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The Baby Blues: Postpartum Depression and The ways we can combat its Long-Term Effects

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NURS 4500

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<u>Abstract:</u>

As nurses, effective interventions for new mothers, both non pharmacological and pharmacological, are essential to improving these patients' outcomes and minimizing their risk for postpartum depression (PPD). New mothers undergo an immense amount of stress, both physically and mentally. As a result of this, many hospitals have standard postpartum care to minimize the risk of postpartum depression. Despite this, many mothers find themselves at a higher risk for PPD and managing these symptoms. Prescription medications are typically used in treating some symptoms of PPD but many patients may seek other forms of therapies. It is essential that alternative methods in managing and minimizing the long-term effects of postpartum depression in order to improve both the mother and child outcomes. Psychosocial support and a healthy diet have shown significance in managing the symptoms of PPD.

This thesis contains a review of recent research literature examining the long-term effects of PPD along with potential interventions to minimize these effects, and is followed by a proposal for further study on this important topic.

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<u>Introduction</u>

Postpartum depression (PPD) is a form of depression that occurs in women after childbirth and can occur weeks or even months after the birth has taken place. Some common symptoms include insomnia, difficulty bonding with their baby, or loss of appetite. Mothers who are diagnosed with postpartum depression are actually at a greater risk for developing major depression further on in their lifetime.

Some interventions that have been used for PPD include psychosocial support, interpersonal psychotherapy and cognitive therapy, according to Annals of General Psychiatry (Anokye et al, 2018). This potentially debilitating condition is relevant to the nursing community because postpartum depression can be prevented when interventions are put into place for primary prevention. For my thesis, I will be researching the long-term effects of postpartum depression and possible interventions that will best minimize those effects in mothers. My population of interest will be women who have been diagnosed with postpartum depression.

To closely examine this important topic in depth, a review of the research literature will be conducted. The time frame for the review will include studies conducted within the past 15 years. Following the literature review, a proposal for further research will be presented.

Research Questions

What are the long-term effects of PPD? How can we minimize the long-term effects of postpartum depression in mothers?

Literature Review

As a senior nursing student, I explored the available literature relevant to the study of postpartum depression long term effects and effective interventions. I explored the following databases: Pubmed and PubMed Central. In conducting my research, I used the following search terms: postpartum depression, interventions, nonpharmacological, long term effects. I found six primary research articles, published within the last 15 years, with potential to help answer my research questions (see Appendix A for a Literature Review Table, summarizing each study).

I organized the studies according to two themes that I found within the literature: "Prevention Interventions of PPD" and "Effects of PPD on Mother and Child." I was able to find a connection between my research questions and each primary research article listed below. This information will help facilitate further study in postpartum depression's long-term effects and potentially successful interventions.

Theme I: Prevention Interventions of PPD

Description - Anokye et al (2018).

Anokye, Acheampong, Budu-Ainooson, Obeng, Akwasi (2018) aimed to research the prevalence of postpartum depression and interventions utilized for its management. This study with a cross-sectional design used a quantitative approach with a population focusing on mothers and healthcare workers. A random sample technique was used to select 257 mothers while a convenience sampling technique was utilized to select 56 health care workers. The screening included a patient health questionnaire for postpartum depression using closed-ended questions for data on interventions for managing postpartum depression. The researchers found that PPD was prevalent among 7% of all the applicants which ranged from minimal to severe postpartum depression. The interventions they studied featured pharmacologic interventions, supportive

interventions, personal and cognitive therapy, psychosocial support, and complementary therapies. Out of the data collected on effective interventions, psychosocial support proved to be the most effective intervention in reducing depressive symptoms. They also concluded that frequent screenings for depression should be made readily available to mothers in hospitals. Postpartum depression may impact socialization behavior in children and the mother as well leading to a deeper depression. The study was limited by relatively small sample size, convenience sampling, and their use of only one screening tool for depression among the participants.

Discussion - Anokye et al (2018).

