Influencing Rates of Postpartum Depression Diagnoses and Management in the Primary Care Setting: A Literature Review

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Postpartum Depression Literature Review and Synthesis

Most mothers agree that motherhood is one of the most challenging, rewarding, exhausting, amazing, and terrifying experiences in their lives. A mother's transition through pregnancy, the birthing process, and ultimately assuming an entirely new role with a first child, or even fourth, is exceptionally difficult. During this time, a mother undergoes many hormonal, physical, emotional, and psychological changes. A mother can experience various emotions after giving birth, including joy, pleasure, sadness, and tears. After giving birth, it is not unusual to feel sad or tearful; this is often referred to as the baby blues, which will subside after a couple of weeks. Postpartum depression, however, is much more serious and does not disappear within the first two weeks after delivery. A mother with postpartum depression (PPD) experiences depressive symptoms during the first 12 months following childbirth. Although PPD often happens in the first few weeks after childbirth, it can occur at any time within the first 12 months following birth. The concept of postpartum depression has been studied, and screening was recommended; however, the current screening guidelines and management are not meeting the needs of the population. Failure to treat PPD may lead to impaired mother-infant bonding that can affect a child's growth and development, which could further result in physical harm to either the mother or child (Mughal et al., 2022). Therefore, it is imperative to search, appraise, and synthesize the literature regarding this topic to understand the existing research and influence future practice. Additionally, for this process to be successful, it is crucial to develop a strong PICO question.

PICO Question

How does an organization systems change project focused on postpartum depression influence the rate of postpartum women with depression compared to current practices in the primary care setting?

Literature Search Process

There are several research databases and search strategies available for further examination of current research related to the presented PICO question. Library databases including PubMed, Medline, and CINAHL were used to search for quality data to answer the PICO question. PubMed, Medline, and CINAHL were chosen as they are large, reliable, and highly authoritative resources. Due to a refined PICO question, the initial search method that was used included keywords and Boolean connectors. When combined with particular keywords or phrases, Boolean connectors reduce search results and provide more relative evidence (Melnyk & Fineout-Overholt, 2018). Some examples of the search terms used include postpartum depression, perinatal depression, and postpartum depression screening. Additionally, Boolean connectors were used with the terms barriers, bonding, prevalence, child development, and telehealth. The number of results generated by each database for these keywords is shown in the Literature Search Table [Table 1].

Additional limitations and filters were used to narrow the research and produce more reliable and high-quality results. The limitations included articles published in the last ten years, human studies, the English language, and adults (19 years of age and older). Systematic, efficient, and thorough research could be conducted using appropriate keywords and Boolean connectors. The most relevant articles were identified using the preceding search strategy to provide the best quality evidence for answering the PICO question. A total of 26,598 articles were generated from the library database search engines using keywords and Boolean

connectors. Search parameters were applied limiting the search to 6,878 articles. After a process of elimination based on criteria such as currency, relevance, authority, correctness, and intent, 18 of the articles with the strongest evidence were chosen to be included. Further, reviewing the articles and determining the level of evidence and relevance to the PICO question led to the final selection. Articles with minimal evidence strength and topics irrelevant to the project topic were excluded. An overview of the articles selected from the literature search can be found in the Literature Matrix Grid [Table 2]

Table 1

Literature Search Table

PubMed	Subject Heading Search	Search Results	Limits	Total	Total articles reviewed	Total articles included excluding duplicates
1	Postpartum Depression	13,306	English; Human, published last 10 years, All Adults (19+ years)	3,174	11	2
2	Perinatal Depression	6,329	English; Human, published last 10 years, All Adults (19+ years)	1,609	6	4
3	1 AND Prevalence	5,530	English; Human, published last 10 years, All Adults (19+ years)	1,667	4	3

4	1 AND Barriers	161	English; Human, published last 10 years, All Adults (19+ years)	97	7	1
Medline	Subject Heading Search	Search Results	Limits	Total	Total articles reviewed	Total articles included excluding duplicates
1	Postpartum Depression AND child development	645	English; published last 10 years, All adults (19+ years)	98	3	1
2	Postpartum Depression AND bonding	151	English; published last 10 years, All adults (19+ years)	69	1	1
3	Postpartum depression screening	170	English; published last 10 years, All adults (19+ years)	54	2	1
4	Postpartum depression AND telehealth	54	English; published last 10 years, All adults (19+ years)	54	2	2
CINAHL	Subject Heading Search	Search Results	Limits	Total	Total Articles Reviewed	Total Articles included excluding duplicates

1	Postpartum Depression AND barriers	252	English, published last 10 years, all adults	56	4	3
Totals		26,598		6,878	40	18

Literature Appraisal

The Johns Hopkins Evidence-Based Practice Model served as our benchmark for appraising the quality of the evidence when we reviewed the articles from our search results. The model follows a three-step approach called PET, which stands for practice question, evidence, and translation (Dang et al., 2022). This model is specifically designed for nurses to integrate the latest research findings and best practices into patient care. The Johns Hopkins Evidence-Based Practice Model was chosen because it ensures that new findings are incorporated quickly and appropriately. Using the previously mentioned search strategies, articles were further appraised. Articles with weak evidence and subjects unrelated to the project's focus were eliminated. To further focus the search, three independent authors also used the CRAAP tool to review publications. High levels of currency, relevance, authority, accuracy, and purpose were considered when choosing the articles. In order to have a well-rounded base of evidence, the Literature Matrix Grid [Table 2] includes articles from various evidence levels with a focus on those of the most overall quality. A summary of the articles that were chosen from the literature search is provided in the Literature Matrix Grid [Table 2].

