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ORIGINAL ARTICLE

THE ROLE OF SOCIAL SUPPORT, ANXIETY, AND DEPRESSION AMONG PREGNANT WOMEN IN PRIMARY HEALTH CARE CENTRES IN AMUWO-ODOFIN LGA, LAGOS STATE

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Keywords

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Abstract

Background: Antenatal depression and anxiety are prevalent in low- and middle-income countries, but the link with social support is under-researched. This study examined the role of perceived social support, anxiety, and depression among pregnant women attending Primary Health Care Centres (PHCCs) in Amuwo-Odofin LGA, Lagos State, Nigeria.

Methods: A cross-sectional study involving 281 pregnant women at PHCCs was conducted between January and March 2023 using a multistage sampling method. Participants, who had no diagnosed mental or chronic illnesses and provided informed consent, were evaluated for anxiety, perceived social support, and depression using established scales. Data analysis using IBM SPSS included descriptive statistics, Pearson's correlation, and multiple linear regression at the $p < 0.05$ significance level. The Babcock University Health Research Ethics Committee granted ethical approval.

Results: Most participants were aged 29–35 years. Results indicated moderate anxiety (13.55 ± 5.7), strong social support (34.61 ± 3.14), and minimal depression (10.10 ± 3.8). Anxiety had a weak positive, non-significant association with depression ($r = 0.114$, $p = 0.056$), and social support showed a very weak negative correlation ($r = -0.049$, $p = 0.414$). Together, anxiety and social support explained only 1.6% of the variance in depression. Anxiety emerged as a borderline predictor of depression ($B = 0.08$, $p = 0.051$), while social support was not ($B = -0.07$, $p = 0.367$). No associations between income, anxiety, and depression.

Conclusion: Strengthening routine maternal mental health services within PHCCs is recommended to promote antenatal well-being in Amuwo-Odofin, Lagos State.

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INTRODUCTION

For women of reproductive age who become pregnant, this event is an essential milestone in their lives as they begin the process of bringing to life a fellow human. This period brings about tremendous physical and emotional changes, as well as an elevated risk of mental illness such as depression, anxiety, and self-harm,¹ leading to poor maternal mental health. Maternal mental health during pregnancy is the emotional and psychological well-being of expectant women.² It covers a wide range of mental health concerns and influences that can have an impact on a woman's health during this critical period. These include stress, social support, and overall psychological adjustment during pregnancy, as well as mood disorders such as depression and anxiety.³ Depression and anxiety are the leading mental disorders during pregnancy and seem to affect women more in low and middle-income countries.⁴ Antenatal depression (AD) is a subtype of depressive disorder classified as "with peripartum onset", and is distinguished by bad mood, insomnia, disorganized behaviour, irritability, and agitation during pregnancy.⁵ A global level review reported that the prevalence of antenatal depression across all three trimesters was 15.0 — 65.0% in low-middle-income countries and 17.0% in high-income countries.⁶ The depressive symptoms are characterized by various negative emotions and feelings, such as low self-esteem, appetite loss, among others.⁷ Antenatal anxiety, on the other hand, brings on fears related to pregnancy, post-pregnancy roles, and child health.⁸ The global prevalence of antenatal anxiety symptoms across all trimesters was 34.4% in low to middle-income countries and 19.4% in high-income countries.⁹ Together, antenatal depression and anxiety are major risk factors for experiencing postnatal depression in both developed and developing nations, alongside factors such as a prior history of mental health issues, unsatisfactory marital relationships, stressful life circumstances, a negative outlook on the pregnancy, and insufficient social support.¹⁰ In developing countries, 15.6% of pregnant women

experience a mental disorder.¹¹ Although investigations into the mental health of women during the antenatal period are limited globally, studies have shown that Antepartum depression is common and more prevalent in low and moderate-income nations, such as Nigeria, than in high-income countries.¹² Studies in Nigeria have shown an extremely high prevalence of depression and anxiety during pregnancy. For instance, in the northern zone, the prevalence of anxiety and depression has been reported as 23.2% and 23.6% respectively.¹³ Other studies in the Southern zone have reported prevalence rates of 13.6% depression and 39.7% anxiety.¹⁴ In the southwest zone, the prevalence of depression has reached up to 14.1% reported.¹⁵ The mental well-being of expectant mothers is essential for them to be able to care for themselves and their developing baby. Thus, inadequate perinatal mental health can lead to numerous negative effects on children, both in the short term and over the long run.¹⁶ Increasingly suggested is the role of social support, which seems to play a dual role in aiding better perinatal well-being¹⁷ and mitigating the occurrence of depression and anxiety.¹⁸ Social support is also recognized as the strongest risk factor of the two most common psychological challenges in pregnancy.¹⁹ Social support involves providing various types of assistance, including emotional, informational, instrumental, tangible, and psychological support from family, friends, and community members.²⁰ Those who experience enough social support during pregnancy are less likely to report stress, anguish, or symptoms of worry and depression.^{21, 22} These assertions have been supported by studies in Nigeria.^{23, 24} As in other African cultures, Nigeria has always produced sociable inhabitants with close-knit families and thus familial support. However, with the advent and encroachment of Westernisation into our traditions and cultures, these well-known family relationships and communal way of life have been toned down and, in some places, completely eroded.²⁵

