https://doi-ds.org/doilink/06.2025-16274424/GIJNR
Glorious International Journal of Nursing Research
(An International Peer-Reviewed Refereed Journal)
ISSN: 2583-9713 www.gloriousjournal.com

Psychotropic Medications in Pregnancy and Lactation: A Risk-Benefit Review

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Article Information:

Type of Article: *Review Article* **Received On:** 10/05/2025

Accepted On: 10/06/2025 **Published On**:20/06/2025

Abstract: The use of psychotropic medications during pregnancy and lactation presents a complex clinical challenge, requiring a careful balance between maternal mental health and fetal or neonatal safety. Mental health disorders such as depression, anxiety, bipolar disorder, and schizophrenia are prevalent among women of childbearing age, and untreated illness can lead to adverse outcomes for both mother and child. However, concerns about teratogenicity, neonatal adaptation syndrome, and long-term neurodevelopmental effects often lead to hesitation in prescribing or continuing psychotropic medications during these critical periods. This review explores the classification of psychotropic drugs, their pharmacokinetics, associated risks, and the consequences of untreated maternal mental illness. It also evaluates the safety and efficacy of various medication classes, the implications of drug transfer through breast milk, and the importance of individualized clinical decision-making. The role of nurses in patient education, monitoring, and advocacy is emphasized, along with cultural and ethical considerations that influence treatment adherence. Despite growing evidence, significant gaps remain in research, particularly regarding long-term infant outcomes and the safety of newer medications. This review underscores the need for interdisciplinary collaboration and evidence-based guidelines to optimize maternal and infant health while minimizing potential risks.

Keywords: Psychotropic Medication, Pregnancy and Lactation, Risk-Benefit Analysis, Maternal Mental Health, Fetal and Neonatal Outcomes.

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Introduction

Psychiatric disorders are among the most common complications during pregnancy and the postpartum period, affecting up to 20% of women globally. Conditions such as major depressive disorder, generalized anxiety disorder, bipolar disorder, and psychosis can significantly impair maternal functioning and pose risks to fetal development and neonatal outcomes. The decision to initiate or continue psychotropic medications during pregnancy and lactation is often fraught with uncertainty, as clinicians must weigh the potential teratogenic and neonatal risks of pharmacotherapy against the dangers of untreated maternal mental illness. Historically, pregnancy was believed to offer a protective effect against psychiatric symptoms; however, contemporary research has debunked this notion, revealing that hormonal fluctuations, psychosocial stressors, and sleep disturbances can exacerbate preexisting mental health conditions or trigger new episodes. Similarly, the postpartum period is a time of heightened vulnerability, with increased risk for mood disorders, particularly postpartum depression and psychosis.

Despite the availability of psychotropic medications with relatively favorable safety profiles, many women discontinue treatment due to fear of harming the fetus or infant. This discontinuation can lead to relapse, poor prenatal care, substance use, and even suicide. Therefore, a nuanced understanding of the pharmacological properties, safety data, and clinical guidelines is essential for informed decision-making. This review aims to provide a comprehensive overview of psychotropic medication use during pregnancy and lactation, focusing on classification, risk-benefit analysis, and interdisciplinary care strategies. It also highlights the critical role of nurses and the need for culturally sensitive, ethically sound approaches to maternal mental health management.

Classification of Psychotropic Medications

Psychotropic medications are a diverse group of pharmacological agents used to treat mental health disorders by altering brain chemistry and influencing mood, perception, behavior, and cognition. These medications are broadly classified into five major categories: antidepressants, antipsychotics, mood stabilizers, anxiolytics (anti-anxiety agents), and stimulants. Each class targets specific neurotransmitter systems and is used based on the nature and severity of the psychiatric condition.

1. Antidepressants Antidepressants are primarily prescribed for depressive disorders, anxiety disorders, and certain chronic pain conditions. They are subdivided into several classes:

- *Selective Serotonin Reuptake Inhibitors (SSRIs)*: These include fluoxetine, sertraline, and citalopram. SSRIs increase serotonin levels in the brain and are generally considered safe during pregnancy, though some concerns remain about neonatal adaptation syndrome.
- *Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)*: Examples include venlafaxine and duloxetine. These medications affect both serotonin and norepinephrine and are used for depression and anxiety.

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- *Tricyclic Antidepressants (TCAs)*: Such as amitriptyline and nortriptyline, TCAs are older agents with more side effects but may be used when SSRIs are ineffective.
- *Monoamine Oxidase Inhibitors (MAOIs)*: These include phenelzine and tranylcypromine. Due to dietary restrictions and potential drug interactions, MAOIs are less commonly used.
- *Atypical Antidepressants*: Bupropion and mirtazapine fall into this category and offer alternative mechanisms of action.

