ISSN: 3068-7527
Open Access Journal of Medicine and Healthcare
Research Article
OPENPUB GLOBAL PUBLISHERS
Volume 2 | Issue 2

Prevalence and Predictors of Postpartum Depression Among Postpartum Women in Anambra State, South-East Nigeria: A Facility-Based Cross-Sectional Study

Ijeoma Valentina Ikeanyionwu[1]*, George Uchenna Eleje[2], Chika Marvelous Okpala[3], Chuma Edward Emembolu[1], Tonia Ogochukwu Mbagwu[1], Ifeoma Juliet Egbo[4], Duunemene Nubari Banuna[5]

[1]Public Health Department, Anambra State Ministry of Health, Awka, Nigeria.
[2]Department of Obstetrics and Gynecology, Nnamdi Azikiwe University, Awka, Nigeria.
[3]Nursing Department, Nnamdi Azikiwe University Teaching Hospital, Awka, Nigeria.
[4]Department of Community Medicine, State University of Medical and Applied Sciences, Awka, Nigeria.
[5]Independent Consultant, Clinton Health Access Initiative, Abuja, Nigeria.

*Corresponding author: Ijeoma Valentina Ikeanyionwu, Public Health Department, Anambra State Ministry of Health, Awka

Citation: Ikeanyionwu IV, Eleje GU, Okpala CM, Emembolu CE, Mbagwu TO, Egbo IJ. et.al. (2026) Prevalence and Predictors of Postpartum Depression Among Postpartum Women in Anambra State, South-East Nigeria: A Facility-Based Cross-Sectional Study. Open Access J. Med. Healthc. 2(1): 1-15.

Received: 09-03-2026 **Accepted:** 21-03-2026 **Published:** 27-03-2026

Abstract

Background

Postpartum depression (PPD) is a significant global maternal mental health problem, with higher burdens documented in low- and middle-income countries. Despite increasing evidence from various regions of Nigeria, data from Anambra state remain scarce. There is a rapid decline in sociocultural practices, such as communal care and 'omugwo', which traditionally protected mothers from emotional distress.

Objective

This study assessed the prevalence and predictors of PPD among postpartum women in Anambra State, Nigeria.

Methods

A facility-based analytical cross-sectional study was conducted among 387 postpartum women attending postnatal and immunization clinics across primary, secondary, and tertiary health facilities in Anambra State. Eligible mothers were between 6 weeks and 12 months postpartum. Participants were selected using multistage sampling. Data were collected using a semi-structured questionnaire comprising sociodemographic variables, obstetric and psychosocial characteristics, and the Edinburgh Postnatal Depression Scale (EPDS). An EPDS score ≥13 indicated probable PPD. Descriptive statistics, Chi-square tests, and multivariate logistic regression analyses were performed using SPSS version 27. Statistical significance was set at $p < 0.05$.

Results

The mean age of respondents was 29.30 ± 6.42 years. Out of 387 respondents, 159 have an EPDS score of 13 and above, which gives the prevalence of PPD to be 41.1%. Bivariate analysis showed significant associations between PPD and age ($p = 0.001$),

marital status (p = 0.007), polygamous union (p = 0.044), low maternal education (p = 0.027), occupation (p = 0.001), pregnancy complications (p = 0.045), poor health since delivery (p <0.001), postpartum blues (p = 0.001), underweight infant at 6 weeks (p = 0.013), formula feeding (p = 0.026), family history of mental illness (p <0.001), partner unsupportiveness (p <0.001), partner violence (p = 0.003), and lack of help with infant care (p = 0.000). Multivariate analysis identified four independent predictors of PPD; poor maternal health since delivery (aOR = 3.58; 95% CI: 1.51–8.47; p = 0.004), having an underweight infant at 6 weeks (aOR = 0.33; 95% CI: 0.12–0.95; p = 0.040), family history of mental illness (aOR = 0.31; 95% CI: 0.11–0.95; p = 0.040), and partner unsupportiveness (aOR = 3.10; 95% CI: 1.58–6.08; p = 0.001).

Conclusion

The prevalence of PPD in Anambra State is considerably high, underlining a substantial maternal mental health burden. The key predictors, including poor postpartum health, infant underweight status, family history of mental illness, and lack of partner support, highlight the need for integrated maternal mental health screening within routine postnatal care. Strengthening social support systems, enhancing partner involvement, and instituting early postpartum mental health assessment may significantly reduce the risk of PPD among mothers in the state.

Keywords: Postpartum depression, Edinburgh Postnatal Depression Scale, Prevalence, Predictors, Maternal mental health.

Introduction

Postpartum depression (PPD) is a common mental health problem among women after the birth of a new baby [1]. It typically begins immediately or within two to six weeks after delivery and can last for over a year. It is characterized by symptoms such as tearfulness, feelings of hopelessness, emotional lability, feelings of guilt, sleep disturbances, and loss of appetite [2]. As joyful and exciting as the birth of a baby can be to a mother, it can be emotionally draining, demanding, and stressful, leading to a depressed mood that affects a woman's quality of life, social functioning, and economic productivity [3]. This major developmental transition in life not only affects the woman but also her baby and the family [4]. PPD is more severe, lasts longer, and requires medical attention, unlike the transient "baby blues". This makes PPD a serious public health concern as it is associated with numerous medical and psychosocial problems in both mother and child [5]. PPD can progress into major depression and carries a great risk of ill health and, in severe cases, maternal death, yet it is an underdiagnosed and underrated illness in many countries.

