STANDARDIZING SCREENING METHODS FOR POSTPARTUM DEPRESSION IN A RURAL COMMUNITY CLINIC: A QUALITY IMPROVEMENT PROJECT

by

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ABSTRACT

Postpartum depression is a significant public health concern affecting approximately 15.2% of Montana mothers. Early screening and detection are crucial for effective management and improving long-term outcomes for mothers and infants. This quality improvement project was aimed to establish evidence-based screening practices to screen for postpartum depression in a rural Montana clinic. The Edinburgh Postnatal Depression Scale (EPDS), Patient Health Questionere-9 (PHQ-9), and the Center for Epidemiologic Studies Depression Scale (CESD-10) were compared and the EPDS was subsequently chosen. Screening frequency was evaluated, and the evidence supported screening at the initial obstetric visit, once between 24-28 weeks, and 6 weeks postpartum. Additionally, screening is recommended as mothers intersect with the healthcare system during well child visits for the first year of life. Data were collected over three PDSA cycles, each lasting two weeks. Key outcome measures included eligible patients screened, actual patients screened, and positive screens. Additionally, the project assessed whether follow up was completed on positive screens. A total of 28 patients were eligible and 20 completed the EPDS. Of the 26 screened patients, 4 were positive and 4 had appropriate follow up. The quality improvement project demonstrated the feasibility and effectiveness of standardized PPD screening. By identifying at risk individuals early and providing intervention, this project contributed to improving outcomes and promoting comprehensive family centered care. Further evaluation and refinement with a larger sample is recommended to optimize the sustainability and impact on clinical practice.

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CHAPTER ONE

INTRODUCTION, BACKGROUND, AND LITERATURE REVIEW

Clinical Problem

Montana has increased rates of suicide and depressive disorders (CDC, 2020). This may be related to physical isolation, stigma against mental health disorders, and poor access to mental health services. Montana mothers face the same mental health challenges as the general population in addition to a significant adjustment and physiologic change of adapting to pregnancy and postpartum. Nearly one in eight women report perinatal mood and anxiety disorder (PMAD) symptoms with a recent live birth experience (CDC, 2020). Montana closely follows the national trend, with 15.2% of women experiencing depressive symptoms during pregnancy and 13.2% of women reporting symptoms of postpartum depression (PPD) (PRAMS, 2020).

If untreated, postpartum depression negatively affects both the infant and the mother. Untreated postpartum depression is related to poorer long-term psychological health, including increased anxiety, anger, major depressive episodes, and decreased quality of life (Slomain et al., 2019). If postpartum and perinatal mood disorders significantly impact maternal and infant health, the question remains: why are so many mothers going untreated? Providers cannot treat perinatal and postpartum mood disorders if not identified initially. The recommendations for screening by the American College of Gynecology and Obstetrics (ACOG) are broad and nonspecific and recommend screening with a validated tool at the first obstetric visit, between 24-28 weeks, and six weeks postpartum (2023). The American Academy of Pediatrics (AAP)

recommends screening mothers for PPD at the child's 2-week, 2-, 4-, 6-, 9-, and 12 month wellness visits (Lamere & Golova, 2022). Although screening intervals are recommended, there are no specific recommendations for screening tool selection, which could contribute to more than 50% of mothers left unscreened and possibly untreated (Lamere & Golova, 2022).

Background and Significance

Postpartum depression is the number one complication of pregnancy and birth, and nearly 1 in 6 Montana mothers experience perinatal or postpartum depression (Healthy Mothers, Healthy Babies, 2020.) Many mothers are not educated on the signs or symptoms of mood changes during and after pregnancy, and providers are missing patients experiencing symptoms due to inconsistent screening methods. Additionally, maternity care in Montana is often fragmented and difficult to access. For example, 53.6% of Montana counties do not have a facility that provides obstetric care and are classified as a maternity desert (March of Dimes, 2020). Women in maternity deserts often see local family practices for prenatal care and will deliver with a different practice or may travel great distances for care. Postpartum follow-up may be with the delivery facility or the patient's primary care provider. Rurality contributes greatly to the fragmentation of prenatal and postpartum care. Screening is easily missed when the patient sees several providers throughout pregnancy and postpartum.

The impact of PPD is far-reaching. Women who experience persistent PPD at two and eight months postpartum are more likely to experience severe depression symptoms in the next eleven years (Weissman, 2018). Children of mothers diagnosed with PPD depression have a fourfold risk increase of developing toddler behavior problems and a sevenfold risk of depression at age 18. Additionally, PPD is associated with lower socioemotional development in

infants (Subbiah et al., 2023). PPD is linked to poor parenting strategies, impatience, sensitivity, hostility, and subsequent interferences with breastfeeding, sleep, and safety practices (Arante et al., 2020).

Although postpartum depression is common, there are few screening criteria to assist providers in their diagnosis. First, providers may associate all mood changes immediately after delivery with the "baby blues" or feelings of anxiety, overwhelm, and frequent crying following delivery. However, the "baby blues" typically resolve by two weeks postpartum, and mood changes should be further evaluated if changes continue. The American Psychiatric Association's Diagnostic and Statistical Manual, 5th Edition (DSM-5) states that PPD and non-perinatal major depression share the same diagnostic criteria as a major depressive disorder, including a combination of depression mood, anhedonia, sleep disturbances, feelings of guilt or worthlessness, and suicidal thoughts (2013). The DSM-5 defines PPD as occurring during pregnancy or within four weeks of delivery (2013). However, clinical and practical research indicated that the onset of symptoms of PPD can vary from 4 weeks to 12 months after birth (Stewart & Vigod, 2019). Additionally, PPD symptoms specifically can include mood lability, anxiety, irritability, obsessional worries, and feeling overwhelmed. They can be specifically related to PPD and, although they do not meet full diagnostic criteria for a major depressive disorder, can still significantly affect new mothers and their families.

In addition to variable definitions and diagnostic criteria for PPD, there are several depression screening tools used to screen mothers for PPD. Screening tools rely on subjective data and patient perception to identify symptoms of PPD. ACOG recommends screening women using a tool validated for use during and after pregnancy but does not specify which tool to use.

Commonly used screening tools are the Edinburgh Postpartum Depression Screen (EPDS), the Patient Health Questionnaire -9 (PHQ-9), and the Center for Epidemiologic Studies Depression Scale (CESD-10.) Each screening has been validated for use in pregnant and postpartum women.

The EPDS, PHQ-9, and CESD-10 are all free screening tools available in several languages. All are printable and allow women to answer the questions independently. None of the tools reviewed are meant to be used as diagnostic tools and should only be used in screening for depression.

The EPDS is the most widely used postpartum depression screening tool and consists of ten questions to assess a woman's risk of PPD. It is the only reviewed tool specifically designed to screen for PPD. It consists of ten questions that explore the common symptoms of PPD. The questions inquire about the emotional and psychological state over the past seven days. The EPDS uses a score of 0-3 for each question, with a maximum score of 30. Typically, the cut-off for moderate to high risk of PPD is 10, although evidence supports using a cut-off of 13 (Sasaki et al., 2019).

Providers commonly use the PHQ-9 to screen for depression among the general population. It is also a self-completed questionnaire with nine questions that assess for common symptoms of depression. The questions focus on symptoms for the last two weeks. Like the EPDS, the PHQ-9 scores questions 0-3 with a maximum score of 27. The typical cut-off for mild depression is 5, and moderate to severe depression is 15.

The CESD-10 is like the PHQ-9 and EPDS in that it is a self-report questionnaire used to assess symptoms of depression. It has been validated for use in the general population. Subjects

rate the frequency of each symptom from 0-3 based on the last seven days. The maximum score is 30, with higher scores indicating a higher likelihood of depression.

Local Problem

A rural community in Montana is classified as a maternity desert. The community is more than 90 miles from the nearest hospital that provides obstetric care and deliveries. Many women in the community and surrounding area seek prenatal care with a certified nurse midwife at a local community clinic. However, there is lost data between the community clinic and the delivery hospital due to different electronic medical records. Additionally, there is no policy on screening for postpartum depression.

Methods

Search Strategies, Eligibility, Selection, and Assessment

A review of the literature sought to determine an evidence-based guideline to create a policy for postpartum depression screening. A systematic review of databases, including CatSearch, CINHAL, PubMed, PsychInfo, and Cochrane Library was conducted. The initial search terms were postpartum depression and eventually expanded to impact of postpartum depression, postpartum depression screening intervals, EPDS, PHQ-9 AND postpartum, and CESD-10 AND postpartum. Inclusion criteria used to determine if studies would be included in the review were (1) original peer-reviewed article, (2) published after 2015, (3) pertain to postpartum or perinatal women, (4) original publication in the English language, (5) outcomes were related to screening or treatment of postpartum depression. Initially, 441 articles were retrieved and, through the inclusion criteria, were condensed to 32. After evaluating each article,

13 were considered applicable to the clinical problem. Limitations of the evidence include a variable postpartum experience based on country and maternal support programs. Most of the studies were retrospective cohort studies, with few randomized control trials or other high level of evidence works. Few studies focused on rural obstetric care, which directly applies to the clinical problem. Additional studies are needed to assess the impact of postpartum depression screening and treatment for rural populations. Many studies evaluated best practices for postpartum depression screening, although they presented varied recommendations.