2. Antipsychotics Antipsychotics are used to manage schizophrenia, bipolar disorder, and severe depression with psychotic features. They are divided into:

- *Typical (First-Generation) Antipsychotics*: Such as haloperidol and chlorpromazine, which primarily block dopamine receptors.
- *Atypical (Second-Generation) Antipsychotics*: Including risperidone, olanzapine, and quetiapine, these agents affect both dopamine and serotonin pathways and are generally preferred due to a lower risk of extrapyramidal side effects.

3. Mood Stabilizers Mood stabilizers are essential in the treatment of bipolar disorder. The most well-known is lithium, which has a narrow therapeutic index and potential teratogenic effects. Other mood stabilizers include anticonvulsants like valproate, carbamazepine, and lamotrigine. These agents help regulate mood swings and prevent manic or depressive episodes.

4. Anxiolytics and Hypnotics These medications are used to treat anxiety disorders and insomnia. Benzodiazepines such as lorazepam and diazepam are effective for short-term relief but carry risks of dependence and sedation. Non-benzodiazepine anxiolytics like buspirone offer a safer long-term alternative. Hypnotics, including zolpidem, are used for sleep disturbances but should be used cautiously during pregnancy.

5. Stimulants Stimulants such as methylphenidate and amphetamines are primarily used to treat attention-deficit/hyperactivity disorder (ADHD). They increase dopamine and norepinephrine activity in the brain. While effective, their use during pregnancy is controversial due to potential fetal growth concerns.

Each class of psychotropic medication has unique pharmacological properties, benefits, and risks. Understanding these distinctions is essential for clinicians to make informed decisions, especially when treating pregnant or lactating individuals where both maternal and fetal safety must be considered.

Teratogenic and Neonatal Risks

The use of psychotropic medications during pregnancy raises significant concerns regarding teratogenicity and neonatal outcomes. Teratogenic risks refer to the potential of a substance to cause congenital malformations or developmental abnormalities in the fetus. While no

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psychotropic drug is considered entirely risk-free, the degree of teratogenicity varies by medication class, dosage, and timing of exposure—particularly during the first trimester when organogenesis occurs. Some mood stabilizers, such as valproate and carbamazepine, have been associated with neural tube defects and craniofacial anomalies. Lithium, though effective for bipolar disorder, carries a small but notable risk of cardiac malformations, particularly Ebstein's anomaly. Antidepressants, especially SSRIs, are generally considered safer, though late-pregnancy exposure may lead to neonatal adaptation syndrome, characterized by respiratory distress, irritability, and feeding difficulties. Benzodiazepines, when used in high doses or near delivery, may cause sedation, hypotonia, or withdrawal symptoms in newborns.

Despite these risks, abrupt discontinuation of medication can be more harmful than continued use, especially in severe psychiatric conditions. Therefore, risk-benefit analysis must be individualized, weighing the potential for fetal harm against the consequences of untreated maternal illness. Ongoing research and careful monitoring are essential to optimize outcomes for both mother and child.

Risks of Untreated Maternal Mental Illness

While the risks of psychotropic medications during pregnancy are often emphasized, the consequences of untreated maternal mental illness can be equally—if not more—concerning. Depression, anxiety disorders, bipolar disorder, and other psychiatric conditions, when left unmanaged, can have serious ramifications for both maternal and fetal health.

Untreated depression during pregnancy is associated with poor prenatal care adherence, inadequate nutrition, substance misuse, and increased risk of suicide—the leading cause of maternal mortality in some regions. Women experiencing severe anxiety or psychosis may also exhibit impaired judgment or neglect self-care, thereby affecting the health and safety of both mother and fetus. Persistent psychological distress increases the likelihood of preterm birth, low birth weight, and complications such as gestational hypertension.

The postpartum period carries additional risks. Postpartum depression can interfere with mother–infant bonding, leading to difficulties in infant care and long-term developmental challenges. Infants may experience cognitive delays, behavioral problems, and difficulties with emotional regulation. In extreme cases, postpartum psychosis poses risks of harm to both mother and child if not urgently treated.

Moreover, psychiatric disorders impact not only individual health but also family dynamics. Unaddressed mental illness can strain relationships, contribute to partner conflict, and reduce social support—all factors that intensify maternal stress.

Given these significant consequences, the decision to withhold or discontinue psychotropic treatment must be carefully evaluated. In many cases, maintaining stable maternal mental health through a safe pharmacologic regimen can greatly outweigh potential risks, emphasizing the importance of individualized, evidence-based care.