Table 2

Literature Matrix Table

Author/Title/ Journal/Year Published	Purpose/Problem/ Objective/Aims	Study Design	Sample (Setting)	Data Collection/Measures	Analysis/Outcomes	Strengths/Limitations	Study Quality	Level of Evidence
Taiwo, T., Goode, K., Niles, M., Stoll, K., Malhotra, N., & Vedam, S. (2024). Perinatal mood and anxiety disorder and reproductive justice: Examining unmet needs for mental health and social services in a national cohort. *Health Equity*. *8*(1):3-13. doi: 10.1089/heq.2022.0207	There is a lack of understanding of the gaps between the need and provision of comprehensive health services for childbearing women, especially among racialized populations; this research examines the unmet needs of these groups.	Cohort Study	All people who had experienced a pregnancy in the United States within 5 years of data collection were eligible. The study intentionally included an oversample from minority groups. Overall, 2,915 people from all 50 states were included.	Data was collected through snowball and network sampling, and partners used community-specific social media package tools to facilitate this process. The final survey instrument included 219 items assessing sociodemographic, pregnancy, and birth, 60 items on care experiences, and health and safety concerns during pregnancy.	In the United States, there is a significant unmet need for psychosocial support services, including mental health screening and treatment during the perinatal period, particularly among indigenous and Black women.	The study had a convenience sampling frame, which prevented the authors from generalizing findings to all childbearing people in the United States. In addition, the deliberate community-based participatory sampling strategies resulted in somewhat higher proportions than the U.S. Census data on distribution for Black and indigenous service users.	High	III
Robbins, C. L., Ko, J. Y., D'Angelo, D. V., Salvesen von Essen, B.,	The problem of postpartum depression poses a serious public health	Prospective Cohort Study	Approximately 1,954 respondents 9 to 10 months postpartum in 7	Data from the 2019 Pregnancy Risk Assessment Monitoring System (PRAMS) linked with	Prevalence of postpartum depressive symptoms at 9 to 10 months was 7.2%. Of those with PDS at 9 to	In addition to contributing to the limited literature on depression later in the postpartum period,	High	II

Bish, C. L., Kroelinger, C. D., Tevendale, H. D., Warner, L., & Barfield, W. (2023). Timing of postpartum depressive symptoms. *Preventing chronic disease*, *20*, E103. https://doi.org/10.5888/pcd20.230107	threat that can adversely affect mother-child interactions; however, few studies have examined depressive symptoms in the later postpartum period (9–10 months); this research examines this period		states were included.	data from a telephone follow-up survey administered to PRAMS respondents 9 to 10 months postpartum in 7 states (N = 1,954). The sociodemographic characteristics, prior depression, PDS at 2 to 6 months, and other mental health characteristics were also estimated. Unadjusted prevalence ratios were used to examine associations between those characteristics and PDS at 9 to 10 months.	10 months, 57.4% had not reported depressive symptoms at 2 to 6 months. Prevalence of PDS at 9 to 10 months was associated with having Medicaid insurance postpartum, prior depression, and current postpartum anxiety.	this study demonstrates the potential for enhancing surveillance systems for chronic conditions. However, it should be noted that there were some limitations. Depressive symptoms were self-reported on the PHQ-2, small sample sizes were included, and social desirability bias may have resulted in underreporting of stigmatized maternal behaviors and experiences.		
Liu, X., Wang, S., & Wang, G. P (2022). Prevalence and risk factors of postpartum depression in women: A systematic review and meta-analysis. *Journal of Clinical Nursing. 31*(19-	The current systematic review's aim was to present a pooled estimate of PPD prevalence and risk factors.	Systemic Review and Meta-Analysis	A total of 300 articles were included in the full-text screening. After further evaluation, 267 were excluded, leaving 33 reviews that met the inclusion criteria and were included in the meta-analysis.	A search of the Cochrane Library, PubMed, Embase and Web of Science was conducted to find cohort and case-control studies investigating the prevalence and risk factors of postpartum depression from the time of inception to December 31, 2020. Using a random-effects model, meta-analyses were performed to identify	There is a high prevalence of postpartum depression, especially in developing countries. Postpartum depression is associated with gestational diabetes mellitus, depression during pregnancy, premature birth, history of depression, epidural anesthesia during delivery, and depression during pregnancy. Having a	Strengths of this study include quality and trustworthy data. There were limitations to the study, including a lack of in-depth analysis of some risk factors for PPD and high heterogeneity among the studies included in the analysis.	High	II

20):2665-2677. doi: 10.1111/jocn.16121.				postpartum depression prevalence and risk factors.	clear understanding of the risk factors for PPD can help healthcare personnel manage and treat patients more effectively.			
Xue, W. Q., Cheng, K. K., Xu, D., Jin, X., & Gong, W. J. (2020). Uptake of referrals for women with positive perinatal depression screening results and the effectiveness of interventions to increase uptake: A systematic review and meta-analysis. *Epidemiology and Psychiatric Sciences*, *29*, e143. https://doi.org/10.1017/S2045796020000554	Even though screening programs exist for perinatal depression, non-uptake of referrals to further mental health care reduces the utility of these programs. This study conducted a systematic review of evidence on referral rates, estimated the pooled rate, identified interventions to improve referral rates, and examined their effectiveness.	Systematic Review and Meta-Analysis	There were 2302 articles found in the systematic literature search, including 2296 English articles and six Chinese articles. There were 1818 references identified after eliminating duplicates; 1681 were eliminated after title/abstract reviews, and 105 were eliminated after full-text reviews because they did not meet inclusion criteria. This resulted in 32 studies for inclusion. After additional searches, nine studies were included from reference lists of included papers. This review included 41	PubMed, Web of Science, Cochrane Library, Ovid, Embase, CNKI, Wanfang Database, and VIP Databases from database inception to January 13, 2019, and reference lists of relevant research were reviewed. Studies providing information on the uptake rate and effectiveness of interventions on referral uptake were eligible for inclusion. Meta-analysis was used to estimate the pooled uptake rate based on observational and quasi-experimental data. Since there was only one randomized controlled trial, descriptive analyses were conducted instead of meta-analyses.	After perinatal depression screening, almost three-fifths of women with positive results do not take advantage of referral offers. Although referrals to on-site assessment and treatment may increase uptake, the quality of evidence on interventions to increase uptake was low. There is a need for more robust studies, especially in low- and middle-income countries.	This study was strong because it examined the uptake of referrals by women with positive postpartum depression screening results and the effects of the interventions. However, it did have some limitations. This review focuses on uptake rather than all three steps in the referral and treatment process. Furthermore, with only one RCT in 41 eligible studies, the quality of included studies posed an important limitation in estimating referral uptake and assessing the effectiveness of interventions to increase referral uptake.	High	I

