Prenatal Depressive Symptoms and their Associated Factors among Pregnant Women Attending a Tertiary Hospital in Rivers State, Nigeria

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Abstract

Prenatal depression is a debilitating mental health condition that affects pregnant women globally and ranks as the third most prevalent condition in the world. This cross-sectional study aimed to determine the prevalence and determinants of prenatal depressive symptoms among pregnant women at a tertiary hospital in Rivers State, Nigeria. A total of 230 pregnant women aged 15-49 years, who booked in the second and third trimesters of pregnancy, had a single gestation, and had no previous or family history of mental health disorders or systemic illness, were recruited using systematic random sampling. Data was collected using a semi-structured, pre-tested, and validated interviewer-administered questionnaire adapted from the Edinburgh Postnatal Depression Scale (EPDS). The prevalence of antenatal depressive symptoms in this study was 6.5%. Factors associated with prenatal depression were level of education, religion, ethnicity, and history of miscarriage/abortion/stillbirth (p<0.05). This study highlights the need for routine mental health screening and support for pregnant women in tertiary antenatal care settings in Nigeria, particularly for those with identified risk factors. Further research using longitudinal designs and diagnostic tools is recommended to explore the complex interplay of sociodemographic, obstetric, and psychosocial factors that influence prenatal depression in this population.

Keywords: *Antenatal Care, Antenatal Depression, Nigeria, Prenatal Depressive Symptoms, Rivers State, Tertiary Hospitals.*

Introduction

Prenatal depression is a debilitating mental health condition that affects pregnant women globally and ranks as the third most prevalent condition in the world. Prenatal depressive symptoms, often referred to as antenatal or prenatal depression, may manifest as persistent low mood, anxiety, a loss of interest or motivation, fatigue, and significant changes in sleep, energy levels, and appetite patterns lasting one week or more [1]. Because of the similarities between depressive symptoms and some physiological symptoms of pregnancy, this mental health disorder may go undiagnosed. These symptoms sometimes coincide with the physical changes of pregnancy, complicating diagnosis. Their impact extends to both mother and fetus, increasing the risk of complications such as preterm birth and low birth weight.

The global prevalence of prenatal depression varies widely, with estimates ranging from 10% to 25% in developed countries and as high as 8-40% in sub-Saharan Africa [2]. In Ethiopia, a study among pregnant women in their second trimester reported a prevalence of 31.2%. Conversely, research conducted in Northern

Nigeria, found a lower prevalence of 18.4% among pregnant women attending prenatal care in a tertiary hospital [1]. This figure, however, was notably higher than the 9.5% prevalence found in a study conducted in two tertiary facilities in Rivers State. Factors contributing to this variation include differences in screening methods, cultural contexts, health system challenges, and socio-economic conditions.

Despite its prevalence and potential consequences, prenatal depression often remains underdiagnosed and under treated, highlighting the need for increased awareness, screening, and intervention strategies in prenatal care settings globally. Depressive symptoms often go undetected due to gaps in screening protocols, poor awareness among healthcare providers, and a lack of resources for intervention. During pregnancy, screening for depressive disorders involves using standardized mental health screening tools to objectively detect depressive symptoms and provide prompt support for mothers at risk.

Researchers have also found that prenatal depression is linked to poor pregnancy outcomes such as preterm birth, low birth weight, [3, 4] and impaired mother-infant bonding. Some undiagnosed cases may progress to postnatal and even major clinical depression [5], putting their newborns at risk of impaired psychosocial development, delayed milestones, and even mental health disorders in the long run. Many women also may not recognize their symptoms as pathological, and even if they do, they are less likely to disclose mental health concerns due to the fear of societal judgment or dismissal. Stigma and cultural barriers often prevent women from seeking help, and if they do, they might be poorly adherent to treatment, ultimately complicating efforts to address prenatal depression effectively [6]. Additionally, limitations in the training of healthcare workers in this specialty can affect their ability to detect, diagnose, and manage these disorders during pregnancy [7]. This oversight contributes to

significant risks for both maternal and fetal health, compounding the burden of mental health disorders worldwide.

