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Comprehensive Review on Post Partum Depression

Ahasana k.k[1], Fathima Asmas[1] Sinu Thasneem P.K[1], Asheeqa Saina P.P[1], Fathima Ayyoob .M[1], Ms.Anjali C.S[2], Dr.Shaji George[3], Dr.Sirajudheen M.K[4]

[1]*B.Pharm 7th Semester Students, Deptssss. of Pharmacy Practice, Jamia Salafiya Pharmacy College, Pulikkal, Malappuram Dt, Kerala, India.*

[2]*Associate Professor, Dept. of Pharmacy Practice, Jamia Salafiya Pharmacy College, Pulikkal, Malappuram Dt, Kerala, India.*

[3]*professor &Head, Dept. of Pharmacy Practice, Jamia Salafiya Pharmacy College, Pulikkal, Malappuram Dt, Kerala, India.* [4]*Principal, Jamia Salafiya Pharmacy College, Pulikkal, Malappuram Dt, Kerala, India.*

Corresponding Author:Anjali C.S Associate Professor, Jamia Salafiya Pharmacy College, Pulikkal, Malappuram,Kerala

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ABSTRACT

Postpartum depression (PPD) is a widespread and severely incapacitating mental illness that affects a large number of women globally. The complicated impacts of PPD on mothers and babies are the subject of this review paper, which focuses on maternal care. Women are more susceptible to the start of PPD during the crucial phase of transitioning to motherhood, which is marked by a number of physical, psychological, and social changes. As a result, PPD may considerably impair a mother's capacity to give her child the best care possible, which may have unfavorable effects on both of them. The paper summarizes the body of research that has already been done on the subject and includes studies from a variety of fields, including as psychiatry, psychology, obstetrics, and pediatrics. It starts out by giving a general summary of the risk factors and prevalence of PPD and highlighting the significance of early detection and intervention.The impact of PPD on maternal caregiving behaviours, such as bonding, sensitivity, and responsiveness, is then examined, highlighting the potential disruptions in the mother-infant relationship. Furthermore, the article delves into the potential consequences of impaired maternal care on infant development, including emotional, cognitive, and social domains. Several factors contributing to the complex interplay between PPD and maternal care are discussed, including hormonal changes, psychosocial stressors, and the influence of social support networks. The review also addresses the bidirectional nature of the mother-infant relationship, whereby infant characteristics and behaviours can exacerbate or mitigate the effects of PPD on maternal care.

I. INTRODUCTION

The impact of PPD on maternal caregiving behaviours, such as bonding, sensitivity, and responsiveness, is then examined, highlighting the potential disruptions in the mother-infant relationship[1,2].Furthermore, the article delves into the potential consequences of impaired maternal care on infant development, including emotional, cognitive, and social domains. Several factors contributing to the complex interplay between PPD and maternal care are discussed, including hormonal changes, psychosocial stressors, and the influence of social support networks[3,4]. The review also addresses the bidirectional nature of the mother-infant relationship, whereby infant characteristics and behaviours can exacerbate or mitigate the effects of PPD on maternal care[5].

Postpartum depression (PPD) is a debilitating mental disorder with prevalence rates ranging from 0.5 to 60.8% worldwide. It is classified by the Diagnostic and Statistical Manual of Mental Disorders IV-TR and the International Statistical Classification of Diseases and Related Health Problems ICD-10. The DSM IV-TR identifies PPD as a major depressive disorder with symptoms beginning within 4 weeks postpartum, while the ICD-10 defines it as a mild mental and behavioral disorder. Clinical symptoms include depressed mood, diminished pleasure, insomnia, weight loss, agitation, energy loss, feelings of worthlessness, self-confidence issues, and suicidal ideation.

Maternal depression affects infants differently than non-depressed mothers, leading to impaired communication, less positive facial expression, and less physical affection. Infants of depressed mothers also experience impaired

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maternal-child interactions, poorer physical growth, lower cognitive development, behavioral problems, and higher psychiatric disorder risk.

Pregnancy-postpartum depression (PPD) is a psychological disorder characterized by physiological changes during pregnancy and postpartum. These changes may include nutritional deficiencies, iron-deficiency anemia, hormonal fluctuations, abnormal biopterin or neopterin levels, alterations in hypothalamic-pituitary-adrenocortical mechanisms, and neurotransmitter levels. Psychological models related to PPD include cognitive, behavioral, learned helplessness, and self-control. Cognitive models suggest that depressed women have negative self-perceptions, behavioral models suggest diminished positive reinforcements, learned helplessness models suggest past events lead to future failure, and self-control models suggest depression stems from disturbances in self-control processes.