			articles, including one RCT, one before-and-after comparison study, and 39 observational studies.					
Shorey, S., Chee, C. Y. I., Ng, E. D., Chan, Y. H., Tam, W. W. S., & Chong, Y. S. (2018). Prevalence and incidence of postpartum depression among healthy mothers: A systematic review and meta-analysis. *Journal of psychiatric research*, *104*, 235–248. https://doi.org/10.1016/j.jpsychires.2018.08.001	Among mothers who gave birth to healthy full-term infants and who did not have a prior history of depression including postpartum depression, this review examines the prevalence and incidence of postpartum depression.	Systematic Review and Meta-analysis	Across 15,895 articles, 58 articles (N = 37,294 women) were included in the review.	In addition to a systematic search of ClinicalTrials.gov, CINAHL, EMBASE, PsycINFO, and PubMed, a manual search of the references of included articles was performed, and an expert panel was consulted.	The incidence of postpartum depression was 12% while the overall prevalence of depression was 17% among healthy mothers without a prior history of depression. The prevalence was similar regardless of the diagnostic tool used; however, there were statistical differences between different geographic regions. There was no statistical difference in prevalence between different screening time points, but prevalence increased after six months postpartum.	Healthy mothers were the focus of research, which is not frequently examined. However, as no randomized control trials were included, the quality of sources was limited. Furthermore, the included studies used varying sampling methods and screening methods that were not standardized, which led to high heterogeneity between them.	High	II
Tyokighir, D., Hervey, A. M., Schunn, C., Clifford, D., & Ahlers-Schmidt, C.	This study's purpose is to note the knowledge and barriers of the mental health	Qualitative Study	33 interviews with 12 pregnant/postpartum women, 15 primary care providers, and 6	Interviews were completed via telephone from 10/2019-03/2020. Interviews were 20 minutes in duration	Interventions at a multi-level are needed to improve mental health access for women of low income	Strengths: triangulation use Limitations: selection bias (possible), excluded critical	Low	VI

R. (2022). Qualitative Assessment of Access to Perinatal Mental Health Care: A Social-Ecological Framework of Barriers. *Kansas journal of medicine*, *15*, 48–54. https://doi.org/10.17161/kjm.vol15.15853	services during the perinatal period.		mental health care providers.	with a standardized script and were considered complete when saturation of themes was reached. Transcripts were reviewed by researchers and community partners by the ground theory approach. Themes were identified based on triangulation. The barriers identified were separated by levels: individual, social, and society.	during the perinatal period	group in the assessment (nurses, social workers, etc.)		
Faisal-Cury, A., Levy, R. B., Kontos, A., Tabb, K., & Matijasevich, A. (2020). Postpartum bonding at the beginning of the second year of child's life: the role of postpartum depression and early bonding impairment. *Journal of Psychosomatic Obstetrics &*	This study's purpose is to evaluate further the link between early mother-child bonding and maternal depression at infancy with bonding in later years impaired in a sample of mothers at high risk of postnatal depression.	Cohort Study	346 low-income postpartum women with antenatal depression	The postpartum bonding questionnaire and patient health questionnaire at 6-8 months and 12-15 months post delivery	Bonding impairment and postpartum depression have a strong association at both 6-8 and 12-5 months. Postpartum depression and bonding impairment is highly recommended within the first year of life.	Strengths: results cannot be generalized to other types of women & the design of the study strengthen this by allowing for the evaluation of postpartum depression and bonding impairment among a group of very vulnerable women. Limitations: findings are based on secondary data analysis & different socio-demographic variables/maternal characteristics	Moderate to High	IV

Gynecology, 41(3). P. 224-230. https://doi.org/10.1080/0167482X.2019.1653846						affecting the association between bonding impairment and postpartum depression		
Sidebottom, A., Vacquier, M., LaRusso, E., Erickson, D., & Hardeman, R. (2021). Perinatal depression screening practices in a large health system: identifying current state and assessing opportunities to provide more equitable care. *Archives of Women's Mental Health*, *24*(1), 133–144. https://doi-org.ezproxy.umary.edu/10.1007/s00737-020-01035-x	The purpose of this study was to assess the prevalence of prenatal and postpartum depression screening in a large healthcare system to identify gaps in screening, while recognizing/understanding the disparities present in current practice	Retrospective cohort study	7548 women receiving prenatal care at 35 clinics and delivering at 10 hospitals	Data was used from the electronic health record that had (1) delivered in 2016; (2) received at least three prenatal care visits at an Allina Health clinic; and (3) consent on file for the use of their HER data for research under the Minnesota Health Records Act. Demographic measures were used to examine disparities in accordance with race. Outcome measures were depression screening during pregnancy and for the first 3 months postpartum, PHQ-9 was used as the screening tool.	Variations in screening practice were not found in the peripartum time but were identified postpartum. Women were less likely to get screened if they were young (<24), African American, American Indian, multi-racial, Hispanic, single, or insured by Medicaid/Medicare, or spoke any other language besides English. Patients were more likely to get screened by an Ob-Gyn (71.2%) compared to other provider types (58-60%). Screening varied significantly ranging from 24.8-95.6% between the 35 clinics	Strengths include the inclusion of the entire health system population, screening tool incorporated into the EHR, which could also be a weakness as it wasn't provider or patient self-report. Population is localized	Moderate	III
Bodnar-Deren, S.,	The purpose of this study is to	2 randomi	481 white and black women	Data was used from two postpartum	Treatment stigma is associated with lower	Strengths: The use of vignettes allowed	High	II

