International Journal of Basic Science and Technology
August, Volume 11, Number 3, Pages 376 - **388** http://www.ijbst.fuotuoke.edu.ng/ 376
https://doi.org/10.5281/zenodo.17489087 **ISSN 2488-86**

Prevalence of Antepartum Depression and Associated Factors among Pregnant Women Attending Antenatal Clinic at Osun State University Teaching Hospital, Osogbo.

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Article Information

Article # 002915
Received: 6th March. 2025
1st Revision 8th April 2025
2nd Revision:11th April 2025
Acceptance 3rd 2025
Available online:
24th July 2025.

Keywords
Antepartum depression,
Pregnant women,
Antenatal clinic,
Prevalence,
Mental health

Abstract

This study aimed to determine the prevalence and associated factors of antepartum depression among pregnant women attending antenatal clinics at UNIOSUN Teaching Hospital, Osogbo. A cross-sectional study was conducted involving 133 pregnant women, selected through a multi-stage sampling technique. Participants were assessed in two stages: first, using the Patient Health Questionnaire (PHQ) to identify women at risk of depression, followed by a Mini International Neuropsychiatric Interview (MINI) for those identified at risk. Data were analyzed using SPSS-26 software, with Chi-square tests to assess associations between categorical variables and binary logistic regression to identify independent predictors of antepartum depression. The prevalence of risk for major depression during pregnancy, as identified by the PHQ, was 8%, while the prevalence of current major depression, as assessed by the MINI, was 2.8%. Independent factors associated with an increased risk of major depression included a history of hospitalization during the current pregnancy (P=0.023) and a family history of mental illness (P=0.035). Antepartum depression is prevalent among the study population. The findings highlight the need for enhanced screening during antenatal visits. Further research should explore the benefits of routine antepartum depression screening to improve maternal mental health outcomes.

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Introduction

Antepartum depression has been defined as a non-psychotic depressive episode of mild to moderate severity, beginning in or extending into pregnancy (Carlson *et al*., 2025). Pregnant women with depression are at increased risk of suicidal ideation and exacerbation of preexisting medical conditions (Abbey and Kasso, 2017). Postpartum depression has by far been more researched than Antepartum depression, despite studies showing a decrease, as opposed to an increase in depression after birth (Nakamura *et al*., 2020). Several studies have shown that antepartum depression is most common in the third trimester (Okagbue *et al*., 2019; Sulyman *et al*., 2021). Effects of antepartum depression include increased caesarean delivery rates, postnatal depression, preeclampsia, low birth weight, preterm delivery, NICU admission, and death in the first month of life, among others (Mostafa *et al*., 2021; Rawahi *et al*., 2020).

Prevalence of Antepartum depression ranges from 7-20% in high-income countries to 5.2-32.9% in low and middle-income countries (LIMCs) (1). In Nigeria, a study conducted in a University teaching hospital in Bauchi reported 18% (Sulyman *et al*., 2021), (Thompson & Ajayi, 2016) reported 24.5% in Abeokuta, while (Adewuya *et al*., 2007) reported a prevalence of 8.3% in Ife, Osun state. These disparities may reflect differences in study settings, methodology, and sociocultural factors influencing symptom reporting. However, they collectively highlight that antepartum depression is a significant and under-recognized mental health problem among pregnant women in Nigeria.

The condition's implications on maternal and fetal outcomes are profound. Studies have shown associations between antepartum depression and increased risks of preeclampsia, preterm birth, low birth weight, higher caesarean section rates, neonatal intensive care unit (NICU) admissions, and neonatal death within the first month of life (Mostafa *et al*., 2021; Rawahi *et al*., 2020). Beyond physical outcomes, untreated maternal depression can lead to

https://doi.org/10.5281/zenodo.17489087 ISSN 2488-86

poor maternal–infant bonding and impaired child cognitive development. Despite these risks, the condition remains underdiagnosed in Nigeria. This underdiagnosis is often attributed to women's reluctance to disclose depressive symptoms due to cultural stigma and fear of discrimination, coupled with health workers' predominant focus on physical maternal and fetal health (Sulyman *et al*., 2021). Moreover, somatic symptoms such as fatigue or sleep disturbances are frequently misattributed to normal pregnancy-related changes, masking underlying depression.

