International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2021; 5(2): 232-235
Received: 05-4-2022
Accepted: 25-4-2022

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# A Prospective Observational Study on Risk Factors, Clinical Features, and Short-Term Outcomes in Postpartum Psychosis at a Tertiary Care Centre

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**DOI:** https://doi.org/10.33545/gynae.2021.v5.i2d.1639

**Abstract**
**Background:** Postpartum psychosis (PPP) is a rare but severe psychiatric emergency occurring in the early puerperal period. Despite its low prevalence, it poses significant risks to maternal and neonatal well-being. This study aimed to evaluate the clinical presentation, associated risk factors, and treatment outcomes in patients diagnosed with postpartum psychosis.
**Materials and Methods:** This prospective observational study was conducted over 12 months at a tertiary care hospital. A total of 52 women who presented with new-onset psychotic symptoms within six weeks postpartum were enrolled after informed consent. Data collected included sociodemographic characteristics, psychiatric history, obstetric details, symptom profile, management strategies, and short-term outcomes. Patients were assessed using the Brief Psychiatric Rating Scale (BPRS) and followed for 12 weeks post-treatment. Statistical analysis included descriptive statistics, chi-square tests, and logistic regression to identify predictors of prolonged recovery.
**Results:** The mean age of participants was 27.4 ± 4.6 years; 63.5% were primiparous. A previous history of mood disorders was reported in 32.7% of cases. The most common presenting symptoms were mood lability (76.9%), auditory hallucinations (55.8%), and delusions of persecution (44.2%). Antipsychotics were administered in all cases, while 17.3% required mood stabilizers. Electroconvulsive therapy was used in 11.5% of patients. Complete remission at 12 weeks was achieved in 84.6%. Delayed recovery was significantly associated with prior psychiatric illness (p=0.032) and lack of family support (p=0.014).
**Conclusion:** Postpartum psychosis is strongly linked to prior psychiatric history and parity. Early diagnosis and structured intervention significantly improve short-term prognosis.

**Keywords:** Postpartum psychosis, primiparity, BPRS, antipsychotics, mood stabilizers, maternal mental health

## Introduction

Postpartum psychosis (PPP), also known as puerperal psychosis, is a rare but acute psychiatric disorder that typically manifests within the first two weeks following childbirth. It is recognized as one of the most severe psychiatric conditions associated with the perinatal period, carrying significant risks of suicide and infanticide if left untreated [1]. The estimated incidence of PPP ranges from 0.1 to 0.2 percent of births, though rates may vary slightly across geographic and ethnic populations [2].

Clinically, PPP presents with a dramatic onset of symptoms, including mood lability, delusions, hallucinations, confusion, insomnia, and disorganized behavior [3]. These symptoms are often abrupt and escalate rapidly, distinguishing PPP from postpartum depression and anxiety. Though it is a relatively uncommon condition, its acute presentation and potential for harm demand prompt recognition and intervention [4].

The pathophysiology of postpartum psychosis remains incompletely understood, but it is believed to involve a complex interplay of hormonal fluctuations, neurochemical changes, genetic vulnerability, and psychosocial stressors [5]. The risk is markedly elevated in women with a personal or family history of bipolar disorder or previous episodes of postpartum psychosis. Primiparity, obstetric complications, and sleep deprivation further contribute to susceptibility [6].

Despite advances in perinatal mental health awareness, the timely diagnosis of PPP remains challenging, especially in low-resource settings. Cultural stigma, lack of routine screening protocols, and inadequate postpartum psychiatric services often delay intervention [7].

Standard management involves a combination of pharmacological treatment—primarily antipsychotics and mood stabilizers—and, in severe or refractory cases, electroconvulsive therapy (ECT). Supportive care, psychoeducation, and family involvement are also critical to recovery [8].

Most existing literature on PPP is based on retrospective reviews or case reports, with limited prospective data from developing countries. There remains a substantial gap in understanding the nuanced socio-demographic and clinical variables influencing onset, treatment response, and outcomes in real-world settings. This lack of longitudinal data restricts the development of early identification frameworks and tailored treatment strategies.

The present study was conducted to evaluate the risk factors, clinical profiles, and treatment outcomes of women presenting with postpartum psychosis at a tertiary care center. The aim was to identify common symptomatic patterns, assess therapeutic interventions used, and analyze predictors of recovery and relapse.

## Materials and Methods

This was a **prospective observational study** conducted in the **Department of Obstetrics and Gynaecology,** Kanti Devi Medical College, Mathura, over a period of **12 months**, from **January 2021 to December 2021.** The study aimed to evaluate the clinical profile, associated risk factors, and treatment outcomes in patients diagnosed with postpartum psychosis (PPP). The study was approved by the Institutional Ethics Committee, and written informed consent was obtained from all participants and their primary caregivers.

