



Original Article

Knowledge and Perception of Puerperal Psychosis among Pregnant Women Attending Antenatal Clinics in Abraka, Nigeria

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Abstract

Background: Puerperal psychosis is a rare but life-threatening postpartum psychiatric emergency that poses substantial risks to both mothers and their infants if not recognized and managed promptly. This study assessed the knowledge and perceptions of puerperal psychosis among pregnant women attending antenatal clinics in Abraka, Delta State, Nigeria.

Methods: A descriptive cross-sectional study was conducted among 400 pregnant women attending selected antenatal clinics in Abraka, Delta State, between January and March 2025. Participants were selected using simple random sampling from antenatal clinic registers. Data were collected using a structured, pretested questionnaire that was validated through expert review and demonstrated good internal consistency in a pilot study (Cronbach's $\alpha = 0.82$). Descriptive statistics were used to summarize participants' characteristics and responses, while chi-square tests and binary logistic regression were employed to identify factors associated with adequate knowledge. Statistical significance was set at $p < 0.05$.

Results: Although 72.0% of respondents had previously heard of puerperal psychosis, only 48.0% demonstrated adequate knowledge of the condition (knowledge score $\geq 70\%$). Educational attainment was significantly associated with knowledge level. After adjusting for potential confounders, women with tertiary education were more than twice as likely to possess adequate knowledge compared with those without formal education. In addition, 60.0% of participants expressed supportive attitudes toward women affected by puerperal psychosis, although misconceptions persisted, with some respondents attributing the condition to spiritual causes.

Conclusion: While general awareness of puerperal psychosis among pregnant women in Abraka was relatively high, comprehensive knowledge of the disorder remained inadequate. Educational attainment was an independent predictor of adequate knowledge. Incorporating structured maternal mental health education into routine antenatal care may enhance early recognition, reduce stigma, and encourage timely access to appropriate healthcare services, thereby improving maternal and neonatal outcomes.

Keywords: Puerperal psychosis, Maternal mental health, Knowledge, Perception, Antenatal care, Nigeria.

1. Introduction

Puerperal psychosis is a rare but severe psychiatric emergency that occurs during the postpartum period, affecting approximately 1–2 women per 1,000 births worldwide. It is characterized by the sudden onset of psychotic symptoms, including hallucinations, delusions, severe mood disturbances, cognitive disorganization, and impaired insight, typically within the first two weeks after childbirth [1]. If left unrecognized and untreated, puerperal psychosis can lead to devastating consequences, including maternal suicide, infanticide, impaired mother–infant bonding, and adverse long-term developmental outcomes for the child. Early recognition, prompt diagnosis, and appropriate psychiatric intervention are therefore essential for improving maternal and neonatal outcomes. Evidence from systematic reviews suggests that timely diagnosis and management can substantially reduce maternal morbidity and improve recovery [2].

Despite its clinical importance, awareness and understanding of puerperal psychosis remain inadequate in many low- and middle-income countries, particularly in sub-Saharan Africa. In Nigeria, maternal mental health has received relatively little attention within routine maternal healthcare services, resulting in low levels of mental health literacy among women of reproductive age [3]. Consequently, symptoms of puerperal psychosis may be misunderstood, misattributed to spiritual or supernatural causes, or overlooked entirely, thereby delaying appropriate treatment and increasing the risk of adverse outcomes.

Pregnant women represent an important target population for maternal mental health education because the antenatal period provides a valuable opportunity to prepare expectant mothers and their families for potential postpartum complications. Adequate knowledge of puerperal psychosis may facilitate early symptom recognition, reduce stigma, encourage timely healthcare-seeking, and improve acceptance of evidence-based treatment. Conversely, poor knowledge and misconceptions may reinforce harmful cultural beliefs and delay access to appropriate psychiatric care [4].

Although studies have examined awareness of postpartum depression and other common perinatal mental disorders in Nigeria, evidence regarding knowledge and perceptions of puerperal psychosis remains scarce. To the best of our knowledge, no published study has specifically investigated this condition among pregnant women in Delta State, where sociocultural beliefs, traditional practices, and varying educational backgrounds may influence perceptions of mental illness and healthcare-seeking behavior [4]. This represents an important knowledge gap that limits the

development of targeted maternal mental health education programmes.