Oftentimes, pharmacologic interventions are one of the main interventions of treating any type of mental illness or condition. As a nursing student, I found through my experience on the postpartum floor that some nurses, when discharging postpartum mothers, focus primarily on infection prevention and medication reconciliation. Anokye et al (2018) was able to identify that psychosocial interventions involving support groups can give mothers a sense of hope and can make them come to the realization that they are not alone as they are meeting with mothers who are experiencing what they are going through. Support groups for couples can help educate the new parents on effective coping strategies as well as offer encouragement which can help give the mother a healthier environment and overall lower her risk of postpartum depression. A common issue of this is that the psychosocial aspect is sometimes neglected which can lead to a higher risk of postpartum depression. Through the researchers' findings, I was able to identify that psychosocial support is an effective intervention in treating and preventing postpartum depression.

Description - Radzi et al (2021).

Radzi, Jenatabad, and Samsudin (2021) aimed to determine factors leading to postpartum depression. This study utilized structural equation modeling analysis towards 387 postpartum women particularly in Malaysian culture. The symptoms of postpartum depression were assessed using the Edinburgh Postnatal Depression Scale (EDPS). The researchers found that 79.6% of their clients were experiencing depression symptoms which were affected by lifestyle choices, unhealthy food, and BMI variables. Based on the results, participants with high levels of depression symptoms tended to consume more unhealthy food and had higher body mass indexes. The highest impact on depression level among postpartum women was consuming unhealthy foods.

Discussion - Radzi et al (2021).

Radzi, Jenatabad, and Samsudin's findings reveal another intervention that can help minimize the effects of postpartum depression (2021). Unhealthy foods such as fast food, sweets, chips and soft drinks were directly related to higher levels of depressive symptoms in mothers. Whereas mothers who were eating healthier food options such as fruits, vegetables, and whole grains were associated with mothers who had low to no depressive symptoms. Therefore, a nurse potentially can recommend, based upon this research, that choosing healthier food options can be an effective intervention to prevent and treat depression in postpartum mothers.

Description - Liu & Yang (2021).

Liu and Yang (2021) aimed to research whether the effects of a psychological nursing intervention can be applied in the prevention of anxiety and postpartum depression This randomized controlled trial used a quantitative approach with 843 primiparous women recruited from Cangzhou Central Hospital using the following criteria: (1) primiparous women with full-term delivery, (2) having single healthy new- born baby, (3) having no obstetric diseases

(eclampsia, placenta previa, and premature rupture of membranes, etc.), (4) having normal communication ability, and (5) having propensity for postpartum depression. The study featured a control group receiving routine postpartum care and an intervention group that received both routine postpartum care and cognitive behavior interventions. The following scales were used to evaluate before and after intervention: Hamilton Depression Scale (HAMD), Hamilton Anxiety Scale (HAMA), Edinburgh Postpartum Depression Scale (EPDS) and Pittsburgh Sleep Quality Index (PSQI). The results indicated that scores of HAMA, HAMD, and EPDS in the control group were higher and elevated compared to the intervention group who received cognitive behavioral intervention therefore showing that these interventions can alleviate postpartum anxiety and depression.

The researchers concluded that cognitive behavioral interventions in the postpartum period are effective in preventing and alleviating PPD. One limitation of this study is that the researchers used screening tools rather than diagnostic tests. Clinical assessment and diagnosis was not analyzed in this research. Another limitation is that the study had a short follow up period of 8 weeks. If the follow up period were to be longer than 8 weeks, this may provide further confirmation of the results concluded by the researchers.

Discussion - Liu & Yang (2021).

Through Liu and Yang's results (2021), any nurse who cares for postpartum mothers is able to identify a cognitive behavioral intervention as an effective approach to the prevention and treatment of PPD. Cognitive behavioral can be a complicated treatment system as it is composed with different interventions including rational-emotive therapy, flooding therapy, systematic desensitization, relaxation training, social skills training and supportive treatment. During this

intervention, the nurse or therapist can evaluate the progress of treatment through careful observation and create individualized treatments based on the patient's severity of depression.

Theme #2: Effects of PPD on Mother and Child

    Description - Solmian et al (2019).