Results

Impact of Postpartum Depression

The far-reaching effects of postpartum depression are a silent phenomenon. Mood changes after birth can be overshadowed by the societal norm of joy and celebration to welcome a new baby. Postpartum depression typically presents by eight weeks postpartum, most commonly occurring between 4-6 weeks (Subbiah et al., 2023). ACOG recommends screening women at the first obstetric visit, between 24-28 weeks, and 6 weeks postpartum (2023). This leaves a significant gap in care between delivery and the first postpartum appointment. Women who develop symptoms after 6 weeks postpartum may also be missed. Postpartum depression directly impacts the infant's health and well-being and is linked to decreased socioemotional development at 12 months (Subbiah et al., 2023). However, it is unclear the effect of genetic and neurobiological factors may impact socioemotional development (Subbiah et al., 2023). Postpartum depression can affect infant care. Mothers with postpartum depression often have lower perceived self-efficacy and are less engaged with infant care and bonding (Slomain et al., 2019). A study completed by Larsen et al. (2023) compared the EPDS, PHQ-9, PHQ-2, and

CESD-10 and demonstrated moderate agreement between the different tools in identifying depressive symptoms. The question remains: which tool should be selected to standardize screening practices?

Edinburgh Postpartum Depression Screen

In the United States, postpartum depression screening typically occurs in a healthcare facility. However, it may be completed in a home setting if home visits are available. As home visits are uncommon in the United States, most screening is conducted in the care setting, and the screening is self-reported. Observational data of behaviors and homelife adjustment are unavailable; therefore, all self-reporting screening tools in a healthcare setting could under identify symptoms of postpartum depression (Ben-David et al., 2017).

The EPDS is validated for the use of screening for postpartum depression. The psychometric properties of the EPDS are 86% sensitivity and 78% specificity (Shrestha et al., 2016). However, it is essential to note that there is some degree of variation of sensitivity and specificity across studies with different study methodologies, but it had an AUC rating of 0.965, indicating accurate detection of depression symptoms (Chowre-Sungani & Chipps, 2017). Through various research methodologies, the specificity of the EPDS was consistently > 90% (Larsen et al., 2023). Additionally, the EPDS has shown high diagnostic performance in identifying postpartum depression (Chowre-Sungani & Chipps, 2017). Comparatively, the EPDS identified postpartum depression more accurately than the PHQ-9 but did exclude some symptoms of depression, including anhedonia and somatic symptoms (Gigantesco et al., 2022).

Patient Health Questionnaire-9

The PHQ-9 and PHQ-2 are commonly used depression screening tools in health care to screen for major depressive disorder. Many healthcare facilities utilize the PHQ-2 and PHQ-9 as universal screening tools for major depressive disorder (Gigantesco et al., 2022). The self-reported questionnaire consists of 9 questions that pertain to the emotional state experienced over the last two weeks. They have also demonstrated 93.8% sensitivity and 80.8 specificity when using a threshold score of 2 or greater (Gigantesco et al., 2022). Using a threshold of 3 demonstrated significantly lower sensitivity and specificity and had a false negative result of 58.5%. The utility of the PHQ-9 and its availability and familiarity among healthcare providers is a benefit. The AAP recommends screening mothers for postpartum depression at well-child visits. The PHQ-9 is often used to universally screen patients; therefore, extending it to postpartum mothers is reasonable (Gjerdingen et al., 2009).

Centers for Epidemiologic Studies Depression Scale-10 (CESD-10)

The CESD-10 is like both the EPDS and PHQ-9 as it explores depressive symptoms experienced in the last seven days using a Likert-type scale. It is a series of twenty questions, which is considerably longer than both the EPDS and PHQ-9. It has shown a consistent specificity of 85% and a sensitivity of 95.1%. The questions include screening for symptoms of major depressive disorder in addition to somatic effects, which the EPDS lacks (Heller et al., 2022). Although the CESD-10 has high reliability in detecting symptoms of postpartum depression, there is significantly less data evaluating its use (Ben-David et al., 2017).

Frequency of Screening

ACOG recommends that women are screened for depression during both the prenatal and postnatal periods. Prenatally, women should be screened at the initial obstetrical visit and once between 24-28 weeks. ACOG then recommends screening at the six-week postpartum visit. Sidebottom et al. (2021) found that women were screened more frequently than the typical recommendations if a certified nurse midwife or obstetrician saw them compared to a family practice provider. Additionally, if a woman had a history of depression, they were screened more frequently. Women were less likely to be screened if they were young, African American, Hispanic, single, insured by Medicaid, or spoke a language other than English (Sidebottom et al., 2021). This highlights the significance of universal policy-based screening.

Typically, women follow up for one postpartum appointment at six weeks; however, they often intersect through the healthcare system through well-child visits at 2 weeks, 2,4,6,9, and 12 months. Screening for postpartum depression at well-child visits is a reasonable option, given resources can be provided to women with a positive screen (Lamere & Golova, 2022). Most women are screened for postpartum depression at six weeks per ACOG guidelines utilizing the AAP recommendations of screening at well-child visits, which will catch the peak prevalence of postpartum depression at four months (Lamere & Golova, 2022).

Treatment and Referral

A positive postpartum depression screen and possible diagnosis of postpartum depression create the opportunity for treatment. The most common treatment modalities for postpartum depression include medication, cognitive behavioral, and interpersonal therapy (Stewart & Vigod, 2019). Treatment success is influenced by accessibility and time to treatment (Stewart &

Vigod, 2019). Peer support and therapy mediated by a behavioral health professional can treat postpartum depression symptoms. Providers may consider pharmacologic management if symptoms do not respond to psychological treatment (Stewart & Vigol, 2019).

Implications for Practice

Recognizing symptoms of postpartum depression through screening is an evidence-based method to identify and initiate treatment for postpartum depression. Several screening tools have been validated to identify women with symptoms of postpartum depression accurately. However, the EPDS has the most data supporting its use. The EPDS is free, translated into several languages, and widely available. Screening should occur at the initial obstetric appointment, once during the 24-28 week visit, and 6 weeks postpartum. Additionally, mothers should be screened at standard well-child visits at 2 weeks and 2-, 4-, 6-, 9-, and 12 months.. The evidence is clear that prioritizing screening allows providers to identify symptoms of postpartum depression and initiate treatment or referral if indicated.

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CHAPTER TWO

QUALITY IMPROVEMENT PROPOSAL

Clinical Problem

Postpartum depression (PPD) is a significant problem that many Montana mothers face. Geographical isolation, stigmatization, and limited access to care significantly impact postpartum mother's ability to be screened and potentially treated for postpartum mood and anxiety disorders (PMAD). The Centers for Disease Control and Prevention (CDC) and the Pregnancy Risk and Monitoring System (PRAMS) have found that approximately 15.2% of postpartum mothers in Montana report depression symptoms during pregnancy or postpartum, which is consistent with the national average (PRAMS, 2020). Generationally, Montanans have held a "cowboy up" mentality or have formed negative associations with medication therapy or cognitive behavioral therapies that have made mothers hesitant to report mood changes (Hanson et al., 2023).

Currently, there are no clear guidelines recommending how and when mothers should be screened for PMAD. The American Academy of Pediatrics (AAP) and American College of Obstetrics and Gynecology (ACOG) propose loose guidelines for screening frequency and recommend using a validated tool but offer little guidance beyond that. If there is no standardization in screening methods, then there is a significant risk of under-identification and undertreatment of PDD. Lamere and Golova (2022) found that nearly 50% of eligible mothers were unscreened and potentially untreated, and often, mothers will not raise concerns regarding mood changes without a provider prompting them (Hanson et al., 2023). Ultimately,

unidentified, and therefore untreated, PPD has long-term effects on women and infants, including poorer psychological health and decreased quality of life (Subbiah et al., 2023).

Local Problem

Many Montana communities are in maternity deserts where there are zero providers in a county that provide obstetrical care (March of Dimes, 2020). The Health Data and Resource and Service Administration (HRSA) noted the rural clinic has been a healthcare provider shortage area (HPSA) for primary care with score of 7. Additionally, the county has a HPSA score of 21 for mental health services (2022). The highest HPSA score possible is 26 which indicates that the county is lacking resources in primary care and mental health service. The DNP-S contacted all clinical agencies within 60 miles of the rural clinic and there were zero obstetricians within 90 miles. In a 60-mile radius there were five family practice providers who would see low risk patients until 34 weeks gestation. Still, there are no delivery services in the county.