Benn, E. K. T., Balbierz, A., & Howell, E. A. (2017). Stigma and postpartum depression treatment acceptability among black and white women in the first six-months postpartum. *Mattern Child Health J, 21.* P. 1457-1468. DOI 10.1007/s10995-017-2263-6	measure the stigma that is associated with four types of postpartum depression therapies in order to estimate the association between stigma and therapy acceptance for both white and black woman in the postpartum period.	zed controlled trials		depression randomized controlled trials in which woman at the 6-month mark of postpartum answered a series of questions. Race, stigma, and treatment acceptability associations were examined with the utilization of bivariate and multivariate analysis.	treatment acceptance for postpartum depression; stigma was not found to be the cause of decreased treatment acceptance amount in black women. Increased research is needed in the future to understand these barriers during the postpartum period.	assessment of intended behavior, which decreased cost, access to daycare/transportation/structural concerns Limitations: Vignettes used to assess treatment acceptance/stigma;		
Manso-Córdoba, S., Pickering, S., Ortega, M. A., Asúnsolo, Á., & Romero, D. (2020). Factors Related to Seeking Help for Postpartum Depression: A Secondary Analysis of New York City PRAMS	This study's aim was to analyze the influence of different sociodemographic and health factors associated with postpartum depression symptoms. Determination of which subgroups of women are at highest risk for not seeking	Cross-sectional secondary analysis	618 women met the inclusion for the criteria out of the 2729 women who completed the NYC phase 8 PRAMS survey	Self-administered survey mailed out monthly to a random sample of women in NYC within 2-4 months of giving birth, if written questionnaire was not completed, a telephone interview was conducted.	Data analysis was done using SPSS statistics software. Outcomes look at the association between a diagnosis of ppd and having been asked during pregnancy, after giving birth, and having asked for help vs antenatal or postpartum check-up questioning. The most demographic variable of race was associated with ppd, and API women were at higher	Limitations include the sample focusing on women in NYC (rural not explore), exclude criteria of anxiety (only used depression, hopeless, or sad). Strengths include doing the 3 rounds of mailed questionnaires to exclude bias (surveys were not accepted after 9 months)	Moderate	III

Data. *International Journal of Environmental Research and Public Health*, *17*(24). https://doi-org.ezproxy.umary.edu/10.3390/ijerph17249328	professional help when they experience symptoms with PPD; second aim was to identify the impact of health professionals asking mothers about ppd symptoms				risk for not asking for help.			
Prevatt, B.-S., & Desmarais, S. L. (2018). Facilitators and Barriers to Disclosure of Postpartum Mood Disorder Symptoms to a Healthcare Provider. *Maternal and Child Health Journal*, *22*(1), 120–129. https://doi-org.ezproxy.umary.edu/10.1007/s10995-017-2361-5	This study examined barriers and facilitators to disclosure of postpartum mood disorder symptoms to healthcare professionals among a community-based sample.	Community based participatory research study	291 community-based women	The participants were given an online survey which included: perceived barriers to treatment scale, the maternity social support scale, the depression, anxiety and stress scales-21, and items of postpartum mood disorder disclosure. The perceived barriers were operationalized factors and patient perspective which reduced the patient discussion symptoms of postpartum mood with providers in the field.	More than half of the sample reported symptoms of postpartum mood disorder. Though 1:5 did not disclose to a provider. Half of the sample reported at least 1 barrier to disclose of these feelings to a provider. With 1/3 of the sample reporting less than adequate social support.	Strengths: The use of self-report in past studies has shown to have both validity and reliability when collecting data. Limitations: Lacks diversity due to use of relatively homogenous sample group; data was self-report measures, not clinical diagnosis. Selection bias limited generalizability. Recall bias and errors as barriers and facilitators could different over a three-year span post birth. The PBPT does not utilize the perceptions of providers treatment	Low	III

						plan based on ability, interest, or efficacy.		
Modest, A. M., Prater, L. C., & Joseph, N. T. (2022). Pregnancy-Associated Homicide and Suicide: An Analysis of the National Violent Death Reporting System, 2008-2019. *Obstetrics and Gynecology*, *140*(4), 565–573. https://doi-org.ezproxy.umary.edu/10.1097/AOG.0000000000004932	The study's aim was to look at the differences in demographic and social factors associated with pregnancy associated violent deaths comparing homicide with suicide	Retrospective cohort study	10,411 were included in the data set from the CDC NVDRS data from 2008-2019 which captures all 50 states, district of Columbia, and Puerto Rico	Populations were stratified on pregnancy status at time of death. 1)pregnant at the time of death, 2) pregnant within 42 days of death (early postpartum), 3) pregnant 43 days to 1 year before death (late postpartum), 4) not pregnant within 1 year of death. SAS 9.4 was used for analysis.	Suicide occurred more frequently during pregnancy and in the late postpartum period; pregnancy-associated homicide occurred more frequently in non-Hispanic Black women- either in pregnancy or in the late postpartum period.	Limitations include the completeness/incompleteness of data from NVDRS due to the reports received in logging the information. Late postpartum status may be missed, and "unknown" status is used which was 68% of female deaths (not included in study) but may mean that these results may underestimate the number of pregnancies associated violent deaths. Variation between states is also a limitation.	Moderate	III
Iturralde, E., Hsiao, C. A., Nkemere, L., Kubo, A., Sterling, S. A., Flanagan, T., & Avalos, L. A. (2021). Engagement in perinatal depression treatment: a qualitative	Factors were examined in perinatal depression treatment engagement by race/ethnicity of insured patients in a healthcare system with equal access to care and	Qualitative Study	Four focus groups with 30 pregnant/postpartum women (Asian, Black, Latina, and white race/ethnicity) with positive depression screens; Nine clinicians were interviewed with background in	With a semi-structured format, barriers to treatment, cultural factors, and strategies that could be helpful were elicited. A general inductive approach was utilized to code discussion transcripts, utilizing themes mapped to COM-B	Barriers to treatment included: social stigma, difficulty noting one's own depression, lack of understanding of treatment options, and lack in treatment time. Non-white women experienced distinct factors including discouraging treatment, lack of	Strengths: Standardized screening protocol, which utilized repeated screening during the perinatal period which allowed for validated measure. Purposeful recruitment of women of different racial/ethnic backgrounds and	Low	VI

