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Role of Perceived Social Support and Knowledge of Postpartum Depression Among Women in Anambra State, Eastern Nigeria

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Abstract

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MPH, Ahmadu Bello University, Zaria, Nigeria, 2002

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Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Postpartum depression (PPD) is an increasingly pressing public health issue, particularly in low-resource settings like Nigeria, where maternal mental health tends to receive limited attention. This study explored the relationship between maternal awareness of PPD, perceived social support, and prevalence of depressive symptoms among postpartum women in the Nnewi North Local Government Area (LGA) of Anambra State. Grounded in the social support theory, health belief model, and socioecological model, the study used a descriptive cross-sectional research design. A total of 406 postpartum women attending primary healthcare centers were surveyed using validated instruments, including the PHQ-9 and MSPSS. Statistical analyses included Chi-square tests, Fisher's exact tests, and regression analysis. Results revealed a clinically significant prevalence of PPD among women in Nnewi North LGA at 32%. Women with prior knowledge of PPD exhibited significantly reduced depressive symptoms ($p = .003$), suggesting that knowledge about PPD empowers mothers to recognize early signs, seek support, and adopt coping strategies to reduce depressive symptoms. Support from significant others was found to be inversely related to PPD ($p = .045$), whereas support from family and friends did not reveal significant associations. Sociodemographic factors such as age, education, employment, and marital status showed no significant correlations with PPD. These findings underscore the vital importance of mental health education and targeted emotional support in terms of mitigating the risks of PPD. There is a pressing need for heightened awareness, increased involvement from spouses, and enhanced mental health interventions at the primary care level in Nigeria.

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Dedication

This study honors God and all women in Nigeria and around the world who have endured childbirth and experienced postpartum depression. We pray for a beautiful postpartum period that is free from postpartum depression, now and in the future.

This entire work is dedicated to God, who gave me the grace and strength and helped to make this dream a reality, and the pregnant mothers in Nigeria, whose pregnancy and birth experience have been characterized by trauma and pain instead of joy. This is hoped and trusting that soon, the experience will change because help will come your way.

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Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Postpartum depression (PPD) is a common mental health issue with significant impacts on mothers, infants, and families. Although extensive research has been conducted on various aspects of PPD, there is a noticeable gap in terms of understanding specific dimensions of this complex phenomenon. I aimed to identify and highlight the research gap, providing a rationale for future investigations. I focused on the role of knowledge regarding PPD among healthcare providers, perceived support received by women after delivery, and its impact on the prevalence of PPD among women in Eastern Nigeria.

I focused on postpartum women between 18 and 49 in the Nnewi North Local Government Area (LGA) of Anambra State, Eastern Nigeria.

Problem Statement

Literature on PPD is extensive and includes studies on risk factors, prevalence rates, and interventions. Current research has highlighted the complex nature of PPD, emphasizing interactions between biological, psychological, and social factors. However, there is a noticeable gap in the literature regarding the impact of perceived support and knowledge of PPD and its prevalence in Eastern Nigeria.

Purpose of the Study

I aimed to examine the role of social support and PPD knowledge among women in Eastern Nigeria and provide recommendations to reduce its prevalence. This will lead to positive effects such as clinical benefits, preventive measures, and personalized approaches to reduce the prevalence of PPD in the study population. Understanding the

role of PPD knowledge among healthcare providers can empower them to identify PPD early, provide locally available treatments, and prevent complications by enhancing clinical practice. Consequently, this understanding can guide the development of targeted interventions to improve the overall effectiveness of PPD management.

Understanding support needed by women during the postpartum period as well as identifying modifiable factors can help in terms of developing effective strategies to reduce risks of PPD. This knowledge is important for public health initiatives that aim to lessen the impact of PPD on both mothers and infants. Additionally, having a comprehensive understanding of the role of knowledge and perceived support can help in terms of tailoring interventions for more individualized approaches to PPD management, ultimately improving treatment outcomes and reducing burdens on affected individuals and their families.