PPD can affect up to 10 – 20% of all mothers in Western societies [6]. Globally, the prevalence of PPD is estimated at 17.22% in a meta-analysis of 565 studies from 80 countries [7]. In Africa, a pooled PPD prevalence of 17.8% with significant regional variations was reported in a meta-analysis [8]. Sub-Saharan African countries exhibited a lower prevalence of 13.49%, whereas non-Sub-Saharan countries, particularly Egypt, reported a markedly higher prevalence of 44.05% [8]. Economic status also influences prevalence, with low-income African countries showing a higher PPD prevalence of 19.94% compared to middle-income countries at 12.35% [9]. In Nigeria, a prevalence of 23% - 31% was reported for PPD in southeastern Nigeria [5, 10], while 5% - 38% [11] was reported in southwestern Nigeria. These differences in prevalence can be attributed to the effect of social, cultural, lifestyle, and racial factors on depression [12]. The statistics indicate that PPD might be a very common experience in Nigeria.

Religion, age, socioeconomic status, education, and unemployment are sociodemographic characteristics that have been associated with PPD [13]. Additionally, risk factors for obstetric and newborn care include unintended pregnancies, pregnancy problems, sick babies, infant deaths, parity, and a history of abortions [14]. Other risk factors that have also been identified include stress, marital issues, a history of mental illness, a lack of antenatal care, and a lack of social or emotional support [15]. The most consistent risk factors/predictors that have been documented over time are stress, prior history of depression, lack of social support, and poor relationship between the mother and her husband [15].

Certain elements, such as communal living and "omugwo," as it is known in Igboland, may serve as deterrents to PPD in Nigeria. Members of the community can provide social support and companionship due to the communal lifestyle that is typical in rural areas. This makes women feel more at ease and relieved from the difficulties of pregnancy and childbirth. Additionally, in certain

African cultures, the customary naming ritual, typically held on the eighth day after the baby's birth, helps mothers stay positive throughout the first few days following delivery. The traditional custom of "omugwo," in which a woman's mother and/or mother-in-law stay with her for up to three months after giving birth to care for both mother and child, also aids in the adjustment of the new mother's life after childbirth. These practices lessen the stress and anxiety associated with motherhood, which lowers the chance of PPD development. However, in recent times, these practices have declined, and people tend to stay on their own even in rural communities due to growing insecurity and the high cost of living in the country. With the increasing mental health issues globally, a lot of factors can act as PPD enablers. Many women may hide their emotions and keep to themselves during postpartum clinic appointments since they perceive PPD as usual rather than a serious condition [15]. In addition, most women are not aware of the illness's symptoms, and those who are aware of their issues often remain silent about them out of fear of stigma or being viewed as weak. PPD is not well understood among postpartum women in Nigeria, and medical professionals do not always recognize its symptoms [16]. As a result, PPD has gone undiagnosed, and to demonstrate the impact of PPD, studies on its prevalence and its predictors are now necessary. Few studies have been carried out on the prevalence and predictors of PPD in Southeast, but there has not been a study in Anambra. Researchers have concentrated more on Enugu, a neighboring state to Anambra, and the results indicated a high prevalence. Hence, this study aims to determine the prevalence and predictors of postpartum depression among women in Anambra State, Nigeria.

Methods

Study Area

This study was carried out at the health facilities in Anambra State. The health facilities included primary, secondary, and tertiary health care from both faith-based and government-owned facilities. This is to ensure that women from diverse socioeconomic backgrounds are captured. Anambra State is located in the southeast of Nigeria, with Enugu, Imo, Delta, and Kogi states as bordering states.

Anambra State has a population of 6.95 million people in 2024, with 50.70% of them being men and 49.30% being women [17]. The state's total area is 4,844 square kilometers, and its population density is 1,270 people per square kilometer. About 98 percent of the people in Anambra state are Igbos, who are the state's indigenous ethnic group. The remaining 2 percent are Igala, who reside in the state's North-West [18]. Manufacturing, trade, and agriculture (which dominate the rural economy) are important economic sectors. Farming, raising cattle, and forestry are all considered agricultural activities in the state. The state has a relatively high concentration of trade/commercial activities, artisans, and small-scale manufacturing. Almost all urban cities possess very busy and vibrant markets.

Study Design

A facility-based analytical cross-sectional study of postpartum women between 6 weeks and one year postpartum was conducted. The study participants were selected from postnatal and immunization clinics from selected health facilities in Anambra State.

Inclusion and Exclusion Criteria

The inclusion criteria included postpartum mothers attending postnatal care in any of the selected healthcare facilities, mothers who are between 6 weeks and one year postpartum, aged 18 years and above, and willing and able to give informed consent. Exclusion criteria are mothers attending postnatal care in health facilities that are not part of the study, mothers who are not up to 6 weeks postpartum, or above one year postpartum, aged less than 18 years, or not willing and able to give informed consent. According to Cox et al. [19], it is generally recommended to screen for PPD at 6 – 8 weeks when the typical baby blues symptoms have resolved. Additionally, PPD can set in at any time within the first 12 months after childbirth.

Sample Size Determination

The sample size is calculated using the formula for simple proportion:

$$n = \frac{z^2 pq}{d^2}$$

Where:

n = minimum sample size

z = standard normal deviate (reliability coefficient at 95% confidence interval; standard value of 1.96)

d = degree of accuracy or margin of error at 5% (standard value is 0.05)

p = prevalence, i.e., proportion of population with characteristics of interest from previous study, which is 34.6% [20].

q = 1 – p

The sample size is thus estimated at:

$$n = \frac{1.96^2 \times 0.346 \times (1 - 0.346)}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.346 \times 0.654}{0.0025}$$

$$= 348$$

10% attrition will be added for those who may not respond

$$= \frac{348}{0.9}$$

$$= 387$$

Final sample size = 387

Sampling Technique

This study utilized a multistage sampling technique comprising three distinct stages:

Stage one: Selection of study sites

The study sites were selected using the Nigerian Health Management Information System (NHMIS) reporting. Facilities from tertiary, secondary, and primary levels of care, with an average of 30 deliveries per month, were selected.