Despite growing recognition of maternal mental health as a critical component of maternal care, antepartum depression remains underexplored in Nigeria, particularly in rural and semi-urban areas. The few existing studies are concentrated in tertiary hospitals in major cities, leaving a significant gap in understanding the epidemiology and risk factors among women attending antenatal clinics in other regions such as Osogbo, Osun State. Moreover, contextual factors such as socioeconomic disparities, limited mental health literacy, and cultural perceptions of mental illness may uniquely influence both the prevalence and presentation of antepartum depression in these settings.

Current literature also lacks sufficient data linking psychosocial, demographic, and obstetric variables to the occurrence of antepartum depression within the Nigerian context. This gap limits evidence-based policy and the integration of mental health screening into maternal care protocols. Therefore, there is a pressing need to conduct localized research to identify the magnitude and predictors of antepartum depression among Nigerian women, particularly in resource-constrained areas. This study sort to determine the prevalence of antepartum depression among pregnant women attending antenatal clinics at UNIOSUN Teaching Hospital, Osogbo, to identify sociodemographic, obstetric, and psychosocial factors associated with antepartum depression in the study population, and to contribute to the existing body of evidence on maternal mental health in Nigeria, thereby informing interventions and policy decisions aimed at improving mental health screening and support during pregnancy.

This study is therefore positioned to fill the existing gap by providing updated, context-specific data on antepartum depression in a South-Western Nigerian setting, contributing to national and regional understanding of maternal mental health burden.

Methodology

The study used a descriptive cross-sectional study among pregnant women who presented for the antenatal clinic at the Obstetrics and Gynaecology Department of Osun State University (UNIOSUN) Teaching Hospital, Osogbo, during the study period. All pregnant women who gave informed consent to participate in the study after the nature of the study had been well explained to them were included in the study, while pregnant women who did not consent to the study and pregnant women with known chronic mental illness were excluded. A total of 133 respondents were estimated using Fisher's formula, p was taken as 9.57% from the study of Abbey and Kasso (2017); however, 218 respondents participated in the study.

A multi-stage sampling technique was employed to ensure fair representation:

Stage 1: The antenatal clinic of UNIOSUN Teaching Hospital was selected purposively as the study site because it serves a heterogeneous population of pregnant women from both urban and peri-urban communities.

Stage 2: On each clinic day, the register of pregnant women attending was used as the sampling frame. Using a systematic sampling method, every *kth* eligible pregnant woman (determined by dividing the estimated daily attendance by the required daily sample size) was approached and invited to participate.

Stage 3: Participants who consented were screened to ensure they met the inclusion criteria before being administered the questionnaire. Recruitment continued daily until the required sample size was achieved.

The study was conducted for 7 weeks. Semi-structured questionnaire was designed to obtain information on sociodemographic characteristics, obstetric history, and support system of respondents. The Patient Health Questionnaire (PHQ) is a validated screening tool designed to detect depressive symptoms in clinical and community settings. For this study, an adapted 10-item version was used to assess antepartum depression among pregnant women. The adaptation was done to ensure cultural and linguistic appropriateness for use among Yoruba-speaking women in Osogbo, Osun State.

The PHQ was translated into Yoruba and subsequently back-translated into English by independent bilingual experts to preserve semantic and conceptual equivalence. Some culturally specific phrases were adjusted for clarity and local understanding. A pilot test was conducted among 20 pregnant women attending antenatal clinics at another hospital within

https://doi.org/10.5281/zenodo.17489087 **ISSN 2488-86**

the state to assess comprehension and internal consistency; necessary adjustments were made based on participant feedback.

Each item measures specific symptoms of depression (e.g., sadness, loss of interest, self-blame, anxiety, sleep disturbance, and suicidal ideation) using a 4-point Likert scale ranging from 0 ("not at all") to 3 ("most of the time"). The total possible score ranges from 0 to 30. Consistent with previous validation studies (Wisner *et al*., 2013), respondents scoring greater than 12 were classified as at risk of depression. These respondents were counseled and recruited for further evaluation using the Mini International Neuropsychiatric Interview (MINI) questionnaire for a definitive diagnosis of depression (Pettersson *et al*., 2018). These clinically diagnosed respondents were referred for a detailed psychiatric assessment after counseling. The MINI has been validated in several African settings, including Nigeria, and has demonstrated high concordance with longer diagnostic interviews such as the Structured Clinical Interview for DSM (SCID). Adewuya *et al*., (2007) reported excellent inter-rater reliability (kappa > 0.80) and good internal consistency (Cronbach's $\alpha = 0.90$) when used among Nigerian adults. For this study, the English version of the MINI was used, but clinicians were permitted to clarify items in Yoruba for participants who preferred the local language, maintaining the original meaning of each diagnostic question.

