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A Toolkit to Adequately Screen Pregnant Women for Depression and thus Increase Screening in an Outpatient Obstetrical Clinic

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Abstract

Background: Perinatal depression is a common health complication during pregnancy. Untreated depression among perinatal women is associated with adverse health outcomes for infants and mothers. Screening during the perinatal time period is needed to identify and treat depression and to prevent adverse health outcomes.

Purpose: The purpose of this clinical project is to equip health care providers with the knowledge and tools needed to screen pregnant women for depression and thus increase the amount of screening done in an outpatient obstetrical clinic.

Methods: An evidenced- based educational tool kit was developed to increase provider knowledge of perinatal depression and increase depression screening. The effectiveness of the educational toolkits was assessed using self-report pre and post questionnaires and through a review of patient health records pre- and post-education to determine screening rates during pregnancy.

Results: Participant knowledge about perinatal depression increased by 20.8% after completing the education program. Perinatal depression screening increased from 3 screenings to 28 screening pre- and post- intervention, an increase of 44.6%.

Conclusion: An education program on the importance of perinatal depression and screening increased the knowledge of attendees and increased the number of depression screenings completed in the outpatient obstetrical clinic.

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Increased risk of adverse birth outcomes among pregnant women with underdiagnosed depression is associated with adverse health outcomes among infants and mothers. One cause of underdiagnosed depression is insufficient screening during perinatal care. The US Center for Disease control and Prevention (CDC) reports that 20% of women were not screened for depression prenatally. Additionally, approximately 12% were not screened postpartum, leaving many patients with perinatal depression untreated (2022). Therefore, the purpose of this clinical project is to equip health care providers with the knowledge and tools needed to screen pregnant women for depression in an outpatient obstetrical clinic.

Background

Perinatal depression, according to the American College of Obstetricians and Gynecologists, is defined as "major and minor depressive episodes that occur during pregnancy or in the first 12 months after delivery" (2021). Perinatal depression is a common pregnancy complication. The U.S Centers for Disease Control and Prevention states approximately 20% of women are not asked about depression during a prenatal appointment, and 50% of pregnant woman with perinatal depression are not treated during their pregnancy (2022). Sayres Van Niel & Payne (2020) reported the incidence of pregnant women who develop a depressive disorder as one out of 7 to 10 women. The authors also stated one in 5 to 8 postpartum develop a depressive disorder, with a mean rate of depression 11.5% in the perinatal period (Sayres Van Niel & Payne, 2020). Prenatal depression is associated with adverse outcomes among newborns, such as intrauterine growth restriction (Simonovich et al., 2021). Other adverse consequences include

lower scores on autonomic stability, habituation, and disturbed infant-mother interactions (Gressier et al., 2019). Eilersen et al. (2021) reported perinatal depression was associated with increased ADHD symptoms and Field (2017) found an association between perinatal depression and lower birth weight and preterm deliveries. Perinatal depression also has consequences for the mother including preterm delivery and preeclampsia (Eilersen et al., 2021).

Review of Literature

Methods

A literature review was conducted using, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) database, Google Scholar and PubMED databases. The search terms "prenatal depression", "maternity", "antenatal", "birth outcomes" and "adverse fetal outcomes" were used. Inclusion criteria were sources published in English that were, peer reviewed, original research, high-quality reviews, and available in full text. A matrix was used to organize the findings from each publication.

The initial search produced 106 records. Twenty duplicates were removed. Of the 86 publications remaining, 22 were excluded for having a title or description about a topic other than perinatal depression.

Abstracts were then reviewed and 15 were disqualified for not relating directly to prenatal care. An additional 14 records were removed, as they were considered preliminary studies.

The remaining 35 full publications were reviewed, and 19 were excluded due to a lack of focus on perinatal depression and screening. A total of 15 publications was the final yield for this review.

Findings

Fifteen studies were included in this review. Types of research designs included retrospective cohorts, a non-experimental study, systematic reviews, a cross sectional design, prospective studies, review articles and observational studies. The researchers focused on different aspects of perinatal depression, including looking at the adverse outcomes, factors contributing to depression, and treatment for people with perinatal depression. Regarding adverse outcomes, researchers found low birth weight and early delivery were associated with perinatal depression (Field, 2014 & Accortt et al., 2015 & Reno et al., 2021). A relationship was found between perinatal depression, slower initiation of breastfeeding and lower rates of exclusive breastfeeding and lower APGAR scores at birth (Nylen et al., 2013). Researchers also found a relationship between perinatal depression and delays in infant development including lower scores on autonomic stability, habituation and disturbed infant-mother interactions. Perinatal depression was also correlated with lower 1-month white matter microstructure and slower toddler development such as lower social skills (Figueiredo et al., 2014; Gressier et al., 2019; Hentges et al., 2020).

