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Early Depression Screening and the Effects on Postpartum Depression

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NURS 512: Nursing Research and Evidence-Based Practices

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Early Depression Screening and the Effects on Postpartum Depression

What if depression was not a scary or bad word? What if it was thought of just like a cold or diabetes? Depression is a disease just like any other disease in health care. Depression is one of the most common diseases treated by health care providers, but many times goes missed or untreated (Williams & Nieuwsma, 2020). As many as half of the patients seen by primary health care providers do not get the treatment they need for depression simply because there was no screening test done (Williams & Nieuwsma, 2020). One class of depression that is becoming more and more prevalent is postpartum depression. All women are at risk for developing and experiencing some form of postpartum depression at some point in their life. The commonality of perinatal and postpartum depression in women is reported to be in a range from 3% to 22% (Puppo et al., 2022). In order to identify these patients, this project will look at the PICO question, does early screening for postpartum depression during pregnancy help to identify at-risk patients for depression?

There are many triggers that could be the cause for an episode of postpartum depression. Some of the triggers are more obvious than others. Many of these are related to pregnancy, but many are not necessarily related at all (Viguera, 2018). Patients who are too young or not prepared for motherhood can be triggers (Viguera, 2018). Maybe the pregnancy did not go the way the patient had planned or wanted and there were several complications that required more prenatal care. Something completely unexpected happened and the baby was born early or had severe complications after the birth (Moldenhauer, 2020). It is also common to see patients suffer from depression who are not economically stable, are unhappy in their relationship, or who do not have a supportive partner or even supportive family members (Moldenhauer, 2020).

Depressive episodes occurring in the first year after the baby is born is the general definition of postpartum depression (Viguera, 2018). It has been found that of the 10-15% of women who have postpartum depression, about half of those first noticed symptoms of depression during their pregnancy (Viguera, 2018). It is still not determined why some women suffer from postpartum depression and others do not. Some working theories say the patient is predisposed through genetics, or that there is some kind of hormonal imbalance (Viguera, 2018). The changes the body goes through during and after pregnancy related to the hormones may play a big role in whether a patient has depression (Viguera, 2018). Several changes can occur in the thyroid and other endocrine organs that can cause women to react differently than their normal (Viguera, 2018). Changes in progesterone and estrogen could also cause some of these changes (Viguera, 2018). One of the notable symptoms that have been found in women, who have postpartum depression, is depression during the pregnancy itself (Viguera, 2018). Of the women who have postpartum depression, more than half also have other symptoms like anxiety or thoughts of suicide and self-harm (Viguera, 2018). These symptoms along with many of the previous triggers mentioned can all have a role in the form of depression.

According to the American College of Obstetrics and Gynecology (ACOG), all women should be screened for postpartum depression sometime in the first six weeks after delivery (Berens, 2020). There is some evidence that an earlier screen can help to decrease the amount of time the patient may experience depression (Berens, 2020). The gold standard tool used to screen a patient is a questionnaire called the Edinburgh Postnatal Depression Scale, EPDS (Viguera, 2018). The EPDS has a sensitivity of 68-86% and a specificity of 78-96% (Eastwood et al., 2017). The EPDS asks questions based on the last seven days with five questions about unpleasant mood, two about anxiety, and three about guilt or harming of self (Eastwood et al.,

2017). Each question has a score of up to three points, depending on the severity the patient perceives the question, with a total score of 30 (Eastwood et al., 2017). A score of ≥ 13 is predictive of depression (Viguera, 2018). This is just a screening tool and not a diagnostic tool. The healthcare provider should talk to the patient and gain more information than just what is gained from the EPDS screening (Viguera, 2018).

Providers who educate patients and family members about depression and what it is, can help the patient to be more receptive to the care recommended (Williams & Nieuwsma, 2020). With the right education and understanding that depression is a disease and not something wrong with the person that should be hidden or not talked about, patients may feel safe and be more open and honest with their healthcare provider (Williams & Nieuwsma, 2020). Incorporating the EPDS into regular prenatal visits is an easy and effective way to screen all women for depression (Eastwood et al., 2017). With early screening for this disease; these women may have a better outcome and experience the birth of their baby as a very happy and fulfilling experience.