Data were analyzed using the Statistical Package for the Social Sciences [SPSS 26 software]. Descriptive statistics were used for all variables, chi-square tests were used to determine associations between categorical variables, while binary logistic regression identified independent predictors of antepartum depression. Statistical significance was set at $p < 0.05$. The study was approved by the ethics and research committee of the Osun State University (UNIOSUN) Teaching Hospital, Osogbo.

Results

The majority of participants (65.1%) were between 26-35 years, 52.8% of the respondents were Christians, 72.8% of respondents had tertiary education and 58.3% were engaged **i**n semi-skilled employment**.** Most participants were married (91.7%)**,** 40.8% reported that their spouses were in skilled employment, 90.5% of the married participants were living with their partners and 79.5% of married participants belonged to a monogamous setting. Only 1.8% of respondents reported a family history of mental illness**,** and 20.2% had a history of smoking or alcohol use**.** (Table 1)

Table 1: Socio-demographic Characteristics of Respondents

Sociodemographic characteristics (N=218)	**Frequency**	**Percentage**
Age Group (years)		
18-25	37	17.0
26-35	142	65.1
36-45	39	17.9
Mean ± SD = 30.49 ± 4.99		
Religion		
Christianity	115	52.8
Islam	98	45.0
Traditional	5	2.3
Highest Level of Education		
None	2	0.9
Primary	5	2.3
Secondary	48	22.0
Tertiary	159	72.8
Occupation		
Skilled Employment	50	22.9
Semi-skilled Employment	127	58.3
Unskilled Employment	5	2.3
Student	13	6.0
Unemployed	23	10.6
Marital Status		
Single	18	8.3
Married	200	91.7

https://doi.org/10.5281/zenodo.17489087 ISSN 2488-86

Spouse Occupation		
Skilled Employment	89	40.8
Semi-skilled Employment	94	43.1
Unskilled Employment	19	8.7
Student	3	1.4
Unemployed	13	6.0
Married and living with partner (n=200)		
Yes	181	90.5
No	18	8.3
Family setting (n=200)		
Monogamous	159	79.5
Polygamous	41	20.5
Family history of mental illness		
Yes	4	1.8
No	214	98.2
Previous smoking or alcohol use		
Yes	44	20.2

Obstetric history of respondents

The distribution of participants according to gestational age revealed that 15.6% were in their first trimester, 41.3% in the second trimester, and 43.1% in the third trimester. The majority of the respondents (71.1%) had been pregnant 3-5 times, 46.3% of participants had two children, 7.6% reported a previous history of intrauterine fetal death, while 6.2% reported the death of a child during infancy or childhood. Most pregnancies (86.7%) were described as desired, only 3.3% reported a history of complications in the previous pregnancy, and 76.3% had a normal vaginal delivery in the previous pregnancy. Only 5.5% of participants reported a previous history of depression (Table 2)

Table 2: Obstetric History of Respondents

Variables (N=218)	Frequency	Percentage
Gestational age		
1st trimester	34	15.6
2nd trimester	90	41.3
3rd trimester	94	43.1
Gravidity		
1	7	3.2
2	54	24.8
3-5	155	71.1
>5	2	0.9
Number of live children		
0	12	5.5
1	78	28.1
2	101	46.3
3-5	27	12.4
History of intrauterine fetal deaths (n=211)		
Yes	16	7.6
No	195	92.4
Death of child in infancy or childhood (n=211)		
Yes	13	6.2
No	198	93.8
Desirability of Pregnancy		
Yes	189	86.7
No	29	13.3
History of complications in last pregnancy (n=211)		
Yes	7	3.3
No	204	96.7

https://doi.org/10.5281/zenodo.17489087 ISSN 2488-86

Mode of delivery for last pregnancy (n=211)		
Normal vaginal delivery	161	76.3
Instrumental vaginal delivery	10	4.7
Caesarean section	40	19.0
Previous history of depression		
Yes	12	5.5
No	206	94.5

Support System of Respondents

The results on the level of cordiality with their partners revealed that a majority (56.1%) described their relationship as very cordial, and 58.7% of the respondents reported receiving good support from their partners**.** On the frequency of antenatal clinic attendance with partners, 35.8% of respondents said their partners **never** attended with them, 31.7% stated their partners attended sometimes, 23.4% reported **rare** attendance, and only 6.4% indicated their partners attended antenatal clinics very often with them. More than half (56.0%) of the respondents had no non-partner support system. (Table 3) Overall, 34.4% of the respondents have a good support system. (Figure 1)

Table 3: Support System of Respondents

Variables(n=218)	Frequency	Percentage
Level of cordiality with partner		
Not Cordial	1	0.5
Averagely Cordial	88	40.4
Very Cordial	122	56.1
Level of support received from the partner		
Good	128	58.7
Average	87	39.9
Poor	1	0.5
Frequency of attendance at the antenatal clinic with the partner		
Never	78	35.8
Rarely	51	23.4
Sometimes	69	31.7
Very often	14	6.4
Presence of a non-partner support system		
None	122	56.0
Family	88	40.4
Friends	4	1.8
Work colleagues	2	0.9
Religious leader	2	0.9

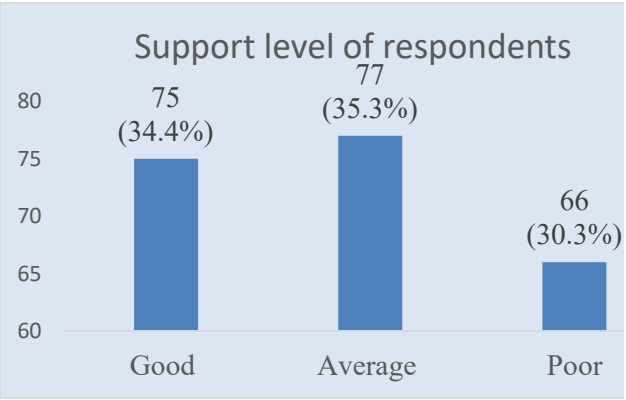

Figure 1: Overall Support Levels of Respondents

Antepartum depression using the Patient Health Questionnaire

A majority of respondents (67.4%) indicated that they were able to laugh and see the funny side of things as much as they always could. Similarly, 61.0% reported that they looked forward to things with as much enjoyment as they ever did. Only 5.0% of participants reported blaming themselves unnecessarily most of the time. When asked about feeling anxious or worried for no good reason, 45.0% reported not experiencing this at all. About 6.9% felt scared or panicky for no good reason quite a lot. Nearly half (49.1%) of the participants stated they had been coping as well as ever. Regarding sleep, 52.3% of respondents reported no difficulty at all. Similarly, 61.5% stated they had

https://doi.org/10.5281/zenodo.17489087 **ISSN 2488-86**

not felt sad or miserable at all, 56.4% had not cried due to unhappiness at all, and 37.2% did so not very often. Concerning thoughts of self-harm, a significant majority (76.6%) reported never having such thoughts, while 19.3% experienced them not very often. (Table 4) Overall, only 18 (8.2%) of the respondents had antepartum depression, out of which 3 (16.7%) had major depression when assessed with Mini International Neuropsychiatric Interview.

Table 4: Patient Health Questionnaire Responses

Variables (N=218)	Frequency	Percentage
I have been able to laugh and see the funny side of things		
As much as I always could	147	67.4
Not quite so much	53	24.3
Definitely not so much	9	4.1
Not at all	9	4.1
I have looked forward with enjoyment to things		
As much as I ever did	133	61.0
Rather less than I used to	69	31.7
Definitely less than I used to	12	5.5
Hardly at all	4	1.8
I have blamed myself unnecessarily when things went wrong		
Yes, most of the time	11	5.0
Yes, some of the time	39	17.9
Not very often	87	39.9
No, Never	81	37.2
I have been anxious or worried for no good reason		
No, not at all	98	45.0
Hardly ever	56	25.7
Yes, sometimes	55	25.2
Yes, very often	9	4.1
I have felt scared or panicky for no good reason		
Yes, quite a lot	15	6.9
Yes, sometimes	34	15.6
No, not much	80	36.7
No, not at all	89	40.8
Things have been getting to me		
Yes, most of the time I haven't been able to cope at all	10	4.6
Yes, sometimes I haven't been coping as well as usual	31	14.2
No, most of the time I have coped quite well	69	31.7
No, I have been coping as well as ever	107	49.1
I have been so unhappy that I have had difficulty sleeping		
Yes, most of the time	9	4.1
Yes, sometimes	27	12.4
No, not very often	68	31.2
No, not at all	114	52.3
I have felt sad or miserable		
Yes, most of the time	3	1.4
Yes, sometimes	15	6.9
No, not very often	66	30.3
No, not at all	134	61.5
I have been so unhappy that I have been crying		
Yes, most of the time	4	1.8
Yes, sometimes	10	4.6
No, not very often	81	37.2
No, not at all	123	56.4
The thought of harming myself has occurred to me		

https://doi.org/10.5281/zenodo.17489087 **ISSN 2488-86**

Yes, most of the time	1	0.5
Yes, sometimes	8	3.7
No, not very often	42	19.3
No, not at all	167	76.6