Table 1: Socio-Demographic Characteristics of Respondents

Variables	Frequency (n =281)	Percentage%
Age		
20-28 years	51	18.2
29-35 years	172	61.2
36-41 years	58	20.6
Marital Status		
Single	49	17.4
Married	198	70.5
Divorced	22	7.8
Widow	12	4.3
Religion		
Christianity	198	70.5
Islam	63	22.4
Traditional	2	0.7
Others	18	6.4
Ethnicity		
Igbo	112	39.9
Hausa	43	15.3
Yoruba	114	40.6
Others	12	4.3
Designation (Occupation)		
Employed	99	35.2
Unemployed	182	64.8
Income Level (Naira)		
Less than N10,000	32	11.4
N11,000-N20,000	79	28.1
N21,000-N30,000	116	41.3
N31,000 and above	54	19.2
Pregnancy Stage/gestation		
1 st trimester	68	24.2
2 nd trimester	110	39.1
3 rd trimester	103	36.7
Birth experience		
Primigravida (first timer)	136	48.4
Multigravida (not first timer)	145	51.6

Historically, there has been a far greater focus on research related to mental health in the postpartum period rather than the antenatal period, even though some studies have shown a decrease, rather than an increase, in depression and anxiety after childbirth.¹⁹ Hence, this study sought to examine the role of perceived social support, anxiety and depression among pregnant women in Amuwo-Odofin LGA, Lagos State. Understanding the roles of these variables in pregnant women can help guide efforts to support their mental health during pregnancy and postpartum periods.

METHODOLOGY

A cross-sectional study was conducted among 281 pregnant women attending antenatal care at

PHCCs in Amuwo-Odofin, a highly commercial local government area of Lagos State, Nigeria, between January and March 2023. Amuwo-Odofin is a local government area in the Badagry Division of Lagos State, Nigeria.²⁶ There are four PHC centers in the LGA offering services such as Dental and Maternal Health, Immunization, School Health, Family Planning, Oral Health, minor injury treatment, and general care for the Elderly.

Population and Sampling

The study included pregnant women attending four PHC centres. Women with mental health issues on medication were excluded, and only those who consented and had no underlying health problems were included.

Table 2: Descriptive Analysis of Anxiety Assessment among Pregnant Women.

Statements	Always (%)	Often (%)	Rarely (%)	Never (%)
I am aware of dryness of my mouth.	167 (59.4)	65 (23.1)	23(8.2)	26 (9.3)
I experience difficulty breathing (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion).	122 (43.4)	103 (36.7)	36 (12.8)	20 (7.1)
I experience trembling (e.g. in the hands).	53(18.9)	170(60.5)	49(17.4)	9 (3.2)
I get worried in situations in which I might panic and make a fool of myself.	68 (24.2)	144 (51.2)	56 (19.9)	13 (4.6)
I feel close to panicking.	91 (32.4)	105 (37.4)	70 (24.9)	15 (5.3)
I feel scared without any good reason.	95 (33.8)	107 (38.1)	65 (23.1)	14 (5.0)
I am aware of the exertion of the action in my heart in the absence of physical exertion (e.g. sense of heart increase, heart missing a beat).	98 (34.9)	81 (28.8)	61 (21.7)	41(14.6)
Mean = 13.55 ± 5.7				

The sample size was derived using the Cochran formulas; $n = Z^2 P (1-P)/e^2$ and the finite proportions correction formula; $n = n_0 / (1 + ((n_0 - 1)/N))$ to derive the sample size of 281 after adjusting for a non-response of 10%. All computations were based on a Z-score of 1.96 at a 95% confidence level and a margin of error of 0.05. P values were obtained from related studies.²⁷⁻²⁹ Respondents were sampled using a multi-stage sampling procedure. First, purposive sampling was used, and all four PHCs in the LGA were selected because they were actively providing antenatal services and were accessible to pregnant women. Secondly, proportionate sampling was then applied in each stratum (PHCC) to determine the number of participants required in each PHC centre. This was calculated using the formula: Number of pregnant women in each PHC centre/Total number of registered pregnant women in all PHCC x sample size. The following sample sizes were then derived: PHCC F (119), PHCC A (91), PHCC I (32), PHCC M (40). In the third stage, a convenience sampling technique was used to select participants. Women who were available at the time of data collection, voluntarily agreed to participate and gave verbal consent, were recruited. This stage was applied in each centre until the overall sample size was achieved. A structured composite questionnaire comprising