Stage two: Selection of participants

Within each facility, simple random sampling was used to select eligible postpartum women from clinic registers during data collection periods. This ensures that each eligible woman has an equal chance of being selected for the study.

Data Collection

Data was collected using an already pretested, semi-structured questionnaire used by Adeyemo et al. [15] for a study on the prevalence and predictors of PPD among postnatal women in Lagos, Nigeria. The questionnaire is divided into three sections. The first section elicited data on the socio-demographic characteristics of the respondents, while the second section consisted of the Edinburgh Postnatal Depression Scale (EPDS), a 10-question screening tool for PPD [19]. Each question in the EPDS had 4 answers scored 0, 1, 2, or 3. To determine the prevalence of PPD, all the scores will be summed up, where the minimum and maximum total scores obtained from the EPDS are 0 and 30, respectively. An EPDS score ≥13 is considered positive for PPD, while a score of <13 rules out the possibility of PPD. Finally, the third section is the predictors of PPD (obstetric, child-related, and psychosocial risk factors of PPD).

Data collection was conducted by four trained enumerators supervised by a field supervisor and coordinated by the principal investigator. All data collectors underwent a two-day training course covering study objectives, ethical considerations, questionnaire administration, and methods to minimize bias, followed by a pilot exercise for practice. The supervisor conducted daily debriefings, spot-check interviews, and verified data completeness and accuracy. To reduce interviewer bias, standardized scripts and neutral probing were used, and enumerators were rotated across facilities to avoid familiarity with respondents. Data was collected electronically using Google Forms with built-in validation checks to ensure quality and prevent missing entries. The data manager

reviews submissions daily, provides feedback for correction, and maintains confidentiality through secure, password-protected data storage.

Data Analysis

Data from the questionnaires were cleaned up in Excel and subsequently exported into the Statistical Package for Social Sciences (SPSS) version 27 for analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to present the demographic and clinical characteristics of respondents. For continuous variables like age, the mean and standard deviation were used, while categorical variables were presented as frequency distributions and percentages in tabular formats. Bivariate analysis (using the Chi-square test) was employed to identify variables significantly associated with PPD. Variables with a p-value < 0.2 in the bivariate analysis were entered into a multivariate logistic regression model to identify independent predictors of PPD. The dependent variable is the presence or absence of PPD (as determined by EPDS score ≥ 13), while the independent variables include sociodemographic, obstetric, and psychosocial factors. Statistical significance is set at $p < 0.05$ with 95% confidence intervals.

Results

The respondents have a mean age of 29.30±6.42 SD, with the 25-34 (25 – 29: 31.3%; 30 – 34: 27.9%) age group accounting for slightly more than half of the respondents. Christianity is the dominant religion (93.3%) among the respondents. While 87.3% were married or in union, 89.6% of them are in a monogamous marriage. More than 80% of the respondents completed secondary school (secondary: 40.1%; tertiary: 46.5%). The top occupations were trader/business (44.4%) and professional (21.4%); however, 15.5% are housewives and 11.4% are unemployed. A small proportion of the respondents have a family income of <10,000 Naira (8.0%), while 22.5% is the highest percentage with an income between 100,001 – 200,000 Naira (Table 1).

Table 1: Socio-demographic characteristics of the respondents

Variables	Frequency (n=387)	Percentage (%)
Age Group		
18-19	27	7.0
20-24	62	16.0
25-29	121	31.3
30-34	108	27.9
35-39	39	10.1
40-44	23	5.9
45-49	7	1.8
Mean age ± SD	29.20±6.42	
Religion		
Christian	361	93.3
Muslim	21	5.4
Sabbatarian	1	0.3
Traditional	4	1.0
Marital Status		
Married/in-union	338	87.3
Separated/Widowed/Divorced	9	2.3
Single	40	10.3
Married/in-union type (n=338)		

Monogamy	303	89.6
Polygamy	35	10.4
Level of education		
No formal education	21	5.4
Primary	31	8.0
Secondary	155	40.1
Tertiary	180	46.5
Occupation		
Artisan	28	7.2
Housewife	60	15.5
Professional	83	21.4
Trader/Business	172	44.4
Unemployed	44	11.4
Family's monthly income		
<10,000	31	8.0
10,001 – 50,000	64	16.5
50,001 – 100,000	81	21.0
100,001 – 200,000	87	22.5
200,001 – 400,000	60	15.5
>400,000	64	16.5

Most respondents (78.3%) did not experience any problems or complications during pregnancy. The first-time mothers are 31.3%, while 58.9% have 2 – 4 children. The majority of the respondents had vaginal delivery (69.0%), and 13.4% are unwell since delivery. Postpartum blues were experienced by 36.2% of the respondents, and the major cause of postpartum blues is stress (55.0%). While 41.1% of the respondents did not have a desired sex of the baby, a greater percentage had a female child (55.8%). At birth, 76.2% of the babies born weighed normal (2.5 – 4.0kg), 17.6% had low birth weight (<2.5kg), and 6.2% were macrosomia (>4.0kg), while at six weeks, babies that weighed normal (4.0 – 6.0kg) reduced to 71.3%, underweight babies (<4.0kg) increased to 19.6% as well as overweight babies (>6.0kg) which increased to 9.3%. Exclusive breastfeeding is the feeding method used by 52.5% of the respondents, while those who fed only formula are 6.7% (Table 2).