Theoretical Framework

This research involved using three foundational frameworks: the social support theory (SST), health belief model (HBM), and socioecological model (SEM). I used these frameworks to address the roles of perceived support and knowledge in terms of influencing prevalence of PPD in Eastern Nigeria.

The SST highlights the value of practical, emotional, and informational support in terms of preserving health and wellbeing. Women's mental health during and after pregnancy can be greatly impacted by the presence of supportive networks that include friends, family, and medical professionals. Women who get enough emotional support are less likely to suffer from severe PPD symptoms o (Cohen & Wills, 1985). Culturally

entrenched support systems may lower the frequency of PPD among women in Eastern Nigeria, where family and community institutions are important.

HBM is used to examine how people's perceptions and knowledge affect their health-related behaviors. It is used to explain why people change their health behaviors by focusing on their beliefs about health risks, benefits of actions, barriers to acting, and confidence in terms of succeeding. This involves focusing on individual attitudes, beliefs, and intentions to seek treatment. This suggests their perceptions of their vulnerability to PPD and decisions to seek care are influenced by their knowledge of the disorder's symptoms, causes, and treatments (Fe, 2017; Grissette et al., 2018; Jones et al., 2015; Simhi et al., 2023). Understanding PPD is essential for early detection and care in Eastern Nigeria, where cultural views and awareness of mental health concerns may differ. Understanding PPD may help lower its occurrence because informed women are more likely to seek help and the right kind of treatment (Feth (Kalyn), 2017; Jones et al., 2015).

The SST and HBM were used to address how enhancing support networks and disseminating knowledge can lower the prevalence of PPD in Eastern Nigeria, where traditional family support and developing healthcare systems coexist. Strong social support reduces the likelihood of severe PPD symptoms in women (Cohen & Wills, 1985). Furthermore, affected women, when seeking medical attention, are greatly influenced by their knowledge of PPD (Becker & Newsom, 2003).

Several factors can contribute to the development of PPD in women. These factors include individual, family, friend, and community influences. The SEM includes individual, interpersonal, community, and societal components. Individual factors include

education, knowledge about mental health, personal beliefs, and experiences involving motherhood (Caperon et al., 2022; Chapman Lambert et al., 2018a; Odinka et al., 2018). Interpersonal factors involve interactions between mothers and family members, friends, and healthcare providers, as well as the support they receive (Adeyemo et al., 2020b; Ajayi et al., 2023; Caperon et al., 2022; Gureje et al., 2020; Oladeji et al., 2022). The community also plays a significant role in terms of shaping cultural norms and beliefs, as well as determining the availability of resources and services (Accortt et al., 2022; Ajayi et al., 2023; Caperon et al., 2022; Odinka et al., 2018). Furthermore, healthcare policies, availability of health services, and economic and social conditions can profoundly impact maternal health. In low-income countries, limited access to healthcare and resources for antenatal care can impede awareness and preventive efforts (Accortt et al., 2022; Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022).

Collectively, these frameworks enriched analysis of PPD, allowing for a nuanced understanding of factors that affect maternal mental health during the postpartum period.

Research Questions and Hypotheses

RQ1: Is there an association between mothers' PPD knowledge and prevalence of PPD among postpartum women in eastern Nigeria after controlling for age, gender, and socioeconomic status?

$H_0$1: There is no association between PPD knowledge and prevalence of PPD among pregnant women in eastern Nigeria after controlling for age, gender, and socioeconomic status.

H_a1: There is an association between PPD knowledge and prevalence of PPD among postpartum women in eastern Nigeria after controlling for age, gender, and socioeconomic status.

RQ2: Is there an association between mothers' perceptions of family and social support and the prevalence of PPD among postpartum women in eastern Nigeria?

H_02: There is no association between mothers' perceptions of family and social support and the prevalence of PPD among postpartum women in eastern Nigeria.

H_a2: There is an association between mothers' perceptions of family and social support and the prevalence of PPD among postpartum women in eastern Nigeria.

