The University of Texas at El Paso Doctor of Nursing Practice

THE SIXTH VITAL SIGN: IMPLEMENTING A DEPRESSION AND ANXIETY MODEL

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COHORT XI

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The Sixth Vital Sign: Implementing a Depression and Anxiety Screening Quality Improvement Project for Pregnant Patients.

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ABSTRACT

Background: The most common complication of pregnancy is depression. 1 in 7 pregnant women experience perinatal depression. It affects maternal and infant morbidity and mortality. It occurs more often than gestational diabetes, pre-eclampsia, or preterm birth. Untreated depression during pregnancy has profound negative effects, including increased risk of poor compliance with care, smoking, substance use, worsening existing medical conditions, loss of both personal and financial support, suicide, and infanticide.

Purpose: The purpose of this quality improvement project was to implement a standardized process to universally screen pregnant women for depression during antenatal, intrapartum, and postpartum periods. The ultimate goal was to improve safety for mothers and babies.

Methods: This quality improvement project was conducted in a small obstetrics and gynecology practice in Las Cruces, New Mexico. The four-week study utilized the Plan, Do, Act, Study (PDAS) quality improvement method. The study included pregnant patients aged 18-39 years seen by a certified nurse midwife. The Edinburg Perinatal/Depression Scale was administered to the patients before their viability visit, during the 2nd and the 3rd trimester, prior to discharge after birth, and postpartum. Screening, Brief Intervention, and Referral to Treatment (SBIRT), an evidence-based approach, was applied to all patients.

Results: Twenty-eight pregnant patients were evaluated over 4 weeks. Four patients were diagnosed with probable depression, six patients with fairly high possibility of depression, and four with possible depression; 18 were unlikely to have depression. No patients had suicidal tendencies.

Conclusions: It is important for all pregnant patients to be screened for depression throughout their pregnancies. Screening proved cost effective without becoming time consuming. Reevaluation allows for increased safety during pregnancy. This quality improvement project could be adapted to other providers in the practice and to other practices with minimal cost, staff training or increased visit time. The practice improved services by using depression screening. It improved the care and safety of mothers and babies by providing more effective and equitable care.

Introduction

Depression, a medical condition causing feelings of sadness and an impaired quality of life, has reached epidemic proportions in the United States. The Covid-19 pandemic and its aftermath had a profound effect on depression among people of all ages. Nowhere was the increased diagnosis of depression more evident than in the pregnant and postpartum population. The Maternal Mental Health Alliance states that 1 in 5 pregnant women will experience mental health conditions during their pregnancy or in their postpartum period (Van Niel,2020). Of all the complications that occur during the perinatal course, depression is the most common (Van Niel,2020). Perinatal depression, which lasts more than 14 days, occurs more often than many other complications such as preeclampsia, gestational diabetes, or preterm birth (Van Neil,2020). It can negatively affect the maternal-infant dyad through increasing the risk of preterm birth, low birth weight, preeclampsia, excessive weight gain, and operative delivery. More than one half million pregnant women will develop perinatal depression every year. This includes 1 out of every 7 pregnant women and 1 out of every 5 to 8 postpartum women (Ko, 2012).

The cause of perinatal depression is not well defined. However, the cause is currently thought to be the result of genetics, epigenetics, the neuroendocrine hypothalamic-pituitary axis, as well as environmental and social factors (Meltzer-Brody, 2011). A direct correlation with perinatal depression and postpartum depression has been made. Mothers with postpartum depression may have decreased rates of breastfeeding. Ultimately, no race, social, or economic group of women in the United States is exempt from depression during the antepartum, intrapartum, or postpartum periods (Sayres,2020).

The diagnosis and treatment of depression has increased substantially in the pregnant population. Among pregnant women depression and anxiety has been identified as an ongoing and increasing problem, creating a national health care risk for a population of the United States. Often overlooked, perinatal depression mimics signs noted during pregnancy among all pregnant women (Dunkel, 2012).

These signs include hormone swings, acute stress, chronic stress, and lack of sleep. New mothers may not recognize or feel willing to admit symptoms of depression or anxiety (Timmons, 2009).