To help providers understand the importance of early screening for depression, the following theories are discussed in order to integrate a change of care practice when working with pregnant women.

Introduction of Theories

Intrapersonal, interpersonal, and organizational conflict can be encountered throughout life. In conflict theory there are opposing factors that can lead to improvements (Conflict Theory, n.d.). Conflict can be both good and bad. In the conflict theory there is a constant battle between one or more entities (Conflict Theory, n.d.). These battles can be for monetary needs, emotional needs, or any other number of needs to be met. Karl Marx says that these conflicts or battles help society to grow and improve over time (Conflict Theory, n.d.). Marx's theory on conflict tells us

that conflict is not always bad, and it is not always good (Conflict Theory, n.d.). Sometimes peace and cooperation are the answers to the differences we face (Conflict Theory, n.d.).

Society places unjust power on certain characteristics and possessions as seen by theorists like Niccolo Machiavelli in the 15th and 16th centuries, and Thomas Hobbes later in the 16th and 17th centuries (Conflict Theory, n.d.). Whether these powers are individual or through organizations, once power or rights are possessed the person or group will do everything to keep that power and perform their specific role within the organization (Conflict Theory, n.d.). That power or wanted possession slowly trickles down from the top to others within the organization until there is little or no power left for those at the bottom (Conflict Theory, n.d.). For individuals and groups who do not have the wanted power, they will work for and do anything necessary to achieve the wanted power (Conflict Theory, n.d.). Miscommunication, unrealistic expectations, lack of expressing self, and change all can play a role in conflict (Piryani, & Piryani, 2019). Whether it is a personal battle or organizational battle, each of these can play a role in the beginning of a conflict. When conflict happens, it creates a feeling of instability and uncertainty (Piryani, & Piryani, 2019).

The second theory that will help shape the framework of this project is the postpartum theory that was adapted by Cheryl Tatano Beck (Maeve, 2017). Beck has authored several articles on women and the perception of depression after the birth of a child. Beck breaks depression into five different categories (Maeve, 2017). The first category, postpartum depression, usually starts showing signs about one month after giving birth and can last for up to six months or longer and is harder to treat than regular depression (Maeve, 2017). Second, baby blues is experienced by about 75% of women and they will show sadness or unhappy emotions. The baby blues do not always require treatment and usually only last a brief period (Maeve,

2017). Third, postpartum psychosis is a severe and emergent situation in which either the mother or the baby, or both are in danger. Psychosis is usually not discovered until the mother has harmed herself or her baby (Maeve, 2017). This is a serious medical emergency and should always be taken seriously. Fourth, postpartum OCD begins after the baby is born and is when the mother has recurring and obsessive thoughts of fear or inadequacies of becoming a mother and being afraid of being alone with the baby (Maeve, 2017). Finally, postpartum-onset panic disorder is characterized by the mother suddenly having panic attacks that leave the mother feeling afraid, increased respiratory rate, heart palpitations, and a sense that something is very wrong (Maeve, 2017).

Beck has pinpointed 19 different risk factors that can lead to a woman experiencing postpartum depression (Maeve, 2017). One of the first and biggest risks of developing postpartum depression is prenatal depression (Maeve, 2017). Women who have a history of depression or who develop depression during a pregnancy are at a higher risk of poor prenatal care, substance abuse and poor nutrition (Takacs et al., 2020). These women are at risk for aborting the baby, preterm delivery, infant complications at birth, and learning or mental disabilities later in life for the child (Takacs et al., 2020). Women who already suffer from depression may find that the depression is worse in the postpartum stages. Other risk factors Beck has pinned include history of anxiety, stress about childcare, unemployment, experiencing an emergent or unplanned crises, women who are single or in unhappy marriages, low income, poor finances, body shaming issues, sleeping disorders, eating disorders, unwanted pregnancy, and sense of losing control (Maeve, 2017).