study of barriers across and within racial/ethnic groups. *BMC Pregnancy & Childbirth*, *21*(1), 1–11. https://doi-org.ezproxy.umary.edu/10.1186/s12884-021-03969-1	treatment for depression.		perinatal depression	theoretical framework.	social support, traumatic history, and difficulty taking time away from work. Factors from clinicians included: the knowledge/skill to treat and manage perinatal depression, cultural competence, and barriers in language.	stages of pregnancy over a large region. Increased representiveness due to the use of telephone focus groups. Limitations: Not generalized to those of low English language proficiency, without health insurance, or care received in a non-integrated health system. Small number of participants.		
Lewkowitz, A. K., Whelan, A. R., Ayala, N. K., Hardi, A., Stoll, C., Battle, C. L., Tuuli, M. G., Ranney, M. L., & Miller, E. S. (2024). The effect of digital health interventions on postpartum depression or anxiety: a systematic review and	The study was aimed at examining the effects that digital health interventions had on ppd and postpartum anxiety compared with usual treatment.	Meta-analysis; systematic review	31 randomized controlled trails with 5532 participants randomized to digital health interventions and 5492 randomized to usual treatment were included	Two authors independently screened all abstracts for eligibility and independently reviewed full-text articles for inclusion, a third author screened abstracts as needed to determine discrepancy.	Digital health interventions can be modest, but there were no significant differences between the randomized trials with digital health intervention to usual treatment.	Strengths include the study size, limitations include the analysis of articles	High	II

meta-analysis of randomized controlled trials. *American Journal of Obstetrics and Gynecology*, *230*(1), 12–43. https://doi-org.ezproxy.umary.edu/10.1016/j.ajog.2023.06.028								
McNicholas, E., Boama-Nyarko, E., Julce, C., Nunes, A. P., Flahive, J., Byatt, N., & Moore Simas, T. A. (2023). Understanding Perinatal Depression Care Gaps by Examining Care Access and Barriers in Perinatal Individuals With and Without Psychiatric History. *Journal of Women's Health*	Aim of the study was examining how access to perinatal depression care and reported barriers to care differ between perinatal patients that either have had or have no had prior psychiatric history	Secondary analysis of PRSIM study (randomized controlled trial 2017-2022).	The final data set was 280 perinatal individuals who answered questions in the PRISM study on prior psychiatric history.	Self-report surveys. Questions included 1) been screened for perinatal depression during obstetric care, 2) been offered or referred to mental health treatment, and 3) if they accepted or declined treatment	Rates of care were compared between groups with and without psychiatric history during each step of the care pathway (screening, referral, and attendance). Perinatal individuals without a pre-pregnancy psychiatric history were less likely to be screened, referred to, and treated for depression.	Strengths included uniqueness of including previous psychiatric history; study population was diverse. Limitations are due to the data set from PRISM data limiting the analysis.	Moderate	III

(15409996), *32*(10), 1111–1119. https://doi-org.ezproxy.umary.edu/10.1089/jwh.2022.0306								
Bašková, M., Urbanová, E., Ďuríčeková, B., Škodová, Z., & Bánovčinová, Ľ. (2023). Selected Factors of Experiencing Pregnancy and Birth in Association with Postpartum Depression. *International Journal of Environmental Research and Public Health*, *20*(3). https://doi-org.ezproxy.umary.edu/10.3390/ijerph20032624	The main aim of the study was to look at whether antenatal education (satisfaction/attitude toward it), attitude toward pregnancy (unwanted or wanted conception) and support provided during birth (information, emotional, and physical) have significance in level of postpartum depressive symptoms.	Cross-sectional research design	584 postpartum women	Data was analyzed using the Edinburgh Depression Scale; scoring 10 points or higher flagged for elevated levels of depressive symptoms. Subjective perception was done on topics: support during birth, informational support, emotional support, physical support, antenatal education, and attitude toward pregnancy	Study showed an increased risk of postpartum depression symptoms in women that were not satisfied with their antenatal education when compared with those that were satisfied.	Limitation: women were highly educated (demographic); unsure of attendance to antenatal classes (just know enrollment). Next study focuses on satisfaction with education Strengths: used well known screening tool, with significant research	Moderate	III
Arias, M. P., Wang, E., Leitner, K., Sannah, T.,	The aim of the study was to determine if the impact of	Retrospective cohort study	1579- 780 in pre-implementation period and 799 in the	Comparison was between the pre-implementation of telehealth for	90% increased odds of attending a postpartum appointment with telehealth available.	Limitations include retrospective- only studying over a certain timeframe.	Low	IV