The lack of care access led to rural outreach in many clinics. A rural clinic in Montana is nearly 100 miles from the nearest hospital that offers obstetrical delivery services. Many women in the rural community are shared care patients between urban and rural clinics. Meaning that they will be seen, if eligible, by a certified nurse midwife who is employed by both the urban and rural clinic in the rural clinic for all prenatal and postpartum appointments. The patients will be delivered by the provider on call for the urban clinic.

There is substantial potential for missed communication and transfer of information between rural and urban clinics. The rural clinic uses the electronic medical record, NextGen, the delivery hospital uses Meditech, and the urban clinic continues to use paper charting. The staff strives to fax and communicate by phone to ensure each patient record is complete, but there is

no way to transfer all data completely. There is no PPD standardized screening interval or tool used. Additionally, patients may be interchangeably seen at the urban or rural clinic due to convenience or provider location. Patients are currently only screened for PPD at the six-week postpartum visit, which most commonly occurs at the rural clinic. However, the data may not be transferred to the other shared care site if the patient is screened at different intervals due to symptoms or complaints.

Screening for PPD is currently only occurring at the six-week post-partum visit and possibly more if the patient has complaints or is exhibiting symptoms of PPD. The certified nurse midwife noticed a slight uptick in positive screens at the rural clinic over the summer of 2023 and recognized that some patients likely exhibited symptoms of PPD during pregnancy and would have benefitted from early intervention postpartum rather than waiting for the six-week postpartum visit to identify mood changes. Additionally, these mothers frequently intersected with the rural clinic in the early postpartum period during well child checks but were not screened. In accordance with the ACOG and AAP guidelines, screening for postpartum depression should occur at standardized intervals: initial obstetric visit, once between 24-28 weeks, six weeks post-partum, and at well-child checks at two weeks, 2-, 4-, 6-, 9-, and 12 months (ACOG 2023, AAP 2022). Once a patient has had a positive screen, there were no standardized follow-up practices regarding follow-up appointments, referrals, or outreach after no-show appointments. This project proposal intends to standardize screening intervals for PPD using a readily available and validated tool, the Edinburgh Postpartum Depression Scale (EPDS), and establish follow-up practices after positive screens.

Microsystem Assessment

A microsystem assessment was conducted in September 2023 that reviewed the processes from patient check-in to check-out. There are no publicly available data; all patient data were collected from the rural clinic's electronic medical record (EMR) and observation by the Doctor of Nursing Practice Student (DNP-S). Subsequently, a chart review was conducted by the DNP-S to identify which patients were eligible for screening given current practices and what the outcomes and subsequent interventions were.

A chart review of patients over five weeks reflected 58 patients, of which six were eligible for PPD screening using the EPDS. Eligible patients given current screening practices included female patients who were six weeks postpartum or exhibited mood changes consistent with PMAD. Ages ranged from 16-36 years old, and all were Caucasian. The DNP-S directly observed practices for two patient encounters.

Key stakeholders included clerical front desk staff, a registered nurse (RN), and a certified nurse midwife (CNM). The clerical front desk staff verified insurance and contact information and checked the patient into the EMR. The RN was responsible for collecting vital signs, chief complaints, and administering the EPDS form. The EPDS form was given to the patients on a clipboard, and then the RN would leave as the patient completed the form. After the patient was roomed, the RN gave the CNM a brief report and noted that the patient was completing the EPDS. The CNM reviewed the EPDS with the patient during the observed visit. The chart review that the DNP-S completed showed that of the six patients, one positive (score >10) was charted, and the remaining 5 had scores < 10. The positive screen had no intervention noted in the chart. The DNP-S reviewed the case with the RN to assess for any intervention

beyond what had been charted. Per the RN, the EPDS was not scored until the patient had left the clinic, and the patient did not raise concern for mood changes. The RN called the patient after the visit and scheduled a follow-up visit. Additionally, the positive screen was not transferred to the urban clinic, so it would not be on record for review for subsequent care at the urban clinic.

A chart review of clinic-wide visits for the same 5-week timeline with proposed screening guidelines of initial obstetric visit, 24-28 weeks, and six weeks postpartum, and well-child visits at two week, 2-, 4-, 6-, 9-, and 12 months showed 43 eligible patients that were unscreened for any mood disturbances. This is aligned with the finding that over 50% of postpartum women are unscreened and, therefore, untreated. Barriers identified included who was responsible for scoring the EPDS when it was administered in the visit and fragmented follow-up for positive screens.

Quality Improvement Model

The overall goal of this quality improvement project is to increase screening, treatment, and resources for women experiencing postpartum depression. The Plan, Do, Study, Act (PDSA) Framework outlined in the Institute for Healthcare Improvements Essential Toolkit will serve as a framework for this project. Each step of the PDSA will use recommended practice changes and evaluate outcomes to achieve the short-term goal of increasing screening for PPD at the ACOG and AAP recommended intervals. The long-term goal of the quality improvement project is to screen at least 90% of eligible patients for postpartum depression and provide treatment or resources as clinically indicated.

During the “plan” phase of the PDSA, the clinical question of when and how screening for PPD should occur within the rural clinic will be assessed. After a thorough literature review

and evaluation of evidence-based and validated tools, the EPDS was selected as the screening tool due to its availability and familiarity of use for the staff. Additionally, the screening intervals recommended by the AAP and ACOG are well supported by the evidence and will be followed as previously described intervals. The “who” of the project includes the front desk clerical staff, the rooming, the RN, and the providers. A plan was developed through direct clinic observation and chart review by the DNP-S. A collaborative effort through interviews by the DNP-S with key stakeholders revealed process breakdowns that could contribute to suboptimal screening practices. Education for practice changes will be provided to stakeholders via secure work email and personal communication. After approval through the Montana State University IRB and the clinical site, the plan will be developed to test the change through subsequent PDSA cycles. The steps outlined in Figure 1 are not chronologically ordered and can co-occur.

Figure 1. Plan

Plan			
Interview key stakeholders including clerical desk staff, rooming RNs and medical assistants, and providers (CNM and FNP). Regarding barriers to screening processes.	Review project with site representative, Chief Operations Officer, and Chief Executive Officer and receive approval for intervention by December 15, 2023	DNP-S will observe two eligible visits from start to finish to observe current practices by November 20, 2023	Rooming RN and MA will save completed EPDS forms in a secure location on site for DNP-S to review and compare to charted EPDS in EMR.
Data data required are number of qualifying visits, if EPDS screen was administered, was the score charted in EMR, was intervention indicated and what intervention was completed.	DNP-S will assess patient completed forms to scores charted in the EMR to assess for interventions and follow up.	DNP-S will provide written and inperson education to rooming staff and providers regarding EPDS administration by January 18, 2024	The first PDSA cycle will begin January 15, 2024 and will run for two weeks with evaluation at the end of the second week for possible changes for the next cycle.

During the “do” phase of the project, the first cycle of the PDSA will start. Implementation will begin on January 15, 2024, and continue for two weeks. The DNP-S will evaluate the collected data at the end of week two on January 29, 2024. Education provided to staff regarding standardized administration of EPDS will occur at a staff meeting and via email for those who cannot attend. Standardized practice will include screening guidelines during pregnancy (initial visit, 24-28 weeks, and six weeks postpartum) and all well-child visits for the first 12 months of life. Each completed EPDS screen will be saved in a secure location on site. Patient data will be included on the EPDS form for comparison purposes. The DNP-S will evaluate completed EPDS forms to chart EPDS scores in EMR. The DNP-S will also assess if eligible patients via appointment type were screened using the EPDS or another screening tool. The DNP-S will then enter the deidentified data into an Excel spreadsheet. An additional spreadsheet will contain data from positive screens and the initial intervention and follow-up. The initial PDSA cycle spreadsheets will be completed by January 29, 2024.

The “study” phase of the intervention will involve assessing and evaluating data collected and comparing data to our primary goal of standardized screening and follow-up for PPD. It is predicted that there will be increased EPDS scores >10 due to improved screening and additional intervention and treatment for PPD. The total number of eligible patients will be identified and logged into the spreadsheet and compared to the total number of patients screened. Additionally, the total number of positive screens (scores >10) will be compared to if an intervention was initiated in the spreadsheet. Interventions will be recorded as pharmacotherapy, behavioral health, or both. Finally, it will be recorded if an intervention was initiated and compared to if follow-up was completed as appropriate.

DNP-S will evaluate why eligible patients were not screened and possible barriers to screening practices. Finally, if indicated, the DNP-S will determine if data was communicated to stakeholders, including the urban clinic and behavioral health.

The “act” phase of the project will include subsequent PDSA cycles utilizing data collected to improve the interventions. Due to the limited timeframe of this project, it will be limited to a maximum of three two-week PDSA cycles. Modifications will be made based on practice barriers and staff feedback.