Theoretical Framework for the MSN Project

Conflict plays a role in the risk and rate of postpartum depression for both the mother and the father (Top et al., 2016). In relationships that are not well supported, there is a greater risk of one or both new parents experiencing depression and/or anxiety (Top et al., 2016). The new role of parent and how each partner thinks parenting should be can raise conflict (Top et al., 2016). Many times, each partner has a different thought in what their specific role should be and what is expected. Without the proper outlet to express expectations, one or both partners can hold resentment that can lead to disappointment and questions of support and care from the other partner.

Applying this to the PICO question, does early screening for postpartum depression during pregnancy help to identify at-risk patients for depression? Having the knowledge of the risk factors can lead the provider in discussing these openly with patients. Using prenatal and postnatal screening tools at follow up visits can help to open the lines of communication for the provider and the patient. Once the patient feels they are safe to discuss the risks with the provider, the patient can be educated on signs and symptoms to monitor for and seek help with the earliest of signs. Being able to diagnose signs and symptoms of depression early can help make the lives of the mother, her baby, and the family better and healthier for all (Maeve, 2017). There is no reason that a woman and her family need to suffer for months with feeling of depression or anxiety over the addition of a new child to the family (Maeve, 2017). This should and can be an incredibly happy time for a family.

Theoretical Contribution to the Profession

Healthcare providers are faced with the delicate balance of knowledge and unbiased questioning. The postpartum theory assists in providing providers the knowledge of possible risk

factors every woman faces when becoming pregnant and approaching the postpartum stages. An obstetrician or family physician that cares for a woman during pregnancy and birth has a prime opportunity to really get to know a patient and build a safe, trusting relationship with the patient. This type of relationship, with the knowledge of risks can set the stage for the provider to have open discussions with the patient and uncover patients who are at risk. Using depression scales, like the EPDS, at visits throughout the pregnancy give the provider a baseline of where the patient is mentally and show progress or regression (Bureau of Family Health and Nutrition, n.d.). With the scales the provider can compare and begin discussions with the patient about items that may raise concerns.

Providers must also be careful to assess and not create increased conflict within the patient or those close to her. Understanding the conflict theory and how that can play a role within the patient personally and those she is closest too can be challenging. Providers can make these conversations more routine by adding them to every visit with a patient. Making these conversations the normal routine will also avoid bias and stereotyping of patients (Bureau of Family Health and Nutrition, n.d.). Providing the EPDS and asking frequent questions with every patient decreases the risk that the patient will feel attacked. The patient may feel more open to a difficult discussion if they know that the questions are routine. Showing genuine care and understanding to each patient regardless of individual situations will aid in the patient feeling safe and more willing to talk about emotions (Bureau of Family Health and Nutrition, n.d.).

Literature Search

To determine whether early screening during pregnancy for depression has an impact on postpartum depression a literature search was conducted. The databases used were Cumulative Index to Nursing and Allied Health Literature (CINAHL), and PubMed. The following search

terms: “Depression AND Postpartum AND Edinburgh depression scale” found 808 results. Additional search terms of “EPDS” or “Early Screening for Depression” were added, narrowing the results to 87 articles. The search was further defined to include studies that used the Edinburgh Postnatal Depression Screening tool (EPDS), and the effect of postpartum and perinatal depression on women and the infants, as well as access to the full text of the articles. Only peer-reviewed, current studies within the past five years were included. The final search resulted in ten studies; three cohort studies (Choi et al., 2022; Eastwood et al., 2017; Puppo et al., 2022); one focus group (Vik et al., 2021); one online cross-sectional survey (Branquinho et al., 2021), four randomized controlled studies (Chan et al., 2018; Janati et al., 2020; Mao et al., 2021; Sawyer et al., 2019), and one validation study (Cox et al., 1987).