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Safety and Efficacy by Medication Class

Evaluating the safety and efficacy of psychotropic medications during pregnancy and lactation requires a nuanced, evidence-based approach. Each medication class presents a unique risk-benefit profile, and treatment decisions must consider both maternal mental health needs and fetal or neonatal safety. Antidepressants, particularly selective serotonin reuptake inhibitors (SSRIs), are the most commonly prescribed during pregnancy. Fluoxetine and sertraline have shown relatively favorable safety profiles and are often considered first-line agents. However, late-pregnancy exposure may increase the risk of neonatal adaptation syndrome. Tricyclic antidepressants (e.g., nortriptyline) may be used as alternatives, though their anticholinergic side effects warrant caution. Limited data on serotonin-norepinephrine reuptake inhibitors (SNRIs) suggest they may be safe with monitoring, while monoamine oxidase inhibitors (MAOIs) are generally avoided due to their interaction risks.

Antipsychotic medications are crucial for managing schizophrenia and severe mood disorders. Among atypical antipsychotics, quetiapine and olanzapine have demonstrated acceptable safety in pregnancy, with minimal teratogenic risk. However, concerns persist regarding gestational diabetes and increased neonatal weight. First-generation antipsychotics like haloperidol have been used with limited adverse outcomes but carry a higher risk of extrapyramidal symptoms.

Mood stabilizers, particularly lithium, are effective in managing bipolar disorder. Lithium's use during the first trimester is associated with a small increased risk of cardiac anomalies; however, recent data suggest that the absolute risk is lower than once believed. Valproate and carbamazepine are associated with significant teratogenic risks, including neural tube defects, and are generally contraindicated unless no alternatives exist. Lamotrigine appears safer among anticonvulsants but requires dosage monitoring due to altered pharmacokinetics in pregnancy. Benzodiazepines (e.g., lorazepam, diazepam) are effective for acute anxiety and insomnia but should be limited due to risks of sedation, neonatal withdrawal, and potential congenital malformations. When necessary, short-term and low-dose regimens are preferred.

In summary, while many psychotropic medications can be used safely during pregnancy and lactation, treatment must be individualized. The risks of untreated psychiatric illness often outweigh those associated with judicious medication use. Close monitoring, informed consent, and shared decision-making are critical to optimizing outcomes for both mother and child.

Use of Psychotropic During Lactation

The postpartum period is a time of heightened vulnerability to psychiatric disorders, and many women require continued pharmacologic treatment while breastfeeding. The use of psychotropic medications during lactation presents a clinical dilemma, as most psychotropics are excreted into breast milk to varying degrees. However, the presence of a drug in breast milk does not automatically imply harm to the infant. The decision to continue medication must weigh the benefits of maternal mental health stability against the potential risks of infant

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exposure. Selective serotonin reuptake inhibitors (SSRIs), particularly sertraline and paroxetine, are among the most studied antidepressants in lactating women and are generally considered compatible with breastfeeding due to their low infant serum levels and minimal reported adverse effects. Fluoxetine, while effective, has a longer half-life and may accumulate in infants, warranting closer monitoring. Among antipsychotics, olanzapine and quetiapine have shown relatively low transfer into breast milk and are often preferred. Mood stabilizers such as valproate and carbamazepine are excreted in low concentrations and are considered acceptable with infant monitoring, while lithium poses a higher risk due to significant milk transfer and the need for regular infant serum level checks. Benzodiazepines, when used short-term and at low doses, may be compatible with breastfeeding, but prolonged use can lead to sedation and feeding difficulties in infants. Non-benzodiazepine anxiolytics like buspirone have limited data but may offer safer alternatives. Clinical guidelines emphasize individualized risk-benefit assessments, considering factors such as the drug's half-life, milk-to-plasma ratio, and the infant's age and health status. Shared decision-making, close monitoring of the infant, and collaboration between psychiatry, pediatrics, and lactation consultants are essential to ensure both maternal well-being and infant safety.

Clinical Decision-Making and Guidelines

Clinical decision-making regarding psychotropic medication use during pregnancy and lactation requires a nuanced, individualized approach grounded in current evidence and patient-centered care. Healthcare providers must weigh the potential risks of fetal or neonatal exposure against the consequences of untreated maternal mental illness. This process involves evaluating the severity of the psychiatric condition, the safety profile of the medication, the timing of exposure during gestation, and the patient's treatment history and preferences.