Furthermore, additional factors that contributed to perinatal depression were examined. Women of color, those with lower education or lower income, those living alone or with perceived lack of support from their partner were all associated with higher risk of perinatal depression (Faisal et al., 2021; Nylen et al., 2021).

Tools to screen for perinatal depression were also reviewed. When looking directly at screening, researchers found three validated screening tools for perinatal depression, including Edinburgh Postnatal Depression Scale, Beck's Depression Inventory and Patient Health Questionnaire-9 (Langan & Goodbred, 2016). Wang et al. found that of all the validated

screening tools, the Edinburgh Postnatal Depression Scale is the most widely used with the most optimal sensitivity and specificity in screening for perinatal depression (2021).

Screening is frequently not completed in the perinatal population. The U.S Centers for Disease Control and Prevention states that 1 in 5 women were not asked about depression during a prenatal visit, 1 in 8 women were not asked during a postpartum visit and 50% of pregnant women with perinatal depression were not treated during their pregnancy (2020). Dagher et al. found factors influencing depression screening rates, including lack of standardized screening across the United States, mental-health stigmas, and cultural factors (2021). Savres Van Niel and Payne outlined that low detection and screening rates of depression may be due to overlap of common somatic symptoms of pregnancy. These symptoms include stress, hormone swings, and lack of sleep (2020). Savres Van Niel and Payne also found mothers often do not admit to having symptoms, which may be due to feeling overwhelmed, embarrassed, or a sense of being "less of a mother" (2020).

Theoretical Framework

The Precaution Adoption Process Model (PAPM) was used to guide this project. The PAPM model was created around how a person comes to a decision to take action. Valerio (2014) discussed the model and explained that it starts with a person who is unaware of an issue. Once a person is educated about the issue, they then have to decide on whether or not to act on their new knowledge. The people who participated in this project were health care providers, and the issue was lack of knowledge on perinatal depression. In this project the new knowledge acquired was information about perinatal depression and why it is important. The health professionals who gained this knowledge then had to decide if they wanted to use it and bring screening to their practice.

The PAMP model served as a guide for this work. This was done by first bringing awareness to health professions about the need for and importance of perinatal depression screening. An education program on its importance was given through a PowerPoint presentation. At the end of the presentation health care professionals then had to decide if they would take their new knowledge and screen their patients. The goal of this project was to have health professionals who attended the presentation screen their patients for perinatal depression.

Goals & Objectives

Considering the research evidence supporting the needs for education for perinatal depression screening, the purpose of this clinical project was to equip health care providers with the knowledge and tools needed to screen pregnant women for depression in an outpatient obstetrical clinic.

Based on the stated purpose, the following table included the project objectives and expected outcomes:

Objectives	Outcomes
1. To create an education program about perinatal depression	Provide an education program for providers in an outpatient clinic
2. To evaluate the effectives of the perinatal depression education program on the knowledge of health care providers in perinatal depression	Knowledge of perinatal depression will increase among program attendees as demonstrated by pre- and post-tests.
3. To increase screening for perinatal depression among outpatient pregnant women	Perinatal depression screening will increase by 25% within two months of the education program

Methods

Project Site & Population

The project was implemented at an urban outpatient obstetric clinic that serves a diverse

pregnant population. The clinic offered services such as routine pregnancy ultrasounds as well as

outpatient non-stress tests and ultrasounds for higher risk individuals. The clinic did not offer

prenatal care, only monitoring and ultrasounds. The clinic provided care for patients from

diverse ethnic backgrounds, those with healthy pregnancies, and those with moderate to high-risk

pregnancies. Around 2,100 pregnant women were seen at this clinic each month, with an average

of 70 patients per day.

This clinic was comprised of 12 healthcare professionals including 5 nurses, 6 physicians

and 1 nurse practitioner. To recruit healthcare professional participants, physicians and nurses

were invited, via email and printed flyers, to attend the education session about perinatal

depression.

