartum resources that are available to patients when provided with additional educational materials. The results also suggest an increase in nurse proficiency and confidence in educating postpartum women regarding the signs, symptoms and risk factors for postpartum education when provided with educational resources. Increased awareness and education in maternity nurses’ aids in increased postpartum support in patients, thereby increasing early identification of postpartum depression and decreasing the prevalence and severity of the disorder.

**Comparison of similar literature**

The findings of this project are consistent with previous research on the importance of providing education for maternity nurses regarding postpartum depression (Lewis, 2019). Maternity nurses play a key role in providing postpartum mothers with the proper education and resources on postpartum depression prior to discharge. The results of this quality improvement project support the idea that maternity nurses may lack confidence in offering postpartum women the appropriate education and resources for postpartum depression. Furthermore, the findings demonstrate a lack or perinatal education revolving around postpartum depression, which is essential to delivering education to patients. The outcomes also show that it is essential that additional education be provided to nurses on this maternity unit, as nurses reported an
increase in confidence in caring for and educating patients on postpartum depression after reviewing the education materials provided.

**Impact on population and systems**

A practice change, such as the quality improvement project implemented on this maternity unit, has an impact on both patients and staff. Postpartum depression is a major healthcare concern that is becoming more prevalent in postpartum women. Due to the maternal and infant risks of postpartum depression, early identification in new mothers is crucial. Sufficient patient education on postpartum depression is vital to increase the patient knowledge and support enhanced communication between patient and healthcare provider. If maternity nurses can deliver accurate education and tools to identify symptoms of postpartum depression to women, early identification and treatment may be achieved. Increasing maternity nurses’ knowledge on the signs, symptoms and risk factors for postpartum depression can ultimately lead to a decrease in rates of postpartum women with the disorder. Furthermore, expanding nurse knowledge and awareness may reduce future costs for the patient, the microsystem, and the overall macrosystem.

**Differences between observed and anticipated outcomes**

The anticipated outcome of this quality improvement project was that maternity nurses would have an increased knowledge on the signs, symptoms, risk factors, and opportunities for support for postpartum patients. Additionally, an anticipated outcome of this project was that nurses would report an increase in confidence in both educating and caring for patients with postpartum depression. The findings of this quality improvement project demonstrate an increase
in nurses’ knowledge of the risk factors, signs, and symptoms, as well as an increased awareness of support resources for postpartum women.

*Opportunity costs and strategic tradeoffs*

The cost of care for postpartum women with postpartum depression would be significantly greater than the cost of materials, time, and labor required for this quality improvement project. The Qualtrics survey platform proposes no financial cost to both the organization and user. No financial costs were acquired by the project lead during the 200 hours spent developing the quality improvement project, implementation the intervention, and analyzing the results. Therefore, the organization would benefit greatly by continuing to participate in the quality improvement project.

*Limitations*

*Limits to generalizability*

A major limitation to this quality improvement project was the presence of a small sample size. Due to a smaller number of participants, the validity of the results may be reduced, as the survey responses are not representative of all nursing staff on this maternity unit. Furthermore, the timeline for survey responses was limited to one week due to a delay in the implementation of this project. This may have resulted in some individuals missing the opportunity to participate in this project due to competing priorities. Additionally, the survey was only available to nursing staff electronically via the Qualtrics survey platform. This may have hindered participation in nursing staff due to a lack of materials necessitated for participation or deficits in knowledge when navigating the surveys electronically. Lastly, this quality
The most notable limitation to this quality improvement project was that the survey participation was voluntary. Therefore, the data analysis is shrewd only towards the maternity nurses that chose to participate, which was roughly 31% of all nursing staff on this unit. Another factor that may have limited internal validity was the inconsistency in nursing demographics, including age, degree type, and number of years working as a nurse. Additionally, some nurses may have selected the response they thought was best rather than the response that was most truthful, which may have impacted the internal validity of this project.

Efforts made to minimize and adjust for limitations

Throughout implementation of this quality improvement project, efforts were made to minimize limitations. Firstly, participants were selected based if they were a nurse who worked on this specific maternity unit. Additionally, the results of the pretest and posttest were created anonymously to decrease the chance for bias. Lastly, leading questions and other types of wording bias were avoided when constructing survey questions.