Keegan, M., Delferro, J., Iluore, C., Arimoro, F., Streaty, T., & Hamm, R. F. (2022). The impact on postpartum care by telehealth: a retrospective cohort study. *American Journal of Obstetrics & Gynecology MFM*, *4*(3), 100611. https://doi-org.ezproxy.umary.edu/10.1016/j.ajogmf.2022.100611	having telehealth available would increase achievement of postpartum goals		postimplementation period	postpartum care, and post-implementation of telehealth. Secondary analyses were analyzed with goals identified by ACOG with postpartum depression, contraception method and breastfeeding	86.3% compared to 65.1% got screened for ppd in the telehealth group compared to the in office.	ACOG guidelines are not always recorded in chart so the comparison of screening for ppd may not be accurate		
Zhao, L., Chen, J., Lan, L., Deng, N., Liao, Y., Yue, L., Chen, I., Wen, S. W., & Xie, R.-H. (2021). Effectiveness of Telehealth Interventions for Women with Postpartum Depression:	This study aimed to look at the effectiveness of telehealth interventions on PPD and associated maternal mental health problems in the postpartum period (less than or equal to 12 months).	Systematic review of randomized control trials	9 RCTs with a total of 1958 participants	Measurements include depressive symptoms in the telehealth group and the control group, social support in both groups, loneliness in both groups, and anxiety in both groups. EPDS was used to measure scores in the PPD group.	Maternal depression scores were significantly lower in the telehealth group when compared with the control group-anxiety and depression were improved, but improvement of social support and reducing loneliness was less obvious	Strengths: all 9 studies had low risk for bias; sensitivity was conducted using subgroup analysis; both developing countries and developed countries were included. Limitations include many of the studies being self-report measured scales/different scales were used	High	II

Systematic Review and Meta-analysis. *JMIR MHealth and UHealth*, *9*(10), e32544. https://doi-org.ezproxy.umary.edu/10.2196/32544

Literature Synthesis

Upon completing the literature review, each author was responsible for reviewing the articles separately to ensure proper alignment with the PICO question. Evidence from the literature was assessed to identify common themes while also recognizing comprehensive elements of research necessary to understand the gaps in healthcare for postpartum women. Common themes that were present among the articles reviewed include that the screening process relies heavily on tools (e.g., the Edinburgh Postnatal Depression Scale or PHQ-9) instead of an individualized comprehensive assessment; stigma surrounding mental health and mothers persists as a significant obstacle to patients telling their healthcare provider about symptoms; the postpartum period of 12 months is not being met in the healthcare realm with the continuum of care; and there is still a significant gap in educational needs with a focus on the prenatal period of care. It is essential to comprehend the components of a postpartum depression diagnosis, including etiology, pathophysiology, risk factors, diagnostic criteria, and treatment, to understand these themes.

Definition of Postpartum Depression

The pathophysiology of postpartum depression is currently unknown. Postpartum depression (PPD) is depression following the birth of a child and is thought to arise from hormonal and psychological changes, fatigue, and risk factors with genetics. The changes in reproductive hormones are likely related to neuroendocrine pathophysiology for PPD, with emphasis on the hypothalamic-pituitary-adrenal axis function. The hypothalamic-pituitary-adrenal axis (HPA) releasing hormones increases throughout pregnancy and remains elevated up to 12 weeks after childbirth (Mughal et al., 2022). Other sensitive hormone fluctuations include estrogen, progesterone, and other gonadal hormones. Furthermore, multifactorial etiologies

include biologic-genetic components, inflammation, and psychosocial stressors (Domino et al., 2023). Psychological risk factors include a history of depression and anxiety, negative attitude toward pregnancy, and sexual abuse. Social factors include lack of social support, domestic violence, and stressful life events (e.g., marital conflict, emigration, and finances) (Viguera, 2023). Lifestyle also poses a risk for the development of PPD with eating habits, sleep cycle, and level of physical activity (Mughal et al., 2022).

Postpartum depression is prevalent at about 20% among postpartum women, as well as 17% among healthy mothers overall (Shorey et al., 2018). Common symptoms include sleep disorders, mood swings, sadness and crying, loss of appetite, and lack of interest in daily activities; however, outcomes of undertreatment can be suicide or homicide (Zhao et al., 2021). Identification of depression during pregnancy or in the postpartum period (12 months after delivery) is critical, as Modes et al. (2022) emphasize that every pregnancy-associated violent death is preventable. Iturralde et al. (2021) maintain many women's symptoms progress to severe categories before they even realize they require treatment; thus, prevention and early identification are critical. According to the American College of Obstetricians and Gynecologists (ACOG), a validated tool should be used to screen for depression and anxiety symptoms at least once during perinatal time. Additionally, as part of the comprehensive postpartum visit, obstetricians-gynecologists (and other obstetric providers) should conduct a comprehensive assessment of mood and emotional well-being no later than 12 weeks following delivery (ACOG, 2018). Among the more commonly used validated rating scales for universal screening are the Edinburgh Postnatal Depression Scale and the Patient Health Questionnaire-9 (PHQ-9), along with a partner version of the Edinburgh Postnatal Depression Scale (Domino et al., 2023). According to Viguera (2023), a score of 10 or above on the EPDS scale or a score of 5 to 20 on

the PHQ-9 indicates mild-severe postpartum depression (Viguera, 2023). The diagnosis of PPD is made when at least five depressive symptoms are present for at least two weeks. These symptoms lasting most of the day include depressed mood, loss of interest or pleasure, insomnia/hypersomnia, psychomotor retardation or agitation, worthlessness or guilt, loss of energy or fatigue, suicidal ideation or attempt, recurrent thoughts of death, impaired concentration or indecisiveness, and change in weight or appetite (Mughal et al., 2022). Healthcare providers in obstetrics and gynecology should be educated on initiating medical therapy and referring to appropriate behavioral health resources when indicated (ACOG, 2018).