Given that depressive women are less likely to seek professional help, the most effective ways of dealing with PPD are prevention interventions and early detection of the depressive symptoms. Identifying risk factors of PPD enables early recognition of high-risk populations and provision of timely prevention interventions[6]. Beck (2001) conducted a metanalysis on 84 existing studies to determine the magnitude of the relationships between PPD and its risk factors. Thirteen significant risk factors were identified; 10 of which had moderate effect sizes and 3 had small effect sizes[7]. The former included factors such as prenatal depression, low self-esteem, poor marital relationship, history of previous depression, infant's difficult temperament, and maternity blues[8]. The latter encompassed low socioeconomic status, being a single parent, and unplanned/unwanted pregnancy. Furthermore, Raid and Meadows-Oliver (2007) reviewed 12 research articles examining postpartum depression in adolescent mothers and reported that family conflict, fewer social support, and low self-esteem were significant risk factors[9].

Postpartum depression (PPD) shares similarities with depression, especially during pregnancy and the postpartum phase. Nearly 80% of postpartum women experience emotional disturbances in the first few days after childbirth, with symptoms attributed to depression such as disturbed appetite, lack of sleep, and low energy levels. It's difficult to separate symptoms from depressive conditions. Symptoms can last for two years, with 50% experiencing major depression throughout the postpartum period[10]. A comparison of symptoms between postpartum blues, depression, and psychosis is provided in Table Table1.

Comparison of symptoms between postpartum blues, postpartum depression, and postpartum psychosis.

Postpartum blues	Postpartum depression	Postpartum psychosis
Affects up to 80% mothers	Affects between 10% and 15% of new mothers	Affects one to two out of of new 1000 new mothers
Crying	Persistent sadness	Auditory and visual hallucinations
Sadness	Poor concentration	Paranoia
Anxiety	Feelings of worthlessness and guilt	Anxiety

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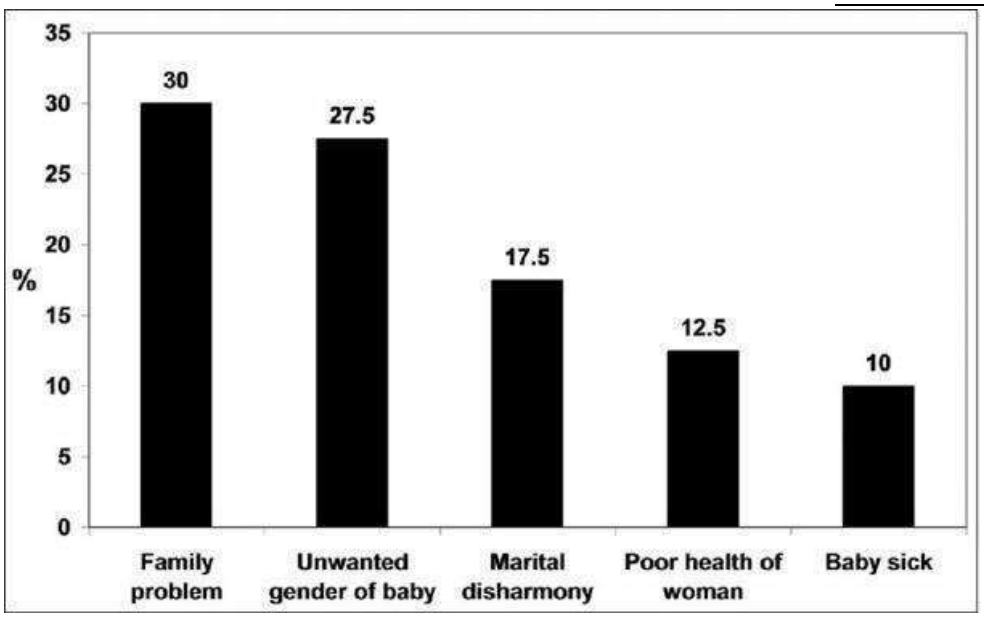
			Agitation
Irritability	Irritability		
			Insomnia
Insomnia	Anhedonia		
Insomnia	Suicidal homicidal or thoughts		
			Bizarre delusions or commands to harm the infant
	Hypersomnia		
Mood lability			



Comparison of symptoms between postpartum blues, postpartum depression, and postpartum psychosis.

ETIOLOGY

Postpartum blues can be caused by various risk factors, including menstrual cycle-related mood changes, major depression, multiple lifetime pregnancies, or family history of postpartum depression. However, factors like low economic status, ethnic background, gravidity status, planned vs. unplanned pregnancy, spontaneous vs. IVF, delivery type, family history of mood disorders, or past postpartum depression do not predispose patients to the condition[11,12].

Hormonal changes, such as a drastic decrease in estradiol, progesterone, and prolactin, are suggested as a primary cause of postpartum mood changes, which are also observed during menstrual cycle phases, such as premenstrual dysphoric disorder[13].

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PREVALENCE OF POSTPARTUM DEPRESSION

A study found that women with postpartum blues often have higher predisposing factors such as prenatal depressive symptoms, a history of depression, and menstrual-related mood changes.Studies suggest that postpartum blues may be influenced by elevated monoamine oxidase levels or decreased serotoninergic activity, potentially leading to a woman's health issues[14,15].

