Association Between Perinatal Substance Use and Depression/Anxiety: A Scoping Review

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Purpose: The primary objectives of this systematic scoping review were to identify, evaluate, and report published literature regarding associations between perinatal substance use (PSU) and perinatal depression and anxiety (PDA), and any related maternal/newborn outcomes. The review also identifies research gaps that inform the development of future studies intended to improve the care of childbearing women.

Rationale/Background: The prevalence of substance use and depression/anxiety during pregnancy and postpartum is a population health concern with challenges. According to the World Health Organization, perinatal depression/anxiety (PDA) affects 15.6% of women during pregnancy and 19.8% during the postpartum period. There is limited data available about the true extent of perinatal substance use; however, the National Center on Substance Abuse and Child Welfare reported that approximately 15% of infants are affected by prenatal alcohol or illicit drug exposure. Perinatal substance use (PSU) and PDA contribute to adverse outcomes, such as being small for gestational age, preterm birth, difficult neonatal transition, and impaired child growth and development. However, the outcomes related to PSU and PDA are typically investigated independently without consideration for the associations that may exist between the two. Limited evidence exists regarding the relationship between PDA and PSU.

Methods: This scoping review included search of the research literature in PubMed, the Cumulative Index to Nursing and Allied Health Sciences (CINAHL), MEDLINE, and EMBASE. The search terms included: maternal mental health, maternal, substance use, substance abuse, postpartum, perinatal, mental health, opioid, alcohol, methamphetamine, addiction, dependence, pregnancy, depression, anxiety, bipolar disorder, post-traumatic stress disorder (PTSD). A search and review protocol was developed based on the Joanna Briggs Institute (JBI); Methodology for JBI Scoping Reviews, and the Arksey and O’Malley framework described in the JBI was used. A scoping review is an approach of analyzing literature and it ultimately aggregates knowledge, leverages several study designs, and summarizes the findings. Scoping reviews emphasize findings on topics that have limited studies. Inclusion criteria: all peer-reviewed studies published between 2009-2019, primary research, all geographical areas, in English. Exclusion criteria: Non-English language, postpartum psychosis, commentaries, and non-systematic reviews.

Results: Based on the electronic search used multiple databases a total of 369 studies were identified. After removing duplicate studies and screening with inclusion and exclusion criteria to the abstracts, 24 studies remained. Those 24 studies went through full texts review, and a total of 14 studies were identified and evaluated for study quality. Types of studies from extracted studies were following; one qualitative study with ground theory approach, four cross-sectional studies, three secondary data analyses, one prospective observational study, two retrospective chart reviews, one epidemiologic study, one retrospective cohort study, and one systematic review. Substances of
abuse/use included opioid, methamphetamines, and alcohol. However, the majority of studies included assessment of polysubstance, including, but not limited to alcohol, cocaine, cannabis, crack cocaine, heroin, methamphetamine, tobacco, caffeine, and benzodiazepine. General terms, such as illicit substances and illegal drugs, were used. For perinatal mental health, only one study was evaluated specifically for postpartum depression, and others included depression and/or anxiety during pregnancy and postpartum. A majority of studies indicated that women with PSU have a higher risk of PDA, and women experiencing PDA have a higher risk of PSU. For example, one study reported 64.4% of opioid-dependent pregnant women screened positive for one or more psychiatric symptoms: 40% anxiety, 33% major depressive disorder, and 48.6% mood disorder. Another study reported that 48% of U.S. childbearing women who report methamphetamine use had a psychiatric diagnosis. Furthermore, having a psychiatric diagnosis significantly increased the odds (OR 2.67, CI 1.63-4.35) of having a substance use disorder. Some studies indicate that women with polysubstance use have higher odds of having a comorbid perinatal mental health condition. In addition, results of one study suggest a positive correlation between the severity of PDA and substance use. Lastly, one study found a relationship between PSU and PDA, and adverse newborn outcomes, such as low birthweight.

**Conclusion/Nursing Implications:** A majority of studies suggest that women with PSU have a higher risk of PDA and vice versa. Among women with PSU, polysubstance use confers a higher risk of PDA. Limited studies are available for infant outcomes, but indicate an association between low birthweight, and both PSU and PDA. Most women reduce or eliminate substance use when they become aware that they are pregnant, typically early in the pregnancy. However, some women find it difficult, or even impossible to stop substance use due to dependence or addiction. Perinatal depression, anxiety, and other mental health conditions can present a major challenge to a woman’s ability to address substance use. Pregnancy can be a motivating time for a woman to seek treatment associated with PSU and PDA. It is imperative for these women to receive care that addresses both PSU and PDA in order to optimize pregnancy and child health outcomes. Comprehensive multi-disciplinary services are needed to address the complex healthcare needs of childbearing women with mental health conditions and substance dependency, in addition to the physical, socioeconomic, and family needs encountered during pregnancy and postpartum. Future studies are needed to explore current treatment and screening gaps/needs in this population. The results of this study contribute to identifying the relationships between two serious health concerns experienced by 15-20% of childbearing women. Furthermore, the results facilitate identification of gaps in knowledge, guide future research studies, and may ultimately contribute to improving the health outcomes for childbearing women and their families.

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References:


Zhao, L., McCauley, K., & Sheeran, L. (2017). The interaction of pregnancy, substance use and mental illness on birthing outcomes in Australia. Midwifery, 54, 81-88. doi:10.1016/j.midw.2017.08.007

Abstract Summary:
Limited evidence exists regarding the relationship between perinatal substance use (PSU) and perinatal depression/anxiety (PDA), although negative outcomes on PSU and PDA are well documented individually. This scoping review identifies associations between PSU and PDA and research gaps that inform development of future studies to improve care of childbearing women.

Content Outline:
1. Background
2. Prevalence of Perinatal Substance Use (PSU) and Perinatal Depression and Anxiety (PDA)
3. Outcomes of PSU and PDA
4. Current Research Gaps in PSU and/or PDA Studies
5. Purpose
6. First Objective
7. Second Objective
   • Methods
1. Search Methodology
2. Inclusion and Exclusion Criteria
1. Results
1. Results of the Scoping Review
2. Conclusion
1. Conclusion
2. Clinical Implications

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