Slomian, Honvo, Emonts, Reginster, Bruyère (2019) aimed to research the consequences of maternal postpartum depression and maternal and infant outcomes. This systematic review researched studies published between January 1, 2005 through August 17, 2016 using databases MEDLINE via Ovid, PsycINFO, and the Cochrane Pregnancy and Childbirth Group trials registry. The researchers reviewed 122 studies and the results were categorized into three sections: a) the maternal consequences of postpartum depression, including physical health, psychological health, relationship, and risky behaviors; (b) the infant consequences of postpartum depression, including anthropometry, physical health, sleep, and motor, cognitive, language, emotional, social, and behavioral development; and (c) mother–child interactions, including bonding, breastfeeding, and the maternal role. The researchers concluded that maternal postpartum depression was strongly associated with a worse quality of life such as mothers experiencing difficulty in their social relationships. They also concluded that maternal postpartum depression could indirectly impact the child's development due to a lack of caregiving. One of the limitations of this research is that the study selection and data extraction were not performed using the double blinded method.

    Discussion - Solmian et al (2019).

From this study, I was able to identify some of the long term effects of postpartum depression. The first effect can be seen through the researchers' findings that depressed mothers appeared to be less likely to engage in health practices with their infant such as back to sleep position, using a car seat, or having a working smoke alarm in their house as well as positive enrichment activities with their child. This can cause a long-term effect on the child and mother's relationship overall and cause negative effects in the child's overall health. Another effect that I identified was the mother's increased risk of engaging in more risky behaviors if she is depressed. These behaviors included an increased risk of starting to smoke after pregnancy, increased prevalence of suicide ideation, and engaging in substance use, such as alcohol or illicit drugs.

Description - Choi et al (2019).

Mothers who experience childhood maltreatment are more likely to have children who are also exposed to maltreatment which is known as intergenerational transmission. Because of this, Choi. Houtsa, Arseneault, Pariantec, Sikkemaa,d,e, and E. Moffitta (2019) aimed to research the role of postpartum depression in mothers in relation to the transmission of maltreatment to their child. This structural equation model had 1,016 mothers and their 2,032 children involved in the Environmental Risk Longitudinal study, which tested the role of PPD in childhood maltreatment as well as negative child outcomes. Questionnaires and surveys were done to measure maternal childhood maltreatment (Childhood Trauma Questionnaire), maternal PPD (DSM-IV), maternal depression (Life History Calendar), child exposure to maltreatment (validated structured interview protocol), and child internalizing and externalizing symptoms (Child Behavior Checklist). After analyzing using the data collected from the interviews and questionnaires, the researchers concluded that mothers who reported having PPD had nearly

twice the prevalence of having a child exposed to later maltreatment. They also found that mothers who continue to be depressed in later years are at a higher risk to engage in abusive behavior. One limitation of the study is that the study assessments did not assess the severity of PPD furthermore after initial diagnosis which would possibly be more informative in predicting outcomes. Another limitation is that the study did not do a comprehensive psychological evaluation, which excluded other maternal risk factors such as having anxiety or PTSD.

Discussion - Choi et al (2019).

Through this research, the nurse will be able to identify an increased risk of childhood maltreatment and abusive behavior as one of the long term effects of postpartum depression in mothers. This effect shows how maternal PPD not only affects the mother but also affects the children and other people around them. Identification and early treatment of PPD has potential to be a crucial way of preventing cycles of trauma and improve maternal and child outcomes. This potential benefit reinforces the recommendations for early screenings for PPD as well as consistent follow-ups being readily available for postpartum mothers.

Description - Fox et al (2019).