Definitions

These are common definitions for this project:

- 1) *Postpartum depression*- depression that begins from day one after having a baby up to one year (Janati et al., 2020). Symptoms can include crying more frequently, pushing away family and friends, anger, frustration, flat affect to expressions, feelings of guilt, fatigue, hopelessness, no energy, fear, and no connection to the baby (Janati et al., 2020).
- 2) *Perinatal depression*- can be from the time of conception up to one year after having a baby (Puppo et al., 2022). Symptoms are the same as the symptoms of postpartum depression.
- 3) *Edinburgh Postpartum Depression Scale (EPDS)*- most commonly used worldwide screening tool for depression during and after pregnancy by rating the patient’s symptoms over the last seven days with five questions about sadness or feeling down, two questions about anxiety, and three questions about guilty feelings and thoughts of harm or suicide

(Eastwood et al., 2017). The cut off score used in the United States is ≥ 10 to indicate depression symptoms and referral for further intervention (Choi et al., 2022).

Review of Literature

This literature review discusses the significance of early screening for depression during pregnancy using the Edinburgh Postpartum Depression Scale (EPDS) as well as discussing the validity and reliability of the EPDS.

Perinatal Depression Screening During Prenatal Visits

The cohort study conducted by Choi et al. (2022) consisted of 899 low-income women in Wisconsin's Family Foundations Home Visiting program. The study aim was to estimate the trajectory of perinatal depression and identify risks for depression, to include income, social contact, and education level. Using the EPDS, women were screened four times during their pregnancies with a cut off score of ≥ 13 to indicate depression. The mean first trimester EPDS score was 8.08, with 19.6% ≥ 13 , third trimester mean score was 8.05 with 18.6% ≥ 13 . The mean one month postpartum score was 7.09 with 15.8% ≥ 13 . The mean two-six month postpartum score was 6.82 with 16.2% ≥ 13 . Choi et al. (2020) reported four different groups: low-stable with 78.2% of all women screened have low prenatal and postpartum EPDS scores; increasing group with 4.1% with low EPDS scores at first screen and increasing scores through the pregnancy and postpartum; decreasing group with 7.1% with high prenatal scores that decreased throughout the pregnancy and postpartum; and high-stable with 10.6% with high EPDS score at prenatal and postpartum screening. Perinatal depression was found with a positive EPDS scores ≥ 13 was 18.6%-19.6% in the first trimester, and 15.8%-16.2% in the first month postpartum. The authors did not include any significance or CI data.

The Australian cohort studied by Eastwood et al. (2017) enrolled 8,367 mothers who delivered in public hospitals in Sydney and surrounding areas. The goal of this study was to determine the effects of perinatal depression on pregnancy outcomes. The EPDS with a cut off score ≥ 13 was used to determine depression. Seven percent of the cohort had perinatal depression with a high probability of postpartum depression with adjusted odd ratios (ARO) = 6.4, 95% CI: 4.8-8.7, $p < 0.01$. Four percent of those women delivered a baby that was, < 2500 grams with ARO = 1.7, 95% CI: 1.2-2.3, $p = .003$; 10.9% had a baby before 37 weeks gestation with ARO = 1.3, 95% CI: 1.1-1.7, $p = .018$, following delivery 10.5% were not exclusively breastfeeding, 11.4% were not exclusively breastfeeding at discharge and 16.5% were not exclusively breastfeeding after leaving the hospital (Eastwood et al., 2017). No statistical data or CI were given for the number of women exclusively breastfeeding.

Puppo et al. (2022) used the EPDS to identify depression during pregnancy in a cohort of 112 women in Argentina with an EPDS score of ≥ 10 . Fourteen women had an EPDS score of ≥ 10 at four weeks postpartum (12.5%, CI 95% 7.0-20.1). One hundred thirty-four women scored > 13 between 20-24 weeks (7.1%, CI 95% 3.1-13.6). Puppo et al. (2022) reported of the 685,394 deliveries in Argentina, 12.5% of women screened, had a positive depressive score. The authors did not provide any significance or CI data.