Postpartum depression prevalence in Indian mothers was 22%, with 19% in the remaining 30 studies after excluding eight studies that included women reporting depression within 2 weeks of delivery.

The highest prevalence of the disease was found in the southern region of India, followed by eastern, south-western, and western regions. The northern region had the lowest prevalence. The prevalence was higher in hospital settings (23%) than in community settings (17%), and in urban versus rural areas (24% versus 17%). The prevalence was 20% and 21% when studies with mean maternal age of ≤ 25 years and > 25 years were pooled.

CURRENT TREATMENT OF PPD

Pharmacotherapy:

Therapeutic interventions for Parkinson's disease (PD) are largely adapted from MDD treatment, as there are no approved pharmacotherapies for PPD. RCT data on PPD pharmacotherapy is reviewed, and a comprehensive review of treatment considerations is provided for PPD patients. The evidence base is applied in patient care[16].

Acute treatment:

Selective Serotonin Reuptake Inhibitors (SSRIs) are typically the first-line therapy for moderate-to-severe postpartum depression (PPD)[17-21]. Despite mixed results in antidepressant efficacy, there is a general consensus supporting the use of SSRIs in PPD, with no PPD RCTs testing efficacy during pregnancy[21-24].

Escitalopram, fluvoxamine, citalopram, and vilazodone are not available in research-based treatment for post-partum depression (PPD)[19,20]. Sertraline is the most effective SSRI in PPD treatment. A meta-analysis of three studies found that patients randomized to SSRI treatment were more likely to show response or remission of PPD at follow-up[18,21,22]. However, data was limited for other comparisons, making meta-analyses impossible[25]. A systematic review found that SSRIs, nortriptyline, and psychotherapy are effective for acute PPD treatment, but there is not enough evidence to demonstrate a clear superiority[26].

SNRI AND OTHER ANTIDEPRESSANT

The use of SNRIs like venlafaxine, duloxetine, milnacipran, and desvenlafaxine in treating PPD is not yet supported by RCT level data. Open-label trials suggest venlafaxine and desvenlafaxine may lead to symptom resolution. No RCT level data exists for bupropion, mirtazapine, trazodone, or nefazodone[28,29,30].

TRICYCLIC ANTIDEPRESSANT AND MONOAMINE OXIDASE INHIBITORS

Nortriptyline is the only TCA studied in a controlled trial for PPD, and no RCT level data exists for MAOIs like Estradiol and Progestin Interventions for PPD treatment[23].

Sex and reproductive hormones play a role in brain function and affective disorders. Studies have explored the use of estradiol and progestin-based therapeutic interventions in postpartum depression (PPD)[31,32]. An RCT compared transdermal 17β-estradiol patches with placebo patches for severe PPD treatment. Women receiving estrogen showed faster improvement in depressive symptoms, but neither treatment nor control group achieved complete symptom remission. A recent randomized trial compared postpartum transdermal 17β-estradiol vs sertraline or placebo, but was stopped early due to lower estradiol serum levels. Future research should explore transdermal 17β-estradiol treatment[33,34,35].

Controlled trials have shown that synthetic progestin-based contraception, such as norethisterone enanthate and depot medroxyprogesterone acetate, can increase postpartum depressive symptoms compared to placebo or intrauterine devices[36,37]. A retrospective review found no association. A recent Cochrane systematic review concluded that synthetic progestogens should not be used to prevent postpartum depression and should be used with caution in postpartum women[38,39].

The current evidence on antidepressant treatment for Postpartum Depression (PPD) is limited due to a small number of RCTs, underpowered sample sizes, and lack of long-term follow-up or child outcomes. Response and remission rates vary significantly, and many studies exclude women with severe depression or suicidal ideation, limiting their generalizability in clinical practice. Estradiol and progestin-based

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interventions are in their infancy and require further study[39].

II. CONCLUSION

Peripartum psychiatric disorder (PPD) is a common and severe condition with numerous effective treatments, including pharmacological, psychological, psychosocial, and neuromodulation interventions. However, most treatments are understudied, especially in RCT, and there is a significant underutilization of available treatments in the community. Despite increased awareness, stigma exists against women seeking treatment, especially in low socioeconomic countries where mental health may not be prioritized. The complexity of PPD treatment necessitates integrative work among multiple health service providers, including obstetrics, psychiatry, paediatrics, and nursing/midwifery. Reproductive psychiatric tutorials should be widely spread within psychiatry in residency and fellowship programs. Novel therapeutics targeting the disorder's underlying pathophysiology are needed, and access to existing treatments should be expanded and improved. The underlying neurobiology of PPD is still poorly understood, despite increased research into its causes. Understanding the neurobiology of PPD can help detect, diagnose, and treat PPD more effectively during pregnancy and postpartum.

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