Conclusions

Usefulness of the work

Postpartum depression is the most common complication of childbirth, however, often goes undiagnosed (Payne & Maguire, 2019). Maternity nurses are in a vital position to educate patients regarding PPD since they often have sustained interaction with new mothers (Lewis, 2019). It has been determined that adequate patient education on PPD increases the mother’s knowledge on the signs, symptoms, and risks factors, as well as supports enhanced
communication with providers (Lewis, 2019). Therefore, maternity nurses should provide postpartum patients with the proper education and tools to recognize symptoms of PPD for early identification and treatment (Lewis, 2019). Therefore, this quality improvement project focused on increasing maternity nurses’ knowledge on PPD to enhance patient awareness and understanding. The results of this project support prior findings on the importance of nurse education when caring for and recognizing postpartum depression in patients. By improving both nurse and patient knowledge, the incidence of postpartum depression may decrease for the given microsystem population. If the incidence of the disorder is not significant affect, nurses have still been provided with educational and support resources to better care for their patients.

**Sustainability**

Sustaining the delivery of educational materials and support resources for maternity nurses in the microsystem may be implemented in several ways. The most practical way to sustain the intervention would be to provide nurses with a document that contains a list of postpartum educational and support resources. Additionally, supervisors can require nursing staff to review the educational materials provided and participate in the pretest and posttest surveys periodically.

**Potential for spread to other contexts**

Education for postpartum depression should go beyond maternity nurses. The educational materials and resources for support provided through this quality improvement project should also be offered for patients prior to discharge. Furthermore, it is imperative for significant others, family members, and the community to be well educated on the signs, symptoms, and risk factors for PPD. Lastly, this quality improvement project may also provide opportunities to
educate providers or nursing personnel in other departments to better care for the patients they see.

**Implications for practice and for further study in the field**

Enhanced nurse education on PPD can ultimately lead to a decreased prevalence of the condition in the microsystem, macrosystem, and the public health. Further studies on this topic may benefit from examining which type of support intervention has the greatest potential for decreased incidence of postpartum depression amongst postpartum women. Additionally, it may be beneficial to examine various methods of educating maternity nurses on the sign, symptoms, and risk factors for PPD and how often that education should be continued throughout their career.

**Suggested next steps**

Ultimately, maternity nurses are in a key position to deliver patients with the proper education on PPD. Providing education to maternity nurses at the microsystem level has demonstrated potential in increasing nurses understanding and confidence in caring for patients with PPD. It would be beneficial to expand these findings into similar Microsystems to provide education and knowledge to a larger population of nurses, thereby enhancing nurse awareness and decreasing postpartum depression prevalence on a larger scale.
References


Taherdoost, H. (2019). What is the best response scale for survey and questionnaire design; review of different lengths of rating scale/attitude scale/Likert scale. *Hamed Taherdoost*, 1-10.


## Appendix A

Employee Information

<table>
<thead>
<tr>
<th>Position</th>
<th>Employment Status</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Nurse</td>
<td>Full-Time</td>
<td>7</td>
</tr>
<tr>
<td>Day Nurse</td>
<td>Per Diem</td>
<td>11</td>
</tr>
<tr>
<td>Day Nurse</td>
<td>Travelers</td>
<td>4</td>
</tr>
<tr>
<td>Night Nurse</td>
<td>Full-Time</td>
<td>10</td>
</tr>
<tr>
<td>Night Nurse</td>
<td>Per Diem</td>
<td>7</td>
</tr>
<tr>
<td>Unit Coordinator</td>
<td>Full-Time</td>
<td>1</td>
</tr>
<tr>
<td>Unit Coordinator</td>
<td>Per Diem</td>
<td>2</td>
</tr>
<tr>
<td>Lactation Consultant</td>
<td>Full-Time</td>
<td>2</td>
</tr>
</tbody>
</table>
Appendix B:

Pico Question

P: Maternity nurses

I: Nurse education

C: No intervention

O: Increased nurse knowledge, attitudes, and practices from pretest to posttest regarding PPD

T: Completion by July 28th, 2023
Appendix C

Patient Handout on Postpartum Depression

Postpartum Depression

“Postpartum” means the time after childbirth. Postpartum depression is a serious mental illness that involves the brain and affects your behavior and physical health. If you feel empty, emotionless, or sad all or most of the time for longer than two weeks during or after pregnancy, or if you feel like you don’t love or care for your baby, you might have postpartum depression. Treatment for depression, such as therapy or medicine, works and will help you and your baby be as healthy as possible in the future.

Q: What causes postpartum depression?
A: Hormonal changes may trigger symptoms of postpartum depression. When you are pregnant, levels of the female hormones estrogen (EES-truh-jen) and progesterone (proh-JESS-tur-ohn) are the highest they’ll ever be. In the first 24 hours after childbirth, hormone levels quickly drop back to normal, pre-pregnancy levels. Researchers think this sudden change in hormone levels may lead to depression.

Levels of thyroid hormones may also drop after giving birth. Low levels of thyroid hormones can cause symptoms of depression.

Other feelings may contribute to postpartum depression, including feeling tired, overwhelmed, and stressed. These feelings are common among new mothers.