Choi et al, (2022), Eastwood et al., (2017), and Puppo et al., (2022) were all limited in screening only for depression and no actual clinical diagnoses were made. Other limitations included sample size, and long term follow up for patients who tested positive. There were no control groups in any of these in person studies. Strengths in all three studies include diverse cohorts with women from many backgrounds. All three in person studies show evidence that screening for depression during pregnancy during in person prenatal visits improved postpartum

outcomes for the mother by decreasing depressive symptoms. Choi et al. (2022) showed a decrease in the percentage of women who scored above the cut off score of ≥ 10 from 19.6% in the first trimester to 15.8% in the first month postpartum. Eastwood et al. (2017) reported the perinatal depression prevalence to be 7% of their cohort (6.4, 95% CI: 4.8-8.7. $p < .001$) and similarly Puppo et al. (2022) showed a prevalence of 12.5% (CI 95% 7.0; 20.1).

Choi et al. (2022), Eastwood et al. (2017), and Puppo et al. (2022) concluded the evidence showed that perinatal depression is more prevalent than postpartum depression and should be screened for during pregnancy. The authors of the cohort studies recommend using the EPDS to be used during prenatal appointments to identify at risk mothers (Choi et al., 2022; Eastwood et al., 2017; Puppo et al., 2022).

Use of Technology for Early Postpartum Depression during Pregnancy

Chan et al. (2019) conducted a random control trial in Hong Kong that included 660 first time mothers (330 in the intervention group and 330 in the control group). The intervention group was given access to a mobile phone application along with regular prenatal visits and a nurse-led face-to-face parenting class, while the control group had routine prenatal visits and a nurse-led face-to-face parenting class. The intervention group of women was given a mobile phone application that included short videos, articles, and the options to join in group chats and reach out to obstetricians with questions. The EPDS was the tool of choice to screen for depression. A cut off score of ≥ 13 determined perinatal and postpartum depression. The difference in the mean score for the EPDS between both groups was -0.65 (95% CI -1.29 to 0.00: $p = .049$). The mean EPDS score dropped from 7.3 (SD 4.6) to 5.3 (SD 4.4) for the perinatal period to the postpartum period in the group that used the phone app and from 7.2 (SD 4.6) to 5.9 (SD 4.7) in the control group. The mean difference between the groups was -0.65 (95% CI -1.29

to 0.00: $p = .49$). The authors reported that the use of the mobile phone app did reduce the presence of postpartum depression compared to the control group. The Cronbach alphas were 0.85 at the first screening and 0.84 at the second screening.

Similarly, the Iranian randomized control trial by Jannati et al. (2020) used a mobile application to determine how cognitive behavior therapy affects postpartum depression. They also used the EPDS to screen for depression with a cut off score of ≥ 13 to determine depression. Women were randomized into either the intervention group ($n=38$) which gave the women access to a mobile application that offered cognitive behavior therapy or the control group ($n = 37$) which was usual care, no access to mobile application. The baseline EPDS scores for the intervention group and control group were reported to be 17.42 ± 2.8 (range 13-23) and 17.39 ± 2.2 (range 9-21), respectively. After two months of the use of the mobile application the EPDS score was found in the intervention group to be 8.18 ± 1.5 (range 6-11) and the control group 15.05 ± 2.9 (range 9-22). A notable difference in the baseline and two-month EPDS score in the app group was 9.24 ($p < .001$). The difference in the EPDS in the control group was 2.34 ($p < .001$). The mobile app with cognitive behavior therapy was found to be an effective way in aiding to decrease symptoms of postpartum depression.