Although largely unknown, researchers have proposed a link between the interplay of hormonal, neurological, environmental, and genetic factors and the aetiology of prenatal depressive symptoms [7].

Some studies have identified some sociodemographic and obstetric characteristics as factors linked to the development of prenatal depressive symptoms, including age, poor obstetric history, history of cesarean section, parity, marital status, adverse pregnancy outcome, and lack of partner support were associated with prenatal depression [8–12]. Another study done among pregnant women in Ibadan, Nigeria, found income level and stress to be associated with the development of prenatal depressive symptoms [9]. In contrast, a study among urban pregnant women in Rivers State found marital status, level of education, and employment status to be significantly associated with prenatal depression [8].

Untreated prenatal depression can have a detrimental effect on maternal mental and physical health, foetal development, and postpartum outcomes; thus, focusing on it is key to ensuring the well-being of both mother and child. This debilitating condition may have a negative effect on foetal growth, increase the risk of postnatal depression, and disrupt mother-child bonding. Furthermore, children whose mothers experienced prenatal depression face an increased risk of developing cognitive and behavioural problems later in life [13]. Early intervention can therefore improve prenatal care clinic attendance, lower the risk of substance use, and improve family dynamics. Prioritising the early detection and treatment of prenatal depression can dramatically improve mother and child health outcomes, minimise healthcare expenditures, and prevent long-term mental health complications.

This study quantifies the burden of antenatal depressive symptoms using the Edinburgh

Postnatal Depression Scale (EPDS) and explores context-specific psychosocial and obstetric factors that contribute to maternal mental distress in the prenatal period in Rivers State, Nigeria. Its relevance lies in its focus on a tertiary care setting, where prenatal clients often present with more complex or high-risk pregnancies, and where standard mental health screening is rarely used. While previous Nigerian studies have examined prenatal depression in community or primary care settings, this study contributes facility-based region-specific evidence from Rivers State. This densely populated and socioeconomically diverse area lacks robust facility-based mental health data. Also, similar studies that were carried out in tertiary facilities didn't focus on prenatal depression as a standalone condition in this study's population. Unlike broader national surveys, this study captures the lived experiences of women already engaging with tertiary maternal care services, showcasing missed opportunities for mental health screening within antenatal clinics. Furthermore, these study findings may support the urgent need to integrate routine mental health assessments into antenatal care protocols in tertiary institutions, in line with the World Health Organization (WHO) recommendations [14] for maternal mental health services in Low to Middle-Income Countries (LMICs).

Thus, this study aims to determine the prevalence and factors associated with prenatal depressive symptoms among pregnant women receiving antenatal care at a tertiary hospital in Rivers State, Nigeria.

Materials and Methods

The study was conducted at the antenatal clinic of the Department of Obstetrics and Gynecology of the Rivers State University Teaching Hospital (RSUTH), located in Port Harcourt, Rivers State, South-South Nigeria. The hospital is a tertiary facility in River State. This hospital, purposively selected for its high patient volume and comprehensive maternal care services, provides routine care to a diverse group of pregnant women. RSUTH has its antenatal clinic 5 days a week (specifically on Mondays to Fridays) and has an average monthly caseload of approximately 800 pregnant women.

The index study utilized a descriptive cross-sectional study design with a quantitative approach among pregnant women aged 15-49years, who booked in the second and third trimesters of pregnancy at the hospital, had single gestation, and had no previous or family history of mental health disorders or any other systemic illness (diabetes, hypertension, etc).

The study sample size was calculated using the Leslie Kish formula [15], where Z (confidence limits of the survey result at 95%) was given as 1.96, P (proportion of women with antepartum depression in a tertiary hospital in Rivers State) was 9.57% Q = 1-P and d (precision) was set at 5%; a sample size of 230 was obtained after adding a 10% non-response rate. About 220 eligible pregnant women were thus recruited for this study using a systematic random sampling technique. The sampling interval (1/K) was determined by dividing the total sample size (230) by the estimated number of antenatal clinic attendees (800) in the clinic register. The calculation yielded a sampling fraction of 1/4, resulting in an interval of 4. Therefore, the researchers recruited every fourth eligible patient who came to the antenatal clinic until they reached the sample size.

A semi-structured, pre-tested, and validated interviewer-administered questionnaire was designed to assess participants' mental status, adapted from the Edinburgh Postnatal Depression Scale (EPDS) [16] , which is a 10-item questionnaire and a standard mental health screening tool. The study tool consisted of four sections: sociodemographic characteristics, obstetric, family, and social factors, followed by the Edinburgh Postnatal Depression Scale (EPDS).

Two female research assistants received one day of training on the study's objective and data collection procedure, which included the EPDS, utilizing role-play and feedback for clarification. Data was collected in April-May 2025 using the study questionnaire, entered into Microsoft Excel, exported to and analyzed with IBM SPSS (Statistical Product and Service Solutions) Statistics version 23.

Categorical data was summarized using frequencies and percentages, while numerical data was summarized as means +/- standard deviation. The independent variables in this study are the potential associated factors, while prenatal depression/ depressive symptoms are the dependent/outcome variable. Factors associated with prenatal depression were determined using Chi-square and Fisher's exact tests, and the level of significance was set at a p-value of less than 0.05 and a 95% confidence level.

Results

A total of 230 questionnaires were distributed among the study participants and completed, resulting in a 100% response rate.

The sociodemographic, obstetric, family, and social support characteristics of the study population are given in Tables 1-2, respectively.

The mean ($\pm$ SD) age of the study participants was 30.23 ± 4.73 years, with a range of 19-43 years. Many of them (93, 40.4%) were aged 26–30 years, 228 (99.1%) were married, and 188 (81.7%) had a tertiary level of education. Most participants were Christian (228, 99.1%) and belonged to the Ijaw ethnic group (85, 37%). Their occupations were mainly service workers, shop, and market sales workers (145, 63%), with most earning less than 70,000 Nigerian Naira (172, 74.8%). Most women were of middle socioeconomic status (161, 70.0%).

Table 1. Socio-Demographic Characteristics of Pregnant Women Attending the ANC Clinic in a Tertiary Facility

Variables (N = 230)	Frequency (n=230)	Percentage (%)
Maternal age (years)		
≤25	40	17.4
26 – 30	93	40.4
31 – 35	65	28.3
36 – 40	29	12.6
>40	3	1.3
Marital Status		
Married	228	99.1
Co-habiting	2	0.9
Level of education		
Secondary	42	18.3
Tertiary	188	81.7
Occupation		
Professional	18	7.8
Technician/Associate professional	54	23.5
Service worker/Shop and Market Sales Worker	145	63.0
Clerk	2	0.9
Student	11	4.8

Average monthly income (NGN)		
Less than 70,000	172	74.8
70,000 – 150,000	57	24.8
More than 150,000	1	0.4
Religion		
Christianity	228	99.1
Islam	2	0.9
Ethnicity		
Igbo	72	31.3
Yoruba	5	2.2
Ikwerre/Etche/Eleme	12	5.2
Ogoni	6	2.6
Kalabari/Okirika/Opobo	14	6.1
Ijaw	85	37.0
Ibibio/Efik	19	8.3
Others	17	7.4
Socio-economic status		
Low	3	1.2
Middle	161	70.0
High	66	28.7

Table 2. Obstetric Characteristics of Pregnant Women Attending the ANC Clinic in a Tertiary Facility

Variables (N = 230)	Frequency	Percentage (%)
Ever given birth		
Yes	132	57.4
No	98	42.6
Number of times been pregnant (gravidity)		
None	98	42.6
One – two times	67	29.1
Three – four times	60	26.1
Five or more times	5	2.2
Had any live birth since your first pregnancy (N = 132)		
Yes	129	97.7
No	3	2.3
History of pregnancy miscarriage/ abortion/ stillbirth (N = 132)		
Yes	30	22.7
No	102	44.3
Number of living children (N = 132)		
None	2	1.5
1 child	58	25.2
2 – 3 children	66	28.7
4 or more children	6	2.6

