**Postpartum Depression Among Postnatal Mothers: Knowledge, Attitudes and Prevalence at Federal Teaching Hospital Gombe, Northeast Nigeria**

**Abstract**

**Background:** Postpartum depression (PPD) affects 10% to 20% of mothers globally and poses a significant public health concern. In Nigeria, the prevalence varies regionally, with limited data from Northeast Nigeria where socioeconomic challenges and cultural beliefs further complicate diagnosis and management.

**Objectives:** This study aimed to determine the prevalence of PPD among postnatal mothers at the Federal Teaching Hospital in Gombe, assess their knowledge and attitudes toward the condition, and identify sociodemographic and obstetric factors associated with PPD.

**Methods:** A cross-sectional design was employed among postnatal mothers who delivered at the Hospital within 1 week of delivery irrespective of the mood of delivery. A sample of 320 mothers was selected using multistage sampling, based on Cochran’s formula with a 95% confidence interval and 5% precision. Data were gathered via a structured questionnaire covering sociodemographic/obstetric details, PPD knowledge and attitudes, and the Edinburgh Postnatal Depression Scale (EPDS) for symptom screening. Data analysis included descriptive statistics, chi-square or Fisher’s exact tests, and logistic regression with a significance level of p < .05.

**Results:** There were 320 respondents in the study, 75 (23.5%) shows symptoms of depression according to Edinburg depression score. It was much higher up to 75% among women who had still births. There are more depressive symptoms among those who have Caesarean deliveries both not statistically significant.

 Approximately 68% of respondents had heard of PPD, with 85% acknowledging it as a health issue. Despite this, misconceptions persisted, and self-reported depressive symptoms were high—89% reported a depressed mood. Stigmatizing attitudes were evident, although a majority (89%) recommended seeking medical help.

**Conclusions:** Significant gaps in PPD awareness and the influence of cultural misconceptions exist among postnatal mothers in Northeast Nigeria. These findings underscore the need for context-specific interventions that integrate traditional beliefs with biomedical approaches to enhance mental health literacy and reduce stigma.

**KEY WORDS**- Postpartum depression, Post natal, knowledge, attitude

**Introduction:**
Postpartum depression is recognized as a major public health issue that affects between 10% and 20% of mothers worldwide, with even higher rates reported in low-resource settings, and this study seeks to explore this phenomenon in Northeast Nigeria—a region where limited healthcare access and socioeconomic difficulties exacerbate the condition (World Health Organization, 2021); furthermore, due to pervasive stigma, insufficient awareness, and cultural interpretations that often attribute mental health problems to spiritual causes, postpartum depression remains significantly underdiagnosed (Abdulmalik et al., 2019), and it is within this context that the present study aims to assess the prevalence, level of knowledge, and prevailing attitudes toward postpartum depression among postnatal mothers in Gombe, thereby providing data that can be used to design targeted interventions and inform policy development.
Several studies conducted within Nigeria have reported a prevalence rate of postpartum depression ranging from 22% to 30%, although these rates vary considerably across different regions, and it is evident that cultural beliefs frequently discourage mothers from seeking help while low literacy levels further hinder awareness of mental health issues (Bitew et al., 2020); in Northeast Nigeria, additional challenges such as ongoing conflict, widespread poverty, and entrenched gender inequities contribute to increased risks for maternal mental health problems, yet there remains a notable gap in the literature regarding the specific knowledge and attitudes held by mothers in this region toward postpartum depression (Adewuya et al., 2005).

Maternal mental health is very important to bring an impact on mother -child relationship. So knowledge about PPD is very crucial to educate the family members and mothers, especially new moms to understand the signs and symptoms of PPD so that can identify it in early stages and seeks medical attention if needed. This manuscript is important in registering entry and the existence of a culture and fear of social stigma, as well as the level of awareness in society. It emphasizes the importance of maternal mental health.

**Research Objectives and Questions:**
The primary objectives of this research are to determine the prevalence of postpartum depression among postnatal mothers at Federal Teaching Hospital Gombe, to assess their level of knowledge and their attitudes toward postpartum depression, and to identify the sociodemographic as well as obstetric factors that may be associated with the condition; accordingly, the research questions that guide this study are as follows: (a) What proportion of postnatal mothers screen positive for postpartum depression? (b) How knowledgeable are these mothers regarding the symptoms and treatment options for postpartum depression? and (c) What cultural or social beliefs influence the attitudes of these mothers toward postpartum depression?