Q: How do I know if I have postpartum depression?
A: Any woman can become depressed during pregnancy or after having a baby. It doesn’t mean you are a bad mom. But if you have any of the following symptoms for more than two weeks, call your doctor, nurse, or midwife:

- Feeling restless or moody
- Feeling sad, hopeless, and overwhelmed
- Crying a lot
- Having thoughts about hurting the baby or yourself
- Not having any interest in the baby, not feeling connected to the baby, or feeling like your baby is someone else’s baby
- Having no energy or motivation
- Eating or sleeping too little or too much
- Having trouble focusing or making decisions
- Having memory problems
- Feeling worthless and guilty, and like a bad mother
- Losing interest or pleasure in activities you used to enjoy
- Withdrawing from friends and family

Q: What is the difference between “baby blues” and postpartum depression?
A: Most women get the “baby blues,” or feel sad or empty, within a few days of giving birth. If you have the baby blues, you may have mood swings, feel sad or overwhelmed, have crying spells, lose your appetite, or have trouble sleeping. The baby blues usually go away in three to five days after they start. The symptoms of postpartum depression last longer and are more severe. Postpartum depression usually begins within the first month after childbirth, but it can begin during pregnancy or for up to a year after birth.
Q: How is postpartum depression treated?
A: Your depression can affect your baby. Getting treatment is important for you and your baby. The common types of treatment for postpartum depression are:

- **Talk therapy.** This involves talking to a therapist, psychologist, or social worker to learn strategies to change how depression makes you think, feel, and act.

- **Medicine.** Your doctor or nurse can prescribe an antidepressant medicine. These medicines can help relieve symptoms of depression, and some can be taken while you’re breastfeeding.

- **Electroconvulsive therapy (ECT).** This can be used in extreme cases to treat postpartum depression.

These treatments can be used alone or together. Taking medicines for depression or going to therapy does not make you a bad mother or a failure. Getting help is a sign of strength. Talk with your doctor or nurse about the benefits and risks of taking medicine to treat depression when you are pregnant or breastfeeding.

Q: What can I do at home to feel better while seeing a doctor for postpartum depression?
A: Here are some other ways to begin feeling better or getting more rest, in addition to talking to a health care professional:

- Rest as much as you can. Sleep when the baby is sleeping.
- Don’t try to do too much or to do everything by yourself. Ask your partner, family, and friends for help.
- Make time to go out, visit friends, or spend time alone with your partner.
- Talk about your feelings with your partner, supportive family members, and friends.
- Talk with other mothers so that you can learn from their experiences.
- Join a support group. Ask your doctor or nurse about groups in your area.
- Don’t make any major life changes right after giving birth. More major life changes in addition to a new baby can cause unneeded stress.

For more information...
For more information about postpartum depression, call the OWH Helpline at 1-800-994-9662 or contact the following organizations:

**National Institute of Mental Health, NIH, HHS**
1-866-615-6464 • www.nimh.nih.gov

**National Alliance on Mental Illness**
1-800-950-6264 • www.nami.org

**Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH, HHS**
1-800-370-2943 • www.nih.gov

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www.womenshealth.gov | 1-800-994-9662
Appendix D

Pre/Posttest Survey

Dear participant,

I am a nursing student at the University of New Hampshire, and I am working on a quality improvement (QI) project to learn about promoting education and support on Postpartum Depression (PPD) during the admission period. By participating in this survey, you are participating in this QI project. This information sheet describes the project and helps you to decide if you want to participate. It provides important information about what you will be asked to do in the project, about the risks and benefits of participating in the project, and about your options as a participant. You should:

- Read the information in this document carefully, and ask me or my faculty advisor any questions, particularly if you do not understand something.
- Not agree to participate until all your questions have been answered, or until you are sure that you want to.
- Understand that your participation in this project involves your completing a survey that will take about 15 minutes.
- Understand that the potential risks of participating in this project are minimal.

You must be at least 18 years old to participate in this project, and you must be a Maternity Nurse at Portsmouth Regional Hospital.

If you agree to participate in this project after reading this document, you will be asked to participate in a survey that will take approximately 15 minutes. You will not be paid to participate in this project.

You should complete this survey only once. I may exclude your data if I determine that you did not meet the eligibility criteria for the project. For questions about eligibility, please contact me (information provided at the end of the form).

As a participant in this project, you may benefit from any changes made in the program or process being reviewed. Further, the information may help guide support and education to potentially improve the risks of PPD.

Taking part in this project is completely voluntary. You may choose not to take part at all. If you agree to participate, you may refuse to answer any question. If you change your mind, you may stop participating at any time. Any data collected as part of your participation will remain part of the project records. If you decide not to participate or if you stop participating at any time, you will not be penalized.