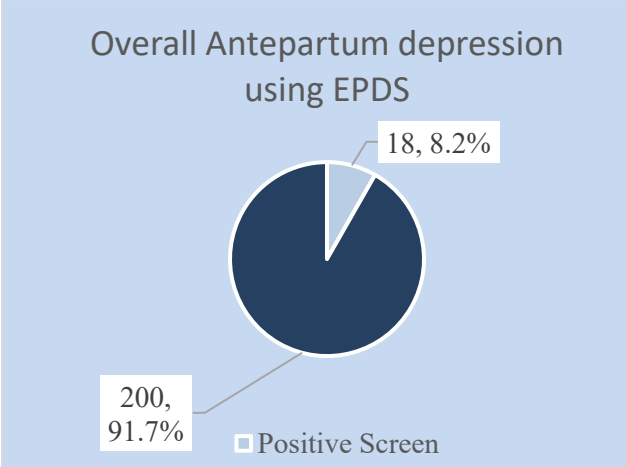

Figure 2: Overall Antepartum depression using Patient Health Questionnaire (PHQ)

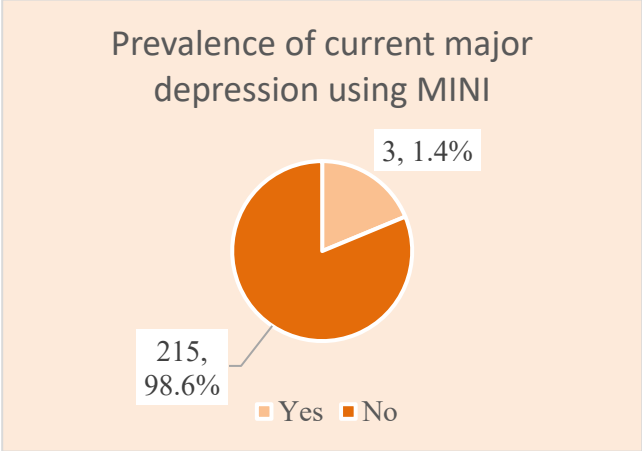

Figure 3: Prevalence of Current Major Depression using Mini International Neuropsychiatric Interview

Factors associated with antepartum depression

At the bivariate level, family history of mental illness (p = 0.035) and hospital admission during current pregnancy (p = 0.023) showed statistically significant association with antepartum depression. (Tables 5 and 6) At the multivariate level, women with a family history of mental illness had 13 times higher odds of antepartum depression compared to those without (p = 0.034). Similarly, women with a history of hospital admission had 6 times higher odds of antepartum depression compared to those without a history (p = 0.023). (Table 7)

Table 5: Association between sociodemographic characteristics and EPDS outcome

Sociodemographic characteristics	**EPDS Outcome**		**Statistics**
	Positive (n=200)	**Negative (n=18)**	
Age Group (years)			
18-25	2 (5.4)	35 (94.6)	χ^2 =0.972
26-35	14 (9.9)	128 (90.1)	df = 2
36-45	2 (5.1)	37 (94.9)	p = 0.623
Religion			χ^2 = 1.273
Christianity	12 (10.4)	103 (89.6)	df = 2
Islam	6 (6.1)	92 (93.9)	p = 0.564
Traditional	0 (0.0)	5 (100.0)	
Highest Level of Education			χ^2 =4.588
None	0 (0.0)	2 (100.0)	df = 3
Primary	1 (20.0)	4 (80.0)	p = 0.471
Secondary	2 (4.2)	46 (95.8)	
Tertiary	15 (9.4)	144 (90.6)	
Occupation			χ^2 = 2.091
Skilled Employment	47 (94.0)	3 (6.0)	df = 4
Semi-skilled Employment	113 (89.0)	14 (11.0)	p = 0.669
Unskilled Employment	5 (100.0)	0 (0.0)	
Student	13 (100.0)	0 (0.0)	
Unemployed	22 (95.7)	1 (4.3)	