Table 2: Obstetric and child-related characteristics

Variables	Frequency (n=387)	Percentage (%)
Problems or Complications in Pregnancy		
No	303	78.3
Yes	84	21.7
Number of children		
1	121	31.3
2-4	228	58.9
5 and above	38	9.8
Mode of last delivery		
Caesarean	120	31.0
Vaginal	267	69.0
Health since delivery		
Unwell	52	13.4
Well	335	86.6

Experienced postpartum blues		
No	247	63.8
Yes	140	36.2
Causes of postpartum blues (n-140)		
Death of a loved one	16	11.4
Insufficient funds	19	13.6
Husband not around	1	0.7
No help or support in caring for the baby	27	19.3
Stress	77	55.0
Desired sex of the baby		
Female	140	36.2
Male	88	22.7
Not Specific	159	41.1
Actual sex of the baby		
Female	216	55.8
Male	171	44.2
Weight of the baby at birth		
<2.5kg	68	17.6
2.5 – 4kg	295	76.2
>4.0kg	24	6.2
Weight of the baby at 6 weeks		
<4.0kg	75	19.4
4.0 – 6.0kg	276	71.3
>6.0kg	36	9.3
Method of feeding the baby		
Exclusive breastfeeding	203	52.5
Formula feeding	36	6.7
Mixed feedings	158	40.8

A small proportion (9.0%) of the respondents have a family history of mental illness. While 74.3% of the husbands/partners are supportive, 25.7% are unsupportive, and the reasons for being unsupportive are not giving care and attention (39.1%), not helping out with the care of the children/child (33.3%), and not providing enough financially (27.6%). Husbands/partners who were violent to the respondents are 12.7%, of which 40.8% are beating, 4.1% rape, and 55.1% verbal abuse. The major source of help in caring for the baby is husbands (50.1%), 26.9% are helped by relatives, while 16.0% do not have any source of help (Table 3).

Table 3: Psychosocial characteristics

Variables	Frequency (n=387)	Percentage (%)
Family history of mental illness		
No	352	91.0
Yes	35	9.0
Husband/partner supportiveness (n= 338)		
No	87	25.7
Yes	251	74.3
Reason for unsupportiveness (n=87)		
Not helping out with the care of the children/child	29	33.3
Not giving care and attention	34	39.1
Not providing enough financially	24	27.6

Experienced husband/partner violence		
No	338	87.3
Yes	49	12.7
Type of violence (n=49)		
Beating	20	40.8
Rape	2	4.1
Verbal Abuse	27	55.1
Source of help for the care of the baby		
Friends	9	2.3
Husband	194	50.1
Nanny/House-help	18	4.7
None	62	16.0
Relatives	104	26.9

Out of 387 respondents, 159 had an EPDS score of 13 and above, which leaves the prevalence of PPD to be 41.1% (Figure 1). PPD is seen among the 18-19, 20-24, and 45-49 age groups (p=0.001). There is no significant association between religion and the family's monthly income (Table 4). Women without husbands or in union (p=0.007), those in union but in a polygamous family (p=0.044), women with no formal education and just primary education (p=0.027), and women who are artisans and unemployed (p=0.001) were all associated with PPD (Table 4). In obstetric and child-related factors, having problems or complications in pregnancy (p=0.045), poor state of health since delivery (p<0.001), experiencing postpartum blues (p=0.001) caused by the death of a loved one, no help or support in caring for the baby, and insufficient funds (p=0.002), having an underweight baby at 6 weeks (p=0.013), and feeding with only formula (p=0.026) are also associated with PPD. Furthermore, the psychosocial factors associated with PPD were having a family history of mental illness (p=0.000), having an unsupportive husband or partner (p=0.000), experiencing husband or partner violence (p=0.003), and having no source of help caring for the baby (p <0.001) (Table 6).