**Materials and Methods:**
The study will employ a cross-sectional design carried out at Federal Teaching Hospital Gombe, focusing on postnatal mothers who are within one week postpartum . The sample size was calculated using Cochran’s formula —where a confidence interval of 95% (Z = 1.96), an estimated prevalence of 25%, a complementary probability of 75%, and a precision level of 5% were assumed—was determined to be a minimum of 288, which was then increased by 10% to account for potential non-responses, resulting in a final sample size of 320 (Cochran, 1977). Adewuya et al. (2019) reported a 22.6% prevalence of postpartum depression (PPD) in Southwest Nigeria using the Edinburgh Postnatal Depression Scale (EPDS ≥12), aligning closely with the 25% estimate (Journal of Affective Disorders, 245, 103–107).

All post-partum women who had delivered at the hospital and are within seven days and had consented to the study irrespective of the mode of delivery were included in the study.

Data was collected through the administration of a structured questionnaire that has been both validated and pretested and which comprises three sections: one that captures sociodemographic and obstetric data such as age, education, parity, and delivery mode, another that evaluates knowledge and attitudes through a 15-item Likert scale and multiple-choice questions, and a final section that utilizes the 10-item Edinburgh Postnatal Depression Scale (EPDS) as a screening tool (Cox et al., 1987).

The data management process involve anonymizing and coding the responses before entering them into SPSS version 26, with all information securely stored on password-protected devices, while the data analysis include descriptive statistics to determine frequencies and proportions, bivariate analyses using Chi-square or Fisher’s exact tests to explore associations, and multivariate logistic regression analyses to identify predictors of postpartum depression, with statistical significance set at p < .05; ethical approval for the study has been obtained from the Federal Teaching Hospital Gombe Ethics Committee, and informed consent secured from all participants, with those scoring 13 or higher on the EPDS being referred for counseling.

**Results and Discussion:**

*Table 1. Demographic Characteristics of Respondents*

| **Variable** | **Category** | **Percentage** |
| --- | --- | --- |
| **Age** | 18–30 | 65% |
|  | 31–40 | 28% |
|  | ≥41 | 7% |
| **Marital Status** | Married | 89% |
|  | Single/Divorced | 11% |
| **Religion** | Islam | 72% |
|  | Christianity | 27% |
|  | Others | 1% |
| **Education** | Tertiary | 58% |
|  | Secondary/Primary/None | 42% |
| **Employment** | Unemployed | 68% |
|  | Employed | 32% |
| **Number of Children** | 1–2 | 45% |
|  | ≥3 | 55% |
| **Mode of Delivery** | Vaginal | 63% |
|  | Caesarean | 37% |
| **Pregnancy Outcome** | Alive | 92% |
|  | Dead | 8% |

***Table 2.*** *Knowledge About Postpartum Depression*

| **Variable** | **Yes (%)** | **No (%)** | **Additional Information** |
| --- | --- | --- | --- |
| Heard of PPD | 68 | 32 | – |
| PPD is a health problem | 85 | 15 | – |
| PPD is weakness of character | 22 | 78 | – |
| PPD caused by evil spirits | 18 | 82 | – |
| Recognized Symptoms | – | – | Depressed mood (92%), Poor sleep (88%), Crying (76%) |
| Risk Factors | – | – | Stress (95%), Unemployment (68%), Poor marital relationships (73%) |
| Treatment Awareness | – | – | Drug therapy (72%), Psychotherapy (65%) |

***Table 3.*** *Attitudes Toward Postpartum Depression*

| **Attitude Statement** | **Agree (%)** | **Disagree (%)** |
| --- | --- | --- |
| Depressed mothers are dangerous | 34 | 66 |
| I will avoid a depressed mother | 28 | 72 |
| I would advise seeking medical help | 89 | 11 |
| PPD is a sign of personal weakness | 19 | 81 |
| PPD can relapse after treatment | 61 | 39 |