I plan to maintain the confidentiality of all data and records associated with your participation in this project. Due to the low number of respondents, I do not ask for individually identifiable information in this survey in order to protect your identity. Responses are anonymous. As a
reminder, any communication via the internet poses minimal risk of a breach of confidentiality.

To help protect the confidentiality of your information, I will store data on the USNH IT secure cloud storage. Only I and my faculty advisor, Elizabeth Evans will have access to the data. Data, even de-identified, will not be used for future projects. I will report the de-identified data in an educational paper that will be available via the UNH Scholar’s Repository. I may share the aggregate results with the organization. The results may be used in reports, presentations, and publications for educational purposes only.

If you have any questions about this project or would like more information before, during, or after the project, you may contact me at hjm2001@wildcats.unh.edu. If you have questions about your role as a participant, you may contact Dr. Pamela Kallmerten or Dr. Elizabeth Evans at UNH to discuss them (pamela.kallmerten@unh.edu, Elizabeth.Evans@unh.edu).

Thank you for your consideration.

Sincerely,

Haley Merrill
UNH Nursing Student

Hjm2001@wildcats.unh.edu
Email contact
Pretest

What is your age?
- 18-29
- 30-39
- 40-49
- 50 and above

What is your degree?
- Associates if Science in Nursing
- Bachelor of Science in Nursing
- Master of Science in Nursing
- Other

How long have you been a Nurse?
- 0-5 years
- 5-10 years
- 10-15 years
- 15 years of greater

How long have you been a nurse at this facility?
- 0-5 years
- 5-10 years
- 10-15 years
- 15 years of greater

Have you ever received education on PPD from this facility?
- Yes
- No
- Unsure

Did you receive education on PPD in school?
- Yes
- No
- Unsure

How often do you educate Labor and Birth patients regarding PPD?
- Always
- Most of the time
- Occasionally
- Rarely
- Never

How often do you educate Postpartum patients regarding PPD?
IMPLEMENTING EDUCATION FOR MATERNITY NURSES

- Always
- Most of the time
- Occasionally
- Rarely
- Never

How often do you provide patients with educational materials regarding PPD?
- Always
- Most of the time
- Occasionally
- Rarely
- Never

How often are you told by Supervisors to educate patients regarding PPD?
- Always
- Most of the time
- Occasionally
- Rarely
- Never

How often do you observe other nurses educate patients regarding PPD?
- Always
- Most of the time
- Occasionally
- Rarely
- Never

How often do you screen Postpartum patients for PPD?
- Always
- Most of the time
- Occasionally
- Rarely
- Never

Do you feel confident educating patients on PPD?
- Yes
- No

Do you feel confident treating patients with PPD?
- Yes
- No

Do you feel confident educating patients on resources for PPD?
- Yes
- No
Do you feel confident educating patients on local support groups for PPD?
- Yes
- No

Are you aware of the facilities resources for PPD?
- Yes
- No

Are you familiar with online support groups for PPD?
- Yes
- No

Are you familiar with in person support groups for PPD?
- Yes
- No

Are you familiar with the Postpartum Support International Hotline?
- Yes
- No
Posttest

After reviewing the materials provided, how often do you plan to educate Labor and Birth patients regarding PPD?

- Always
- Most of the time
- Occasionally
- Rarely
- Never

After reviewing the materials provided, how often do you plan to educate Postpartum patients regarding PPD?

- Always
- Most of the time
- Occasionally
- Rarely
- Never

After reviewing the materials provided, how often do you plan to provide patients with educational materials regarding PPD?

- Always
- Most of the time
- Occasionally
- Rarely
- Never

After reviewing the materials provided, how often do you plan to screen Postpartum patients for PPD?

- Always
- Most of the time
- Occasionally
- Rarely
- Never

After reviewing the materials provided, do you feel confident educating patients on PPD?

- Yes
- No

After reviewing the materials provided, do you feel confident caring for patients with PPD?

- Yes
- No

After reviewing the materials provided, do you feel confident educating patients on resources for PPD?
• Yes
• No

After reviewing the materials provided, do you feel confident educating patients on local support groups for PPD?
• Yes
• No

After reviewing the materials provided, are you aware of the facilities resources for PPD?
• Yes
• No

After reviewing the materials provided, are you familiar with online support groups for PPD?
• Yes
• No

After reviewing the materials provided, are you familiar with in person support groups for PPD?
• Yes
• No

After reviewing the materials provided, are you familiar with the Postpartum Support International Hotline?
• Yes
• No

Thank you so much for participating in this survey! Please feel free to reach out if you need any help. You may leave any thoughts and/or suggestions below: