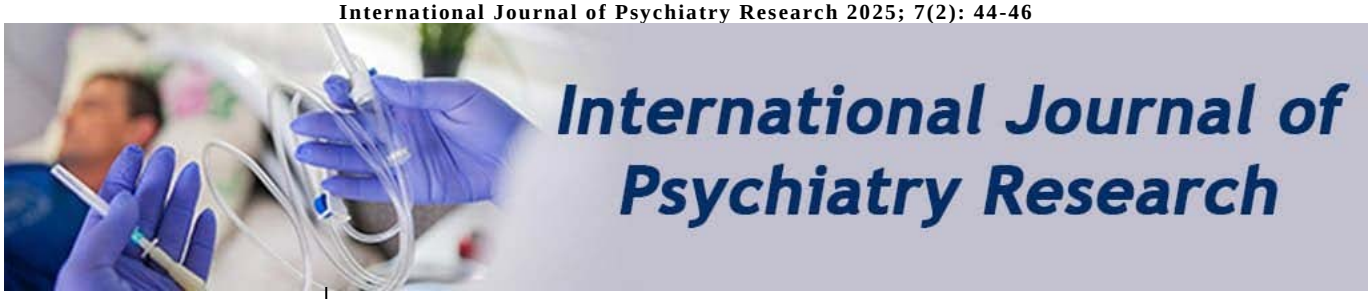

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Atypical presentation of an eating disorder in an adult female with postpartum psychosis

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Abstract
Postpartum psychosis (PPP) is a rare but severe psychiatric emergency that typically emerges within the first few weeks following childbirth and is often marked by affective instability, hallucinations, and delusional thinking. While the condition has been extensively described about mood and psychotic symptoms, atypical behavioral presentations, particularly those with irregular eating behaviors, remain underrecognized. We report a unique case of a 29-year-old woman with no prior psychiatric history who developed PPP characterized by delusional food aversion. She believed certain foods were poisonous and would harm her breastfed infant, leading to extreme dietary restriction and ritualistic food behaviours. Her symptoms included auditory and visual hallucinations, and the infant required hospitalization for failure to thrive. Treatment with olanzapine and supportive care led to remission of psychotic symptoms and normalization of eating behavior. This case highlights the potential overlap between PPP and avoidant or restrictive food intake patterns driven by psychosis. Given the risks of malnutrition, impaired bonding, and delayed treatment, clinicians and families must be alert to behavioural signs that may mimic or mask eating disorders in the postpartum period. Early recognition and interdisciplinary management are critical to improving outcomes for both mother and child. Broader awareness may help prevent misdiagnosis and ensure timely intervention.

Keywords: Postpartum psychosis, eating, delusion, food

Introduction
Postpartum psychosis (PPP) is an emergent psychiatric mental health condition that can affect the lives of mothers, children and families presenting typically within 10-19 days of birth [1, 3]. Postpartum psychosis is mainly characterized by affective and psychotic symptoms, delusions, hallucinations, disorganized thinking and behavior, severe mood changes, insomnia, and infanticidal ideations [3, 4]. Bipolar disorder has the highest risk of relapse during the postpartum period (with psychotic features) [3]. While the biological elements of this condition remain unclear, PPP is associated with severe symptoms, including an increased risk of suicide [3]. In comparison to other psychotic episodes, postpartum psychosis presents a clear triggering event: childbirth [3].
Following childbirth, women can present with a multitude of mood conditions and/or disorganized behavior varying in severity and prevalence. Fragmented, unusual behavior and obsessive thoughts regarding the newborn frequently occur [4]. Symptoms of psychosis distinguish this irregular behavior for its potential distortions in dietary restrictions, interpersonal skills and shifting central coherence [6]. However, this is not explored in the context of postpartum psychosis.
Eating disorders are characterized by disruptions in eating behavior, with a lifetime prevalence of 2% to 5% commonly associated with psychiatric comorbidities leading to a decreased quality of life [7]. The conceptualization of eating disorders has expanded beyond anorexia nervosa and bulimia nervosa to include disorders such as avoidant/restrictive food intake disorder (ARFID) [5]. Anorexia nervosa and bulimia nervosa are eating disorders characterized by the adoption of severe weight control behaviors and internalized thin ideals.

ARFID does not correlate to body image ideals but is concerned with behaviors that are engaged in food aversions and avoidance [5].

In the context of postpartum psychosis, food aversions or avoidances can be due to potential delusions regarding the intake of contaminants that can be harmful to the mother and/or the baby. However, this claim is rarely reported. Here we report the first case of delusion-driven eating behaviors in a woman who was diagnosed with postpartum psychosis.

Case Presentation

Ms. A, a 29-year-old Asian woman with no prior psychiatric history, developed postpartum psychosis within two weeks of delivering her first child. Her initial symptoms were characterized by profound anxiety surrounding food preparation and an intense belief that certain foods were "poisonous" and would harm her breastfed infant. She began restricting her diet significantly, consuming only self-perceived “safe” foods (e.g., plain rice and boiled vegetables, self-prepared plain bread), avoiding eating meat and dairy products and anything prepared by others. She also exhibited marked changes in eating behavior, including compulsively rechecking ingredient labels and refusing to store food in the refrigerator, fearing it would become “contaminated.”