the Multidimensional Scale of Perceived Social Support (MSPSS),³⁰ the Adapted Edinburgh Depression Scale (EDPS)³¹ and the Depression Anxiety Stress Scale (DASS-21),³² with a section on selected demographic information, was used to collect data. This was interviewer-administered with the aid of trained nurses in English, as all the available women could communicate in English. Sociodemographic variables were collected as continuous and categorical variables. The sections on the prevalence of anxiety and depression among pregnant women had 7 items and 10 items, respectively, measured on a 4-point Likert scale using the response options of always, often, rarely, and never. The section on obstetric history, with 7 items, was collected on dichotomous scales (Yes/No). Social support was measured with 12 items on a 4-point Likert scale, ranging from "strongly agree" to "strongly disagree." The adopted and adapted instruments have been previously validated and found to be highly valid.³⁰⁻³² However, the questionnaire was pretested for internal consistency in the local context among 10% of the sample size (28 pregnant women) in another PHCC within Lagos State. An overall reliability index of 0.90 was obtained, indicating its appropriateness for use in the study setting. At the end of each data entry period, the questionnaires were screened

Table 3: Descriptive Analysis of Depression Assessment among Respondents

Statements	Always (%)	Often (%)	Rarely (%)	Never (%)
Have you been able to laugh and have fun.	77 (27.4)	87(31.0)	51 (18.1)	66 (23.5)
Have you had thoughts of harming yourself.	90 (32)	106(37.7)	57 (20.3)	28 (10.0)
Have you been excited to try out new things	81 (28.8)	132(47.0)	60 (21.4)	8 (2.8)
Been feeling unhappy and emotional	104 (37.0)	134(47.7)	37 (13.2)	6 (2.1)
Blamed yourself for everything that goes wrong	83 (29.5)	143(50.9)	42 (14.9)	13 (4.6)
Have you felt sad or miserable	92 (32.7)	147(52.3)	32 (11.4)	10 (3.6)
Have you been anxious or worried for no good reason	103 (36.7)	107(38.1)	60 (21.4)	11 (3.9)
Have you had feelings of sadness and unable to sleep	78 (27.8)	146(52.0)	36 (12.8)	21 (7.5)
Felt scared or panicked for no very good reason	93 (33.1)	115(40.9)	52 (18.5)	21 (7.5)
Things have been very stressful for you	108 (38.4)	94 (33.5)	51 (18.1)	28 (10.0)
Mean = 10.01 ± 3.8				

and stored. Two nurse practitioners per centre were trained for two hours on the study's protocol were trained for two hours on the study's protocol and ethics applications.

Data Analysis

The data were collated and analyzed using IBM SPSS version 25.0. The Edinburgh Depression Scale was used to evaluate each question and scored 0-3, with a maximum score of 30; a score of 10 or higher indicated post-partum depression. Depression was further categorized into ranges of 0-9, indicating minimal post-partum depression, 10-12, indicating moderate post-partum depression, and 13 and above, indicating severe post-partum depression. The Multi-dimensional Scale of Perceived Social Support was used to evaluate social support by categorizing it into weak (1-16), moderate (16.5-32), and strong (32.5-48) levels. The maximum score was 48. The Depression Anxiety Stress Scale was used to evaluate anxiety, scoring it as follows: Normal (0-7), Mild (8-9), Moderate (10-14), Severe (15-19), and Extremely Severe (20-28). The maximum score was 28. Descriptive statistics, such as mean, percentage, and standard deviation, were used to describe the socio-demographic characteristics and the independent and dependent variables. The relationship between the independent and dependent variables was tested using bivariate and multivariate (Chi-square, Pearson's moment correlation and multiple linear regression)

analyses. All hypotheses were tested at a 5% significance level. The protocol for the study was approved by the Babcock University Health Research Ethics Committee BUHREC 971/23. Additionally, the procedures followed were in accordance with the Helsinki Declaration of 1975, which was revised in 2003. Permission was also sought from the PHC supervisors. Anonymity was maintained throughout the data collection period by excluding respondents' identifiable data. After each data collection segment, the lead researcher collated and securely stored the questionnaires in an enclosed folder. All responses were coded, and the aggregated data were reported in the analysis.

RESULTS

Most of the women were aged 29-35 years. Most (70.5%) identified as Christians. Concerning marital status, 198 individuals (70.5%) were married. Regarding employment, 99 women (35.2%) were employed. Regarding income levels, most participants (41.3%) reported earnings between N20,000 and N30,000. Additionally, a majority (39.2%) were in their second trimester. (Table 1) The data revealed that 167 (59.4%) participants always experience dry mouth. Up to 53 (18.9%) always experience trembling, and 170 (60.5%) often experience trembling(e.g., in the hands). More than half (51.2%) worried about situations that made them panic.(Table 2). Furthermore, the mean score of anxiety was 13.55 ± 5.7, indicating moderate