Planned pregnancy (willingly/ intentionally got pregnant)		
Yes	221	96.1
No	9	3.9
Intentions about reproduction at the time of conception (for recent pregnancy)		
Wanted a baby later	166	72.2
Wanted no more children	64	27.8
Pregnancy stage		
Second trimester (14 – 26 weeks)	115	50.0
Third trimester (27 – 40 weeks)	115	50.0
Complications in last obstetric period/current pregnancy		
Yes	2	0.9
No	228	99.1
Plan to/willing to have another child		
Yes	161	70.0
No	69	30.0
Plan to breastfeed child exclusively		
Yes	167	72.6
No	63	27.4

Focusing on the obstetric characteristics of the study participants, approximately half (115, 50.0%) were in their second and third trimester, respectively. About 132 (57.4%) had ever given birth, but most were primigravidas (98, 42.6%). Most women who gave birth (129, 97.7%) had a live birth after pregnancy, while 102 (44.3%) had a history of miscarriage, pregnancy loss, or stillbirth. When asked about the number of living children they had, 66 (28.7%) participants reported having 2-3 children. Most participants (221, 96.1%) planned their pregnancies, but interestingly, 166 (72.2%) reported that they wanted a baby later. Most women did not experience complications in their current pregnancy (228, 99.1%) and were willing to have another child after their current pregnancy (161, 70.0%).

Table 3. Proportion of Study Participants with Prenatal Depressive Symptoms

Individual items of the EDPS	Frequency	Percentage (%)
Been able to laugh and see the funny side of things in the last week		
As much as I always could		
Not quite so much now	19	8.3
Definitely not so much now	6	2.6
Not at all	1	0.4
Looked forward with enjoyment to things		
As much as I ever did	209	90.0
Rather less than I used to	18	
Definitely less than I used to	3	1.3
Hardly at all	0	0.0
Blamed myself unnecessarily when things went wrong		

No, never (not at all)	172	74.8
Not very often	17	7.4
Yes, some of the time	21	9.1
Yes, most of the time	20	8.7
Been anxious or worried for no good reason		
No, not at all	180	78.3
Hardly ever	3	1.3
Yes, sometimes	36	15.7
Yes, very often	11	4.8
Have felt scared or panicky for no very good reason		
No, not at all	181	78.7
No, not much	28	12.2
Yes, sometimes	18	7.8
Yes, quite a lot (very often)	3	1.3
Things have been getting on top of me		
No, have been coping as well as ever (not at all)	168	73.0
No, most of the time I have coped quite well (occasionally)	33	14.3
Yes, sometimes I haven't been coping as well as usual (often)	25	10.9
Yes, most of the time I haven't been able to cope at all (much more than usual)	4	1.7
Been so unhappy that I've had difficulty sleeping		
No, not at all	180	78.3
Not very often	20	8.7
Yes, sometimes	17	7.4
Yes, most of the time	13	5.7
Have felt sad or miserable		
No, not at all	188	81.7
Not very often	38	16.5
Yes, quite often	4	1.7
Yes, most of the time	0	0.0
Been so unhappy that I've been crying		
No, never	206	89.6
Only occasionally	13	5.7
Yes, quite often	10	4.3
Yes, most of the time	1	0.4
Thoughts of harming myself has occurred to me		
No, never	207	90.0
No, hardly ever	15	6.5
Yes, Sometimes	6	2.6