Fox, Sandman, Davis, and Glynn (2019) aimed to research whether depression occurring during the postpartum phase is characterized by a unique symptom profile compared with depression outside the postpartum phase. The postpartum period is commonly defined by six weeks after childbirth. In this longitudinal study, the researchers examined 239 women and their manifestations of depressive symptoms, the structure of symptom profiles, and whether factors are pronounced differently during and after the postpartum period. Women were enrolled early in their pregnancy if they met the following criteria: singleton pregnancy, English-speaking, non-smoking, age 18+, without use of steroid medications, drug or alcohol use during pregnancy. The

researchers concluded that out of the six factors considered (Worry, anger, emotional/circadian/energetic dysregulation, appetite, somatic/cognitive and distress display), the symptom of "worry" (consisting of anxiety and guilt) was the more pronounced during the postpartum period. They also found that: "Emotional/Circadian/Energetic Dysregulation," the symptoms that encompasses sadness and other similar symptoms, were more prevalent past the postpartum period. One of the limitations of this study is that the latest period they were able to test was two years postpartum. If later assessment was done, the additional time will strengthen the study design and might confirm the finding that depressive symptoms continue throughout the after-postpartum period.

Discussion - Fox et al (2019).

Through this research, the nursing community will be able to identify sadness, anhedonia (inability to feel pleasure and psychomotor disability) as long term effects of PPD. Anhedonia is defined as the inability to feel pleasure and is categorized into two types, social and physical anhedonia (Gepp, 2021). This emotional and physical deficit causes difficulty and strain within relationships including friends and family since the reward of enjoyment is no longer there.

Theoretical Framework

Jean Watson, the founder of the Center for Human Caring at CU's Health Sciences Center, is best known for developing the Theory of Human Caring. She is also most known for her work that brought caring at the forefront of nursing as well as amassed many leadership achievements such as honorary doctoral degrees and the Living Legend accolade from the American Academy of Nursing in 2013. Her research and teachings embrace the use of caring to improve and optimize people's health.

A theoretical framework that presents the rationale, science and importance of caring for patients was developed by Jean Watson. According to Watson, "humans cannot be treated as objects and that humans cannot be separated from self, others, nature, and the larger workforce". She emphasizes the importance of the relationship between health care provider and patient and how this is able to heal both parties . The theory focuses on "the centrality of human caring and on the caring-to-caring transpersonal relationship and its healing potential for both the one who is caring and the one who is being cared for" (Watson, 1996). She built her science of caring based on the following 10 factors: embrace, inspire, trust, nurture, forgive, deepen, balance, co-create, minister and open. Through Watson's framework, this has helped shape the nursing student's research in taking a deeper look at how taking a holistic approach, such as treating mind, body and soul through psychosocial interventions, can help prevent, treat and minimize the long term effects of postpartum depression.

Research Proposal

Finding preventative interventions for postpartum depression (PPD) is essential for improving and minimizing adverse postpartum outcomes of the mother and child. This literature review for this thesis provided evidence that the long term effects of PPD include an increased risk of: difficulty in the mother's interpersonal relationships; mothers engaging in abusive behavior; childhood maltreatment; and overall emotional turmoil, including worry, guilt and anxiety. This review also determined that promising interventions for PPD exist, including cognitive behavioral therapy, eating healthier foods and psychosocial support. The need for a longitudinal study to determine the most effective interventions for alleviating the long term effects of PPD is essential. There also needs to be research on what specific psychosocial interventions should be evaluated and what kind of diet is considered "healthy" for a postpartum

mother. The difficulty lies with the wide variety of psychosocial interventions and recognition of which ones should be tested.

This study's goal in research is to raise awareness of the long-term effects of postpartum depression and how they can be prevented through non pharmacological interventions.

Research Design

For this study on postpartum interventions, the researcher will conduct the study using a mixed-method, quantitative and qualitative, longitudinal approach. This study is designed to be implemented at Kaiser Vallejo Medical Center, Postpartum Unit, as this will provide the environment in which the interventions may be implemented.

Population and Sample

Pregnant women who visit the Kaiser Vallejo Care outpatient clinic or who pre register to give birth at the Kaiser Vallejo inpatient hospital will be eligible for participation in the study. Postpartum women who currently are receiving postpartum care at the Kaiser Vallejo Care facility also will be eligible to participate.

Additional inclusion criteria will be: age of 18 year or older; having been recently diagnosed or identified as at risk for PPD; not having any other mental illness; and currently not using any illicit drugs.