Table 4: Descriptive Analysis of Perceived Social Support among Respondents

Statements	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree (%)
There is a special person who is around when I am in need	21 (7.5)	33 (11.7)	156 (55.5)	71 (25.3)
There is a special person whom I can share my joys and sorrows	8 (2.8)	41 (14.6)	171 (60.9)	61 (21.7)
My family really tries to help me whenever I am in need	16 (5.7)	80 (28.5)	125 (44.5)	60 (21.4)
I get the emotional help and support I need from my family	13 (4.6)	71 (25.3)	124 (44.1)	73 (26.0)
I have a special person who is a real source of comfort to me	12 (4.3)	71 (25.3)	142 (50.5)	56(19.9)
My friends really try to help me	25 (8.9)	68 (24.2)	126 (44.8)	62 (22.1)
I can count on my friends whenever things should go wrong	11 (3.9)	67 (23.8)	147 (52.3)	56 (19.9)
I can talk about my problems with my family	24 (24.5)	77(27.4)	130 (46.3)	50 (17.8)
I have friends with whom I can share my joys and sorrows with	27 (9.6)	26 (27.0)	126 (44.8)	52 (18.4)
There is a special person in my life that cares about my feelings	15 (5.3)	51 (18.1)	147 (52.3)	68 (24.2)
My family is willing to help me make decisions	21 (7.5)	60 (21.4)	124 (44.1)	76 (27.0)
I can talk about my problems with my friends	24 (8.5)	47 (16.7)	109 (38.8)	101(35.9)
Mean = 34.61 ± 3.1				

moderate Anxiety (Table 2). Generally, the results showed that 143 (50.9%) respondents often blamed themselves for everything that went wrong. In the same perspective, 147 (52.3%) respondents often felt feelings of sadness or misery, and 146 (52.0%) had feelings of sadness and were unable to sleep. About half (134, 47.7%) often felt unhappy and emotional (Table 3). In addition, the women were minimally depressed (10.10 ± 3.8) (Table 3). Regarding perceived support, 171 (60.9%) respondents strongly disagreed that they have a special person with whom they can share their joys and sorrows, while 156 (55.5%) strongly disagreed that there is a special person who is around when they are in need. Less than 5% (12) strongly agreed that there is a special person who is a source of comfort to them, while 147 (52.3%) strongly disagreed that there is a special person in their life who cares about their feelings (Table 4). Overall, perceived social support was strong (34.61 ± 3.14). Pearson product-moment correlation and multiple linear regression were used to test if there was a significant relationship between anxiety, social support, and depression,

and to test if either anxiety or perceived social support predicted depression. Results revealed that while anxiety had a weak positive relationship with depression ($r = 0.114$, $p = 0.056$, $N = 281$), which did not reach statistical significance at $p = 0.05$, social support had a very weak, negative, and insignificant relationship with depression ($r = -0.049$, $p = 0.414$, $N = 281$) (Table 5). The Multiple linear regression analysis revealed that the model accounted for 1.6% of the variance in depression scores ($R^2 = 0.016$, adjusted $R^2 = 0.009$). However, the overall regression model was not statistically significant ($F(2, 278) = 2.26$, $p = 0.107$). Anxiety was a borderline predictor of depression ($B = 0.08$, 95% CI: $0.00 - 0.15$, $p = 0.051$), indicating that higher anxiety scores tended to increase depression scores. Perceived social support did not significantly predict depression ($B = -0.07$, 95% CI: $-0.21 - 0.08$, $p = 0.367$) (Table 6). Furthermore, results showed that there was no relationship between income and anxiety ($p=0.06$), nor between income and depression ($p = 0.229$) (Table 7).

Table 5: Pearson Correlation Between Social Support, Anxiety, and Depression (N = 281)

Variables	R	P-value
Anxiety & Depression	0.114	0.056
Social Support & Depression	-0.049	0.414

Table 6: Multiple Regression Analysis between Anxiety, Social Support, And Depression

Predictor	B	95% CI for B	Beta	p-value
Constant	11.30	6.33 – 16.26	–	<0.001
Anxiety	0.08	0.00 – 0.15	0.12	0.051
Stress	-0.07	-0.21 – 0.08	-0.05	0.367

DISCUSSION

This study examined the role of anxiety, perceived social support, and depression among pregnant women attending PHCCs in Amuwo-Odofin, Lagos State. The study aimed to assess the levels of anxiety, perceived social support, and depression, as well as to ascertain whether anxiety and perceived social support serve as significant predictors of depression among the pregnant women examined. Most respondents were between 29 and 35 years old, married (70.5%), and in their second trimester. A substantial majority reported no chronic illnesses (86.5%) or previous pregnancy difficulties (85.8%), implying that the observed mental health burden could have been impacted by psychosocial conditions rather than physiological risk.