Specific Aims

Montana has limited obstetric and mental health services. Many communities are classified as maternity care deserts; therefore, intersections with healthcare should be optimized, and evaluation for PPD is crucial. The fundamental goal of this project is to successfully implement ACOG and AAP PPD screening guidelines for 100% of qualifying patients. Ultimately, increased screening and treatment for PPD will improve the health outcomes of women and infants. The short-term and mid-term goals are outlined in Figure 2. This project did not evaluate long-term goals due to the limited timeframe but are aligned with the mid-term goals.

Figure 2. Goals

Short Term Goals				
Staff will receive in-person or written practices for EPDS administration	All EPDS scores will be charted in EMR	All positive screens will have appropriate intervention by the provider by January 29, 2024	Front desk staff will add an appointment note for EPDS screen to all eligible appointments by January 29, 2024.	All eligible patients will be administered an EPDS at appropriate appointments

Mid-Term Goals	
100% identification of PPD via EPDS screen by February 22, 2024	100% treatment or intervention of PPD by February 22, 2024

Methods

Implementation Summary

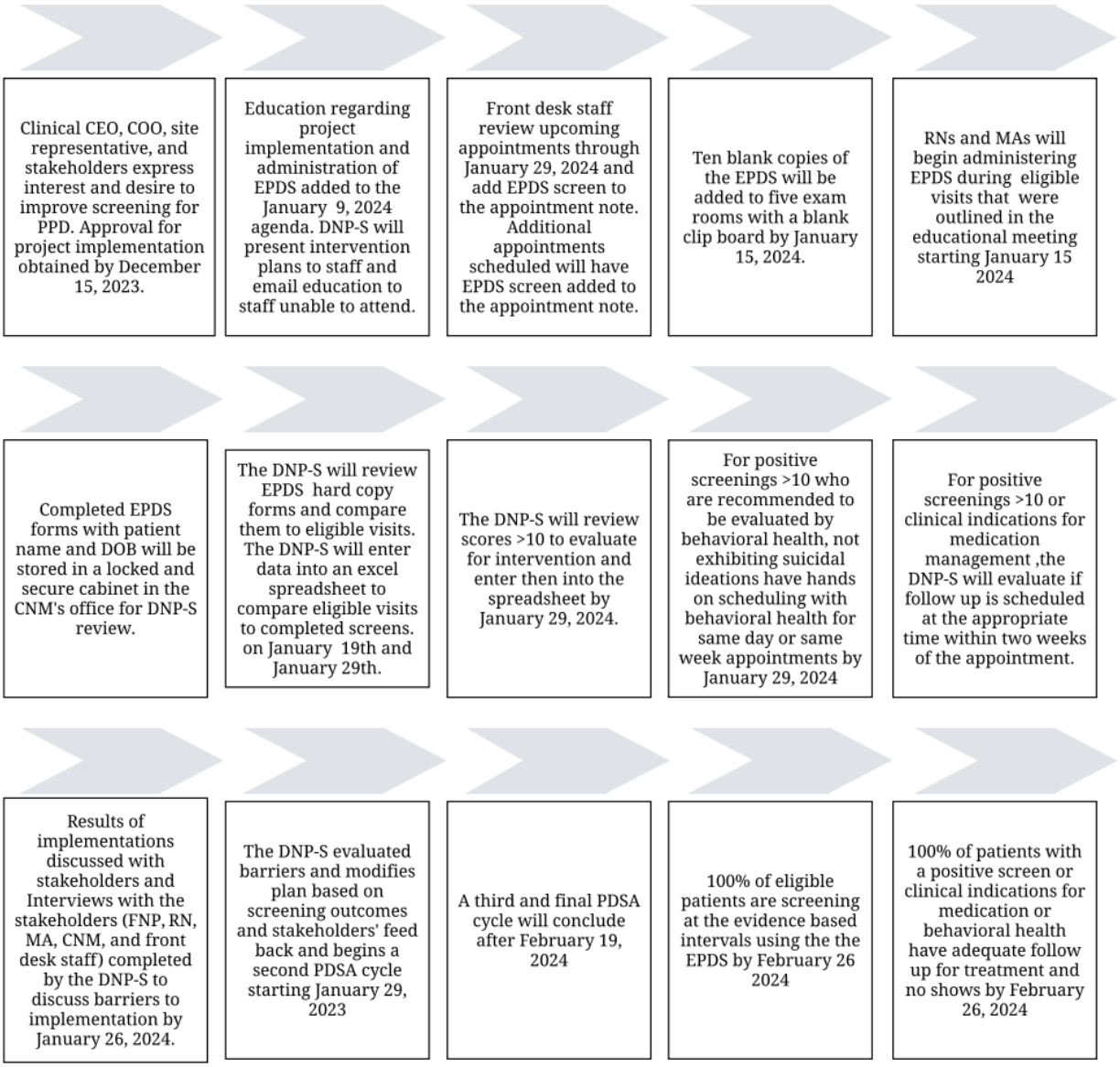
The planned intervention will occur at a rural clinic in northern Montana that provides prenatal, postnatal, and family practice care for several communities. The population assessed will be pregnant women and women attending well-child visits for the first year of life. Approximately 60% of the patient population is insured by Medicaid, 32% have private insurance, and 8% are uninsured. The intervention is centered around process changes with clerical staff and medical providers. The site representative is a CNM with the most prenatal and postpartum visits. Additional stakeholders include the front desk staff, rooming RN and medical assistant (MA), and a family nurse practitioner (FNP) who sees many well-child visits. The process change includes increasing the frequency of screening for PPD and the tool used to screen for PPD. Education about EPDS administration and charting will be provided with in-person meetings and emailed information. The DNP-S will complete screening, treatment, and follow-up evaluation by February 22, 2024.

Intervention

The initial plan for intervention includes staff training to outline project expectations and staff responsibilities. This will be completed during a lunch-hour staff meeting before January 15, 2024. The budget for this project is minimal and feasible to implement. The EPDS is free to download; therefore, the total cost is limited to the ink and paper required to print the EPDS (Appendix A.) Staff training will be completed during a previously scheduled staff meeting, so unpaid volunteer time will not be necessary, nor additional compensated time.

Front desk staff will be educated on the necessity of improved PPD screening and their responsibilities, including adding a note when scheduling the appointment to complete an EPDS. This will be an additional reminder to the RN or MA rooming the patient to complete the EPDS. Figure 3 outlines the practice change and intervention and the project timelines.

Figure 3. Intervention



The hard copy EPDS will be reviewed by the DNP-S weekly. The hard copy EPDS forms will contain patient information but will be stored in a secured cabinet and secured office. Once the DNP-S has collected data, the EPDS forms will be destroyed. It is necessary to keep patient information on the forms to accurately compare the results to the corresponding patient in the EMR.

The DNP-S will complete the data collection and analysis after three PDSA cycles, concluding on February 19, 2024. The DNP-S will consult with each provider (CNM and FNP) if there are questions regarding a patient's follow-up or management if it is unclear in the EMR. The final data will be compiled to compare screening rates and positive EPDS scores >10. Follow-up practices will be examined to evaluate if a referral to behavioral health was made and if the patient followed through with recommendations. Additionally, follow-up for medication management will be evaluated.

There are several possible barriers to implementation. As a new screening practice and change in workflow, the screening may not be administered during eligible patient visits. Additionally, there may be confusion about how to treat mothers if they have a positive screen at a well child visit as they are not the patient. It should be evaluated case by case what would be the most functional practice. That may be referring the mother to her primary care provider for further evaluation, or the provider treating the child could also refer the mother. Providers may have pushback as a positive screen could add to their schedule and cause them to run late for subsequent patients. The fragmented communication between the urban and rural clinics is an additional barrier. Depending on where the patient had a positive EPDS, her records may not be available and may result in fragmented care.

Evaluation and Analysis

This project will occur over six weeks and be broken into three PDSA cycles, each lasting two weeks. The DNP-S will disseminate and evaluate quantitative data by reviewing the screening rate using the EPDS for eligible patients. The EPDS scores will also be reviewed to determine if a positive screen was identified during the visit and if an intervention was

implemented. Finally, stakeholders will collect qualitative data to evaluate the follow-up process for positive screens, including barriers and facilitating factors. Screening rates will be calculated by taking the number of patients who completed EPDSs and dividing it by the number of eligible patients. This will be compared to the pre-intervention data. Successful implementation would be reflected by a significant increase in screening compared to the preintervention rates, and the long-term goal would be to screen 100% of eligible patients.