The study is designed for a total sample size of 100 participants.

Ethical Considerations

The population of pregnant women is considered to be a high-risk group. In addition, depressed people can be considered vulnerable. Prior to beginning recruitment, the study will need to be reviewed for ethical considerations and approved by the internal review board (IRB) of the hospital. Potential participants will be educated about the study by the researcher or a

research assistant. The potential participant will be advised that she will be able to receive the same high level of nursing care, no matter whether she chooses not to participate in the study or not. Also, she will be told that she will be able to withdraw from the study at any time without any negative consequences.

After being given an opportunity to ask questions and consider whether they want to participate, those who agree will be given a consent form before beginning the study. Participants will be informed that they will be invited to an interview that will be audio-recorded at the end of the study, and that they can choose whether or not they want to take part at that time. If they do choose to participate, they will need to sign an additional consent form.

All data will be treated confidentially and stored in password protected computers. Only members of the research team will be able to view the data.

Recruitment

Once IRB approval is granted, the investigator will attend a unit meeting at the aforementioned Kaiser inpatient and outpatient facilities to explain the study to the nurses and enlist their assistance in identifying eligible patients. After patients are identified as being eligible, the research nurse will explain the study to potential participants, including expected requirements of the patient and hypothesized outcomes of the study. Patients who are interested will be able to have any questions they have answered. The research nurse will obtain consent of those patients who agree to participate. Recruitment will continue for three months or after 100 participants are enrolled, whichever comes first. This recruitment plan is deemed to be reasonable, since the Kaiser Vallejo Medical Center provides service to a large number of women at the outpatient clinic and the inpatient Maternity Unit.

Study Methods

The study will take place during three phases.

During the first phase, all participants will be asked to answer demographic questions, including race, ethnicity, and age. They also will be asked questions about their family and individual health history, such as previous illnesses and information about the extent of prenatal care they received. They also will be provided with a psychological health assessment. The researcher will utilize a series of questionnaires and interviews for a baseline screening of depressive symptoms to identify every participant's level of depression. A patient health questionnaire (PHQ-9) would be used for the initial screening of depression. Some examples of questions that the PHQ-9 will include are as follows: Little interest or pleasure in doing things? Feeling down, depressed, or hopeless? Trouble falling or staying asleep, or sleeping too much? These questions will be answered with 4 choices: 0 at none at all, 1 at several days, 2 at more than half the days and 3 being nearly every day (Kroenke et al, 2001). A structured questionnaire with closed ended questions will be used to assess the management of PPD and determine the influence of the interventions/reduction of depressive symptoms. Example questions will include the following: Do you have trouble sleeping? Do you find yourself exhausted most of the time? Do you cry over the slightest things?

In the second phase, the 100 participants will be divided into two groups: 1) The intervention group - 50 mothers who will receive the psychosocial interventions and healthy diet regime; and 2) The control group - 50 mothers who will receive routine postpartum care.

The intervention group will receive once weekly structured, individual counseling and group counseling support for 12 weeks at the Kaiser Vallejo outpatient clinic's community meeting room. Both the individual and group counseling sessions will last one hour. To assist with transportation to and from sessions travel assistance will be provided. Participants will be

provided with a choice of a free bus pass or free parking pass. Those in the intervention group also will be assigned a healthy diet regimen to follow throughout the study. Educational session on diet and nutrition, including healthy snack food for participants to sample, will be provided during an extra one-half hour at the end of the first group counseling session and will be included at the end of every other weekly session thereafter.

The control group participants will receive routine postpartum instructions and follow-up care, as indicated. The control group participants will be invited to join a mother-and-baby play group. Participation will be encouraged, but

In phase three of the study, the assessments performed for all participants in phase one will be repeated after 12 weeks. In addition, participants will be invited to participate in a one-hour interview to share their experiences over the preceding 12-weeks and offer their perspectives of the care they will receive. The interviews will be audio-recorded and transcribed. Those who agree to the interview will be provided an additional consent form to sign.