The effects of depression on antenatal and postpartum patients have been addressed in research, with national organizations calling for diagnosis and treatment. The United States Preventive Services Task Force (USPSTF; 2016), composed of an independent panel of primary care experts, reviewed the current research evidence and developed recommendations for depression screening and preventative treatment where depression care support may be provided. After that recommendation, both the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Family Physicians (AAFP) issued committee opinions in support of the 2016 USPSTF opinion. A hallmark of midwifery is providing evidence-based preventative care. Prior to the 2016 opinions from the USPSTF and ACOG, the American College of Nurse Midwives (ACNM) issued a position statement in 2002 that called for incorporating "prevention, universal screening, treatment, and/or referral for depression into the care they provide for women". This position statement was reaffirmed by ACNM in 2013 and in 2020 in Standard of Care II, as part of the current Midwifery Standards of Care.

The USPSTF updated its opinion in 2019, stating that pregnant patients should receive screening for depression and anxiety. In this updated opinion, the USPSTF again stressed that testing for depression and anxiety should be limited to those clinics where diagnosis, treatment, and follow-up are available. In addition to the national provider opinions, the State of New Mexico Pregnancy Risk Assessment Monitoring(PRAMS) report recognizing the seriousness of the problem in New Mexico, and created a state action plan to increase screening and referrals for maternal depression and anxiety. Also, in continued recognition of the magnitude of the problem of depression in the United States, Healthy People 2030 created an objective to "increase the proportion of adults with depression who get treatment."

In preparation for the Doctor of Nursing Practice project (DNP), an evaluation, that consisted of a 10-day practicum log, was conducted to determine a problem existing at the OB/GYN practice which could be addressed with a quality improvement project. This practice had one OB/GYN physician, one Woman's Health Nurse Practitioner and one Certified Nurse Midwife. The practice sees 200 patients per week. 40-50 pregnant patients are included in that number. The DNP student noted when reviewing the practicum log that there was a lack of universal depression screening and response protocol for depression and anxiety in antenatal women. Clinic patients were evaluated for postpartum depression with a standardized evidence-based screening tool; however, no standardized depression screening was used for antenatal patients, nor was there a response protocol. Any depression or anxiety screening done during the antenatal period was the provider's independent evaluation during the visit. That is, no standardized method was used for early identification of pregnant patients who had potential risk factors for developing depression or anxiety during pregnancy. The electronic medical record (EMR) used by the practice allowed identification of pregnant patients with a previous diagnosis of depression or risk factors for depression that had been identified by primary care or specialty providers. Patients had the opportunity to self-identify problems in the intake history that they completed. These self-identified problems could also reveal risk factors for depression and anxiety.

It was felt that a standardized testing tool could be employed to screen all pregnant patients for depression and anxiety at their viability visit and throughout their antenatal period. Since the critical component of assessing, identifying, and treating pregnant patients for depression and the risk of developing depression and anxiety was not being applied to all pregnant patients, a protocol that would include identification and treatment was necessary to correct the deficit. Once the deficit in screening, diagnosing, and treating pregnant patients was identified, the goal of the quality improvement project

became the development of a standardized evidence-based protocol that would meet the current goals of ACNM, ACOG, AAFP, USPTS and the New Mexico (PRAMS).

Quality Improvement Project Purpose

When the body of research into maternal mental health disorders revealed them to be the most common complication of pregnancy and childbirth, the national organizations developed their committee opinions and suggested treatment protocols. The purpose of the quality improvement project was to improve the prenatal and postpartum services by introducing an evidence -based protocol for identifying and treating women who have depression and anxiety. Committee opinions and protocols were revised as more research was done, and evidence-based treatment plans and toolkits were developed.

The increased body of research caused the USPSTF (2019) to make the unique recommendation not only to screen for depression retrospectively, but to provide clinical intervention to prevent and treat depression during pregnancy and the postpartum period. The two interventions that were found to be effective were interpersonal therapy and cognitive behavior therapy (Van Niel,2020). These interventions require referral to mental health care providers and collaborative care during pregnancy, as they require specialized training and more time than is allotted during a perinatal or postpartum visit. However, the clinical risk factors identified by the USPSTF in 2019 may be easily identified through careful evaluation of pregnant patient's histories. Since these risk factors are possible causes of perinatal depression, careful evaluation coupled with screening can identify pregnant patients who require diagnosis, treatment, referral, or a combination. This information was crucial to determining if a protocol would work as a quality improvement project in the OB/GYN practice. The risk factors for possible development of depression during pregnancy are listed in Table 1.