https://doi.org/10.5281/zenodo.17489087 ISSN 2488-86

Marital Status			χ^2 =0.946
Single	1 (5.6)	17 (94.4)	df = 1
Married	17 (8.5)	183 (91.5)	p = 1.000
Spouse Occupation			χ^2 = 7.443
Skilled Employment	5 (5.6)	84 (94.4)	df = 2
Semi-skilled Employment	12 (12.8)	82 (87.2)	p = 0.070
Unskilled Employment	0 (0.0)	19 (100.0)	
Student	1 (33.3)	2 (66.7)	
Unemployed	0 (0.0)	13 (100.0)	
Married and living with partner (n=200)			χ^2 =0.952
Yes	165 (91.2)	16 (8.8)	df = 1
No	17 (94.4)	1 (5.6)	p = 1.000
Family setting (n=200)			χ^2 = 1.374
Monogamous	14 (8.8)	145 (91.2)	df = 1
Polygamous	2 (4.9)	39 (95.1)	p = 0.699
Family history of mental illness			χ^2 = 4.953
Yes	2 (50.0)	2 (50.0)	df = 2
No	16 (7.5)	198 (92.5)	*p = **0.035**
Previous smoking or alcohol use			χ^2 = 1.340
Yes	15 (34.0)	29 (66.0)	df = 1
No	31 (17.8)	143 (82.2)	p = 0.497

χ^2 = chi-square, df = degree of freedom, p = p-value, *= statistically significant

Table 6: Association between obstetrics history, support system and EPDS outcome

Obstetrics history	**EPDS Outcome**		**Statistics**
	Positive (n=200)	**Negative (n=18)**	
Gestational age			
1st trimester	13 (38.2)	21 (61.8)	χ^2 = 2.399
2nd trimester	10 (11.1)	80 (88.9)	df = 2
3rd trimester	6 (6.4)	88 (93.6)	p = 0.500
Gravidity			
1	1 (14.3)	6 (85.7)	χ^2 = 5.137
2	5 (9.3)	49 (90.7)	df = 3
3-5	11 (7.6)	134 (92.4)	p = 0.234
>5	1 (50.0)	1 (50.0)	
Number of live children			χ^2 = 1.774
0	2 (16.7)	10 (83.3)	df = 3
1	8 (10.3)	70 (89.7)	p = 0.773
2	20 (19.8)	93 (92.1)	
3-5	7 (25.9)	20 (74.1)	
History of intrauterine fetal deaths (n=211)			χ^2 = 1.020
Yes	2 (14.3)	12 (85.7)	df = 1
No	14 (8.3)	154 (91.7)	p = 0.677
Death of child in infancy or childhood (n=211)			
Yes			χ^2 = 0.766
No	0 (0.0)	13 (100.0)	df = 1
	15 (9.3)	146 (90.7)	p = 0.518
Desirability of Pregnancy			χ^2 = 2.692
Yes	14 (7.4)	175 (92.6)	df = 1
No	2 (10.5)	17 (89.5)	p = 0.189
History of complications in last pregnancy (n=211)			
Yes			χ^2 = 2.521
No	1 (14.3)	6 (85.7)	df = 2
	12 (7.0)	160 (93.0)	p = 0.279

https://doi.org/10.5281/zenodo.17489087 ISSN 2488-86

Mode of delivery for last pregnancy (n=211)			
Normal vaginal delivery	9 (9.4)	87 (90.6)	$\chi^2 = 1.111$
Instrumental vaginal delivery	0 (0.0)	4 (100.0)	df = 2
Caesarean section	5 (12.5)	35 (87.5)	p = 0.518
Previous history of depression			$\chi^2 = 1.374$
Yes	2 (14.3)	12 (85.7)	df = 1
No	12 (8.0)	138 (92.0)	p = 0.587
History of hospital admission in the present pregnancy			$\chi^2 = 7.127$
Yes	4 (22.2)	14 (77.8)	df = 1
No	12 (6.3)	178 (93.7)	p = **0.023**
Support System			
Good	9 (12.0)	66 (88.0)	$\chi^2 = 3.971$
Average	7 (9.1)	70 (90.9)	df = 2
Poor	2 (3.0)	64 (97.0)	p = 0.120