Furthermore, the pregnant women experienced moderate anxiety, with classic symptoms. This complements previous research, which has demonstrated that approximately 20.0% to 30.0% of pregnant women in low-resource settings report significant anxiety during pregnancy. This suggests that pregnancy may be a period of heightened psychological distress, particularly in contexts with limited psychosocial support.^{33,34} Furthermore, a study in the South-South region of Nigeria had also reported moderate levels of anxiety among

26.0% of the respondents.³⁵ Others reported low anxiety and severe anxiety^{14,28}. These differences may be due to variations in the instruments used, the study period, and the unique characteristics of the women studied. The women reported overall minimal levels of depression. However, many still experienced key depressive symptoms like self-blame for negative events, feeling miserable, and sleep difficulties. Although these symptoms are not severe enough for a clinical diagnosis, sub-threshold depression is common and could affect maternal functioning if left untreated. Studies in Nigeria have reported a significant prevalence of depression among pregnant women³⁶ and have emphasised the need to begin to pay close attention to psychological parameters among this population.³⁷ Although the overall mean score on the MSPSS was relatively high, most participants strongly disagreed with key statements about emotional support. For example, 60.9% felt they had no one to share joys and sorrows with, and over half reported having no one to turn to in times of need. This highlights a key difference between the perceived amount of support and its quality, aligning with recent Nigerian research findings. In Ogbomoso, tangible support was more readily available than emotional support, but only the latter significantly reduced distress.³⁸

Another study found that pregnant women who reported insufficient emotional/informational support had a four-to three times increased risk of developing prenatal depression symptoms.¹ In Jamaica, poor perceived social support and partner support were significant predictors of severe depressive symptoms.³⁹ These findings emphasize that emotional support and interpersonal closeness, rather than mere presence or assistance, are central to maternal psychological well-being. Furthermore, this may reflect social isolation, strained partner relationships, or a general lack of community-based support systems. The weak associations observed in this study suggest that anxiety and social support, though conceptually related to depression,⁴⁰ may not directly predict depressive symptoms in this population, or their effects may be moderated by other factors such as coping mechanisms, or cultural attitudes towards mental health, which were not measured. This contrasts with other studies. For instance, a study in Peru found a significant inverse relationship between social support and depression. Women who reported higher social support scores had lower odds of depression. Although they also found that the family social support did not reach statistical significance.²² Another study in China found an increasing trend in antepartum depression with a decreasing trend in social support, indicating an inverse relationship.⁴¹ Other studies in Nigeria found a significant relationship between social support from family and antepartum depression.²⁵ Furthermore, findings in the current study were in contrast with assertions of the stress-buffering hypothesis,⁴² which asserts that social support protects individuals from the negative effects of stress. There was no significant correlation between income level and anxiety or depression. This could be attributed to income clustering in the sample, with the majority earning between N20,000 and N30,000, reducing the variability required to detect noteworthy differences. Non-financial stressors, such as marital tension, unplanned pregnancy, or fear of delivery, may have had a higher psychological impact on this

demographic than economic position. The findings contrast with other studies, which have found some association of income with depression in pregnancy.⁴³ This study found that pregnant women in the sample experienced moderate levels of anxiety, minimal depressive symptoms, and reported strong perceived social support. Correlational analyses indicated that anxiety had a weak but positive relationship with depression, approaching but not reaching statistical significance, while social support demonstrated a very weak, negative, and non-significant correlation with depression. Regression analyses further confirmed that neither anxiety nor social support significantly predicted depressive symptoms, with both variables together accounting for only 1.6% of the variance in depression scores. These findings suggest that, within this population, despite significant anxiety, depression rates remain relatively low, which may be due to strong perceived social support. Nonetheless, the borderline link seen between anxiety and depression highlights the need for ongoing monitoring of psychological well-being throughout pregnancy, as well as more longitudinal studies to explain possible causative pathways and the protective function of social support. In conclusion, PHCCs should put in effort to provide maternal mental health services, particularly those that promote emotional support. To identify and refer cases of prenatal depression, health professionals should receive training. Policy initiatives should also consider incorporating mental health into programs for mothers, especially in areas with limited resources.

STRENGTHS AND LIMITATIONS

The Strengths of this study are its focus on a marginalized and often under-researched group—pregnant women in urban PHC settings; its contribution to the growing literature on maternal mental health in Nigeria by focusing on the PHC level, which serves the bulk of antenatal care seekers in underserved areas; and its use of standardized scales and real-world

Table 7: Chi-Square Test between Income and Anxiety, and Depression (N = 281)

Factor	Normal N (%)	Mild N (%)	Moderate N (%)	Severe N (%)	Extremely Severe N (%)	χ^2	P-value
Income							
< 10,000	4(12.5)	1 (3.1)	10(31.3)	11(34.4)	6(18.8)	20.39	0.06
11,000-20,000	7(8.9)	10(12.7)	36(45.6)	13(16.5)	13(16.5)		
20,000-30000	17(14.7)	15(12.9)	51(44.0)	24(20.7)	9(7.8)		
≥ 30,000	6(11.1)	6(11.1)	16(29.6)	111(2.4)	15(27.8)		
Depression							
< 10,000						111.1	0.23
11,000-20,000	13(40.6)		9(28.1)	10(31.3)			
20,000-30000	24(30.4)		28(35.4)	27(34.2)			
≥ 30,000	33(28.4)		41(35.3)	42(36.2)			
	26(48.1)		8(14.8)	220(37.0)			

clinic settings enhances the ecological validity of the findings. Additionally, by integrating multiple psychosocial variables, the study provides a nuanced view of maternal mental health during pregnancy. However, some limitations include the cross-sectional design, which limits inferences about cause and effect. Data based on self-reports may be affected by recall bias or social desirability bias, especially when it comes to sensitive symptoms like anxiety or depression. Additionally, income was measured in categories, with limited income ranges that may have hindered the ability to detect socioeconomic effects. This study highlights the psychological burden experienced by pregnant women in PHC settings in Amuwo-Odofin LGA. It demonstrates that social support plays a protective role against depression, though not necessarily against anxiety. These findings emphasize the importance of embedding psychosocial care within antenatal services and addressing the relational dimensions of maternal health as part of Nigeria's primary health care agenda.