Analysis

To examine the quantitative data, including the demographic and health history data, the researcher will use a descriptive statistical analysis. In order to assess the differences between patients' psychological health assessment scores in the control group members who received usual care and outcomes in the intervention group members who received psychosocial interventions & healthy diet and postpartum depression, an analysis of variance (ANOVA) will be used.

To examine the qualitative data, the researcher will use triangulation as a method of analysis. This method will involve the researcher taking notes, finding themes in the participants responses, coding them and then comparing them.

Projected Outcomes

The research question being addressed in this proposal is -What are effective interventions for minimizing postpartum depression long term effects? The researcher hypothesizes that healthy diet and psychosocial interventions such as group therapy and counseling will improve patient and child outcomes.

Conclusion

The researcher has learned that there are a few alternative interventions that can be implemented within hospitals in order to improve mother and child outcomes as well as minimize the risk of PPD. Psychosocial interventions such as group therapy and counselling have proven to be an effective way in treating PPD. A correlation between healthy diet and low risk of PPD have been identified through the researcher's findings.

Throughout hospitals, there is a strong emphasis on routine of administering prescribed medications as an intervention but after this pilot study, the researcher highlights that nonpharmacological interventions for PPD are more than effective in some cases. Rather than going through routine postpartum care, nurses should incorporate and emphasize psychosocial therapies such as group counselling in order to promote a calm and safe environment for the mother and her new child. The researcher also highlights that patient education overall should be emphasized more throughout hospitals. The establishment of strong patient-nurse relationships is of utmost importance when conducting routine postpartum care.

The next step will be to use the researcher's findings to create an effective postpartum care routine for nurses to implement. Group therapies can be implemented once a week after

discharging from the hospital as well as counseling made readily available to new mothers. Nurses may put a stronger emphasis on maintaining a healthy diet and can help facilitate an action plan before mothers are discharged from the hospital.

References

Anokye, R., Acheampong, E., Budu-Ainooson, A., Obeng, E. I., & Akwasi, A. G. (2018).

　　Prevalence of postpartum depression and interventions utilized for its management.

　　Annals of general psychiatry, *17*, 18. https://doi.org/10.1186/s12991-018-0188-0

Choi, K. W., Houts, R., Arseneault, L., Pariante, C., Sikkema, K. J., & Moffitt, T. E. (2019).

　　Maternal depression in the intergenerational transmission of childhood maltreatment and

　　its sequelae: Testing postpartum effects in a longitudinal birth cohort. *Development and*

　　psychopathology, *31*(1), 143–156. https://doi.org/10.1017/S0954579418000032

Fox, M., Sandman, C. A., Davis, E. P., & Glynn, L. M. (2018). A longitudinal study of women's

　　depression symptom profiles during and after the postpartum phase. *Depression and*

　　anxiety, *35*(4), 292–304. https://doi.org/10.1002/da.22719

Gepp, J. (2021, October 29). Anhedonia: Symptoms, treatment, and more. Healthline. Retrieved

　　December 11, 2021, from https://www.healthline.com/health/depression/anhedonia#risk-

　　factors.

Jean Watson's theory of human caring. Redlands Community Hospital. (n.d.). Retrieved

　　November 19, 2021, from https://www.redlandshospital.org/nursing-excellence/jean-

　　watsons-theory-of-human-caring/.

Kroenke, K., Spitzer, R.L.,Williams, J. (2001). The PHQ-9. J. *Gen. Intern. Med.* 16(9): 606–613.

　　doi: 10.1046/j.1525-1497.2001.016009606.x. Retrieved Dec. 4, 2021 from

　　https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1495268/

Liu and Yang *(2021)*.Effects of a psychological nursing intervention on prevention of anxiety

and depression in the postpartum period: a randomized controlled trial.

Ann Gen Psychiatry. 20:2 https://doi.org/10.1186/s12991-020-00320-4

Miller, S. (2021, March 15). *Jean Watson: Founder of the theory of human caring*. The Sentinel

Watch. Retrieved November 19, 2021, from

https://www.americansentinel.edu/blog/2020/11/10/jean-watson-founder-of-the-theory-

of-human-caring/.