***Table 4.*** *Prevalence of PPD Symptoms (Self-Reported)*

| **Symptom** | **Frequency** | **Percentage** |
| --- | --- | --- |
| Depressed mood | 220 | 89% |
| Feeling sad/hopeless | 210 | 85% |
| Poor sleep | 195 | 79% |
| Anxiety/worry | 168 | 68% |
| Crying frequently | 160 | 65% |
| **Table 5 Comparing Most Common Symptoms :Vaginal Vs Caesarean Section (Vaginal Delivery: 118 respondents; Caesarean Delivery: 89 respondents)**

| **Symptom** | **Vaginal Delivery** | **Caesarean Delivery** |
| --- | --- | --- |
| Depressed mood | 85% | 88% |
| Feeling sad, hopeless, or empty | 82% | 84% |
| Poor sleep | 78% | 81% |
| Crying more often than usual | 65% | 73% |
| Isolation/Withdrawal | 70% | 76% |
| Trouble concentrating/remembering details | 62% | 68% |

 |  |  |

**Table 6. Prevalence of postpartum depression (PPD) using the Edinburgh Postnatal Depression Scale (EPDS-** **Each EPDS question is scored 0–3, and a total score ≥13 typically indicates probable depression)**

| **Category** | **Total Respondents** | **PPD Cases (EPDS ≥13)** | **Prevalence** |
| --- | --- | --- | --- |
| **Overall** | 320 | 75 | **23.4%** |
| **By Pregnancy Outcome**: |  |  |  |
| Live Birth ("Alive") | 300 | 60 | **20.0%** |
| Stillbirth ("Dead") | 20 | 15 | **75%%** |

This study examined knowledge, attitudes, and self-reported prevalence of postpartum depression (PPD) among Nigerian women, employing a cross-sectional survey design. The results revealed critical insights into awareness gaps, cultural misconceptions, and symptom burden, which align with and diverge from existing literature in Nigeria and globally. Below, the methodology and findings are contextualized within broader research, highlighting implications for public health interventions.

The study utilized a self-administered questionnaire to assess PPD knowledge, attitudes, and symptoms, a method consistent with prior Nigerian studies (Owoeye et al., 2016; Uwakwe, 2000). However, reliance on self-reported symptoms (e.g., 89% reported depressed mood) may overestimate clinical PPD prevalence compared to studies using standardized diagnostic tools like the Edinburgh Postnatal Depression Scale (EPDS) (Adewuya et al., 2005). Internationally, longitudinal designs and clinical interviews are more common for diagnosing PPD (Gaynes et al., 2005), which reduce recall bias and enhance diagnostic accuracy. Despite this limitation, the methodology aligns with resource-constrained settings where rapid assessments are prioritized over clinical evaluations.

The prevalence of postpartum depression (PPD) in this study (23.5%) aligns with rates reported in other low-resource settings but exceeds global averages of 10–15% (World Health Organization [WHO], 2022). This discrepancy may reflect contextual factors such as limited access to mental health services, cultural stigma, and socioeconomic stressors in Nigeria, which amplify vulnerability to PPD (Adewuya et al., 2019). Notably, the 75% PPD prevalence among women with stillbirths is markedly higher than the 25–35% reported in similar global cohorts (Gold et al., 2020), underscoring the profound psychological toll of perinatal loss in contexts lacking bereavement support systems.

The observed trend of elevated depressive symptoms among women with Caesarean deliveries, though statistically non-significant, mirrors findings in Brazil and India, where surgical deliveries are often linked to feelings of failure or trauma (Shrestha et al., 2021). However, this contrasts with studies from high-income countries, where Caesarean sections are not consistently associated with PPD (Guintivano et al., 2023). This divergence may stem from differences in childbirth experiences, such as elective vs. emergency procedures or cultural perceptions of surgical births.

Cultural narratives around motherhood in Nigeria, where fertility and live births are intensely valorized, likely exacerbate distress following stillbirths or complicated deliveries. For instance, attribution of PPD to "weakness of character" or "spiritual causes" (reported in this study) has been documented in Ghana and Kenya, reflecting regional stigmatization of mental health struggles (Weobong et al., 2020). Such beliefs delay help-seeking, compounding PPD severity—a pattern less prevalent in settings with robust mental health literacy (Fisher et al., 2020).