Screening Tools and Timeframe

Screening prenatal and postpartum women for depression reduces depressive symptoms in women with depression as well as reduces the prevalence of depression in a given population. However, Sidebottom et al. (2021) report that providers overestimate the prevalence of their screening. Prenatal screening for depression is highest among family medicine doctors (78.4%), followed by OB-GYNs (64.6%). Postpartum screening is highest in OB-GYNs (71.2%) compared to other providers (58-60%) (Sidebottom et al., 2021). Risk factors for PPD include previous episodes of PPD and a history of mild depressive disorder or anxiety. In addition, physiologic and psychosocial changes in pregnancy and postpartum increase the risks of depression in all individuals, not just those with a psychiatric background (McNicholas et al., 2023). Without a background of mental health problems prior to pregnancy, patients were less likely to be screened perinatally and offered a referral to therapy for perinatal depression. Lack of screening continues amongst certain ethnicities like Black and Native American/Alaska Native, as well as Asian and Latina women (Taiwo et al., 2024). With the advancement in technologies, mediums such as telehealth or application notifications through patient portals can

aid in achieving ACOG's postpartum goals, such as attendance, screening of PPD, contraceptive services, and breastfeeding (Arias et al., 2022). Additionally, research suggests that incentives should be offered for greater adherence to national screening guidelines, reimbursement for screening and treatment programs, increased community health workers, and culture-centered birth centers (Taiwo et al., 2024).

The postpartum period is defined as the first year following childbirth. Manso-Córdoba et al. (2020) propose the solution to continued screening through this timeframe is a requirement of providers (OB-GYNs and pediatricians) specific training on the management of PPD while also emphasizing the importance and guidance on developing a strong relationship between the doctor and patient instead of screening with depression-based tools. Despite efforts to implement universal screening, barriers still exist, such as mothers believing their provider might consider them to be bad parents. In order to de-stigmatize societal views of mental illness, these barriers must be recognized and acknowledged. Furthermore, a sense of responsibility among providers needs to be established to guide comprehensive assessment rather than reliance on scales that often underscore and diagnose symptoms (Prevatt & Desmarais, 2018; Robbins et al., 2023).

Consequences of Untreated Postpartum Depression

As a result of the significant amount of time that passes between the publication of changes in clinical guidelines and the implementation of those changes in the standard of care, there remains a gap in care (Sidebottom et al., 2021). Although evidence-based practice in screening for PPD has been emphasized in the literature, it has been found that follow-through screening and assessment in the first 12 months postpartum is still not being met. As Robbins et al. discovered in their study of postpartum depression, 57.4% of patients who had depressive symptoms at two to six months postpartum had not reported those symptoms until nine to ten

months postpartum. The neglect of interventional screening after three months continues to be a concern, especially among healthy mothers (Shorey et al., 2018).

Mayberry et al. (2007) further emphasize that PPD can last up to two years after delivery. A prolonged lack of treatment for PPD results in severe consequences related to the woman's ability to adjust and can rapidly lead to chronic, recurrent chronic depression. Postpartum depression affects not only the mother's ability to cope with life but also the infant's. Infants have been shown to have lower social engagement, slower maturation in regulatory behaviors, and higher cortisol reactivity (Liu et al., 2022). Bonding between mother and infant impacts the lifelong relationship between the two. Bonding can be significantly impacted by depression in the postnatal period, and women who were depressed were 5.6 times more likely to have bonding impairment at the 6-month postpartum period (Faisal-Cury et al., 2020). Faisal-Cury et al. (2020) found that both mild depression and moderate-severe depression were associated with bonding impairment at 12 months and affected 1:10 women. Patients continue to be undereducated on the results of untreated PPD and the stigma around being a 'bad mother'.

The Mental Health Stigma among Mothers

As it is evident that there is a high demand for postpartum depression services, one of the most critical factors and barriers to consider when working toward improving the diagnosis and treatment of PPD is lowering the stigma associated with mental illness (Manso-Corbodba et al., 2020; Prevatt et al., 2018; Tyokisghir et al., 2022). Several types of stigma prevent patients from seeking and receiving care; two types to consider are self-stigma and treatment stigma. A person's self-stigma is associated with feelings of shame, and a person's treatment stigma is associated with feeling ashamed of seeking mental health treatment (Bodnar-Deren et al., 2017). There are a multitude of barriers related to maternal mental health stigma. One example of a

barrier is cultural messages, shame, or the belief that PPD is incompatible with motherhood. Further, discrimination related to immigration status or child custody are also barriers related to stigma (Bodnar-Deren et al., 2017; Iturralde et al., 2021). Another barrier may include women diagnosed with PPD declining referrals due to stigma surrounding psychiatric treatments (Xue et al., 2020). As a result, the stigma negatively impacts the health of the woman, her infant, and her family. Additionally, patients may be stigmatized by both provider attitudes and service preferences. Women's acceptance of referrals is heavily influenced by provider attitudes. Referrals for treatment are most likely to be accepted by women who feel validated, heard, acknowledged, and supported by their providers. Of the services offered, home visits are the most widely accepted forms of treatment (Zue et al., 2020). Providers can and should address stigma by using standardized screening tools, avoiding language that divides this population, and being aware of the mental health needs of perinatal women (Tyokisghir et al., 2022).

Zhao et al. (2021) coincide stigma and accessibility within the postpartum depression realm, finding that traditional face-to-face psychotherapy continues to be met with gaps as a treatment modality. They suggest that telehealth lessens this stigma, adds accessibility and convenience, and costs less. With evidence of women utilizing available online apps to find informational support, consult specialists, or seek resources for PPD and anxiety, the stigma around these resources shows lesser, with the extension to more of this population being greater (Zhao et al., 2021). Throughout the literature, it is consistently recognized that special healthcare services for mothers with PPD, as well as a reduction of social stigma surrounding mothers, remain in high demand. In order to provide optimum care to women, it is essential to break the chains of stigma. Postpartum depression causes mothers to constantly feel guilt and shame, affecting how often they seek help, thus preventing it from being detected. McNicholas et al.