After initial invitations were sent, a reminder email was sent a week before the education

session. Those who chose to attend were seated in the conference room at the clinic, completed

the pre-test and then sat for the education program done via PowerPoint. After the completion of

the educational presentation, the attendees turned over their pre-test to complete the post-test.

Once everyone was done with the post-test, the answers were reviewed and the floor was open

for discussion and questions. The pre- and post-tests were collected and graded to assess increase

in knowledge of participants.

Measurement

An existing model (Appendix A) by Beasley measuring understanding about depression

was used to compare knowledge before and after the education on perinatal depression. The

original measure was used to assess postnatal depression and was adapted, with minimal word changes, to assess perinatal depression knowledge for this study. The questionnaire was used to evaluate the education program's effectiveness in increasing clinician knowledge of perinatal depression and the need for effective screening tools for perinatal depression. The questionnaire was deemed valid and reliable as an Approved Continuing Education program (Beasley, 2021). The questionnaire includes eight true/ false and multiple-choice items.

Data Collection Procedure

The number of depression screenings completed pre- and post- intervention were tabulated by reviewing clinic health records for completed Edinburgh Postnatal Depression Scales already included in the clinic records. Health data collection was completed two months before the education intervention, and two months after the intervention, fifty-two records were reviewed pre- and post- intervention.

The project spanned over four months and data was collected before and after the education program. In two months before the education program, 52 charts were audited from the clinic to assess whether they were screened for perinatal depression. The charts were chosen by first letter of last name with two charts being chosen from each letter of the alphabet when possible. If there were not two charts from a certain letter, then an additional chart from the proceeding letter was selected. The charts were audited only for Edinburgh Postnatal Depression Scale screening done during a prenatal visit.

The educational program was offered in person. The education was designed to include information about best practice for screening patients for perinatal depression. Health care providers, who agree to participate upon reviewing the email about the project, or viewing the flyers, showed up in person and completed the pre-test questions using pen and paper. At the end

of the presentation, participants completed the post-test using pen and paper. Those who did not

stay for the whole presentation, and therefore do not complete the post test, were not included in

the project. Cookies and coffee were served during the education session as an incentive and to

show appreciation for participation.

Two months after the educational program, 52 charts were audited for perinatal

screening. The charts were chosen using the same procedure as used for the pre-education heath

record reviews.

Data Analysis

Data was uploaded to SPSS and double checked for accuracy and missing data.

Descriptive statistics were used to analyze pre- and post-education score data including central

tendency and dispersion. The number of documented depression screenings identified from the

health record audits pre- and post-intervention were calculated to determine if an increase in

screening was attained

Ethical Considerations

The University of Massachusetts, Amherst (UMass) Internal Review Board (IRB)

approval was obtained for this DNP Project. Participants used a study ID for questionnaires. All

patient identifiers were removed from the health record data collection. There were no identified

risks to patients participating in this project, as no personal identifying data was collected. Only

data for depression screening during pregnancy in the two-month timeframe before and after the

education intervention were collected.

Results

Out of the 12 providers who were emailed and invited to participate, six completed the education program as well as the pre- and post- tests. The average pre-test score was 77.1% and the average post-test score was 97.9%. There was total increase in score by 20.8% of all the providers who participated.

Pre- & Post- Intervention Test Scores

	Mean	Median	Mode	Range	Standard Deviation
Pre-Intervention Score	**77.1**	**75**	**62.5**	**62.5-100**	**14.6**
Post-Intervention Score	**97.9**	**100**	**100**	**87.5-100**	**5.1**

Before the education program, 52 charts were audited to look for depression screenings. Of the 52 charts that were audited 3 charts had depression screenings completed. After the education program was completed another 52 charts were audited. Of the 52 charts audited post education program, 28 charts contained depression screenings resulting in an 44.6 % increase.

Depression Screenings

	Mean	Median	Mode	Range	Standard Deviation
# of screenings pre-intervention	**0.12**	**0**	**0**	**0-3**	**0.51**
# of screenings post-intervention	**7.08**	**2.5**	**0**	**0-28**	**9.44**

Discussion

Summary

The overall goals of this project were met and the results supported the importance of education about perinatal depression and the impact of education on subsequent perinatal depression screening. The knowledge of perinatal depression increased among program attendees by 20.8% as demonstrated by pre- and post-tests scores. The amount of perinatal depression screening increased by 44.6% within two months of the education program.