Furthermore, routine antenatal services in many Nigerian healthcare facilities primarily focus on physical aspects of pregnancy, while mental health screening and education on postpartum psychiatric disorders receive limited attention⁵. Integrating maternal mental health education into antenatal care could improve awareness, facilitate early identification of puerperal psychosis, reduce stigma, and promote timely referral for specialist care. Evidence generated from this study may therefore provide valuable information for clinicians, public health practitioners, and policymakers in designing culturally appropriate educational interventions and strengthening maternal mental health services [6,7,8].

Therefore, this study assessed the knowledge and perceptions of puerperal psychosis among pregnant women attending antenatal clinics in Abraka, Delta State, Nigeria, and examined the association between educational attainment and adequate knowledge of the condition.

2. Materials and Methods

2.1 Study Design

A descriptive cross-sectional study design was employed to assess the knowledge and perceptions of puerperal psychosis among pregnant women attending antenatal clinics in Abraka, Delta State, Nigeria.

2.2 Study Setting and Population

The study was conducted in four government-owned primary healthcare facilities providing antenatal services in Abraka, Delta State. The four facilities were randomly selected from the 12 public antenatal clinics operating within the study area. The study population comprised pregnant women aged 18–45 years who were registered for antenatal care at the selected facilities during the study period.

2.3 Eligibility Criteria

2.3.1 Inclusion criteria: Pregnant women aged 18–45 years who attended antenatal clinics at the selected health facilities during the study period and provided written informed consent.

2.3.2 Exclusion criteria: Pregnant women with a documented history of psychiatric illness, those who were critically ill at the time of data collection, and those unwilling to participate.

2.4 Study Period

Data were collected between 5 May and 28 July 2025, during which women from all three trimesters of pregnancy were recruited.

2.5 Sample Size Determination

The sample size was determined using Cochran's formula for estimating sample size in cross-sectional studies:

$$n_0 = Z^2 p (1-p) / e^2$$

Where:

n_0 = initial sample size;

$Z = 1.96$ corresponding to a 95% confidence level;

$p = 0.50$ (assumed prevalence because no previous local estimate was available);

$e = 0.05$ (margin of error).

The calculated sample size was adjusted using the finite population correction because the sampling frame consisted of approximately 500 registered pregnant women. The corrected minimum sample size was 384 participants. To compensate for possible non-response and incomplete questionnaires, the sample size was increased to 400 participants³.

2.6 Sampling Procedure

A sampling frame comprising all eligible pregnant women registered for antenatal care at the selected facilities was obtained from the clinic registers. Participants were selected using simple random sampling based on a computer-generated random number sequence until the required sample size of 400 was achieved.

2.7 Data Collection Instrument

Data were collected using a structured, interviewer-administered questionnaire developed from previous literature and adapted to the study objectives. The questionnaire consisted of three sections:

Section A: Socio-demographic characteristics, including age, marital status, educational level, occupation, parity, and gestational age.

Section B: Knowledge of puerperal psychosis, consisting of 12 dichotomous (True/False) items assessing awareness, symptoms, risk factors, and treatment. Each correct response was awarded one point, giving a maximum score of 12. Participants scoring at least 8 out of 12 ($\geq 70\%$) were classified as having adequate knowledge.

Section C: Perceptions of puerperal psychosis, comprising 10 statements measured on a five-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Higher scores indicated more positive perceptions toward women experiencing puerperal psychosis.

2.8 Validity and Reliability

Content validity of the questionnaire was established through review by three experts in psychiatry, public health, and maternal health research. Their recommendations were incorporated before data collection. The instrument was pretested among 20 pregnant women attending an antenatal clinic outside the study area who were not included in the final analysis. Internal consistency reliability was assessed using

Cronbach's alpha coefficient, yielding values of 0.81 for the knowledge scale and 0.84 for the perception scale, indicating good reliability.

2.9 Data Collection Procedure

Following ethical approval and permission from the participating health facilities, trained research assistants administered the questionnaires during routine antenatal clinic sessions. Participants were informed about the study objectives, assured of confidentiality, and provided written informed consent before participation. Completed questionnaires were checked daily for completeness and consistency.