χ^2 = chi-square, df = degree of freedom, p = p-value, *= statistically significant

Table 7: Multivariate analysis using Binary logistic regression

Variable	Exp (B)	p-value	Confidence Interval
Hospital admission			
No (R)			
Yes	6.002	***0.023**	1.27- 28.32
Family History of mental illness			
No (R)			
Yes	12.995	***0.034**	1.22- 138.01

R = Reference, *= statistically significant

Discussion

A mean age of 30.5 years and predominance of tertiary-educated individuals (72.8%), reflect a young, educated cohort engaged mainly in semi-skilled (58.3%) to skilled employment (22.9%). This demographic pattern indicates a relatively young and educated cohort, consistent with findings from Ethiopia, where higher educational attainment was associated with improved maternal health awareness and healthier lifestyle behaviors (Gelaw *et al*., 2023). Nonetheless, continued engagement in smoking or alcohol (20.2%) suggests that even well-educated African adults are not immune to substance use, findings corroborated by a BMC Public Health review that showed a strong association between tobacco use, level of education, and alcohol use across sub-Saharan Africa (Boua *et al*., 2021). Only 1.8% of participants reported a family history of mental illness, but reliance on self-reported data in stigmatizing contexts may understate true prevalence, which could, in turn, impact mental health risk assessments.

The distribution of participants across trimesters revealed a higher proportion of women in the second (41.3%) and third (43.1%) trimesters, which aligns with recruitment patterns often seen in antenatal care studies, as women are more likely to seek care or participate in studies during the later stages of pregnancy (Kitaw and Haile, 2022). Early antenatal care is crucial for identifying and managing maternal health risks; hence, the relatively low representation of women in the first trimester (15.6%) highlights the ongoing need to promote early antenatal visits. In terms of gravidity, the majority of the women (71.1%) had been pregnant between three and five times. High gravidity may be associated with cumulative obstetric stress and risk of complications (Genc *et al*., 2021). Only a few women (3.3%) reported complications in their previous pregnancy, and 76.3% had a normal vaginal delivery, indicating a generally favourable obstetric history. However, 19.0% had undergone a caesarean section, and 4.7% had instrumental deliveries. While caesarean delivery can be medically necessary, it has been associated with increased risk of postpartum depressive symptoms in some populations (Ilska *et al*., 2020). Lastly, the prevalence of prior depression in this study population was 5.5%. Although relatively low, this highlights the importance of routine mental health screening during antenatal care. Previous studies have emphasized that a history of depression significantly increases the likelihood of experiencing perinatal mood disorders (Moran *et al*., 2023).

High levels of cordiality and partner support are encouraging, as strong partner support is consistently

https://doi.org/10.5281/zenodo.17489087 ISSN 2488-86

linked to better maternal mental health and pregnancy outcomes. For example, (Nakamura *et al*., 2020) demonstrated that satisfying partner support can reduce postpartum depression scores by up to 11% among migrant women. Despite strong relational bonds, partner attendance at antenatal clinics remains low. Only 6.4% attended **very often** with their partners, and 35.8% never did. This aligns with broad literature highlighting common barriers such as gender norms, workplace constraints, and clinic environment issues. Importantly, partner attendance has substantial benefits. A national Kenyan survey (2019) found that male attendance was associated with more frequent antenatal visits, facility delivery, exclusive breastfeeding, and higher infant immunization rates (Odeny *et al*., 2019). While 40.4% reported family support, over half lacked any non-partner support system. Social support is a known buffer against stress; its absence may increase vulnerability to poor mental and physical health outcomes. Enhancing supportive structures—through community groups or peer networks—could provide vital relief for women without partner involvement.

Using the adapted PHQ tool, the prevalence of Antepartum depression risk was 8%, comparable to findings of Adewuya *et al*., (2007) who reported a prevalence of 8.3% in Ife, Osun state. This is however, lower compared to studies done in Ethiopia and Ghana respectively yielded prevalence of 11.8% and 28.3% (Bisetegn *et al*., 2016; Guo *et al*., 2013), and studies conducted in Bauchi (18%) and Abeokuta (24.5%) (Sulyman *et al*., 2021; Thompson & Ajayi, 2016). The findings in this present study might be attributed to the study location being a tertiary facility, and thus the result might not be entirely representative of the general pregnant population, most of whom will present to peripheral facilities, and in some cases traditional birth attendants for care. The finding, especially compared to the finding of Thompson in Abeokuta (who used the same tool but across different strata of private/health facilities) might be related to the educational and socioeconomic status of the study population (Thompson & Ajayi, 2016). This is perhaps because people of higher educational and socioeconomic status as found in our study might be able to form better supportive networks that have been proven to be protective against depression (Fisher *et al*., 2012).