Slomian, J., Honvo, G., Emonts, P., Reginster, J. Y., & Bruyère, O. (2019). Consequences of

maternal postpartum depression: A systematic review of maternal and infant outcomes.

Women's health (London, England), *15*, 1745506519844044.

https://doi.org/10.1177/1745506519844044

Wan Mohamed Radzi, C., Salarzadeh Jenatabadi, H., & Samsudin, N. (2021). Postpartum

depression symptoms in survey-based research: a structural equation analysis. *BMC

public health*, *21*(1), 27. https://doi.org/10.1186/s12889-020-09999-2

Appendix A: Literature Review Table

Author (date)	Citation	Purpose	Sample	Analysis	Results/Key findings	Limitations	Strengths
Anokye,Acheampong, Budu-Ainooson, Obeng, Akwasi (2018)	Anokye *et al. Ann Gen Psychiatry (2018) 17:18* https://doi.org/10.1186/s12991-018-0188-0	To determine the prevalence of PPD and interventions utilized for its management in a Health facility in Ghana	257 mothers	PPD was prevalent among 7% of all mothers selected. The severity ranged from minimal depression to severe depression. Psychosocial support proved to be the most effective intervention ($p = 0.001$) that has been used by healthcare workers to reduce depressive symptoms.	Postpartum depression is prevalent among mothers although at a lower rate and psychosocial support has been the most effective intervention in its management. Postpartum depression may affect socialization behaviors in children and the mother, and it may lead to thoughts of failure leading to deeper depression. Frequent screening exercises for postpartum depression should be organized by authorities of the hospitals in conjunction with the Ministry of Health.	The study was limited by a smaller sample size, the use of one screening tool for depression among other tools. The study, therefore, missed out on the many other mothers who were not present at the hospital at the time of the study.	Simple random sampling technique was used to select 257 mothers, therefore being more accurate in representing a population.

Radzi,Jenataba and Samsudin (2021)	Wan Mohamed Radzi et al. BMC Public Health (2021) 21:27 https://doi.org/10.1186/s12889-020-09999-2	To determine the factors leading to symptoms of depression using Structural Equation Modeling (SEM) analysis.	387 postpartum women	The majority of 79.6% of respondents were having depression symptoms. Lifestyle, unhealthy food, and BMI variables were directly affected by the dependent variable. Based on the output, respondents with a high level of depression symptoms tended to consume more unhealthy food and had	The prevalence of postpartum women with depression symptoms in this study is considerably high. It is, therefore, imperative that postpartum women seek medical help to prevent postpartum depressive symptoms from worsening.	The respondent's weight and height were self-reported in this study, despite previous research works which have also utilized this method, and although it is valid [84–86], it can be a possible limitation of the study.	A total of 387 postpartum women have completed the questionnaire, being a relatively big sample size.

				a high level of body mass indexes (BMI). The highest significant impact on depression level among postpartum women was unhealthy food consumption			
Liu and Yang (2021)	Liu and Yang *Ann Gen Psychiatry (2021) 20:2* https://doi.org/ 10.1186/s1299 1-020-00320-4	To investigat e whether cognitive behavior interventi on could prevent the pathogene sis of postpartu m depressio n in primiparo us women.	843 primipa rous women	In the intervent ion group, the post-intervent ion scores of HAMA, HAMD, EPDS and PSQI were all significa ntly lower than the baseline scores	This research provided evidence that cognitive behavioral intervention in the postpartum period could alleviate anxiety and depression in primiparous women, and inhibit the pathogenesis of postpartum depression.	A limitation in the study was the short follow- up period, and a follow-up period longer than 8 weeks in future studies may further confirm the results.	They used several screening tools such as HAMD, HAMA and EPDS for screening for anxiety and depression.