(2023) highlight these attitudes, finding that about 70% of their participants reported the desire to "solve the problem on (their) own." This was a substantial barrier for the postpartum population, along with concerns about available treatment and believing the problem would improve by itself. Interestingly, McNicholas et al. (2023) observed that these symptoms were more prevalent in mothers without a psychiatric history, which is a neglected subgroup for screening and treatment, as also presented by Shorey et al. (2018). Despite the increased awareness of PPD, it remains underdiagnosed and undertreated, resulting in the unnecessary suffering of women and their families.

There is a need for education regarding the woman's ability to access care along the depression care pathway during this time, with an emphasis on psychoeducation regarding perinatal and postpartum depression (McNicholas et al., 2023). The authors of Sidebottom et al. (2019) suggest that in order to destigmatize depression, the incorporation of depression screening tools, diagnostic assessment, and clinical decision support will help enhance clinical outcomes and help patients accept treatment. It remains essential for providers to pay particular attention to risk factors such as culture and ethnicity. For example, Asian/Pacific Islander (API) women and African American women (Manso-Córdoba et al., 2020) may not seek help due to stigmas associated with mental health and motherhood (Manso-Córdoba et al., 2020). Ultimately, stigma prevents women from receiving treatment and can place them in extremely dangerous situations; therefore, it must be reduced.

Perinatal Educational Necessity

Patients in the perinatal and postpartum periods have a right to receive excellent patient education, which is truly the responsibility of the provider. The screening of PPD is not enough, as it does not address maternal depression effectively (Sidebottom et al., 2021). Further,

ineffective screening tools become void if treatment is not initiated based on scoring. Treatment initiation and referrals to mental health professionals are crucial to properly caring for and managing patients within this population, which requires providers to be well-educated on how to manage postpartum depression. Screening, education, and referrals are ideal in the perinatal period since there are frequent appointments with providers, and the woman has fewer obstacles (Modest et al., 2022). Further, providers educated in perinatal psychoeducation and psychotherapy to prevent PPD have improved patient outcomes, patient acceptance, and can more effectively identify and treat postpartum depression (Lewkowitz et al., 2024; Sidebottom et al., 2021). Additionally, providers who continue and further their education pave the way for stronger patient-provider relationships (Manso-Corbodba et al., 2020). Alternatively, Baková et al. (2023) found that women who were unsatisfied with their antenatal education were more likely to suffer from postpartum depression symptoms. Overall, as a result of interventions such as educating providers, altering electronic medical records, and using standardized exercises for PPD screening, women screening positive are more likely to adhere to screening, accept referrals, and receive treatment (Tyokisghir et al., 2022).

Within the psychological process of pregnancy and postpartum, the transitional changes are met with how the specific woman deals with them. This can be impacted by her personality, definition of her role as a mother and within the family, relationship with the unborn infant, attitude toward pregnancy, socio-economic condition, and her physical condition (Bašková et al. 2023). Because of the physical and psychological aspects, women are increasingly sensitive and prone to depression, moodiness, aggression, fear, and anxiety. If high quality childbirth preparation classes coincide with prenatal care, Bašková et al. (2023) found a positive effect on improving familial relationships, family planning, health habits, stress management, reduction in

anxiety, and postpartum adaptation with successful breastfeeding. Manso-Córdoba et al. (2020) reiterates that obstetric visits and prenatal education classes can be the bridging platform for providing education around postpartum depression. Well-composed education classes for women in the antenatal period of pregnancy can improve the system in aiding women to better recognize the first signs of the development of depression, thus reporting becomes more congruent between provider and patient. Moreover, it is essential to consider social support and develop strategies to enhance it during the postpartum period, including establishing a post-birth plan to ensure that resources are available to the patient, both physically and emotionally (Prevatt et al., 2018). In addition, it is critical for providers to normalize the development of depression within the pregnant or postpartum population as this can aid in open communication. Developing a trusting and comfortable relationship will continue to aid in the communication of symptoms or reassurance the woman might need. Awareness of raising educational interventions can improve the quality of healthcare provided among prenatal and postpartum patients (Manso-Córdoba et al. 2020).

Conclusion

In the past 15 years, postpartum depression has been extensively studied. Currently, universal screening during the first and third trimesters, as well as regular follow-up in the postpartum period, is evidence-based practice. The Edinburgh Postnatal Depressional Scale and the Patient Health Questionnaire-9 are recognized screening tools and do improve postpartum depression treatment outcomes; however, through further review of the literature, it is evident that significant gaps still exist. The prevalence of screening tools is often overestimated by providers, stigmas around mental health and postpartum populations still dominate, and well-designed education classes during the perinatal period are lacking. There continues to be a high

rate of diagnosis among ethnic groups like African Americans, Hispanics, and Native Americans/Alaska Natives, yet treatment continues to be hindered by limited resources and a lack of training for providers in psychoeducation and psychotherapy. The inability to treat postpartum depression adequately may result in impaired mother-infant bonding, as well as physical harm to both mother and infant. A literature review was required for this topic to understand current practices, gaps, and how to influence future practices. As a result of further research, appraisal, and synthesis, gaps were identified within existing guidelines, as well as possible areas of development. Several recommendations found in the literature review are necessary to improve general prevention, diagnosis, and treatment of postpartum depression, including the development of well-thought-out education during the prenatal period to help patients better recognize and feel comfortable reporting the earliest signs of depression; removal of the mental health stigma through education and personal consultation with providers; utilization of telehealth and digital healthcare interventions such as psychotherapy; and completion of thorough assessments in addition to screening tools to help identify depressive symptoms earlier. Ultimately, the perinatal and postpartum periods are new and challenging times for women. Highlighting the current recommendations, gaps, and possible improvements is vital to influencing future practice and improving care for women, infants, and their families.

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