Figure 1: Prevalence of PPD

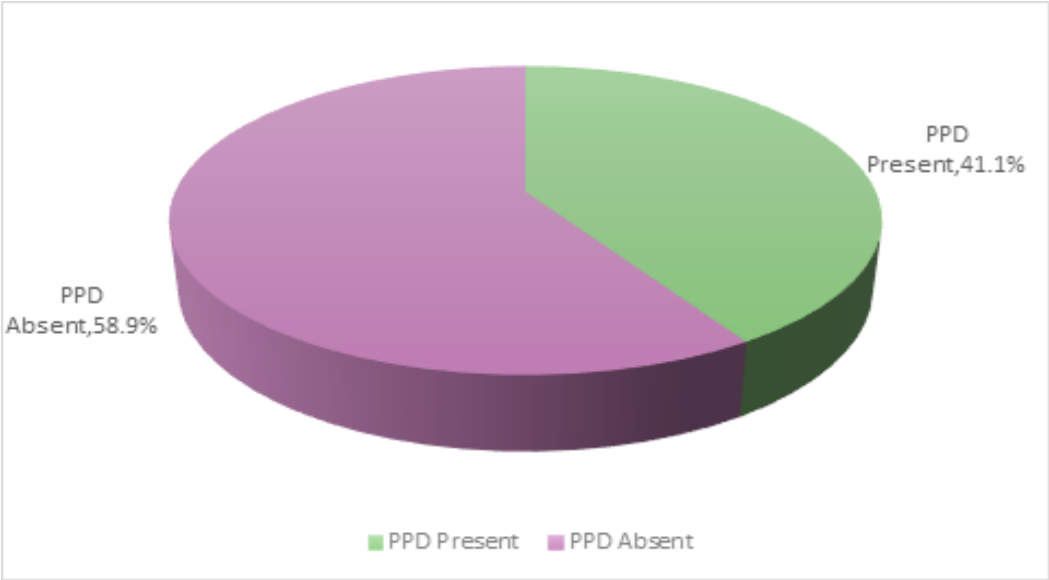

Table 4: Sociodemographic factors associated with PPD

Variables	Absence of PPD (N = 228) Freq (%)	Presence of PPD (N=159) Freq (%)	Chi-Square
Age Group			
18-19	10(4.4)	17(10.7)	
20-24	25(11.0)	37(23.3)	
25-29	80(35.1)	41(25.8)	
30-34	72(31.6)	36(22.6)	23.095
35-39	27(11.8)	12(7.5)	
40-44	11(4.8)	12(7.5)	
45-49	3(1.3)	4(2.5)	
Religion			
Christian	215(94.3)	146(91.8)	
Muslim	10(4.4)	11(6.9)	2.932
Sabbatarian	0(0.0)	1(0.6)	
Traditional	3(1.3)	1(0.6)	
Marital status			
Married/in-union	209(91.7)	129(81.1)	
Separated/ Widowed/Divorced	4(1.8)	5(3.2)	9.418
Single	15(6.5)	25(15.7)	
Married/in-union type (n=338)			
Monogamy	193(92.3)	110(85.3)	4.299
Polygamy	16(7.7)	19(14.7)	
Level of education			
No formal education	7(3.1)	14(8.8)	
Primary	14(6.1)	17(10.7)	9.075
Secondary	95(41.7)	60(37.7)	
Tertiary	112(49.1)	68(42.8)	
Occupation			
Artisan	9(3.9)	19(11.9)	
Housewife	36(15.8)	24(15.1)	
Professional	52(22.8)	31(19.5)	17.608
Trader/Business	113(49.6)	59(37.1)	
Unemployed	18(7.9)	26(16.4)	
Family's monthly income			
<10,000	18(7.9)	13(8.2)	
10,001 – 50,000	36(15.8)	28(17.6)	
50,001 – 100,000	43(18.9)	38(23.9)	4.864
100,001 – 200,000	51(22.4)	36(22.6)	
200,001 – 400,000	35(15.4)	25(15.7)	
>400,000	45(19.7)	19(11.9)	

***Fisher's exact p-value**

Table 5: Obstetric and child-related factors associated with PPD

Variables	Absence of PPD N = 228 Freq (%)	Presence of PPD N = 159 Freq (%)	Chi-Square	P-value
Problems or complications in Pregnancy				
No	187(82.0)	116(73.0)	4.526	0.045*
Yes	41(18.0)	43(24.0)		
Number of children				
1	68(29.8)	53(33.3)		
2-4	135(59.2)	93(58.5)	1.094	0.583*
5 and above	25(11.0)	13(8.2)		
Mode of last delivery				
Caesarean	69(30.3)	51(32.1)	0.144	0.738*
Vaginal	159(69.7)	108(67.9)		
Health since delivery				
Unwell	13(5.7)	39(24.5)	28.545	<0.001
Well	215(94.3)	120(75.5)		
Experienced postpartum blues				
No	162(71.1)	85(53.5)	12.558	0.001*
Yes	66(28.9)	74(46.5)		
Causes of postpartum blues (n=140)				
Death of a loved one	3(4.5)	13(17.6)		
Insufficient funds	9(13.6)	10(13.6)		
Husband not around	1(1.5)	0(0.0)	16.954	0.002*
No help or support in caring for the baby	7(10.7)	20(27.0)		
Stress	46(69.7)	31(41.8)		
Desired sex of the baby				
Female	78(34.2)	62(39.0)		
Male	51(22.4)	37(23.3)	1.373	0.525*
Not Specific	99(43.4)	60(37.7)		
Actual sex of the baby				
Female	135(59.2)	81(50.9)	2.596	0.119*
Male	93(40.8)	78(49.1)		
Weight of the baby at birth				
<2.5kg	36(15.8)	32(20.1)		
2.5 – 4kg	174(76.3)	121(76.1)	3.531	0.171*
>4.0kg	18(7.9)	6(3.8)		
Weight of the baby at 6 weeks				
<4.0kg	35(15.4)	40(25.2)		
4.0 – 6.0kg	166(72.8)	110(69.2)	8.615	0.013*
>6.0kg	27(11.8)	9(5.7)		
Method of feeding the baby				
Exclusive breastfeeding	127(55.7)	76(47.8)		
Formula feeding	9(3.9)	17(10.7)	7.314	0.026*
Mixed feedings	92(40.4)	66(41.5)		

***Fisher's exact p-value**

Table 6: Psychosocial factors associated with PPD

Variables	Absence of PPD N = 228 Freq (%)	Presence of PPD N = 159 Freq (%)	Chi-Square	P-value
Family history of mental illness				
No	219(96.1)	133(83.6)	17.523	<0.001
Yes	9(3.9)	26(16.4)		
Husband/Partner Supportiveness (n=338)				
No	31(14.8)	56(43.4)	34.083	<0.001
Yes	178(85.2)	73(56.6)		
Reason for unsupportiveness (n=87)				
Not helping out with the care of the children/child	9(29.0)	20(35.7)	0.778	0.692*
Not giving care and attention	14(45.2)	20(35.7)		
Not providing enough financially	8(25.8)	16(28.6)		
Experienced Husband/partner violence				
No	209(91.7)	129(81.1)	9.401	0.003*
Yes	19(8.3)	30(18.9)		
Type of violence (n=49)				
Beating	6(33.3)	14(45.2)	1.834	0.385*
Rape	0(0.0)	2(6.5)		
Verbal Abuse	12(66.7)	15(48.3)		
Source of help for the care of the baby				
Friends	1(0.4)	8(5.0)	28.171	<0.001
Husband	131(57.5)	53(33.3)		
Nanny/House-help	8(3.5)	10(6.3)		
None	33(14.5)	39(24.6)		
Relatives	55(24.1)	49(30.8)		