The prevalence of major antepartum depression diagnosis among total respondents as obtained from the use of the MINI tool, was 1.4%, much less than a similar study in Port-Harcourt, which reported a prevalence of 7.8% using the same tool (Abbey & Kasso, 2017). This disparity could be explained by the methodology of this present study. Compared to global trends, where antepartum depression prevalence ranges between **10–20%** in low- and middle-income countries, the rate found in this study is relatively low (Padhani *et al*., 2024). This may reflect local sociocultural factors, including family-centered support systems, and underreporting due to stigma surrounding me

ntal illness. Nonetheless, it highlights a critical need to integrate routine mental health screening into antenatal care**,** especially in primary healthcare settings where more vulnerable populations receive care.

There was a statistically significant association between previous hospitalisation in the present pregnancy and the risk of Antepartum depression. This bears similarity to a meta-analysis by Toscano *et al*., (2021) in Italy, which suggested that one in three women hospitalized in pregnancy reported clinical levels of depression or anxiety symptoms, twice the reported prevalence in the general obstetric population. This association might not be unrelated to the physical stress and inconvenience of being confined to a hospital bed could cause. A more plausible explanation however would be that this might be a reflection of the psychological strain associated with being managed for a coexisting morbidity with pregnancy, so much as to warrant being hospitalized.

Implications of study

From a **clinical and public health perspective,** these findings have several implications. Firstly, **healthcare providers should routinely screen for depressive symptoms** using culturally adapted and validated tools such as the PHQ and MINI, particularly among women with medical or obstetric complications. Secondly, **partner and family involvement** in antenatal care should be encouraged. Although most respondents reported cordial partner relationships, actual **partner attendance at clinics was low (6.4%),** echoing evidence from Kenya that male involvement improves antenatal attendance and maternal outcomes (Odeny *et al*., 2019). Health promotion strategies should therefore target men and families to strengthen the social support network around pregnant women.

At the policy level, incorporating perinatal mental health assessment into the national antenatal care guidelines would ensure early identification and management of at-risk women. Furthermore, capacity-building for nurses, midwives, and community health workers on perinatal mental health should be prioritized.

Finally, future research should employ longitudinal designs to explore the trajectory of depressive symptoms from pregnancy into the postpartum period,

and investigate the effectiveness of psychosocial interventions, such as partner education and community-based mental health support within the Nigerian context.

Study Limitations and Strengths

By being conducted in a tertiary facility in the state capital, and as evidenced by the relatively high educational and socioeconomic status of the study participants, there might have been over-representation of the advantaged. Recall bias as well as probable sociocultural and religious restrictions, might have influenced how respondents expressed symptoms. Also, being a cross-sectional study, causal relationships could not be established. The strength of this study was the use of a screening and diagnostic tool for Antepartum depression assessment.

Recommendations for Further Research

Broader Study Population: Future studies should consider a larger and more diverse sample across multiple healthcare facilities to ensure the findings are more generalizable to the broader population of pregnant women in Nigeria.

Longitudinal Research: Consider conducting longitudinal studies to observe the progression of antepartum depression throughout pregnancy and its impacts on maternal and fetal outcomes.

Routine Screening: The study suggests incorporating antepartum depression screening at booking; further research could explore the effectiveness of such interventions in early pregnancy on improving mental health outcomes.

Cultural Considerations: Future studies could delve deeper into the cultural factors influencing the reporting and treatment of antepartum depression, as these may vary significantly across different regions in Nigeria.

Conclusion

The probability for severe depression as seen in this study is significant among the population under study. Though the actual prevalence using the MINI tool was lower, it doesn't in any way downplay the severity of the problem at hand. The study also found a history of hospital admission in the present pregnancy as well as family history of mental illness to be statistically significant associations to Antepartum depression.

The authors recommend more in-depth research into Antepartum depression, with the incorporation of Antepartum depression screening at booking and in all trimesters as part of routine antenatal care. A joint clinic with mental health physicians will go a long way to help prompt diagnosis, efficient referral, and subsequent treatment.

Competing interests

The authors know no competing interest for this study.

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