Subsequently, the total number of patients with an EPDS score >10 will be compared to the total number of screened patients to evaluate the percentage of the population with positive screening for PPD. This data provides valuable information about the patient population in the rural clinic. Finally, the total number of patients who had an intervention implemented will be compared to the total number of patients that had follow up within two weeks of the intervention. Follow-up could be classified as a phone call or appointment to discuss status. Further illustration of goals and analysis are outlined in Table 1

Table 1. Smart Goals

<table>
<tr><td colspan="3">Smart Goal #1: All eligible women will be screened for PPD using the EPDS at the initial obstetric visit, between 24-28 weeks, 6 weeks postpartum and at the 2 week, 2, 4, 6, 9, and 12-month well-child visit by February 18, 2024</td></tr>
<tr><td colspan="3">Description of Strategies to be utilized to accomplish goal including any needed resources.
Key stakeholders will receive education during a staff meeting 2 weeks before implementation reviewing the EPDS and importance of PPD screening.
Key stakeholders approve of implementing EPDS and PPD screening.
Front desk staff will enter a EPDS reminder in each appointment note for eligible patients.</td></tr>
<tr><td>Data to be collected</td><td>Method of collection and who is responsible</td><td>Planned data analysis</td></tr>
<tr><td>EPDS scores</td><td>EPDS scores from EMR
EPDS hard copy scores
Both collected and compiled DNP-S</td><td>DNP-S will track eligible patients with excel spreadsheet and complete a weekly chart review to assess if EPDS was charted in EMR compared to the hard copy. Comparing if the EPDS was administered at all and if it was charted in the by EMR.</td></tr>
<tr><td colspan="3">Smart Goal #2: Patients with a positive EPDS screen >10 or clinical symptoms of PPD will be evaluated by a provider by February 18, 2024</td></tr>
<tr><td colspan="3">Description of Strategies to be utilized to accomplish goal including any needed resources.
Patients who had a positive screen at the well child visit will have the option to follow up with their primary care provider or the provider seeing the child can refer the mother.
Follow up completed by well child provider to ensure that patient was evaluated by primary care provider if that is what they chose.</td></tr>
<tr><td>Data to be collected</td><td>Method of collection and who is responsible</td><td>Planned data analysis</td></tr>
<tr><td>Positive EPDS >10 at well child visits.</td><td>EMR and hard copy EPDS review.</td><td>DNP-S will review EPDS completed at well child visits and evaluate the intervention completed at the time of the visit.</td></tr>
<tr><td colspan="3">Smart Goal #3: Appropriate intervention should be implemented at the appointment</td></tr>
<tr><td colspan="3">Description of Strategies to be utilized to accomplish goal including any needed resources.
If behavioral health is recommended, then hands on scheduling should be facilitated to have the patient seen the same day or week.
Behavioral health providers are in clinic and have several crisis appointments available for same day/week needs.</td></tr>
</table>

Medication therapy should be initiated at the appointment if indicated.		
Data to be collected	Method of collection and who is responsible	Planned data analysis
EPDS Score	RN, MA, FNP, CNM	Chart review completed by the DNP-S for positive EPDS scores and compare positive screens to intervention and if behavioral health or medication therapy was initiated at the appointment.
Smart Goal #4: Follow up after intervention by RN, MA, FNP, or CNM within two weeks of intervention.		
Description of strategies to be utilized to accomplish goal including any needed resources. • Patient alert reminders in EMR to alert RN or MA to follow up. • Schedule a follow up nurse visit or provider visit at the time of positive EPDS screen.		
Data to be collected	Method of collection and who is responsible	Planned data analysis
Was follow up scheduled and did the patient present for follow up?	RN, MA, CNM, or FNP	Follow up contact compared to number of patients recommended.

Safety and Confidentiality

This project's primary source of data collection will be retrieved from the rural clinic EMR and through hard copies of completed EPDS forms. The sample will consist of patients receiving standard care from the rural clinic; therefore, there are no risks beyond the standard level of care, and informed consent is unnecessary. Data reviewed in the EMR will include the patient's age, ethnicity, form of insurance, and EPDS score. The DNP-S will collect all data from the EMR. The hard copies of the completed will be collected by the RNs and Mas after completion and stored in a key code-locked cabinet in the CNM’s office. The hard copy forms will contain the patient's name and DOB to compare to the data charted in the EMR. After reviewing the hard copy of the EPDS to the EMR, the EPDS will be destroyed.

The DNP-S will complete a chart review of patients with a positive EPDS to assess if an intervention was implemented and what follow-up had been completed or scheduled. All data collected from the rural clinic will be deidentified and entered into an Excel spreadsheet that does not contain personal identifiable information.

Conclusion

This project was born out of a need for change. The rate of PPD in Montana is 15.2%, and current screening at the rural clinic does not reflect the general population. That raises the question of whether the sample has a lower rate of PPD or if there is a lack of screening and, therefore, a lack of treatment. Implementing evidence-based screening practices in a rural clinic will improve the identification and treatment of PPD. The goal of identifying PPD and improving access to adequate treatment through medication, behavioral health, or a combination of both will improve health for women and children during the postpartum phase.

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CHAPTER THREE

QUALITY IMPROVEMENT MANUSCRIPT

Contribution of Authors and Co-Authors

Manuscript(s) in Chapter(s) 1

Author: Alyson Raph

Contributions: Identification of the practice problem, review of the literature, implementation methods, implementation process, and data analysis.

Co-Author: Dr. Molly Secor

Contributions: Contributions to quality improvement project design and implementation, critical review of the project.

Co-Author: Dr. Stacy Stellflug

Contributions: Editorial Review

Manuscript Information

Alyson Raph, Dr. Molly Secor, Dr. Stacy Stellflug

American Association of Nurse Practioners

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☐ Accepted by a peer-reviewed journal
☐ Published in a peer-reviewed journal

Abstract

Background: Postpartum depression (PPD) affects nearly 15.2% of Montana mothers.

Local problem: This quality improvement project aimed to evaluate current screening practices at a rural Montana clinic and standardize practice to improve screening rates and increase access to treatment.

Methods/Intervention: The Edinburgh Postpartum Depression Screen (EPDS) was chosen as a screening tool. The EPDS was administered to women during prenatal visits according to the American College of Obstetrics and Gynecology (ACOG) recommended frequency at the initial obstetric visit and once between 24-28 weeks, as well as the 6-week postpartum visit. Additionally, screening at well-child visits was implemented at two weeks, 2, 4, 6, 9, and 12-month visits per the American Association of Pediatrics (AAP) recommendations.

Results: A total of 28 patients were screened over six weeks, with four positive screens requiring intervention. Overall, screening was 71.4%. Compared to previous practices, 24 additional patients were screened with the intervention, and there were two positive screens that would not have been identified with previous practices.

Conclusions: Implementing standardized screening practices for PPD increased screening rates, overall number of screened patients, and patients treated for PPD.

Background

Perinatal and postpartum mood disorders have significant and specific risks for women and infants. The adjustment from pregnancy to motherhood illustrates incredible changes in a woman's role and responsibility in addition to the physiologic changes of labor and delivery

(Slomain et al., 2019). Nationally, postpartum depression is associated with nearly one in eight women reporting perinatal mood and anxiety disorder (PMAD) or postpartum depression (PPD) symptoms with a recent live birth experience (CDC, 2020). In Montana, The Centers for Disease Control and Prevention (CDC) and the Pregnancy Risk and Monitoring System (PRAMS) have found that approximately 15.2% of postpartum mothers in Montana report depression symptoms during pregnancy or postpartum, which is consistent with the national average (PRAMS, 2020).

Although common, there are no clear guidelines that specifically recommend a screening tool or screening frequency for postpartum depression. The American College of Obstetrics and Gynecology (ACOG) and the American Academy of Pediatrics (AAP) provide loose guidelines for selecting a validated screening tool and screening frequency. The lack of standardized screening methods results in under-identification and under-treatment of PPD, which have long-term effects on women and infants, including poorer psychological health and decreased quality of life (Subbiah et al., 2023).

Local Problem

Many communities in Montana are in maternity care deserts and have limited access to maternity care providers. Fewer family practice providers offer obstetric care and delivery services, so many Montana women travel distances to receive care. Additionally, many urban clinics are implementing outreach services to rural areas, resulting in shared care between the rural and urban clinics. Due to shared care and different electronic medical records, there is substantial potential for missed information between the clinics, specifically regarding PPD screenings.

A rural clinic nearly 100 miles from the nearest delivery hospital and utilized maternity outreach was selected to evaluate practices for this project. Prior to project implementation, screening for PPD was only routinely completed at the six-week postpartum visit. Many mothers were seen earlier for postpartum complications or c-section incision checks. Additionally, these mothers frequently intersected with the rural clinic in the early postpartum period during well-child checks but were not screened. Following the ACOG and AAP guidelines, screening for postpartum depression should occur at regular and standardized intervals that include: initial obstetric visit, once between 24-28 weeks, six weeks postpartum, and at well-child checks at two weeks, 2, 4, 6, 9, and 12 months (ACOG, 2023; AAP, 2022). This project used evidence-based practice recommendations to implement PPD screening and follow-up practices to improve long-term health outcomes of women and infants in the rural Montana community.