In contrast the Australian randomized control trial by Sawyer et al. (2019) did not find any significant difference in EPDS score between groups. One group was given access to a nurse-led mobile application and the control group had regular postpartum care which consisted of a single home visit from a nurse at four weeks postpartum. The participants were 113 women referred by the hospital where they gave birth, had an EPDS score ≥ 7 and had at least one parenting problem. Baseline EPDS scores for the mobile app group ($n = 54$) and the control group ($n = 57$) were 8.8 and 9.5 respectively (0.7, CI 95% -0.9-2.2), 8 months postpartum 7.9 and 8.7

respectively (0.7, CI 95% -1.1-2.5), and 12 months postpartum 8.6 and 7.0 respectively (-1.5, CI 95% -3.2-0.1) (Sawyer et al., 2019). This study did not show statistical evidence between the two groups and; therefore, the authors were unable to conclude that the mobile app used was a reliable source of effective post-partum depression management.

Study limitations included small sample sizes, lack of diversity in demographics and short study time (Chan et al., 2019; Jannati et al., 2020; Sawyer et al., 2019). Future studies should include a more diverse sample and extend the amount of time prenatally and postpartum to determine the effect on pregnancy and long term postpartum. Although randomized, the mobile application group in Sawyer et al. (2019) were younger and had lower income and education than the control group did, and this may be a limitation due to less diverse sample size. The strengths included the use of the EPDS to detect depression symptoms (Chan et al., 2019; Jannati et al., 2020; and Sawyer et al., 2019.). An additional strength to Sawyer et al. (2019) included comparable results to previous studies on internet based interventions, the portability, mobility, ease of use, and no time constraint to the patient with the app.

Chan et al. (2019) concluded with a difference in mean scores between the two groups – 0.65 (95% CI -1.29 to 0.00; $p=0.049$); the mobile application is a good resource in identifying depressive symptoms. Jannati et al., (2020) also found the mobile application to be a good resource in determining depression. The authors did not provide any significance or CI data. However, Sawyer et al. (2019) did not find statistical evidence that the mobile application was a good option for screening. This author did not provide any significance or CI data. Although Sawyer et al. (2019) did not produce statistical differences in their control group and application group; the authors believe that the internet and mobile apps are a great resource in helping screen for depression.

Screening Tool

The EPDS is the most used screening tool for depression with a reported sensitivity of 68-86%, and specificity of 78-96%, and has been validated for use perinatally (Eastwood et al., 2017). The EPDS is the gold standard for perinatal and postpartum depression (Mao et al., 2021). Cox et al. (1987) studied the validity of the EPDS for detecting depression and the changes in severity of depression over time in perinatal and postpartum women. The authors performed a detailed analysis of the Irritability, Depression and Anxiety Scale, the Hospital Anxiety and Depression Scale, and the Anxiety and Depression Scale of Bedford & Foulds to create a 13-item scale that was then reduced to a 10-item scale known as the EPDS. Participants were then referred by their provider at their six-week postpartum appointment for screenings using the EPDS. Sixty-three mothers living in Edinburgh and Livingston, England met the criteria for depression symptoms and were interviewed in their home. These women completed the EPDS without the interviewer knowing the score. The interviewer would then determine depression based on Research Diagnostic Criteria (RDC). The cut off score to determine depression with the EPDS was 12/13 and identified 21 women who also met RDC. The EPDS sensitivity for depression (n=35) and true positive (n=30) was 86%. The specificity for non-depressed women (n=49) true negative (n=38) was 78%. The positive predictive value (n=41) who also met the RDC (n=30) was 73%. Sensitivity to change in the severity of depression symptoms over time was found by comparing the first EPDS score with a follow up score taken 11 weeks later. Women who were depressed in both screenings (n=15) did not show much difference in the EPDS scores (16.5 and 15.38 respectively). Women who were depressed at the first screening and not at the second screening (n=16) had a very significant difference in scores (15.8 and 9.8

respectively, $t = 3.72$, $p = .002$. The authors reported the EPDS to have a sensitivity of 86% and a specificity of 78%.