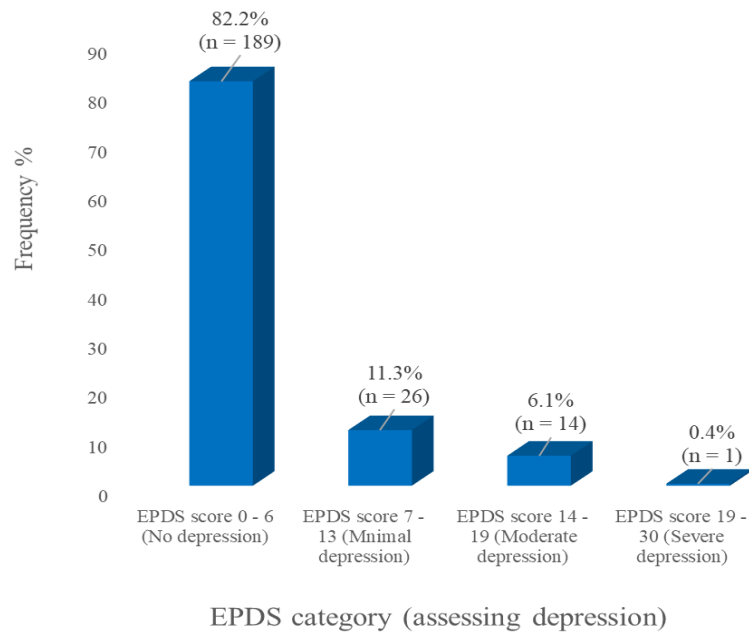| Yes, quite often	2	0.9

Figure 1. Prevalence of Antenatal Depressive Symptoms among Study Participants

The proportion of women with antenatal depressive symptoms (given by an EPDS score above 13) in this study is 15 (6.5%), as given in Table 3-4 and Figure 1.

Table 4. Prevalence of Antenatal Depressive Symptoms among Study Participants

Antenatal depressive symptoms (EPDS score above 13)	Frequency (N=230)	Percentage (%)
Yes	15	6.5
No	215	93.5

Table 5. Sociodemographic Factors Associated with Antenatal Depressive Symptoms among Study Participants

Variables	Antenatal depressive symptoms			
	Yes N = 15 n (%)	No N = 215 n (%)	Total N = 230 n (%)	Fisher's exact test (p-value)
Maternal age (years)				
≤25	4 (10.0)	36 (90.0)	40 (100.0)	5.484
26 – 30	4 (4.3)	89 (95.7)	93 (100.0)	(0.207)
31 – 35	7 (10.8)	58 (89.2)	65 (100.0)	
36 – 40	0 (0.0)	29 (100.0)	29 (100.0)	
>40	0 (0.0)	3 (100.0)	3 (100.0)	
Marital Status				
Married	15 (6.6)	213 (93.4)	228 (100.0)	No FET value
Co-habiting	0 (0.0)	2 (100.0)	2 (100.0)	(1.000)
Level of education				
Secondary	7 (16.7)	35 (83.3)	42 (100.0)	No FET value
Tertiary	8 (4.3)	180 (95.7)	188 (100.0)	(0.009) *

Occupation				
Professional	1 (5.6)	17 (94.4)	18 (100.0)	
Technician/Associate professional	2 (3.7)	52 (96.3)	54 (100.0)	1.896
Service worker/Shop and Market Sales Worker	12 (8.3)	133 (91.7)	145 (100.0)	(0767)
Clerk	0 (0.0)	2 (100.0)	2 (100.0)	
Student	0 (0.0)	11 (100.0)	11 (100.0)	
Average monthly income (NGN)				
Less than 70,000	10 (5.8)	162 (94.2)	172 (100.0)	1.875
70,000 – 150,000	5 (8.8)	52 (91.2)	57 (100.0)	(0.566)
More than 150,000	0 (0.0)	1 (100.0)	1 (100.0)	
Religion				
Christianity	13 (5.7)	215 (94.3)	228 (100.0)	No FET value
Islam	2 (100.0)	0 (0.0)	2 (100.0)	(0.004) *
Ethnicity				
Igbo	4 (5.6)	68 (94.4)	72 (100.0)	
Yoruba	1 (20.0)	4 (80.0)	5 (100.0)	17.817
Ikwerre/Etche/Eleme	3 (25.0)	9 (75.0)	12 (100.0)	(0.003) *
Ogoni	0 (0.0)	6 (100.0)	6 (100.0)	
Kalabari/Okirika/Opobo	1 (7.1)	13 (92.9)	14 (100.0)	
Ijaw	1 (1.2)	84 (98.8)	85 (100.0)	
Ibibio/Efik	1 (5.3)	18 (94.7)	19 (100.0)	
Others	4 (23.5)	13 (76.5)	17 (100.0)	
Socio-economic status				
Low	0 (0.0)	3 (100.0)	3 (100.0)	0.335
Middle	11 (6.8)	150 (93.2)	161 (100.0)	(1.000)
High	4 (6.1)	62 (93.9)	66 (100.0)	

Statistically significant (p<0.05)   *No FET value – No Fisher's exact test value*

Considering sociodemographic factors (Table 5) associated with prenatal depression, only religion ($p = 0.004$) and ethnicity ($p = 0.003$) showed a significant association.