Ms. A reported auditory hallucinations commanding her to avoid feeding her child certain foods, and visual hallucinations of her breastmilk being polluted. Despite family encouragement, she refused to resume a normal diet or allow anyone else to feed the baby, convinced that the infant would be poisoned. The infant subsequently required hospitalization for weight loss and failure to thrive.

Ms. A was diagnosed with postpartum psychosis, started on Olanzapine 10 mg and Clonazepam 0.5 mg at bedtime, and stopped breastfeeding. Her psychotic symptoms began to reduce within two weeks, and her delusional thoughts gradually improved. She was scheduled for regular outpatient follow-up and continued pharmacotherapy. Over the next two months, her eating habits normalized, and her delusions subsided. The child showed appropriate catch-up growth and was referred to pediatric nutrition services.

Discussion

The exact etiology of psychosis in the postpartum state is limited and not clearly established; however, the most accepted theory of psychosis is the dysregulation of dopaminergic pathways [8, 9]. The positive symptoms linked to psychotic disorders are commonly known to be caused by an excess of dopamine in the mesolimbic tract [9]. Multiple studies also suggest that glutamate, an excitatory neurotransmitter, is shown to exhibit decreased functionality of N-methyl-D-aspartate (NMDA) receptors [9]. Additional research indicates the involvement of gamma-aminobutyric acid (GABA) receptors, a crucial inhibitory neurotransmitter [9]. Imbalances in acetylcholine also have shown potential effects of dysfunction in patients with schizophrenia [9].

Roughly 50% of individuals with PPP present a previous history of psychiatric problems and a family predisposition [2]. Current potential determinant factors include components of genetics, immunological, and hormonal aspects [2]. Postpartum psychosis is commonly known to occur concurrently with neurobiological variances leading to brain sensitivity and inflammation [2]. This condition usually requires admission to the hospital, but most episodes respond well to treatment, primarily medication in the acute stage [2]. Subsequent to the initial psychotic phase, women may be subject to the development of depression with reports of multiple months until recovery [2].

At the molecular level, prior studies suggest that oxidative stress presents as an underlying neurobiological mechanism of psychosis [10]. The systems involved in psychosis include environmental and genetic factors that exhibit the potential to increase the receptiveness of oxidative stress, resulting in altered redox signaling correlated to glutathione deficiency [10]. Findings at this level may include mitochondrial dysfunction, abnormal myelination, N-methyl-D-aspartate receptors (NMDAR) hypofunction, and dysfunction of parvalbumin interneurons (PVI) [10].

The etiology of eating disorders is heterogeneous, consisting of psychological, biological, developmental, and socio-cultural factors [11]. Biological factors, more specifically, include genetics and neurobiology [11]. In parallel, psychological features including perfectionism, impulsivity, novelty-seeking, obsessive-compulsiveness, harm avoidance, and neuroticism are common personality traits often associated with eating disorders [11]. The neurotransmitter serotonin plays a critical role in mood regulation and appetite control. The most indicative genes include the serotonin 2a receptor (5-HT2a) and serotonin transporter (5-HTT) genes [12]. According to studies, the A allele of the 5-HT2a–1438 gene is commonly known to be correlated with anorexia nervosa [12].

Understanding the risks and vulnerabilities of postpartum psychosis is becoming increasingly important in the guidance of further treatment decisions. In this context, long-term monitoring of the mother and infant is warranted to increase quality of life and strengthen infant-mother bonds and family relationships. Consequences of poor or non-management can lead to the increased risk of malnutrition, dehydration, interference with lactation and infant care, and other potential deficiencies. Additionally, nutritional deficiency may exacerbate psychotic symptoms and further complicate the intervention process.

In this case, we want to highlight monitoring the change of the patient in their eating behavior, not specific to the volume of consumption, but rather the behavior in relation to early intervention, management, and detection. Currently, we don’t have specific screening tools for this kind of condition that can be misattributed to stress, depression, or other disorders with unfamiliar manifestations of PPP in eating disorders. We want to use this case to raise awareness among providers and family members for early interventions and follow-ups to improve the well-being of the mother and infant regarding abnormal eating behaviors unique to the individual.

Conclusion

In conclusion, this case highlights the importance of recognizing atypical presentations of postpartum psychosis, particularly those involving irregular eating behaviours due to psychotic delusions. The intersection between postpartum psychosis and avoidant or restrictive food intake behaviors remains insufficiently explored, yet carries significant implications for maternal and infant health. Failure to identify these symptoms early may lead to delayed treatment, nutritional deficiencies, impaired maternal-infant bonding, and increased risk of infant morbidity. Clinicians should maintain a high index of suspicion when evaluating

postpartum women presenting with sudden dietary restrictions or obsessive food-related behaviors, especially when accompanied by perceptual disturbances or fixed false beliefs. A multidisciplinary approach between psychiatry, obstetrics, pediatric and primary care is essential to ensure timely diagnosis and comprehensive management. Further research is warranted to better understand the characteristics of psychosis-related eating disturbances in the postpartum period and to inform the development of targeted screening and intervention strategies.

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