Review of the Literature

The impact of PPD is far-reaching. Women who experience persistent PPD at two and eight months postpartum are more likely to experience severe depression symptoms by eleven years postpartum (Weissman, 2018). PPD is associated with lower socioemotional development in infants and is linked to poor parenting strategies, impatience, hostility, and interferences in sleep, breastfeeding, and safety practices (Arante et al, 2020.) Children of mothers diagnosed with PPD depression have a fourfold risk increase of developing toddler behavior problems and a sevenfold risk of depression at age 18 (Subbiah et al., 2023). Although PPD is common, there are few screening criteria to assist providers in their diagnosis. PPD follows many of the same diagnostic criteria as major depressive disorder (MDD), including a combination of depressed mood, anhedonia, sleep disturbances, feelings of guilt or worthlessness, and suicidal thoughts

(DSM-5, 2013). PPD depression symptom presentation can vary from 4 weeks to 12 months after birth and can include anxiety, irritability, obsessional worry, and overwhelm, which may not apply to MDD (Stewart & Vigod, 2019).

In addition to variable definitions of diagnostic criteria of PPD, there are no specific guidelines for screening frequency and screening tool selection. ACOG recommends using a tool validated for use during and after pregnancy. Commonly used screening tools are the Edinburgh Postpartum Depression Screen (EPDS), the Patient Health Questionnaire-9 (PHQ-9), and the Center for Epidemiologic Studies Depression Scale (CESD-10.) Each screening has been validated for use in pregnant and postpartum women. The EPDS, PHQ-9, and CESD-10 are similar in that they are all self-reporting questionnaires with Likert-scaled responses. When the sensitivity and specificity of the screening tools are evaluated, they are highly comparable. The EPDS demonstrated 86% sensitivity and 90% specificity (Shrestha et al., 2016) (Larsen et al., 2023). The PHQ-9 showed sensitivity of 93.9% and specificity of 80.8% when using a threshold of 2 or greater. However, if a threshold of 3 was used, then specificity dropped to 58.5%. The CESD-10 has shown a consistent specificity of 85% and sensitivity of 95.1% (Heller et al., 2022). Ultimately, the EPDS was selected based on its high reliability, accessibility, and familiarity by staff.

The frequency of screening was based on ACOG and AAP recommendations. ACOG recommends that women be screened both prenatally and postnatally. Prenatally, women should be screened at the initial obstetrical visit, once between 24-28 weeks, and once at the six-week postpartum visit. As previously discussed, PPD symptoms can present up to 12 months postpartum; therefore, well-child checks should be utilized as the mother intersects with the

healthcare system. The AAP recommends screening women at well-child visits at two weeks, 2,4,6,9, and 12 months. Utilizing both recommendations from the AAP and ACOG optimizes screening frequency for mothers in the prenatal and postpartum periods. If a mother has a positive screen, it is essential to implement standardized treatment and follow up as appropriate, as treatment success is often influenced by accessibility and time to treatment (Stewart & Vigod, 2019).

Aims/Purpose

The aim of this project was to successfully implement the ACOG and AAP screening guidelines for postpartum depression using a validated and evidence-based screening tool for 100% of eligible patients. Ultimately, increasing screening for PPD in mothers' intersection with healthcare services leads to improved treatment of PPD and improved outcomes for mothers and infants.

Methods

Context

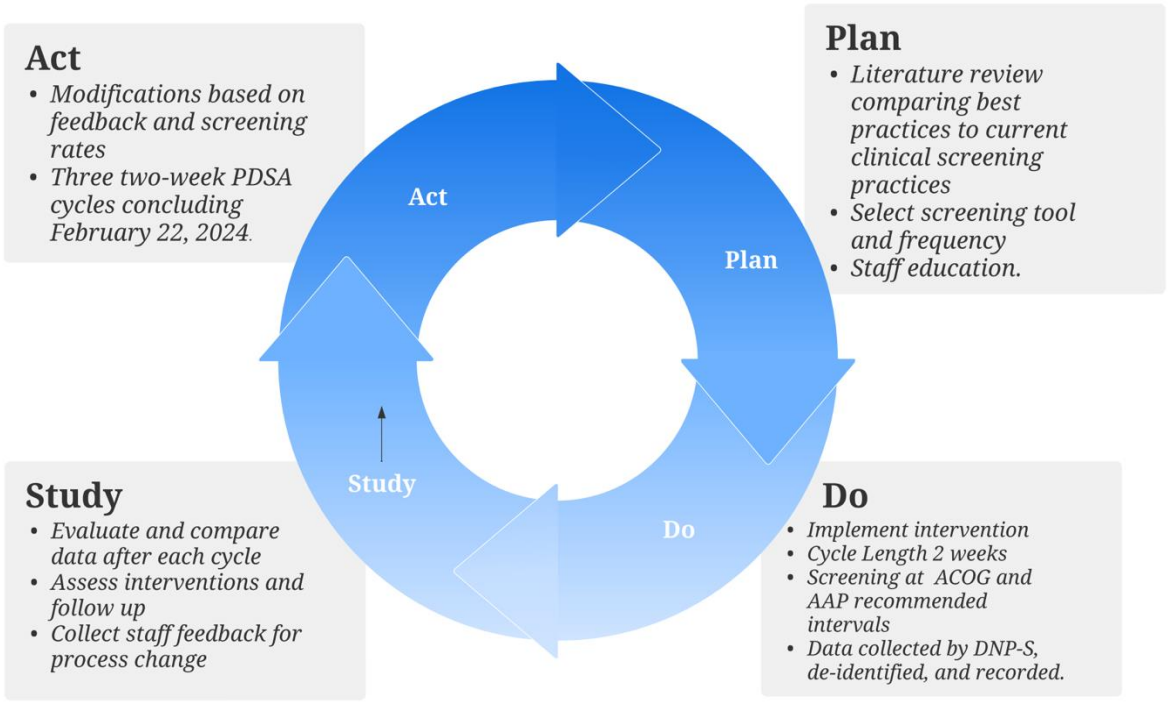
This project was implemented in a clinic in rural Montana that utilized outreach services from a certified nurse midwife from an urban clinic for prenatal care. The certified nurse midwife typically saw 8-10 patients weekly at the rural clinic and served as this project's primary source of prenatal and postpartum screening, after evaluation of each provider's most common patient populations a second provider, a family nurse practitioner (FNP), who saw the majority of the first year well-child visits was selected as the second practitioner to implement the previously described screening guidelines. The FNP typically saw 1-5 patients per week for well-

child visits for less than 12 months. Additional stakeholders essential to implementing change were the rooming nurse and medication assistant.

Conceptual Framework

This project was based on the Plan, Do, Study, Act (PDSA) Framework outlined in the Institute for Healthcare Improvements Essential. This framework was used to guide interventions at each stage of the framework. Several PDSA cycles were implemented, and minor adjustments were made to implementation following evaluation in each cycle to make improvements in future cycles. See figure 4 for alignment of conceptual framework with intervention activities.

Figure 4. Conceptual Framework



During the plan phase, fragmented, inconsistent, and underscreening screening methods were identified among providers. Additionally, staff education to promote consistent screening methods was provided by the DNP-S. During the "Do" phase, the screening tool and frequency were implemented, and the DNP-S collected the data. The "Study" phase consisted of data evaluation after each two-week cycle. This involved reviewing appointment notes for eligible patients, whether they were screened, their EPDS results, if intervention was indicated, and indicated follow-up. Finally, during the "Act" phase, the data collected in the study phase was evaluated by the DNP-S, and interventions were adapted if necessary. During the three PDSA cycles, slight changes were implemented after evaluation in each cycle during the "Do" phase to improve screening implementation.

Intervention

The intervention was introduced to staff at a staff meeting where stakeholders were educated on the project expectations, role responsibilities, and project goals in January 2024. The screening guidelines included using the EPDS to screen all pregnant patients at the initial obstetric visit, once between 24-28 weeks, and all postpartum patients at six weeks postpartum and at well-child visits at two weeks, 2, 4, 6, 9, and 12 months. A preloaded clipboard with ten blank EPDS forms was placed in each exam room. After project education was completed, the rooming staff could identify eligible patients and administer the screening tool, and patients could complete it while waiting for the provider. Next, the provider reviewed and scored the EPDS with the patient, addressed positive screens as clinically indicated, and arranged follow-up if necessary.

Measures

The DNP-S collected and evaluated data at the end of each two-week PDSA cycle. The DNP-S completed a chart review to determine the number of eligible patients to be screened. The number of eligible patients was then compared to the number of completed physical EPDS forms. Next, the DNP-S evaluated if the EPDS scores were entered into the electronic medical record (EMR). Initially, it was suspected that patients were screened, but the data were not entered into the chart, demonstrating a falsely low screening rate. However, after chart review, 100% of physical EPDS scores were correctly charted in the EMR. The screening process relied heavily on identifying eligible patients by the rooming MA or RN. If the patient was not given the EPDS to complete while waiting for the provider, they did not have time to complete it before the provider came into the room.