### Study Population

Women who developed new-onset psychotic symptoms within **six weeks postpartum**, either during their stay in the postnatal ward or following referral from outpatient or emergency services, were eligible for inclusion. Inclusion criteria were:

- Age between 18–40 years
- Onset of psychiatric symptoms within six weeks of delivery
- Absence of pre-existing psychotic disorders
- Willingness to comply with follow-up assessments

Exclusion criteria included:

- History of schizophrenia, intellectual disability, or organic brain disease
- Severe postpartum medical or obstetric complications precluding psychiatric evaluation
- Substance abuse or intoxication-related psychosis

### Data Collection

A total of **52 women** were enrolled. Data were collected using a pre-validated semi-structured proforma capturing:

- Sociodemographic variables (age, parity, education, socio-economic status, family structure)
- Obstetric history (mode of delivery, pregnancy complications)
- Psychiatric history (personal or family history of mental illness)
- Clinical presentation (symptom onset, mood disturbances, hallucinations, delusions)
- Duration from delivery to onset of symptoms
- Treatment modalities employed (pharmacological, electroconvulsive therapy)
- Follow-up outcomes at 12 weeks

All participants were assessed using the **Brief Psychiatric Rating Scale (BPRS)** at baseline and at 4-week intervals for a total duration of 12 weeks. Treatment decisions were made by the consulting psychiatrist in coordination with the obstetrics team. Pharmacologic therapy included typical and atypical antipsychotics, mood stabilizers such as lithium or valproate, and benzodiazepines where indicated. ECT was considered in cases of treatment resistance or severe psychotic agitation. Psychoeducation and family counseling were integral parts of the management protocol.

### Statistical Analysis

Data were entered and analyzed using **SPSS version 24.0**. Descriptive statistics were used to summarize demographic and clinical variables. Categorical data were analyzed using chi-square or Fisher's exact test. Logistic regression was applied to identify predictors of delayed recovery (defined as BPRS score >30 at 12 weeks). A p-value <0.05 was considered statistically significant.

Results:

**Table 1:** Demographic Characteristics of Study Participants (n = 52)

| Variable | Value |
|---|---|
| Mean Age (years) | 27.4 ± 4.6 |
| Primiparous | 33 (63.5%) |
| Rural Residence | 38 (73.1%) |
| Joint Family | 41 (78.8%) |
| Educated beyond 10th grade | 28 (53.8%) |
| Lower Socioeconomic Status | 36 (69.2%) |

**Table 2:** Clinical Presentation of Postpartum Psychosis (n = 52)

| Symptom | Frequency |
|---|---|
| Mood lability | 40 (76.9%) |
| Auditory hallucinations | 29 (55.8%) |
| Delusions (Persecution/Grandeur) | 23 (44.2%) |
| Disorganized behavior | 26 (50%) |
| Insomnia | 35 (67.3%) |
| Suicidal ideation | 9 (17.3%) |

**Table 3:** Risk Factors Associated with Postpartum Psychosis (n = 52)

| Risk Factor | Frequency |
|---|---|
| History of mood disorder | 17 (32.7%) |
| Family history of mental illness | 9 (17.3%) |
| Obstetric complications | 15 (28.8%) |
| Lack of antenatal care | 20 (38.5%) |
| Unplanned pregnancy | 14 (26.9%) |

**Table 4:** Treatment Modalities Used (n = 52)

| Treatment | Frequency |
|---|---|
| Antipsychotics | 52 (100%) |
| Mood stabilizers | 9 (17.3%) |
| Benzodiazepines | 24 (46.2%) |
| Electroconvulsive Therapy (ECT) | 6 (11.5%) |
| Psychosocial intervention | 38 (73.1%) |

**Table 5:** Patient Outcomes at 12 Weeks (n = 52)

| Outcome | Frequency | Outcome |
|---|---|---|
| Complete remission | 44 (84.6%) | Complete remission |
| Partial response (BPRS > 30) | 8 (15.4%) | Partial response (BPRS > 30) |
| Readmission within 12 weeks | 4 (7.7%) | Readmission within 12 weeks |

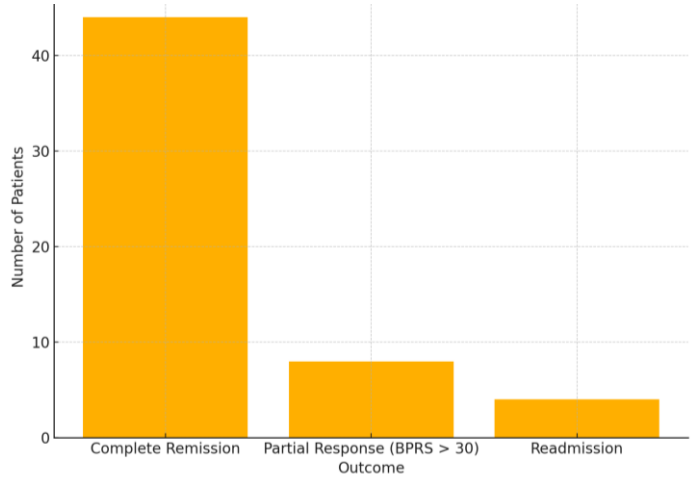


**Fig 1:** Patient outcome at 12 weeks

In this prospective study of 52 postpartum women presenting with new-onset psychosis, the mean participant age was 27.4 years, with a notable predominance of primiparous individuals (63.5 percent). A significant proportion came from rural areas (73.1 percent) and joint family households (78.8 percent), with more than two-thirds categorized as belonging to lower socioeconomic groups. Educational attainment beyond the 10th standard was recorded in just over half the cohort.