Table 6. Obstetric Factors Associated with Prenatal Depression among Study Participants

Variables	Antenatal depressive symptoms			
	Yes **N = 15** **n (%)**	**No** **N = 215** **n (%)**	**Total** **N = 230** **n (%)**	**Fisher's exact test (p-value)**
Ever given birth				
Yes	12 (9.1)	120 (90.9)	132 (100.0)	3.354 C
No	3 (3.1)	95 (96.9)	98 (100.00	(0.067)
Number of times pregnant (gravidity)				
None	3 (3.1)	95 (96.9)	98 (100.0)	6.508
One – two times	4 (6.0)	63 (94.0)	67 (100.0)	(0.078)
Three – four times	7 (11.7)	53 (88.3)	60 (100.0)	

Five or more times	1 (20.0)	4 (80.0)	5 (100.0)	
Had any live births (N = 132)				
Yes	11 (8.5)	118 (91.5)	129 (100.0)	No FET value
No	1 (33.3)	2 (66.7)	3 (100.0)	(0.250)
History of pregnancy miscarriage/ abortion/stillbirth (N = 132)				
Yes	10 (33.3)	20 (66.7)	30 (100.0)	No FET value
No	2 (2.0)	100 (98.0)	102 (100.0)	(0.0001)*
Number of living children (N = 132)				
None	1 (50.0)	1 (50.0)	2 (100.0)	7.420
1 child	2 (3.4)	56 (96.6)	58 (100.0)	(0.053)
2 – 3 children	9 (13.6)	57 (86.4)	66 (100.0)	
4 or more children	0 (0.0)	6 (100.0)	6 (100.0)	
Planned pregnancy (willingly/ intentionally got pregnant)				
Yes	14 (6.3)	207 (93.7)	221 (100.0)	No FET value
No	1 (11.1)	8 (88.9)	9 (100.0)	(0.461)
Intentions about reproduction at the time of conception (for current pregnancy)				
Wanted a baby later	9 (5.4)	157 (94.6)	166 (100.0)	No FE value
Wanted no more children	6 (9.4)	58 (90.6)	64 (100.0)	(0.370)
Pregnancy stage				
First trimester (0 – 13 weeks)	0 (0.0)	1 (100.0)	1 (100.0)	1.213
Second trimester (14 – 26 weeks)	8 (7.0)	106 (93.0)	114 (100.0)	(0.810)
Third trimester (27 – 40 weeks)	7 (6.1)	108 (93.9)	115 (100.0)	
Complications in last obstetric period				
Yes	0 (00)	2 (100.0)	2 (100.0)	No FET value
No	15 (6.6)	213 (93.4)	228 (100.0)	(1.000)
Plan to/willing to have another child				
Yes	9 (5.6)	152 (94.4)	161 (100.0)	No FET value
No	6 (8.7)	63 (91.3)	69 (100.0)	(0.392)

Statistically significant (p<005), C – Chi square test, No FET value–No Fisher's exact test value

Among all the obstetric history variables examined, only the history of pregnancy loss (miscarriage, abortion, or stillbirth) showed a statistically significant association with antenatal depressive symptoms (Table 6). Participants who had experienced a previous pregnancy loss were significantly more likely to report depressive symptoms during the current pregnancy compared to those without such a history ($p = 0.0001$).

Discussion

This study achieved its principal objectives by determining the prevalence of antenatal depressive symptoms and identifying its associated factors as level of education, religion, ethnicity and history of pregnancy loss. The prevalence observed in this study was lower than that reported in recent global studies from Saudi Arabia, Pakistan and Nigeria [10, 17, 18], suggesting that tertiary care settings with more specialized services may facilitate earlier detection and support, thus reducing symptom burden. However, under-reporting due to stigma remains a plausible explanation for this finding, highlighting a need for improved mental health disclosure and screening during antenatal care.