IMPLICATIONS FOR POLICY AND FUTURE RESEARCH

Policy drives should include training for first-line workers with psychosocial professionals to

identify and refer antenatal depression. Regular screening with group care or peer support benefits mothers and babies and should become standard. The study highlights areas for further research: longitudinal studies are needed to track changes in mental health during and after pregnancy; future studies should also explore psychosocial factors such as resilience, coping, and partner support as potential mediators. Qualitative research is necessary to understand support sources and cultural expectations in Nigeria, as standardized tools may miss nuances. Comparative studies in different settings can reveal disparities in maternal mental health and support systems. Intervention studies are also needed to assess the effectiveness of psychosocial programs in primary care.

AUTHORS' CONTRIBUTIONS

AS made substantial contributions to the study's conception and design, reviewed the manuscript, approved the final version, and is accountable for all aspects. OC contributed to the conception, design, data acquisition, analysis, interpretation, drafted the initial manuscript, approved the final version, and is accountable for the work's integrity. EO contributed to the conception, analysis, interpretation, drafted the initial manuscript, approved the final version, and is accountable for the work's integrity.

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CONFLICT OF INTEREST STATEMENT

All authors declare no competing interests.

REFERENCES

1. Bedaso A, Adams J, Peng W, Sibbritt D. The Association Between Social Support and Antenatal Depressive and Anxiety Symptoms among Australian Women. *BMC Pregnancy Childbirth*. 2021; 21: 708. DOI:10.1186/s12884-021-04188-4
2. Ahmad M, Vismara L. The Psychological Impact of COVID-19 Pandemic on Women's Mental Health during Pregnancy: A Rapid Evidence Review. *Int J Environ Res Public Health*. 2021 Jun; 18 (13): 7112. DOI: 10.3390/ijerph18137112
3. Tuxunjiang X, Wumaier G, Zhang W, Sailike B, Wang X And Jiang T. The Relationship Between Positive Psychological Qualities and Prenatal Negative Emotion in Pregnant Women: A Path Analysis. *Front. Psychol*. 2023 13: 1067757. DOI:10.3389/fpsyg.2022.1067757
4. Roddy Mitchell A, Gordon H, Lindquist A, Walker SP, Homer CSE, Middleton A, Cluver CA, Tong S, Hastie R. Prevalence of Perinatal Depression in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. *JAMA Psychiatry*. 2023 May 1; 80 (5): 425-431. DOI: 10.1001/jamapsychiatry.2023.0069
5. American College of Obstetricians and Gynecologists. Depression During Pregnancy. ACOG Women's Health Faqs. Last Reviewed November 2024. Available From: <https://www.acog.org/Womens-Health/Faqs/Depression-During-Pregnancy>. Accessed 17 Jul 2025
6. Dadi AF, Miller ER, Bisetegn TA, Mwanri L. Global Burden of Antenatal Depression and Its Association with Adverse Birth Outcomes: An Umbrella Review. *BMC Public Health*. 2020; 20 (1): 173. DOI:10.1186/s12889-020-8293-9
7. Carlson K, Mughal S, Azhar Y, Siddiqui W. Perinatal Depression. In: Statpearls [Internet]. Treasure Island (FL): Statpearls Publishing; Updated 22 Jan 2025 [Cited 2025 Jul 17]. Available From: <https://www.ncbi.nlm.nih.gov/books/NBK519070/>
8. Nath A, Venkatesh S, Balan S, Metgud CS, Krishna M, Murthy GVS. The Prevalence and Determinants of Pregnancy-Related Anxiety amongst Pregnant Women at Less Than 24 Weeks of Pregnancy in Bangalore, Southern India. *Int J Womens Health*. 2019 Apr 10; 11: 241-248. DOI: 10.2147/IJWH.S193306
9. Dennis CL, Falah-Hassani K, Shiri R. Prevalence of Antenatal and Postnatal Anxiety: Systematic Review and Meta-Analysis. *Br J Psychiatry*. 2017; 210 (5): 315-23. DOI: 10.1192/bjp.bp.116.187179
10. Norhayati, M. N., Hazlina, N. H., Asrenee, A. R. & Emilin, W. M. Magnitude and Risk Factors for Postpartum Symptoms: A Literature Review. *J Affect Disord*. 2015 175, 34-52. DOI: 10.1016/j.jad.2014.12.041
11. World Health Organization. Maternal Mental Health [Internet]. Geneva: World Health Organization; [Cited 2024 Jan 16]. Available From: <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/maternal-mental-health#:~:Text=Virtually%20all%20women%20can%20develop,Generally%20increase%20risks%20for%20specific>
12. Oboro OF, Ebulue V, Oboro VO, Ohenhen V, Oyewole A, Akindele R, Ala O, Oyeniran O, Isawumi A, Afolabi B. The Magnitude and Determinants of Depressive Symptoms Amongst Women in Early Pregnancy in Southern Nigeria: A Cross-Sectional Study. *S Afr J Psychiatr* 2022; 31 (28): 1691. DOI:10.4102/sajpspsychiatry.v28i0.1691
13. Gadanya MA, Abulfathi AA, Ahmad FA. Anxiety and Depression in Pregnancy: Prevalence and Associated Risk Factors among Pregnant Women Attending Antenatal Clinic in Aminu Kano Teaching Hospital Kano, Nigeria. *Ann Afr Med Res*. 2018; 1(1). DOI.org/10.4081/aamr.2018.13
14. Nwafor JI, Okedo-Alex IN, Ikeotuonye AC. Prevalence and Predictors of Depression, Anxiety, and Stress Symptoms among Pregnant Women During COVID-19-Related Lockdown In Abakaliki, Nigeria. *Malawi Med J*. 2021; 33: 54-8. DOI:10.4314/mmj.v33i1.8
15. Adeoye IA, Sogbesan A, Esan O. Prevalence, Associated Factors and Perinatal Outcomes of Antepartum Depression in Ibadan Nigeria. *BMC Pregnancy Childbirth*. 2022 Mar 18; 22 (1): 219. DOI:10.1186/s12884-022-04549-7
16. Netsi E, Pearson RM, Murray L, Cooper P, Craske MG, Stein A. Association of Persistent and Severe Postnatal Depression with Child Outcomes. *JAMA Psychiatry* [Internet]. 2018; 75 (3): 247-53. DOI: 10.1001/jamapsychiatry.2017.4363