Analysis

Upon the completion of the PSDA cycles, data were collected and reviewed by the DNP-S. The goal was to evaluate the implementation of the screening intervention for PPD based on the AGOG and AAP guidelines. First, a comparison was completed to illustrate the impact of the intervention. A chart review demonstrated that if the previous practices of screening once for PPD at 6 weeks postpartum were maintained, four patients would have been screened over the six weeks. When the intervention was implemented, 28 patients were eligible to be screened, significantly expanding the population. After identifying the number of eligible patients, a review of completed physical EPDS forms and charted EPDS scores was completed to determine the screening rate. Overall, screening rates were consistently greater than 60% with the exception of

the second week of the second PDSA cycle, which demonstrated a decrease in screening after the preloaded clipboard with EPDS forms was removed from one of the exam rooms.

Ethical Considerations

The project plan was submitted and reviewed by the Montana State University Institutional Review Board due to the use of patient data and research and was given exempt status as it did not meet the definition of human subject research. The rural clinic's CEO and quality improvement director granted approval for this project. Completing the EPDS implied patient participation and consent as part of standard care. Data were collected, stored securely, and deidentified for use in the quality improvement project.

Results

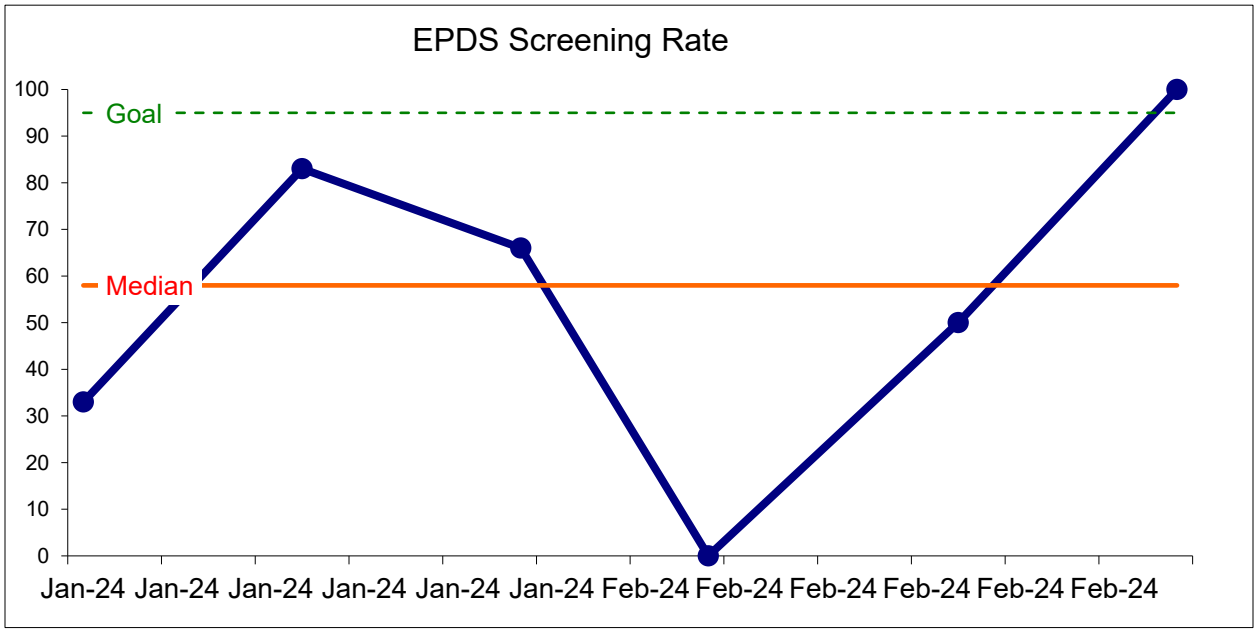
The primary goal of this project was to standardize and increase screening practices for postpartum depression and subsequently improve identification, diagnosis, and treatment. A total of 28 eligible patients were determined to meet the inclusion criteria outlined in the screening guidelines, and of those, 20 were screened (see Table 2). This demonstrated an overall screening rate of 71.4% of eligible patients. Of the 20 screened patients, 4 had positive screens, indicating they scored greater than 10 on the EPDS. Of those four patients with a positive screen, all had follow-ups supported by an intervention (behavioral health or medication) initiated by the provider. All goals of this project relied on the primary goal of screening 100% of eligible patients. This goal was unmet, with a screening rate of 71.4%. However, of the screened patients, 100% of patients with a positive screen had an intervention initiated, and follow-up was

completed, which met the remaining three goals of the project. Figure 4 illustrates the variation of implementation throughout the project.

Table 2. Results

Eligible Patients	n = 28	Screening Completed	n =20	Positive Screens n=4	% Screened	Follow Up Completed
Prenatal	13	Prenatal	6	1	46.10%	1
Postpartum	4	Postpartum	3	1	75%	1
Well-Child	11	Well-Child	11	2	100%	2

Figure 5. EPDS Screening Rate



Discussion

Montana faces unique challenges for access to maternal healthcare due to provider shortages and rurality. This quality improvement project used a rural clinic in Montana to evaluate current screening practices and create interventions based on current evidence to

improve screening for postpartum depression. As previously discussed, screening recommendations were based on the AAP. ACOG recommended screening frequencies at the initial obstetric visit, once between 24-28 weeks, 6 weeks postpartum, and at well-child visits at two weeks, 2, 4, 6, 9, and 12 months. The EPDS was selected compared to the PHQ-9 and CESD-10 screening tools due to its validity, reliability, accessibility, and familiarity. The findings of the project reflected local and national data. The prevalence of PPD in the sample was 14.2%, which was comparable to the Montana average of PPD of 15.2% during pregnancy and 13.2% postpartum (PRAMS, 2020).

Challenges and Limitations

Several challenges and limitations occurred during the quality improvement project. Initially, the DNP-S wanted front desk staff to add a reminder in the appointment notes to complete the EPDS screening for eligible patients. This was not successful and was met with pushback and frequent errors, causing confusion among front desk staff and rooming staff. Ultimately, additional education for rooming staff and providers resulted in improved screening and smoother workflows.

There was a significant drop in screening rates during the second PDSA cycle. It was found that there were no eligible well-child visits during that week, and no eligible prenatal patients were screened. The DNP-S discovered that the preloaded clipboards in exam rooms had been removed, disrupting the established screening routine of the rooming RN. Screening rates improved once the clipboards were replaced. This shift in data highlighted the difference in screening rates at prenatal visits compared to well-child visits. Screening at well-child visits was 100% compared to 46.1% of prenatal visits. After completing post-implementation interviews, it

was identified that staff had difficulty choosing when to administer the EPDS during prenatal visits because the screening guidelines were too vague. The initial obstetric visit was often missed because patients were initially frequently seen at the urban clinic. Therefore, the rooming staff did not know if they should screen during the initial visit to the rural clinic. Additionally, staff had difficulty screening once between 24 and 28 weeks because it took extra time to review the chart to see if they had completed the screening during the wide range.

Throughout the project, staff asked how to address positive screens at well-child visits where the mother was not the patient and where the EPDS scores should be charted. During this project, there was no place to enter maternal data in the child's chart. Process evaluation determined that if the mother had a positive screen, she would be added to the provider's schedule. Her needs would be addressed during the well-child visit, and billing could be completed accurately.

Strengths

Facilitators of this project included support from the rural clinic's administration and the desire by the providers to deliver comprehensive, evidence-based care, as evidenced by 100% treatment and follow-up. The project required little financial support and was easily feasible to implement.

Recommendations for Future Practice

Standardizing screening for PPD based on the current evidence-based guidelines supported by ACOG and AAP is essential for identifying at-risk patients. Additionally, it is vital to implement standardized screening and follow-up as appropriate, as treatment success is often

influenced by accessibility and time to treatment (Stewart & Vigod, 2019). Identification and treatment of PPD are linked to improved outcomes and quality of life for mothers and children (Stewart & Vigod, 2019). This project was completed at a rural clinic that served a community with fewer than 5,000 residents. The sample was small (n=28) but accurately illustrated the population frequently served in rural clinics. A longer timeline for project evaluation may yield a higher sample and broader generalizability. Future research should focus on creating a standardized screening practice for women that covers the prenatal and postnatal periods. The combined recommendations from AAP and ACOG provide general guidelines but do not specify which screening recommendations are for both the prenatal and postpartum phases. This may be adequate in larger health settings where prenatal providers are routinely following ACOG recommendations, and pediatric providers are aware of AAP recommendations; family practice providers in rural settings may benefit from a generalized screening recommendation.

Conclusion

This quality improvement project aimed to standardize postpartum depression screening practices. After evaluation of the literature, screening frequency guidelines were adopted from AAP and ACOG, and the EPDS was selected as the screening tool. The quality improvement project was implemented after collaboration with stakeholders at a rural Montana clinic, and promising results were obtained. Although the goal of screening 100% of eligible patients was not achieved, the new practice guidelines identified two patients who would not have been screened and, therefore, untreated using the previous guidelines. The long-term goal of this project is to continue to improve processes that support staff in screening eligible patients at the recommended frequencies. Although this project had a relatively short timeline, it can be

assumed that if trends were to continue, additional patients would be identified and treated for postpartum depression, which has significant and long-lasting results for women and children.