The association between education level and antenatal depressive symptoms in this study is consistent with findings from other studies, confirming that women with lower educational attainment are at greater risk [8, 19]. This supports the integration of targeted educational and psychosocial interventions into antenatal care policies to mitigate mental health risks over the course of pregnancy and beyond. Similarly, the observed association between religion and antenatal depressive symptoms aligns with evidence [20] indicating that religious participation and spiritual support can influence coping and stress during pregnancy.

We also found a significant relationship between ethnicity and antenatal depressive symptoms, echoing reports that cultural and ethnic differences modify risk profiles for perinatal mental health [21, 22]. This finding calls for prevention and treatment strategies that address cultural stigmas and offer support that resonates with ethnic backgrounds. Culturally tailored mental health education and stigma reduction strategies are needed for Nigeria's diverse ethnic populations.

Finally, the association between previous pregnancy loss (history of miscarriage, abortion or stillbirth) and antenatal depressive symptoms is in line with studies [11, 12] showing increased risk among women with pregnancy loss. It however contrasts with a study done in Abeokuta, Nigeria [7] which found no relationship between adverse pregnancy outcome and depression. This calls for routine mental health screening and additional support for high-risk pregnancies.

These results suggest several implications for practice. First, integrating routine mental health screening (using validated tools) into antenatal care in tertiary hospitals is important, especially for women with lower education, a prior pregnancy loss, or belonging to ethnic or religious groups that may experience stigma. Second, antenatal care programs should include counselling components that are culturally sensitive and address religious/spiritual coping.

Future research should employ longitudinal, multi-centre, and mixed-methods study designs to explore the onset, persistence, and cultural influences on antenatal depressive symptoms.

Conclusion

This study revealed that antenatal depressive symptoms among study participants was lower than many reported rates but linked with key socio-demographic and obstetric factors such as education, religion, ethnicity, and a history of pregnancy loss.

Considering these findings, we advocate for the integration of routine, standardized screening for antenatal depressive symptoms into antenatal visits at tertiary hospitals. Additionally, antenatal care providers need to pay particular attention to women with lower educational attainment, previous pregnancy loss, and other identified risk factors. Ongoing training in culturally sensitive perinatal mental health care, along with clear referral pathways, is also imperative for health workers.

Strengths of the Study

This study is one of the few recent investigations quantifying depressive symptoms among pregnant women in a tertiary facility in Rivers State, filling an important local evidence gap while using a recognized screening instrument (EPDS) that enhances comparability with other studies.

Weaknesses of the Study

Because the study relied on self-administered questionnaires in a single tertiary hospital and used a screening rather than diagnostic tool, the findings may under-report symptoms due to stigma, lack geographic diversity, and either over- or underestimate true prevalence.

Policy Implications of this Study

Incorporating mental health screening and culturally sensitive psychosocial support into national antenatal care guidelines would help standardise early detection and management of

antenatal depression across Nigerian health facilities.

Funding

This study was self-funded by the researchers.

Data Availability

Data will be made available upon request to the authors.

Conflict of Interest

The authors declare that there is no competing or conflict of interest.

Ethical Approval

Ethical clearance for this study was obtained from the Research and Ethics Committee of the Rivers State University Teaching Hospital, Port Harcourt, with the number RSUTH/REC/ 2025714. The researcher prioritized informed consent by providing detailed information regarding the study's objectives, methods, potential risks, and benefits. A clear and concise language was used on the consent form, considering the literacy levels and cultural backgrounds of participants. Furthermore, the investigator stressed the voluntary nature of participation and reassured individuals that their decision to take part or drop out would not influence their present or future medical care or incur any consequences. They were also assured of their freedom to opt out of the study at any time. To protect participants' privacy, all collected data was handled with extreme caution, employing de-identification techniques to safeguard against the identification of individual participants. Access to these data was strictly limited to authorized personnel, and appropriate security measures were set up to prevent unauthorized access using passwords and data encryption. Throughout the study, there was adherence to ethical guidelines to optimize benefits while limiting risk.

Author Contribution

Dr. Chinedu Barbara Nwadiaru: Conceptualization, Methodology, Writing – Original Draft, Data Curation, Formal Analysis.

Dr. Ebenezer Obi Danie: Writing – Review & Editing, Supervision.

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