***Fisher's exact p-value**

Table 7: Predictors of PPD

Variable	Adjusted odd ratio (aOR)	95% Confidence Interval (CI)	P-value
Poor state of health since delivery	3.58	1.51 – 8.47	0.004
Having an underweight baby at 6 weeks	0.33	0.12 – 0.95	0.040
Having a family history of mental illness	0.31	0.11 – 0.95	0.040
Husband/partner unsupportiveness	3.10	1.58 – 6.08	0.001

The multivariate model included all variables with $p < 0.2$ from the bivariate analysis.

Discussion

Postpartum depression (PPD) remains a serious public health concern globally, especially in low- and middle-income countries (LMICs) where women commonly cope with several stresses throughout the perinatal period [21, 22]. According to this study, 41.1% of people have PPD. This result is comparable to the prevalence ranges of 35-47%, 28-57%, and 35-47% for Bangladesh, Pakistan, and Latin America, respectively [15]. Similarly, South Africa recorded a prevalence of 34.7%, while Zimbabwe reported a prevalence of 16%–34.2% [23, 24]. According to Ukaegbu et al. [10], a study carried out in Southeastern Nigeria revealed a prevalence of 30.6% at an EPDS cut-off score of 10, whereas another study, specifically in Enugu and Delta States, showed a prevalence of 34.6% [20]. A study conducted in North-East Nigeria indicated a prevalence of 44.5%, utilizing a cut-off score of 7 [25]. Similarly, in North Central Nigeria, Obindo et al. reported a prevalence rate of 44.39% [26]. Several studies indicate reduced prevalence rates in Nigeria. A study conducted in a postnatal clinic and children's welfare clinic at a tertiary hospital in Jos indicated a weighted prevalence of 21.8% [27]. The variations in prevalence observed across different studies compared to this study may result from discrepancies in study designs, the postpartum periods examined, geographical locations (developed versus developing countries), the risk factors investigated, and the cut-off scores of the screening instruments used.

The risk factors commonly identified in studies include poor obstetric history, low social support, prior psychiatric illness, uncomplicated pregnancies, low socioeconomic status, and stressful life events [21, 28]. This is in line with most of the factors identified in this study that are associated with PPD. While some sociodemographic variables (e.g., education, occupation) showed associations in bivariate analysis, they did not remain significant in the multivariate model. This suggests that psychosocial and health-related stressors might be more potent determinants of PPD rather than socioeconomic or demographic factors when adjusting for confounding variables. This pattern aligns with prior literature indicating that, although demographic factors vary across settings, social support, obstetric complications, and maternal/infant health often remain the most consistent predictors [22].

Women who reported being unwell after delivery had approximately 3.6 times greater odds of PPD compared with those who were well (aOR = 3.58; 95% CI: 1.51–8.47; p = 0.004). This aligns with evidence demonstrating that obstetric or postnatal complications, such as poor recovery, pain, or health-related morbidity, significantly elevate the risk of postpartum depressive symptoms [22]. Also, another study conducted in Kampala, Uganda, implicated poor physical health of women as a risk factor for developing PPD [29]. Poor postpartum health can also affect a mother's physical capacity, self-efficacy, and ability to care for her newborn. In resource-constrained environments, limited access to adequate postnatal care could exacerbate these challenges, making the state of women's health since delivery a critical risk factor for PPD in such contexts.

Furthermore, findings from this study suggested that newborns weighing ≥ 4.0 kg at six weeks were associated with reduced odds of PPD, emphasizing the interconnectedness between baby health and maternal mental well-being. Although direct data associating newborn weight at six weeks and maternal PPD is rare, larger research suggests that postpartum depression in mothers is connected with poor child growth, underweight status, stunting, and other poor nutritional outcomes in LMICs [22, 30]. The protective effect identified in this study may indicate a virtuous feedback loop that healthy newborns may lower maternal stress and anxiety, increase maternal confidence and bonding, and promote positive caregiving, together decreasing the risk of depression. Conversely, underweight or growth-challenged newborns may heighten parental concern, shame, and caring strain, increasing vulnerability to PPD.

According to the study, postpartum women with a positive family history of mental illness were at a higher risk of developing PPD (aOR = 0.31; 95% CI: 0.11–0.95; p = 0.040). This is consistent with global data that a past personal or family history of mental problems is among the most robust predictors of prenatal depression [22, 31]. This relationship may be due to shared environmental stressors, genetic sensitivity, or inherited inclination. Also, women with a family history may have less resilience or coping capacity when presented with perinatal stressors, rendering them more susceptible to depressive symptoms.

Lack of partner support emerged as a strong protective correlate (aOR = 3.10; 95% CI: 1.58–6.08; p = 0.001); supportive partners significantly reduce the odds of PPD. This finding is supported by a large body of evidence recognizing poor social support, especially from intimate partners, as a leading risk factor for PPD globally [15, 21, 22, 32]. In many LMICs, where formal support systems are weak or lacking, the role of partners and family becomes even more critical. Emotional support, assistance with

childcare, shared household responsibilities, and financial help can buffer the multiple stressors of the postpartum period, thereby making partner supportiveness indispensable for maternal mental health. Such findings reinforce calls for integrating psychosocial and partner-inclusive interventions into maternal health programs. For example, partner involvement in antenatal education, birth planning, and postnatal care may strengthen social support and reduce PPD risk.