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CHAPTER FOUR

ADVANCED NURSING ESSENTIALS REFLECTION

Introduction

The Essentials: Core Competencies for Professional Nursing Education outlined by the American Academy of Colleges of Nursing (AACN) provide eight foundational essentials that guide the preparation of advanced practice nurses in achieving a Doctor of Nursing Practice (DNP). Throughout my education at Montana State University (MSU), I have addressed each essential individually through the curriculum. This chapter will address how each essential was applied throughout the DNP program curriculum through specific examples and the quality improvement (QI) project.

Essential I: Scientific Underpinnings for Practice

Essential I outlines the need for scientific underpinnings for practice. Scientific underpinning and evidence-based practice is the foundation of advanced practice nursing. The curriculum at MSU laid a foundation of evidence appraisal through two courses, Evidence-Based Practice I and II. These courses teach students how to evaluate research and data and apply them to practice. Having developed a strong foundation in evidence appraisal was critical in developing an evidence-based quality improvement project. During the QI project, I demonstrated the ability to identify a need for quality improvement, evaluate the evidence, and formulate a plan supported by evidence to improve patient outcomes. Additionally, coursework focused on pathophysiology, pharmacology, and diagnostics were focused on the scientific

underpinnings for practice. These courses focus on the standards of care and subsequent real-world application of the practice of medicine in numerous clinical rotation opportunities.

Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking

Essential II focuses on the large-scale evaluation of systems and how systems affect patient and healthcare outcomes. Through the course Vulnerability and Health Care in Diverse Communities, high-risk populations were evaluated through windshield surveys, personal interviews, and systems analysis to understand system issues that placed a specific population at high risk of adverse health outcomes. Through the coursework, I identified risk factors for health disparities and formulated possible risk reduction strategies specifically for low-income women in Montana. Additionally, I addressed organization and systems thinking in a project that addressed fragmented processes through a swim chart in transitional care of infants in the neonatal intensive care unit. As a nurse practitioner, I will continue to participate in system leadership to promote quality improvement and improve patient outcomes.

Essential III: Clinical Scholarship and Analytic Methods for Evidence-Based Practice

Essential III is based on scholarship and research. This was exemplified in the QI project, which reviewed a process change to standardize screening for postpartum depression in a rural clinic. The project utilized a thorough literature review that supported practice change through evidence.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

Essential IV focuses on DNP graduates' ability to use information systems to support and provide patient care in healthcare settings. Throughout my clinical experience, I have utilized several electronic medical records and learned how to optimize each system for comprehensive and efficient use. This included making templates for thorough and efficient charting and e-prescribing medications. Additionally, healthcare informatics was a course focused on the use of technology in healthcare and its effects on patient outcomes. During my QI project, I relied heavily on technology to gather data, develop visual material, and format the manuscript. Chart review was an essential component of data collection. Technology was a barrier during my QI project as the electronic medical record (EMR) did not have a location to record a critical piece of data.

Essential V: Health Care Policy and Advocacy in Health Care

Health care through governmental or institutional policies tremendously impacts health outcomes. Through the coursework in Health Care Law and Ethics, Essential V was exemplified through a project where a governmental policy was evaluated for its health impacts. During the assignment, I evaluated the impact of no leave, unpaid leave, and paid parental leave and how they influenced health and financial outcomes for families. This project tied directly into my QI project of standardizing screening for postpartum depression, as parental leave discrepancies have a direct impact on postpartum stress and mood changes. As a new mother, I am incredibly passionate about maternal and parental support and the long-term social, financial, and health

outcomes it affects. As a nurse practitioner, I will advocate for policy changes to support mothers and children.

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

Interprofessional collaboration is a cornerstone of healthcare. Comprehensive patient-centered care is not possible without cooperation between disciplines. Essential IV focuses on interprofessional collaboration to deliver comprehensive care. I have collaborated with multiple disciplines throughout the DNP program and my professional experience. I collaborated with registered nurses, medical assistants, licensed practical nurses, family nurse practitioners, pharmacists, and certified nurse midwives during my QI project. Understanding the scope of practice for each role is essential to optimizing team functionality. I will use skills developed during the DNP program to support my practice as a nurse practitioner.

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

Essential VII defines clinical prevention as health promotion, risk reduction, and illness prevention. Essential VII was utilized throughout the DNP program, as demonstrated in individual courses and clinical practice. The course Vulnerability and Health Care in Diverse Communities evaluated at-risk populations to assess unique health needs. I have worked with at-risk populations in my clinical practice, including the Blackfeet Tribe in Browning, MT. I completed clinical rotations that provided health and dental screenings to preschool children. This exemplifies accessible quality care that improves the health of the community. Additionally,

during my QI project, I addressed postpartum depression and the long-term effects of under-identification and undertreatment. Through my QI project, I standardized screening practices that will increase screening, identification, and treatment of postpartum depression, which will subsequently improve outcomes for mothers and infants.

Essential VIII: Advanced Nursing Practice

Clinical rotations during the last year of the DNP program have exemplified Essential VIII: Through the clinical courses and clinical experiences, I have developed skills to perform comprehensive and systematic health assessments, implement interventions based on evidence, develop therapeutic relationships with patients, develop patient goals, and deliver patient education. Essential VIII is the foundation of clinical practice skills and what will make me successful as a nurse practitioner. I am competent and prepared to deliver care to my community as I have been well prepared by the curriculum provided by MSU.

Conclusion

I am confident that I have met all the essentials outlined by the AANC and used to develop the DNP curriculum at MSU. All courses were designed to meet the essentials and exemplify practice. After completing each course in the curriculum, I have shown that I have met each essential. I am excited to complete the journey to obtain the DNP and will carry the education obtained throughout the program into my professional practice.

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APPENDIX: EDINBURGH POSTPARTUM DEPRESSION SCALE

Edinburgh Postnatal Depression Scale (EPDS)

Patient Label	Mother's OB or Doctor's Name:
	Doctor's Phone #:

Since you are either pregnant or have recently had a baby, we want to know how you feel. Please place a **CHECK MARK** (✔) on the blank by the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**—*not just how you feel today.* Complete all 10 items and find your score by adding each number that appears in parentheses (#) by your checked answer. This is a screening test; not a medical diagnosis. If something doesn't seem right, *call your health care provider regardless of your score.*

Below is an example already completed.

I have felt happy:
Yes, all of the time ____ (0)
Yes, most of the time ✔ (1)
No, not very often ____ (2)
No, not at all ____ (3)

This would mean: "I have felt happy most of the time" in the past week. Please complete the other questions in the same way.

1. I have been able to laugh and see the funny side of things:
   As much as I always could ____ (0)
   Not quite so much now ____ (1)
   Definitely not so much now ____ (2)
   Not at all ____ (3)

2. I have looked forward with enjoyment to things:
   As much as I ever did ____ (0)
   Rather less than I used to ____ (1)
   Definitely less than I used to ____ (2)
   Hardly at all ____ (3)

3. I have blamed myself unnecessarily when things went wrong:
   Yes, most of the time ____ (3)
   Yes, some of the time ____ (2)
   Not very often ____ (1)
   No, never ____ (0)

4. I have been anxious or worried for no good reason:
   No, not at all ____ (0)
   Hardly ever ____ (1)
   Yes, sometimes ____ (2)
   Yes, very often ____ (3)

5. I have felt scared or panicky for no good reason:
   Yes, quite a lot ____ (3)
   Yes, sometimes ____ (2)
   No, not much ____ (1)
   No, not at all ____ (0)

6. Things have been getting to me:
   Yes, most of the time I haven't been able to cope at all ____ (3)
   Yes, sometimes I haven't been coping as well as usual ____ (2)
   No, most of the time I have coped quite well ____ (1)
   No, I have been coping as well as ever ____ (0)

7. I have been so unhappy that I have had difficulty sleeping:
   Yes, most of the time ____ (3)
   Yes, sometimes ____ (2)
   No, not very often ____ (1)
   No, not at all ____ (0)

8. I have felt sad or miserable:
   Yes, most of the time ____ (3)
   Yes, quite often ____ (2)
   Not very often ____ (1)
   No, not at all ____ (0)

9. I have been so unhappy that I have been crying:
   Yes, most of the time ____ (3)
   Yes, quite often ____ (2)
   Only occasionally ____ (1)
   No, never ____ (0)

10. The thought of harming myself has occurred to me:*
    Yes, quite often ____ (3)
    Sometimes ____ (2)
    Hardly ever ____ (1)
    Never ____ (0)

TOTAL YOUR SCORE HERE ▶ ____

Thank you for completing this survey. Your doctor will score this survey and discuss the results with you.

Verbal consent to contact above mentioned MD witnessed by:

_____

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