Table 1

Clinical Risk Factors for Depression and Anxiety
Teen parent
Single parent
History of sexual abuse
History of substance abuse
Family history of depressive or perinatal disorders
Unplanned or unwanted pregnancy
Lack of family or social support
Low income or financial problems
Stressful life events
Relationship status changes
Job change
Moving
Complications during pregnancy
Diabetes or gestational diabetes
History of depressive, bipolar, or anxiety disorders
American Indian/Alaskan or Hawaiian heritage

(Van Niel,2020)

Continuous care during perinatal and postpartum visits provides an established forum for depression screening, treatment, referral, and reevaluation.

Methods

The project design chosen for the quality improvement project was the Plan, Do, Act, Study model (PDAS). The PDAS method was utilized by the certified nurse midwife and her staff at Advanced OB/GYN Associates in Las Cruces, New Mexico. The planning phase started with education of the participants, which included the certified nurse midwife, nursing assistant, and the front desk clerk. This education included the impact of depression and anxiety on both the mother and fetus during pregnancy, which was crucial to increase healthy pregnancy outcomes. The office staff began by familiarizing themselves with the clinical risk factors from the 2019 USPSTF recommendations that might lead to depression and anxiety among their pregnant patients. The staff then proceeded to develop their knowledge and the project parameters during meetings prior to the 4-week implementation time frame.

During the planning phase, the midwife, and staff evaluated several standardized depression screening tools that they researched and used successfully. Because of the short duration of the project, the initial choice of the tool focused on choosing a screening tool that could be self-administered while the patient waited for their antenatal appointment. Having the patient use their time in the waiting room allowed for quick evaluation prior to the provider visit and might be used for treatment and reevaluation throughout her pregnancy and postpartum.

The staff and certified nurse midwife required the screening tool to have characteristics that would not lengthen the time of the antenatal visits. The tool had to have high specificity for correctly identifying depressed patients. It had to be available in several languages, particularly English and Spanish. Two tools, the Edinburg Perinatal/Postnatal Depression Scale (EDPS) with 10 questions and the Patient Health Questionnaire 9 (PHQ-9) with 9 questions, were considered because both tools had been used successfully with antenatal patients, took less than 5 minutes for patients to complete, were

available in English and Spanish, and had readability levels that met the reading levels of most patients in the practice.

Table 2

Depression Screening Tools used for Pregnant Patients

Screening tool	Number of items	Languages	Completion time
Edinburgh Postnatal Depression Scale	10	60	Less than 5 Minutes
Patient Health Questionnaire-9	9	30	Less than 5 minutes

The staff evaluated both tools. The Edinburgh Perinatal /Postnatal Depression Scale (EDPS) was chosen for use because it detects depression and anxiety symptoms. No learning curve was required because the staff was already familiar with its use and scoring, as it was currently used with postpartum patients. Its antepartum use in the clinic would provide a standardized tool that met the time constraint needs and—in combination with treatment, referral, and reassessment—ensured that the pregnant patients would experience greater continuity of care. This continuity would continue during the patients' intrapartum and postpartum hospital stay. The intrapartum nurses were familiar with the Edinburgh Postpartum Depression Scale. It is also administered to patients postpartum prior to discharge.

The staff and midwife considered the plan of care for the pregnant women, deciding a set timing for evaluation throughout pregnancy. Screening began initially at the viability visit, then was repeated at the visits at week 24 through 26, at the 36-week visit, and postnatally. The chosen time sequence allowed for diagnosis, education, treatment, and evaluation of treatment of pregnant patients, as well as diagnosis and treatment of patients who developed depression and anxiety throughout their pregnancy.

The standardized protocol developed into an evidence-based approach began with screening using the Edinburgh Perinatal/Postpartum Depression Scale (EDPS) prior to the patient's provider visit.

Using the results, the provider would be able to give immediate feedback during the visit, such as discussing the risks to mother and baby, offering simple advice and education, referring the patient to counseling, and immediately treating or referring those in need of specialized treatment. The staff and the midwife compiled a list of six mental health providers who would see pregnant patients and a list of insurance and community-related resources for patients. Having these resources readily available in the protocol would meet the USPSTF (2019) research update for screening, prevention, and treatment. Pregnant patients between the ages of 18 and 39 years were included in the 4-week quality improvement implementation. Twenty-eight patients were enrolled into the 4-week project. The pregnant population was diverse, including 3 Black (10.7%), 20 Hispanic (71.4%), and 5 White (17.9%) pregnant women. These patients were at various stages in their pregnancy or postpartum.