17. De Sousa MT, Chur-Hansen A, Due C. First-time mothers' perceptions of social support: Recommendations for best practice. *Health Psychol Open*. 2020;7(1):2055102919898611. DOI:10.1177/2055102919898611.
18. Harrison V, Moulds ML, Jones K. Perceived Social Support and Prenatal Wellbeing: The Mediating Effects of Loneliness and Repetitive Negative Thinking on Anxiety and Depression During The COVID-19 Pandemic. *Women's Birth*. 2022 May; 35 (3): 232–241. DOI:10.1016/j.wombi.2020.12.014
19. Biaggi A, Conroy S, Pawlby S, Pariante CM. Identifying the Women at Risk of Antenatal Anxiety and Depression: A Systematic Review. *J Affect Disord*. 2016 Feb; 191: 62–77. DOI: 10.1016/j.jad.2015.11.014
20. Drageset J. Social Support. In: Haugan G, Eriksson M, Editors. *Health Promotion in Health Care* [Internet]. Cham (CH): Springer; 2021 [Cited 2025 Jul 20]. Available From: <https://www.ncbi.nlm.nih.gov/books/NBK585650/>
21. Asselmann E, Kunas SL, Wittchen H-U, Martini J. Maternal Personality, Social Support, and Changes in Depressive, Anxiety, and Stress Symptoms During Pregnancy and After Delivery: A Prospective-Longitudinal Study. *Plos ONE*. 2020; 15: E0237609. DOI:10.1371/journal.pone.0237609
22. Friedman LE, Gelaye B, Sanchez SE, Williams MA. Association of Social Support and Antepartum Depression among Pregnant Women. *J Affect Disord*. 2020; 264: 201–205. DOI: 10.1016/j.jad.2019.12.017
23. Agudile EP, Okechukwu CA, Subramanian SV, Geller AC, Langer A. The Roles of Social Networks and Social Support on Breastfeeding Practices in Nigeria. *Int J Med Health Dev*. 2020 Jul-Dec; 25 (2): 57-69. DOI: 10.4103/ijmh.IJMH_44_19.
24. Olamuyiwa TE, Alabere ID. Social Support and Health Related Quality of Life among Breast Cancer Patients in Port Harcourt Nigeria. *Asian J Med Health* 2022; 20 (12): 144-156. DOI: 10.9734/AJMAH/2022/v20i12777
25. Okocha MA, Amadi SC, Ononuju CN, Adewale O. Family Support as a Determinant of Major Depression among Pregnant Women in a Low-resource setting. *ARJGO*, 2023; 6(1): 121-132
26. Amuwo-Odofin Local Government. Amuwo-Odofin Local Government Official Website [Internet]. Lagos: Amuwo-Odofin LGA; [Cited 2024 Jan 24]. Available From: <https://web.archive.org/web/20170325204717/https://Amuwo-Odofin.Gov.Ng/Amuwo-Site/Index.Php?Ref=1>
27. Thompson O, Ajayi I. Prevalence of Antenatal Depression and Associated Risk Factors among Pregnant Women Attending Antenatal Clinics in Abeokuta North Local Government Area, Nigeria. *Depress Res Treat*. 2016; 2016: 4518979. DOI: 10.1155/2016/4518979
28. Akinsulore A, Temidayo AM, Oloniniyi IO, Olalekan BO, Yetunde OB. Pregnancy-Related Anxiety Symptoms and Associated Factors amongst Pregnant Women Attending a Tertiary Hospital in South-West Nigeria. *S Afr J Psychiatr* 2021; 19 (27): 1616. DOI: 10.4102/sajpspsychiatry.v27i0.1616
29. Kukoyi O, Orok E, Oluwafemi F, Oluwadare T, Oni O, Bamitale Et Al. Determinants of Depressive Symptoms among Pregnant Women Attending Primary Health Care Centres in a Local Government Area in Kwara State, Nigeria. *J Affect Disord Rep* 2023; 13: 100591. DOI.org/10.1016/j.jadr.2023.100591
30. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. *J Pers Assess*. 1988; 52 (1): 30–41. DOI: 10.1207/s15327752jpa5201_2
31. Cox JL, Holden JM, Sagovsky R. Detection of Postnatal Depression. Development Of the 10-Item Edinburgh Postnatal Depression Scale. *Br J Psychiatry*. 1987 Jun; 150: 782-6.
32. Henry JD, Crawford JR. The Short-Form Version of the Depression Anxiety Stress Scales (DASS-21): Construct Validity and Normative Data in a Large Non-Clinical Sample. *Br J Clin Psychol*. 2005 Jun; 44(Pt 2): 227-39. DOI: 10.1348/014466505X29657
33. Roddy Mitchell A, Gordon H, Atkinson J, Lindquist A, Walker SP, Middleton A, Et Al. Prevalence of Perinatal Anxiety and Related Disorders in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. *JAMA Netw Open*. 2023; 6 (11): E2343711. DOI: 10.1001/jamanetworkopen.2023.43711
34. Nielsen-Scott M, Fellmeth G, Opondo C, Alderdice F. Prevalence of Perinatal Anxiety in Low- and Middle-Income Countries: A Systematic Review and Meta-Analysis. *J Affect Disord* 2022; 1 (306): 71-79. DOI: 10.1016/j.jad.2022.03.032
35. Wegbom AI, Edet CK, Ogba AA, Osaro BO, Harry AM, Pepple BG, Fagbamigbe AF. Determinants of Depression, Anxiety, and Stress among Pregnant Women Attending Tertiary Hospitals in Urban Centres, Nigeria. *Women*. 2023; 3 (1): 41-525. DOI:10.3390/women3010003