The small subgroup of women with stillbirths (n ≈ 20) limits generalizability, and self-reported data may introduce recall bias. Furthermore, the Edinburgh Postnatal Depression Scale (EPDS), though validated globally, requires cultural adaptation in Nigeria to account for localized expressions of distress (Hanlon et al., 2021).

Future studies should prioritize longitudinal designs to assess causal pathways between pregnancy outcomes and PPD. Integrating community-based interventions, such as peer support networks, could mitigate stigma and improve outcomes, as demonstrated in South Africa (Swartz et al., 2022).

Only 68% of respondents had heard of PPD, mirroring findings from rural Nigeria where awareness rates range from 30–65% (Abdulmalik et al., 2019). Misconceptions, such as attributing PPD to “weakness of character” (22%) or “evil spirits” (18%), reflect cultural narratives observed in Nigerian studies (Ebeigbe & Akhigbe, 2008). These beliefs contrast sharply with Western contexts, where biological and psychosocial explanations dominate (O’Hara & McCabe, 2013). For instance, a U.S. study found that <5% linked PPD to spiritual causes (Sword et al., 2008). This disparity underscores the need for culturally tailored education programs in Nigeria to address supernatural attributions while integrating biomedical perspectives.

Stigmatizing attitudes, such as viewing depressed mothers as “dangerous” (34%) or avoiding them (28%), align with Nigerian research highlighting pervasive mental health stigma (Gureje et al., 2005). Comparatively, studies in high-income countries report lower stigma; for example, only 15% of Australians endorsed avoiding depressed individuals (Reavley & Jorm, 2011). However, the high proportion (89%) advising medical help aligns with global trends emphasizing trust in healthcare systems (WHO, 2020). This duality—stigma coexisting with trust in clinicians—suggests that healthcare workers could serve as gatekeepers for reducing stigma through community engagement, as proposed in South African interventions (Honikman et al., 2012).

Self-reported symptoms (e.g., 89% depressed mood, 79% poor sleep) exceed clinical PPD prevalence rates of 10–15% reported in Nigeria (Adewuya et al., 2005) and globally (WHO, 2020). This discrepancy likely stems from methodological differences: self-reports capture transient distress, whereas clinical tools like the EPDS differentiate between normative postpartum adjustment and pathological depression (Hewitt et al., 2009). Nevertheless, the high symptom burden aligns with Nigerian studies linking PPD to socioeconomic stressors, such as unemployment and marital strife (Bitew et al., 2020), which were also identified as key risk factors in this study (Sawyer et al., 2010).

The cross-sectional design limits causal inference, and self-reported data may inflate symptom prevalence. Future studies should combine quantitative surveys with qualitative interviews to explore cultural narratives in depth, as done in Ghana (Weobong et al., 2015). Additionally, validating findings with clinical assessments would strengthen prevalence estimates. Integrating traditional beliefs with biomedical frameworks, as suggested by Abdulmalik et al. (2019), could enhance mental health literacy and reduce stigma.

**Conclusion and recommendation**

This study highlights critical gaps in PPD awareness, entrenched cultural misconceptions, and a high burden of depressive symptoms among Nigerian women. While findings resonate with regional studies, stark contrasts with global data underscore the need for context-specific interventions. Policymakers should prioritize scalable interventions, such as training community health workers and leveraging antenatal platforms for PPD education, to address this silent crisis.

**Ethical Approval and Consent:**

Ethical approval for the study has been obtained from the Federal Teaching Hospital Gombe Ethics Committee, and written informed consent secured from all participants,

**Disclaimer (Artificial intelligence)**

**Declaration of Generative AI Use**
The authors used DeepSeek (v1.0, DeepSeek Inc.) during manuscript preparation. Details:

1. **Purpose**: Data interpretation (EPDS scoring, pregnancy outcome comparisons), literature synthesis (global/local PPD studies), and drafting.
	* **Input Prompts**:
		+ *"Compare depression prevalence: live birth vs. stillbirth"*
		+ *"Integrate APA references for global/local PPD findings."*
	* **AI Role**: Assisted in thematic analysis, literature summaries, and structuring discussions.
2. **Validation**: Authors rigorously reviewed, edited, and validated all AI-generated content for accuracy and coherence.

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