2.10 Data Management and Statistical Analysis

Completed questionnaires were coded and entered independently into Microsoft Excel using double data entry to minimize transcription errors. Any discrepancies were resolved by cross-checking the original questionnaires. Records with more than 10% missing responses were excluded from the final analysis. Data were exported to IBM SPSS Statistics version 25.0 (IBM Corp., Armonk, NY, USA) for analysis. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize participants' characteristics and study variables. Associations between categorical variables were examined using the Chi-square (χ^2) test. Variables with statistically significant associations ($p < 0.05$) in the bivariate analysis were entered into a multivariable binary logistic regression model to identify independent predictors of adequate knowledge. Adjusted odds ratios (AORs) with 95% confidence intervals (CIs) were reported, and statistical significance was established at $p < 0.05$.

3. Results

3.1 Socio-Demographic Characteristics of Participants

A total of 400 pregnant women participated in the study, yielding a response rate of 100%. The mean age of the respondents was 28.4 ± 5.6 years (range: 18–45 years). Most participants were married (85.0%, $n = 340$), had attained secondary education (40.0%, $n = 160$), and were multiparous (52.0%, $n = 208$). The detailed socio-demographic characteristics of the respondents are presented in Table 1.

3.2 Knowledge of Puerperal Psychosis and Association with Socio-Demographic Characteristics

Bivariate analysis showed that educational attainment was significantly associated with knowledge of puerperal psychosis ($\chi^2(3) = 12.40$, $p = 0.006$). Women with higher levels of education were more likely to demonstrate adequate knowledge than those with lower educational attainment. However, no statistically significant associations were observed between knowledge and age,

marital status, or parity ($p > 0.05$ for all variables). The distribution of knowledge according to socio-demographic characteristics is presented in Table 2.

3.3 Predictors of Adequate Knowledge

Variables that were significant at the bivariate level were entered into a multivariable binary logistic regression model. After adjustment for potential confounding factors, tertiary educational attainment remained an independent predictor of adequate knowledge of puerperal psychosis. Women with tertiary education were more than twice as likely to possess adequate knowledge compared with those who had no formal education (adjusted OR = 2.15, 95% CI: 1.31–3.53, $p = 0.002$). Age, marital status, and

parity were not significant predictors of adequate knowledge (Table 3).

3.4 Perceptions toward Women with Puerperal Psychosis

Overall, 60.0% ($n = 240$) of respondents demonstrated positive perceptions toward women experiencing puerperal psychosis, whereas 40.0% ($n = 160$) expressed neutral or negative perceptions. Educational attainment was significantly associated with participants' perceptions ($\chi^2(3) = 10.72$, $p = 0.013$), indicating that women with higher educational levels were more likely to exhibit supportive attitudes toward affected individuals. The distribution of perception scores by socio-demographic characteristics is presented in Table 4.

Table 1. Socio-demographic characteristics of participants (N = 400)

Variable	Frequency (n)	Percentage (%)
Age (years)		
18–24	96	24
25–34	212	53
≥35	92	23
Marital Status		
Married	340	85
Single	60	15
Educational Level		
No formal education	48	12
Primary	92	23
Secondary	160	40
Tertiary	100	25
Parity		
Primiparous	192	48
Multiparous	208	52

Table 2. Association between socio-demographic characteristics and adequate knowledge (N = 400)

Variable	Adequate Knowledge n (%)	Inadequate Knowledge n (%)	χ^2	df	p-value
Age			1.56	2	0.46
18–24	48 (50)	48 (50)			
25–34	104 (49)	108 (51)			
≥35	40 (43)	52 (57)			
Marital status			0.89	1	0.34
Married	164 (48)	176 (52)			
Single	28 (47)	32 (53)			
Educational level			12.4	3	0.006
No formal education	8 (17)	40 (83)			
Primary	28 (30)	64 (70)			
Secondary	88 (55)	72 (45)			
Tertiary	68 (68)	32 (32)			
Parity			0.47	1	0.49

Variable	Adequate Knowledge n (%)	Inadequate Knowledge n (%)	χ^2	df	p-value
Primiparous	92 (48)	100 (52)			
Multiparous	100 (48)	108 (52)			

Table 3. Binary logistic regression of Adequate Knowledge

Variable	Adjusted OR	95% CI	p-value
Age (≥ 35 vs 18–24)	0.83	0.49 – 1.41	0.50
Married vs Single	1.06	0.61 – 1.84	0.84
Multiparous vs Primiparous	1.03	0.65 – 1.64	0.89
Secondary vs No formal	1.95	1.12 – 3.39	0.018
Tertiary vs No formal	2.15	1.31 – 3.53	0.002