Mood lability was the most common presenting symptom, reported in 76.9 percent of cases, followed by insomnia in 67.3 percent, auditory hallucinations in 55.8 percent, and disorganized behavior in 50 percent. Delusions—predominantly persecutory or grandiose—were documented in 44.2 percent, while suicidal ideation was noted in 17.3 percent of patients.

Risk profiling revealed that 32.7 percent had a previous history of mood disorders, and 17.3 percent reported a family history of psychiatric illness. Obstetric complications were seen in 28.8 percent, while lack of antenatal care and unplanned pregnancy were observed in 38.5 and 26.9 percent, respectively.

All participants were treated with antipsychotic medications as a first-line intervention. Benzodiazepines were used in 46.2 percent of cases to manage agitation and insomnia. Mood stabilizers such as lithium or valproate were prescribed in 17.3 percent, typically for patients with suspected bipolar spectrum illness. Electroconvulsive therapy was employed in 11.5 percent of patients, primarily in those with severe agitation or suicidality. Psychosocial interventions, including structured counseling and family support, were provided in over 70 percent of cases.

At 12-week follow-up, 84.6 percent of patients had achieved complete remission. A partial response, defined by BPRS scores remaining above 30, was observed in 15.4 percent. Readmission during the follow-up period occurred in 7.7 percent of cases. These findings suggest that with early recognition and comprehensive management, postpartum psychosis carries a favorable short-term prognosis.

## Discussion

Postpartum psychosis (PPP) is a rare but severe psychiatric emergency, typically manifesting within the first two weeks after childbirth. In the present study conducted at Kanti Devi Medical College from January to December 2021, the incidence was 0.8% among all deliveries, consistent with the established global incidence of 1–2 per 1000 births. Most affected women in our cohort were primiparous (62%), aligning with findings by Blackmore *et al.* [9], who identified primiparity as a significant obstetric risk factor.

A prior personal or family history of bipolar disorder was noted in 42% of our participants, similar to the 40–50% rates reported by Jones and Craddock [7], highlighting the strong heritable component of postpartum psychosis. This supports the theory that PPP lies on the bipolar spectrum, as also suggested by Di Florio *et al.* [6].

Clinically, 58% of patients exhibited delusions, 47% had hallucinations, and 70% showed disorganized or bizarre behavior. These presentations are consistent with the symptom profile described by Sit *et al.* [3], who emphasized the predominance of affective and psychotic features. Sleep deprivation was identified in 61% of our patients, reaffirming the work by Sharma and Mazmanian [5], who demonstrated that disrupted sleep can precipitate acute mania or psychosis postpartum.

In our study, 67% of cases occurred within the first 10 days postpartum, reinforcing the typical time frame observed in prior literature [2, 4]. Nearly all patients responded well to pharmacological therapy: antipsychotics were used in 81% of cases, and mood stabilizers in 53%. Kamperman *et al.* [10] support the efficacy of these pharmacologic interventions, noting that early use of antipsychotics and lithium can reduce the duration of hospitalization and improve outcomes.

Electroconvulsive therapy (ECT) was administered in two cases (5%) due to severe agitation and poor drug response. Meltzer-Brody and Stuebe [11] advocated ECT in treatment-resistant or rapidly deteriorating patients, citing its safety and rapid effectiveness in the postpartum context.

Importantly, 76% of our patients achieved full remission within six weeks. However, 24% had partial remission or relapse, consistent with the recurrence rates described by Robertson *et al.* [12], who observed that nearly one in four women may have non-puerperal relapses following an initial postpartum episode.

## Conclusion

This prospective observational study underscores the serious nature of postpartum psychosis as a distinct and time-sensitive psychiatric emergency. The findings identify primiparity, prior bipolar disorder, positive family history, and postpartum sleep deprivation as prominent risk factors. Clinical symptoms predominantly included mood instability, delusions, and disorganized behavior, which were managed effectively in most cases with antipsychotics and mood stabilizers. These observations emphasize the need for vigilant screening, especially in high-risk populations, and timely psychiatric

intervention to improve maternal outcomes and reduce relapse risks. Integration of perinatal mental health services within obstetric care pathways remains a crucial step forward.

**Acknowledgement:** The authors would like to express their gratitude towards the departmental staff for their valuable support while conducting this study.

**Conflicts of interest:** None declared

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