Slomian, Honvo, Emonts, Reginster, Bruyère (2019)	Slomian, J., Honvo, G., Emonts, P., Reginster, J. Y., & Bruyère, O. (2019). Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes. *Women's health (London, England), 15,* 1745506519 84	To evaluate both the infant and the maternal consequences of untreated maternal postpartum depression.	122 studies	The results of the studies were synthetized into three categories: (a) the maternal consequences of postpartum depression, including physical health, psychological health, relationship, and risky behaviors; (b) the infant consequences of postpartum depression, including anthropometry, physical	The results suggest that postpartum depression creates an environment that is not conducive to the personal development of mothers or the optimal development of a child. It therefore seems important to detect and treat depression during the postnatal period as early as possible to avoid harmful consequences.	The study selection and data extraction were not performed using a double-blinded method, and an assessment of the studies' methodological quality was not performed.	This study is the first systematic review in several decades to evaluate the consequences of untreated maternal PPD in both mothers and their children from 0 to 3 years of age.

	4044. https://doi.org/10.1177/1745506519844044			health, sleep, and motor, cognitive, language, emotional, social, and behavioral development; and (c) mother–child interactions, including bonding, breastfeeding, and the maternal role.			
Choi. Houtsa, Arseneault, Pariantec, Sikkemaa,d,e, and E. Moffitta (2019)	Choi, K. W., Houts, R., Arseneault, L., Pariante, C., Sikkema, K. J., & Moffitt, T. E.	To determine the mediating role of postpartum depression between maternal childhood maltreatm	1,116 families (93% of those eligible) with same-sex 5-year-old twins particip	Among mothers who reported postpartum depression, 40% (N=72/180) had at least one	As expected, maternal childhood maltreatment was associated with greater risk for postpartum depression. Mothers who reported postpartum depression had nearly twice the	Given the study's initial focus on specific maternal risk factors such as depression, comprehensive psychiatric evaluation	The study used structural equation modeling with 1,016 mothers and their 2,032 children in the Environmental Risk (E-Risk) Longitudinal Twin Study. The longitudinal

		(2019). Maternal depression in the intergenerational transmission of childhood maltreatment and its sequelae: Testing postpartum effects in a longitudinal birth cohort. *Development and psychopathology*, *31*(1), 143–156. https://doi.org/10.1017/S0954579418000032	ent and a cascade of negative child outcomes,	ated in home visit assessments.	child who was later exposed to maltreatment, compared to 22% (N=188/836) among mothers without postpartum depression.	prevalence (40% vs. 22%) of having a child exposed to later maltreatment.	was not undertaken; thus, other mental health morbidities such as PTSD or anxiety that could also influence risk transmission were not measured from the outset.	study will provide a deeper insight and researchers are able to identify progress of specific characteristics.
Fox, Sandman, Davis, and Glynn (2019)	Fox, M., Sandman, C. A., Davis, E. P., & Glynn, L. M.	To investigate whether symptom profiles differ	239 parturient women	Results — Factors were revealed represent	MDD. Results indicate the possibility that worry is an enhanced feature of PPD compared to	The study had a relatively smaller sample size at 239	They used a longitudinal study in order to conduct their research. Because of this,

| | | (2018). A longitudinal study of women's depression symptom profiles during and after the postpartum phase. *Depression and anxiety*, *35*(4), 292–304. https://doi.org/10.1002/da.22719 | between PPD and depression occurring outside the postpartum phase. | | ing: Worry, Emotional/Circadian/Energetic Dysregulation, Somatic/Cognitive, Appetite, Distress Display, and Anger symptoms. The factor structure was validated at postpartum and after-postpartum timepoints. Interestingly, the Worry factor, comprising anxiety and guilt, was significantly more pronounced during the | depression outside the postpartum period, and the crucial role of sadness/anhedonia in MDD diagnosis may be less applicable to PPD diagnosis. | participants. More participants would provide more diversity and a more accurate representation of a population. | this allowed more time for researchers to analyze specific characteristics in postpartum women. |

				postpartum timepoint, and the Emotional/Circadian/Energetic Dysregulation factor, which contained sadness and anhedonia, was significantly less pronounced during the postpartum period.			