36. Soyemi AO, Sowunmi OA, Amosu SM, Babalola EO. Depression and Quality of Life among Pregnant Women in First and Third Trimesters in Abeokuta: A Comparative Study. *S Afr J Psychiatry*. 2022; 28: 1779. DOI: 10.4102/sajpsychiatry.v28i0.1779
37. Olabisi OI, Ogunmodede E, Ojo S, Afolabi OF, Makinde AO. Body Image Perception and Social Support as Predictors of Psychological Distress among Third-Trimester Pregnant Women in Nigeria. *BMC Pregnancy Childbirth*. 2024; 24: 298
38. Taylor BL, Nath S, Sokolova AY, Lewis G, Howard LM, Johnson S, Sweeney A. The Relationship Between Social Support in Pregnancy and Postnatal Depression. *Soc Psychiatry Psychiatr Epidemiol* 2022; 57 (7): 1435-1444. DOI: 10.1007/s00127-022-02269-z
39. Bernard O, Gibson RC, McCaw-Binns A, Reece J, Coore-Desai C, Shakespeare-Pellington S, Samms-Vaughan M. Antenatal Depressive Symptoms in Jamaica Associated with Limited Perceived Partner and Other Social Support: A Cross-Sectional Study. *PLoS One*. 2018; 13(3): e0194338. DOI: 10.1371/journal.pone.0194338
40. İme Y, Dilmaç B. The Association Between Depression, Anxiety, Stress, and Resilience; Self-Efficacy and Social Support as Mediators Among 2023 Türkiye Earthquake Survivors. *Curr Psychol* 2025; 44, 13195–13202. DOI:10.1007/s12144-025-08114-1
41. Zhou C, Tan F, Li X, Chen J, Huang Q, Lin X, Zhao F, Yuan Q. Trend of Antenatal Depression and Its Risk Factors among Pregnant Women in China From 2016 to 2021: A Repeated Cross-Sectional Study Under Multiple Fertility Policy Adjustments and Economic Development. *Depress Anxiety*. 2025; 2025: 6823160. DOI: 10.1155/da/6823160
42. Cohen S, Wills TA. Stress, Social Support, and the Buffering Hypothesis. *Psychol Bull*. 1985; 98 (2): 310–57
43. McGovern ME, Rokicki S, Reichman NE. Maternal Depression and Economic Well-Being: A Quasi-Experimental Approach. *Soc Sci Med* 2022; 305: 115017. DOI: 10.1016/j.socscimed.2022.115017