Professional organizations such as the American Psychiatric Association (APA) and the American College of Obstetricians and Gynecologists (ACOG) provide evidence-based guidelines to support clinicians in making informed decisions. These guidelines emphasize shared decision-making, where patients are actively involved in understanding the risks and benefits of treatment options. Tools such as risk-benefit assessment models and decision aids can facilitate these discussions and promote adherence to treatment plans. Multidisciplinary collaboration is essential, involving psychiatrists, obstetricians, pediatricians, and mental health nurses to ensure continuity of care. Regular monitoring of maternal symptoms and fetal or infant development is recommended throughout treatment. Ultimately, clinical decisions should prioritize both maternal well-being and infant safety, recognizing that maintaining maternal mental health is a critical component of perinatal care.

Role of Nurse in Medication

Nurses play a pivotal role in the safe and effective use of psychotropic medications during pregnancy and lactation. As frontline caregivers, they are responsible for administering medications, monitoring for side effects, and ensuring adherence to prescribed regimens. Their

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close interaction with patients allows them to assess mental status changes, identify early signs of adverse drug reactions, and provide timely interventions. Beyond clinical duties, nurses serve as educators and advocates. They help patients understand the purpose, benefits, and potential risks of psychotropic medications, fostering informed decision-making. This is especially important during pregnancy and breastfeeding, when concerns about fetal and infant safety may lead to noncompliance or abrupt discontinuation.

Nurses also collaborate with interdisciplinary teams—including psychiatrists, obstetricians, and pediatricians—to develop individualized care plans. Their empathetic communication and culturally sensitive approach help build trust, reduce stigma, and support maternal mental health. In this way, nurses are essential to optimizing outcomes for both mother and child.

Cultural and Ethical Considerations

Cultural beliefs and ethical values significantly influence decisions regarding psychotropic medication use during pregnancy and lactation. In many cultures, mental illness is stigmatized, leading to reluctance in seeking psychiatric care or adhering to prescribed treatments. Patients may prefer traditional remedies or spiritual interventions over pharmacological options, which can affect treatment outcomes. Nurses and clinicians must approach care with cultural humility, recognizing diverse health beliefs and fostering open, respectful communication. Ethically, the principle of autonomy requires that pregnant and lactating individuals receive comprehensive, unbiased information to make informed decisions about their treatment. Balancing maternal well-being with fetal or infant safety involves navigating complex moral terrain, especially when evidence is limited or conflicting. Shared decision-making, grounded in empathy and cultural sensitivity, is essential to uphold patient dignity and trust.

Gaps in Research and Future Directions

Despite growing interest in the safety of psychotropic medications during pregnancy and lactation, significant research gaps persist. Many existing studies are limited by small sample sizes, retrospective designs, and ethical constraints that restrict randomized controlled trials in pregnant populations. As a result, data on long-term neurodevelopmental outcomes in children exposed to psychotropics in utero or through breast milk remain inconclusive.

There is also a lack of comprehensive research on newer psychotropic agents, including atypical antipsychotics and novel antidepressants, which are increasingly prescribed but not well studied in perinatal populations. Additionally, most available data are derived from high-income countries, limiting generalizability to diverse cultural and socioeconomic contexts. Future research should prioritize longitudinal studies that track maternal and child outcomes over time, with a focus on developmental, behavioral, and cognitive effects. Pharmacogenomic studies may also help identify individual risk profiles, enabling more personalized treatment plans. Moreover, there is a need for standardized guidelines on medication tapering, switching, and re-initiation during pregnancy and postpartum. Collaborative, interdisciplinary research involving psychiatry, obstetrics, pediatrics, and pharmacology is essential to close these

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knowledge gaps. By addressing these limitations, future studies can better inform clinical decision-making and support safer, more effective mental health care for mothers and their children.

Conclusion

The management of mental health disorders during pregnancy and lactation requires careful, evidence-based consideration. Psychotropic medications, while essential for many women's well-being, pose potential risks to fetal and neonatal development. However, the consequences of untreated maternal mental illness—ranging from poor prenatal outcomes to long-term developmental impacts on the child—can be equally or more detrimental. A nuanced, individualized approach is vital in achieving optimal outcomes. This review has highlighted the complexity of prescribing psychotropic medications during these sensitive periods. Each class of medication presents unique safety profiles, necessitating informed, collaborative clinical decision-making. The involvement of interdisciplinary teams—including nurses, psychiatrists, obstetricians, and pediatricians—is key to ensuring comprehensive care. Nurses, in particular, serve as vital advocates, educators, and caregivers, promoting medication adherence and emotional support while navigating ethical and cultural considerations. Continued research is needed to bridge existing knowledge gaps and better understand long-term effects. Developing personalized treatment frameworks, improving global data representation, and increasing access to accurate information will support safer clinical practice. Ultimately, by balancing risks and benefits and placing the patient's mental health at the center of care, healthcare providers can protect and promote both maternal and infant health throughout the perinatal journey.

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