Interpretation

These findings highlight a statically significant increase in the amount of depression screenings done before and after the intervention. Even though only six providers attended the program, education about perinatal depression screenings reached beyond the people who were able to join as evidenced by the amount of depression screening done pre- and post- intervention. These results are important as they provide insight into the importance of education of perinatal depression and strongly imply once a provider is educated about the importance of perinatal depression they are more willing to screen for it. Real world impact for the future includes increased screening for perinatal depression and thus increased diagnosis and treatment. With improved treatment there will be decreased adverse birth and fetal outcomes, which increases the safety and quality of care in the perinatal population.

Facilitators & Barriers

The greatest facilitator was that the program was able to be done on a unit were the providers work very closely together and share knowledge. Sharing this knowledge aided in increasing the amount of screenings done. Additionally, this project was done via PowerPoint

and used paper and pen for knowledge tests. This would be easy to reproduce in a different setting in the future.

One of the biggest barriers was the small sample of providers who attended the education program. Of the six participants who attended, four were registered nurses, one nurse practitioner and one physician. The more providers who were able to attend, the more people who could learn and understand why screening is important. In future work, a larger and more diverse population of providers would help to increase the amount of perinatal depression screenings.

Conclusion

Screening and treatment for perinatal depression is a necessary part of the prenatal period to reduce the risk of adverse health outcomes among mother and child. Screening should be done on all pregnant woman during each pregnancy. Rates of screening can be improved through education and implementing screening tools at offices and in hospitals.

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Appendixes

Appendix A

Questionnaire

1. Perinatal depression is a natural part of pregnancy.
A. True
B. False

2. What are some symptoms of a panic attack.
A. Anxiousness over their pregnancy and mode of delivery
B. Deep breathing
C. Sweating, trouble breathing
D. **Palpitations; shortness of breath; sweating; trembling or shaking; chest pain**

3. Failure to treat a mother's anxiety poses a significant risk to the mother and the baby.
A. True
B. False

4. Postpartum depression is different than baby blues.
A. True
B. False

5. Screening for perinatal depression is done routinely and universally across the country.
A. True
B. False

6. About 1/5 women are NOT screening during a prenatal visit for perinatal depression.
A. True
B. False

7. What are feelings and attitudes that are often experienced when a woman becomes a mother?
A. A feeling of suffocation, everything revolving around the baby, making motherhood the only source of fulfillment
B. The need to establish a degree of control in the person's life
C. Palpitations; shortness of breath; sweating; trembling or shaking; chest pain
D. Regret

8. What are characteristics of postnatal depression?
A. Seeking refuge in work, lacking interest in the baby, wanting to take charge of everything in the house, and a diminished sexual desire for his spouse.
B. Not being able to get out of bed in the morning
C. Excitability, anxiety and obsessive thoughts and fantasies
D. Postnatal anxiety is a frequent occurrence, and it often overlaps with symptoms of depression, increasing the likelihood of postpartum depression

Appendix B

Timeline

The project took place over the amount of four months (Appendix B). The education program took place in the beginning of December of 2022. In October of 2022, 52 charts were audited for perinatal depression screenings. In October of 2022 an email was sent out inviting health care providers working at the clinic to attend an in-person session to learn about perinatal depression. In November the education program took place. There was a pre- and post-test given before and after the presentation on the same day. After the program in January of 2023, charts were audited for perinatal depression screening. Analyses were completed during January and February of 2023. Once analyses were completed, findings were disseminated via DNP project report and ScholarWorks and through a presentation to the clinic.

Task	October	November	December	January	February	March	April
Audit of random charts to look for perinatal depression	X	X					
Education program with pre and post test		X					
Audit of charts to look for perinatal depression screenings post intervention				X			
Analysis of pre and post intervention information					X		

Project completed and submitted to Scholar Works. Results presented to local providers							X

Appendix C

Budget

Cost was limited to the price of creating flyers, cookies and coffee. Around $10 was spent on supplies for creating and disseminating flyers. Around $25 was spent on cookies and coffee. The benefit of this project was to increase attention brought to perinatal depression, an area that may be overlooked in current practice. The increase attention and education promoted screening and treatment of perinatal depression in the pregnant population.