This study has a number of clinical and research implications. The high prevalence of PPD observed in this study underlines a substantial and often under-recognized maternal mental health burden in Anambra State. Clinically, the findings highlight the urgent need to move beyond symptom-driven or sociodemographic risk profiling and adopt a more holistic, biopsychosocial approach to postnatal care. The strong association between PPD and poor maternal health since delivery suggests that postpartum women presenting with persistent physical ill-health should be routinely assessed for depressive symptoms, as physical morbidity may both precipitate and perpetuate psychological distress.

The strength of this study is the inclusion of a wide range of sociodemographic, obstetric, infant, and psychosocial variables. This allowed a comprehensive analysis of PPD predictors. Additionally, the use of multivariate logistic regression enabled control for confounders and identification of independent predictors. However, there are several limitations that warrant caution. First, the cross-sectional design makes it impossible to conclude causality; for example, we were unable to determine whether poor infant growth led to maternal depression or vice versa. This highlights the need for longitudinal studies to clarify temporal relationships between identified predictors and the onset of PPD. Future research should also explore culturally appropriate, scalable interventions, such as partner-support programs, task-shifted psychological care, and community-based mental health services, to evaluate their effectiveness in reducing PPD incidence and severity. Intervention trials embedded within routine maternal and child health services would provide valuable evidence to guide policy and programmed implementation. Secondly, there are certain potentially relevant variables, such as antenatal depression, birth trauma, hormonal changes, or socioeconomic stressors, that were not measured or included. Finally, the sample is typical of the research population, but its applicability to other regions or cultural contexts may be limited.

Conclusion

This study demonstrates that postpartum depression in Anambra State is influenced by an interplay of maternal physical health, infant growth outcomes, family mental health history, and partner support, rather than sociodemographic characteristics alone. The high prevalence of PPD highlights a pressing need to priorities maternal mental health within routine postnatal care services. Integrating systematic mental health screening and psychological support into maternal and child health programs, particularly during early postpartum visits, is essential. Strengthening partner-inclusive antenatal and postnatal education, ensuring adequate infant nutrition and growth monitoring, and providing targeted support for women with a family history of mental illness may substantially reduce the burden of PPD. Future longitudinal and interventional studies are warranted to establish causal pathways and evaluate the effectiveness of targeted strategies aimed at improving maternal mental health outcomes in this setting.

List of abbreviations

aOR – Adjusted Odds Ratio
CI – Confidence Interval
CSJ – Centre for Social Justice
EPDS – Edinburgh Postnatal Depression Scale
LMICs – Low- and Middle-Income Countries
NHMIS – Nigerian Health Management Information System
PPD – Postpartum Depression
SD – Standard Deviation
SPSS – Statistical Package for Social Sciences

Declarations

Ethical consideration: Ethical clearance was obtained from the Anambra State Ministry of Health Research Ethics Committee, Awka, with the approval number ASMOHREC/2025/14102025/49. None of the participants' identities will be revealed at any time. Informed consent forms were duly administered to all participants before they participated in the study. This study was conducted in accordance with the Declaration of Helsinki

Consent for publication: Not applicable

Availability of data materials: The datasets analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests.

Clinical Trial Number: Not applicable

Funding: This study was self-funded by the Researchers.

Author's Contribution: Design: IVI, GUE, and CEE. Analyses: IVI. Writing: IJE, TOM, DNB, IVI, and GUE. Supervision: IVI, CEE, CMO, and IJE. IVI, GUE, CEE, CMO, IJE, TOM, and DNB contributed to the interpretation of the analyses and writing of the manuscript. All authors approved the final manuscript.

Acknowledgement: We want to thank data collectors for their dedication and cooperation throughout the data collection process. Additionally, we would like to express our appreciation to the study participants, without whom the study could not have been realized.

References

1. Barber JS, East PL (2009) Home and parenting resources available to siblings depending on their birth intention status. Child Development 80(3):921-939.
2. Katon W, Russo J, Von-Korff M, Lin E, Simon G et.al. (2002). Long-term effects of a collaborative care intervention in persistently depressed primary care patients. J. Gen. Intern. Med. 17:741-748.
3. Rai S, Pathak A, Sharma I (2015) Postpartum psychiatric disorders: Early diagnosis and management. Indian Journal of Psychiatry 57: 216-21.
4. Bartell SS (2004) The birth of a second child: A unique impact on the family system. International Journal of Childbirth Education 19 (1):4-7.
5. Chinawa JM, Odetunde OI, Ndu IK, Ezugwu EC, Aniwada EC, et.al. (2016). Postpartum depression among mothers as seen in hospitals in Enugu, South-East Nigeria: an undocumented issue. Pan African Medical Journal 23:180 doi:10.11604/pamj.2016.23.180.8244 https://doi.org/1011604/pamj2016231808244
6. O Hara MW, McCabe JE (2013) Postpartum depression: Current status and future directions. Ann Rev Clin Psychol 9:379–407. https://doi.org/10.1146/annurev-clinpsy-050212-185612
7. Wang Z, Liu J, Shuai H, Cai Z, Fu X, et.al. (2021). Mapping global prevalence of depression among postpartum women: A meta-analysis of 565 studies from 80 countries. Translational Psychiatry 11: 543; https://doi.org/10.1038/s41398-021-01663-6
8. Dadi AF, Akalu TY, Baraki AG, Wolde HF (2020) Epidemiology of postnatal depression and its associated factors in Africa: A systematic review and meta-analysis. PLOS ONE 15(4): e0231940.
9. Jidong DE, Husain N, Ike TJ, Murshed M, Pwajok JY, et al. (2021). Maternal mental health and child well-being in Nigeria: A systematic review. Health Psychology Open. 8(1): 20551029211012199.
10. Ukaegbe CI, Iteke OC, Bakare MO (2012) Postpartum Depression Among Igbo Women In An Urban Mission Hospital, SouthEast Nigeria. EMJ 11(1&2):29-36.
11. Fatoye FO, Oladimeji BY, Adeyemi AB (2006) Difficult delivery and some selected factors as predictors of early postpartum psychological symptoms among Nigerian women. J Psychosom Res. 60:299–301. https://doi.

org/10.1016/j. jpsychores.2005.04.012.