Table 3

Patient Demographics

	No. of patients by age				
	18-22	23-28	28-32	33-39	Total
Black	0	2	1	0	3
Hispanic	2	10	7	1	20
White	0	0	3	2	5

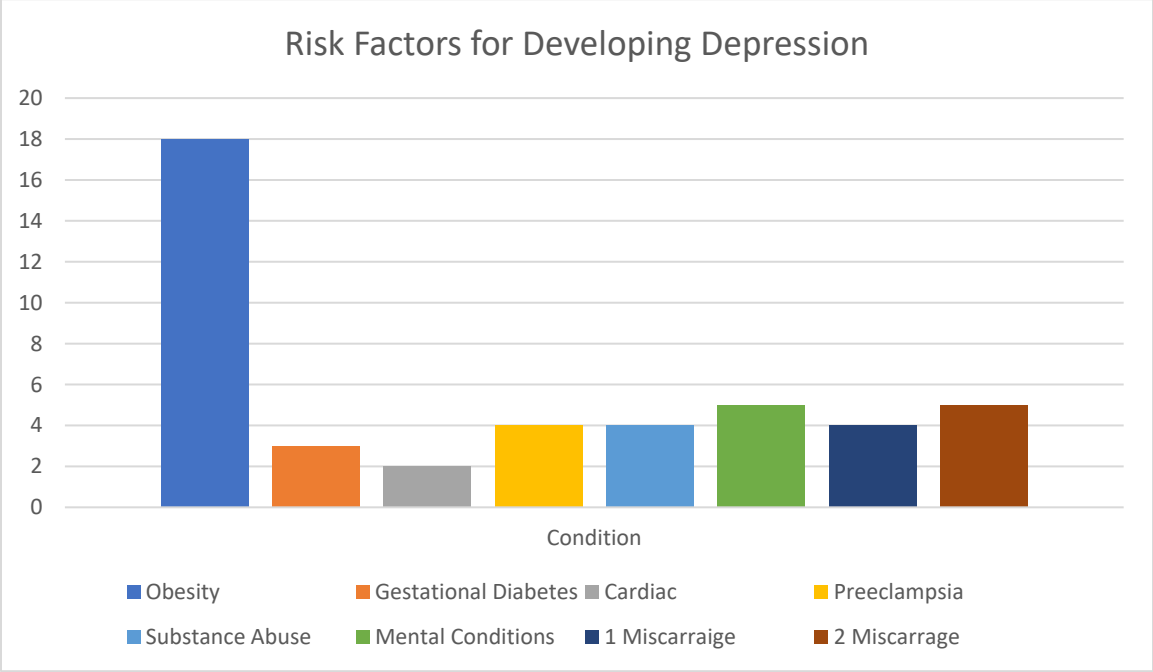
Table 4

Number of Patients Screened for Depression in Each Gestational Time Period

	Viability	24–26 weeks gestation	36 weeks gestation	Postpartum
	No. of patients			
Patients	7	7	4	10

Figure

Risk Factors for Developing Depression



Charts of the pregnant patients included in the quality improvement project were subject to review before the project commenced. Patient charts were reviewed for risk factors noted in Table 1. Their charts were flagged with their risk factors, so all assistants and other providers accessing their records would be aware of their risk factors. Then, the patients' records were requested from their primary care providers (PCP) and records from previous prenatal care if not available through their EMR. Pregnant patients who were identified as having risk factors were offered referral to counseling during their initial visit after their Edinburgh Perinatal/Postnatal Depression Scale (EPDS) results were reviewed regardless of their scores during their visit.

Response Protocol

The response protocol was developed using the EDPS scoring system. The staff were educated on the scoring system prior to the start of the 4-week depression and anxiety quality improvement project. During the planning of the project, the staff compiled a list of six mental health professionals;

immediate or emergency resources were contacted and were listed. The certified nurse midwife participated in education updates for diagnosis and treatment of depression and anxiety in pregnant women. The front desk clerk developed a list of agencies in Las Cruces that could be resources for the patients. She also contacted insurance companies for lists of programs that might be used for their patients.