Vik et al. (2021) performed a qualitative study using the EPDS as the chosen tool for providers ($n=10$) to use to evaluate depression in pregnant woman over a ten-year period in Norway. Three themes were identified by the authors; opportunity, challenges, and awareness of trust. The EPDS provided more opportunity for the providers to have open communication about the well-being of the patient, challenges included a large workload that did not allow for a full evaluation at each visit, and awareness of trust as the provider had to develop a trusting relationship with the patient before a valid EPDS screen was done. The author concluded the EPDS was a valid tool in initiating difficult communication with patients, and is well accepted by providers as the tool of choice in screening for depression.

In the randomized control study done in China at an obstetrical clinic by Mao et al (2021) of 168 women between the gestational age of 12-20 weeks gestation, had an EPDS score ≥ 10 and a PHQ-9 score ≥ 5 . The GAD-7 was not used in the initial screening, but was used during the consecutive screening to strengthen the validation of the EPDS. Patients' scores on the EPDS were compared to scores on the PHQ-9, which is reported to have a sensitivity of 88% and specificity of 88%, as well as the GAD-7 with sensitivity of 87.8% and specificity of 83.3%. The EPDS was 78.6% - 94.7% sensitive and 52.4%-55.9% specificity in determining change in depression symptoms for women throughout pregnancy. The changes in the score on the EPDS is related to the change in the scores of the PHQ-9 ($r = .552$, $p < 0.001$) and the GAD-7 ($r = 0.540$, $p < .001$). The Cronbach's alpha coefficient at baseline was 0.801, and at the third screening was 0.862.

Limitations to the study by Cox et al. (1987) include a small sample size of only postpartum patients and no screening perinatally. Vik et al. (2021) limitations included the first author as a lead employee of the facility used in the study and may have limited any negative feedback from the providers and staff about the use of the EPDS, as well as a small sample size. The authors did not mention any reliability/ validity data. Cox et al. (1987) and Vik et al. (2021) were both limited in their respective studies by only screening postpartum women. Limits to Mao et al. (2021) included, no control group, and no standard interview to diagnose depression. Strengths in Cox et al. (1987) are the comparison of the EPDS predictability to the RDC as well as the use of other valid screening tools used to create the EPDS. Strengths of Vik et al., (2021) include the providers desire to promote health and prevent mental complications in a nonjudgmental way, as well as the ten-year length of the study. Strengths of Mao et al. (2021) include EPDS scores that are closely correlated with changes in scores reported with the PHQ-9 and the GAD-7 with coefficient of higher than 0.5. This study also had a large sample size, as well and multiple methods to estimate the depression outcomes.

All three studies conclude that the EPDS is effective is determining depression both during perinatal and postpartum periods. Mao et al., (2021) further concluded that the EPDS is effective in determining the change in severity of symptoms throughout pregnancy with a coefficient higher than 0.5.

Conclusion

With the common prevalence of depression during and after pregnancy, it is important for providers to be mindful and screen early to prevent adverse complications for the mother and the baby (Vigeura, 2018). Each woman and each pregnancy will be different, and with care and trust the provider and patient can work together for a better pregnancy and postpartum experience.

Preterm births, low birth weights, and more compliant prenatal care can all be improved with a simple screening of the EPDS during prenatal visits (Eastwood et al., 2017).

Although the American College of Obstetrics and Gynecology recommends only one screening during pregnancy (Terrazas et al., 2018), the evidence presented supports more than one screening may be needed to assess the mother's mental health as she progresses through her pregnancy (Choi et al., 2022). With proper screening, the adverse effect of perinatal and postpartum depression on the mother can be minimized as early recognition leads to early management (Choi et al., 2022). More research is needed to determine how often women should be screened and how best to follow up with those who test positive. In the meantime, the recommendation from the available evidence supports providers should be screening at least once during the pregnancy to identify women at risk for depression (Terrazas et al., 2018). This proposed project will focus on using the EPDS as the means to screen for depression during pregnancy at least two times during pregnancy and once during postpartum period. Once patients are identified they may be referred for standard treatment earlier and postpartum screening score may be lower as shown by the evidence in the literature review.

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