12. Bakhshayesh A, Mortazavi M (2011) The relationship between sexual satisfaction general health and marital satisfaction in couples. J Appl Psychol 4(12):73–85.
13. Haque A, Namavar A, Breene K (2015) Prevalence and risk factors of Postpartum Depression in Middle Eastern/ Arab Women. Journal of Muslim Mental Health 9: 1.
14. Najafi K, Zarrabi H, Shirazi M, Avakh F, Nazifi, F (2007) Prevalence of postpartum depression in a group of women delivering at a hospital in Rasht city, Iran. Journal of Pakistan Psychiatric Society 4:2.
15. Adeyemo EO, Oluwole EO, Kanma-Okafor OJ, Izuka OM, Odeyemi KA (2020) Prevalence and predictors of postpartum depression among postnatal women in Lagos, Nigeria. Afri Health Sci 20(4):1943-54. https://dx.doi.org/10.4314/ahs. v20i4.53.
16. Joel AA, Olayinka OA, Rejuaro FM, Yusuf A, Chibuike O (2016) Knowledge of Postpartum Depression and its Associated Risk Factors Among Nurse-Midwives in a Nigerian Tertiary Hospital. Sierra Leone J Biomed Res 8: 4-65.
17. (2024) Centre for Social Justice (CSJ). Anambra State Agriculture Medium Term Sector Strategies (MTSS) 2025-2027: A Memorandum for Improvements in Agriculture Sector Budgeting.
18. (2025) https://cirddoc.org/wp-content/uploads/2016/06/Anambra-State; Accessed,
19. Cox J, Holden J, Sagovsky R (1987) Detection of postnatal depression: development of the 10-item Edinburgh postnatal depression scale. British Journal of Psychiatry 150:782–786.
20. Arinze QU, Swetha M, Onu SN, Ujam CG, Ogbusu DC, et al. (2025). Prevalence of postpartum anxiety and depression among postpartum mothers: a study at postnatal clinics in Enugu and Delta States, Nigeria. Int Neuropsychiatr Dis J 22(4):176–97. doi:10.9734/indj/2025/v22i4505.
21. Fisher J, de Mello MC, Patel V, Rahman A, Tran T, et.al. (2012). Prevalence and determinants of common perinatal mental disorders in women in low- and lower-middle-income countries: a systematic review. Bulletin of the World Health Organization 90(2), 139–149. https://doi.org/10.2471/BLT.11.091850.
22. Slomian J, Honvo G, Emonts P, Reginster J-Y, Bruyère O (2019) Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes. Women's Health. 15. doi:10.1177/1745506519844044.
23. Cooper PJ, Tomlinson M, Swartz L, Woolgar M, Murray L, et.al. (1999). Postpartum depression and the mother-infant relationship in a South African peri-urban settlement. Br J Psychiatry 175(6):554.
24. January J, Burns J, Chimbari M (2017) Primary care screening and risk factors for postnatal depression in Zimbabwe: A scoping review of literature. J Psychol Africa 27(3):294.
25. Uwakwe R (2003) Affective (depressive) morbidity in pu erperal Nigerian women: Validation of the Edinburgh Postnatal Scale. Acta Psychiatr Scand 107: 251-259.
26. Obindo TJ, Ekwempu CC, Ocheke AN, Piwuna CG, Adegbe EO, et.al. (2013). Prevalence and correlates of postpartum depression in a teaching hospital in Nigeria. Highland Med Res J 13:71-5.
27. Tungchama FP, Obindo JT, Armiya'u AY, Maigari YT, Davou FJ, et al. (2018). Prevalence and sociodemographic correlates of postpartum depression among women attending Postnatal and/or Children's Welfare Clinics in a Tertiary Hospital, Jos, Nigeria. Sahel Med J 21:23-30. Doi:10.4103/smj.smj_39_16
28. Alshikh AH, Alkhatib A, Luo J (2021). Prevalence and risk factors of postpartum depression in the Middle East: a systematic review and meta–analysis. BMC Pregnancy Childbirth 21, 542. https://doi.org/10.1186/s12884-021-04016-9.
29. Halbreich U, karkun S (2006) Cross-cultural and social diversity of prevalence of postpartum depression and depressive symptoms. Journal of Affective Disorders 91: 97-11
30. Surkan PJ, Kennedy CE, Hurley KM, Black MM (2011) Maternal depression and early childhood growth in developing countries: systematic review and meta-analysis. Bull World Health Organ. 89: 608– 615E. https://doi.org/10.2471/BLT.11.088187. PMID: 21836759
31. Howard LM, Molyneaux E, Dennis CL, Rochat T, Stein A, et.al. (2014). Non-psychotic mental disorders in the perinatal period. Lancet 384(9956):1775–88. doi:10.1016/S0140-6736(14)61276-9.
32. Odinka JI, Nwoke M, Chukwuorji JBC (2018). Post-partum depression, anxiety and marital satisfaction: A perspective from Southeastern Nigeria. S Afr J Psychiat 24(0): a1109. https://doi.org/10.4102/sajpsychiatry.v24i0.1109.