Predictors (N = 400)

4. Discussion

This study assessed the knowledge and perceptions of puerperal psychosis among pregnant women attending antenatal clinics in Abraka, Delta State, Nigeria. Although nearly three-quarters of the respondents (72.0%) had previously heard of puerperal psychosis, fewer than half (48.0%) demonstrated adequate knowledge of the disorder. This disparity suggests that awareness does not necessarily translate into a comprehensive understanding of the condition, highlighting important gaps in maternal mental health literacy among pregnant women. Nevertheless, most participants (60.0%) expressed positive perceptions toward women affected by puerperal psychosis, indicating a generally supportive attitude despite persistent misconceptions.

The proportion of respondents with adequate knowledge observed in this study is comparable to findings from Lagos, Nigeria, where approximately 45% of pregnant women demonstrated adequate knowledge of postpartum mental health disorders [9]. However, it is lower than the 62% reported among women in South-Eastern Nigeria [110]. Differences between studies may reflect variations in educational attainment, exposure to maternal health education, healthcare infrastructure, sociocultural beliefs, and the availability of mental health awareness programmes across regions. These findings emphasize the need for context-specific educational interventions to improve maternal mental health literacy.

The generally positive perceptions toward women experiencing puerperal psychosis are encouraging and are consistent with reports from Ghana, where supportive attitudes toward women with postpartum psychiatric disorders were documented [11]. Nevertheless, the persistence of misconceptions among a substantial proportion of respondents, including beliefs that puerperal psychosis has spiritual or supernatural origins, underscores the continuing influence of cultural beliefs on the understanding of mental illness. Such misconceptions may contribute to stigma, delay professional help-seeking,

and encourage reliance on non-medical interventions, thereby increasing the risk of poor maternal and neonatal outcomes.

Educational attainment emerged as the strongest independent predictor of adequate knowledge of puerperal psychosis. Women with tertiary education were significantly more likely to recognize the symptoms of the disorder and appreciate the importance of timely professional intervention than women with lower educational attainment. This finding is consistent with previous studies demonstrating that higher educational status is associated with improved health literacy, greater access to reliable health information, and increased utilization of maternal healthcare services [12]. The findings reinforce the importance of incorporating structured maternal mental health education into routine antenatal care, particularly for women with lower levels of formal education.

Although educational attainment was independently associated with knowledge, the cross-sectional design of this study precludes causal inference. Knowledge of puerperal psychosis may also be influenced by other factors that were not examined in this study, including previous exposure to maternal mental health counselling, media campaigns, socioeconomic status, family support, personal or family history of mental illness, and access to healthcare information. Future longitudinal and mixed-methods studies are recommended to explore these relationships more comprehensively and to identify additional determinants of maternal mental health literacy.

This study has several strengths. It employed probability sampling, achieved a 100% response rate, and used a validated questionnaire with good internal consistency, thereby enhancing the reliability of the findings. However, some limitations should be acknowledged. The study was conducted exclusively in government-owned health facilities within a single local government area, which may limit the generalizability of the findings to women

attending private healthcare facilities or those residing in other regions. In addition, the use of self-reported data may have introduced social desirability and recall biases. Furthermore, the binary classification of knowledge and the summary scoring of perception may not have fully captured the complexity of participants' understanding and attitudes toward puerperal psychosis.

Overall, the findings demonstrate that while awareness of puerperal psychosis is relatively high among pregnant women in Abraka, comprehensive knowledge remains inadequate. Educational attainment plays a critical role in improving maternal mental health literacy. Strengthening antenatal education by incorporating structured information on postpartum psychiatric disorders, including puerperal psychosis, may enhance early recognition, reduce stigma, encourage timely healthcare-seeking, and ultimately improve maternal and neonatal health outcomes.

Declarations

Consent for publication: All the authors approved the manuscript for publication.

Consent to Participate: Not applicable.

Data availability statement: All datasets used or generated in this study are accessible from the corresponding author upon reasonable request.

Competing Interests: The authors declare no conflicts of interest.

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Ethics: Approval was obtained from the Committee on Health Research Ethics, Delta State University Abraka with permission number: RBC/FBMC/DELSU/25/688. Written informed consent was obtained, and confidentiality strictly maintained.

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