As part of the response protocol, patients with scores of greater than 9 on the EPDS, which indicates depression is a possibility, were queried by the provider with open-ended questions and were rescreened in 2 to 4 weeks. Patients with scores of 12 to 13, which indicated a fairly high possibility of depression, were queried by the provider and offered education, treatment, and referrals for counseling and life assistance as needed.

Results

The project included 28 patients. Five patients who had diagnoses of mental conditions were comanaged with their mental health providers, or they received immediate referrals to a new mental health provider. For the pregnant patients who admitted substance abuse, substance abuse health providers in Las Cruces were contacted, and appointments were made for the patients with their knowledge as soon as possible. Testing during the viability visit revealed one patient with a diagnosis of mixed depression anxiety disorder, attention deficit disorder, and bipolar disorder. She had quit her prescribed medications upon finding herself pregnant. As an alternative, she was self-medicating with marijuana, which she felt would not hurt her developing baby. She was provided education on the stress of pregnancy and potential risks to her baby and herself (both on not having medications and the harm of marijuana use). After the provider asked whether the patient would like a referral to a mental health professional, the provider gave her an immediate referral. Her care was comanaged with her mental health provider. Patients who were tested at their visits between 24 and 28 weeks generally received a

score lower than 8, but three patients scored between 10 and 13. During their visits, these patients were provided education and referrals to mental health providers. Thirteen patients scored less than 8 on their EPDS. No antenatal or postpartum patient scored a 3 on Question 10, the suicide determinant, during the implementation of the 4-week quality improvement project.

Discussion

Implementation of a standardized protocol for early identification of depression and anxiety during pregnancy allows the staff and provider a method that may improve outcomes for the mothers and babies in their care. During the intervention, the certified nurse midwife assessed for depression and anxiety, discussed the signs and symptoms with pregnant patients, and referred patients to counseling or treatment as needed. The development of the evidence-based protocol bridged the practice gap by increasing the rate of screening for depression and anxiety. The application of one-stop shopping appeared to create an increased sense of security among the pregnant patients. This sense of security was created through the components developed during the planning stage. It was done by creating a list of mental health providers in Las Cruces so that the patients would not be left to search for providers on their own. The response protocol allowed patients to choose a mental health care provider with whom they were comfortable. It appeared that allowing the pregnant patients a choice of mental health providers may have influenced them to continue counseling and treatment. The patients felt that collaboration and co-management provided a sense of continuity. The pregnant patients may have felt that having staff educated in insurance and community resources demonstrated an increased commitment to their care since knowledgeable staff members were able to discuss issues with the patients.

The results from using the protocol confirmed conclusions that multiple screenings throughout the antenatal and postpartum course were needed. The certified nurse midwife, the staff, and the mental

health professionals were all supportive of the pregnant patients. The gap in care was addressed, and the positive impact of the standardized protocol was self-evident. No negative financial impact on the clinic was noted. After initial implementation, the clinic workflow was minimally impacted. The EMR and the initial patient questionnaire proved a distinct advantage in identifying patients who needed closer surveillance for depression and anxiety. Perhaps a method of identification of risk factors might be incorporated into the EMR program, which would flag risk factors before the initial visit. Alternatively, screening could be repeated throughout the pregnancy. The EMR program might be upgraded to include algorithms for clinical decision making and treatment options for each screening throughout the pregnancy.

Conclusions

As the quality improvement project on depression and anxiety was implemented by only one provider, further evaluation of the protocol should be done at multiple clinic sites, with a larger number of providers over a longer period. More research must be developed for evidence-based solutions besides education that can be used for pregnant woman scoring between 7 and 13 on the EDPS, “at risk for depression.” A menu of approaches and treatment options that are evidence-based requires development. The clinic and personnel who developed and implemented this depression and anxiety protocol were a unique group, who may have affected the patient’s acceptance of a mental health referral. Is the patient acceptance of a referral universal or will patient barriers be found in other practices? The implementation of standardized protocols based on evidence-based research is essential to increasing identification and treatment of depression and anxiety among pregnant patients. Obstetric providers who recognize the epidemic proportions of depression and anxiety in the United States and address the epidemic by adopting screening tools and a response protocol can improve the care provided to their patients.

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