Research Design, Methods, and Data Analysis

This study is a quantitative community-based analytical retrospective cross-sectional study design that was conducted over 7 weeks in Nnewi North Local Government Area (LGA), Anambra State, Nigeria. It was determined randomly using structured, closed-ended, and pretested questionnaires for women using the PHQ-9 to gather data on PPD. A structured questionnaire with closed-ended questions was used because it was suitable for answering the research questions by providing data regarding generalization and statistical analysis. The questionnaire was considered an appropriate instrument for data collection in this study due to its easy administration and quantitative analysis. The questionnaire includes demographic characteristics, socioeconomic status, awareness about PPD and its preventive strategies, and level of support obtained during pregnancy.

The sample consisted of women who attended the health facility during the study period and consented to participate. The sampling method was convenience sampling. Data were cleaned, coded, and analyzed using SPSS version 26.0. Descriptive statistics were used to describe sociodemographic and other maternity-related variables. A chi-square test was used to assess the statistical significance of the observed difference in proportions. Bivariate and multivariate logistic regression analyses were used to identify the relationship between dependent and independent variables. A p-value of less than or equal to 0.05 was considered statistically significant. To collect primary data, questionnaires were administered to women between 18 and 49 who experienced PPD within the period immediately after birth up to 12 months post-delivery.

Data on PPD were obtained from participants since health facility records of pregnant women in eastern Nigeria were not available. PPD was assessed using the PHQ-9 questionnaire. The Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure perceived social support adequacy according to three particular sources: family, friends, and significant others. Multistage random sampling was conducted. The first stage involved randomly selecting a LGA name from a provided list. During the second stage, I randomly selected a healthcare facility from a provided list. Finally, I visited the facility and randomly selected women to administer the questionnaires to. Data for RQ1 were gathered via participants' answers regarding their knowledge of PPD and level of support from their families using perceived support instruments.

In addressing the identified research gap, future studies should adopt longitudinal designs, diverse participant samples, and interdisciplinary collaborations. Research

efforts should prioritize perceived support to contribute meaningfully to the existing body of knowledge on PPD.

Conclusion

Significant progress has been made regarding understanding PPD. However, there is still a crucial research gap in the perceived support that affected mothers receive and in the level of knowledge about PPD among mothers and healthcare providers. Closing this gap is vital for advancing clinical practice, developing preventive strategies, and creating personalized approaches to managing PPD. The proposed study aimed to address this research gap and contribute to the ongoing efforts to improve our understanding and intervention capabilities in the field of postpartum mental health.

Chapter 2: Literature Review

PPD is a psychological condition that interferes with mothers' abilities to care for themselves or their children (Bánovčinová & Škodová, 2022; Leonard et al., 2020a, 2020b; Oladeji et al., 2023; Wang et al., 2023b). The postpartum period poses a high risk for mental health challenges. Depression is the most common psychiatric problem among women of reproductive age (Alfayumi-Zeadna et al., 2022; Bánovčinová & Škodová, 2022; Wake et al., 2022). A major depressive episode (MDE) typically occurs 4 weeks after delivery (Carlson et al., 2024). PPD is found in all nations, with a worldwide prevalence of approximately 17.22% (AUTHOR? YEAR?)**.** However, this figure significantly differs across various geographical locations (Wang et al., 2021): in Singapore, the prevalence of PPD is 3%, while it is 8% in the Netherlands, 11% in

Switzerland, 32% in Vietnam, 38% in Chile, and 44% in South Africa (Fish-Williamson & Hahn-Holbrook, 2023)

As a result of PPD, people lose interest in usual events, experience sleep challenges, feel sad and exhausted, and have difficulties coping with daily activities (Bánovčinová & Škodová, 2022; Dagnaw et al., 2022; Wake et al., 2022). Mothers' mental health affects care and support they provides to their babies, which affects their development and health (Dagnaw et al., 2022; H et al., 2023; Jiang et al., 2021; Wake et al., 2022; Wang et al., 2023b).

In addition to providing adequate medical care and support, early detection and treatment of mental health issues during the postpartum period enhances postpartum women's general functioning (Malaju et al., 2022). One of the main problems in terms of prevalence of PPD is the inability of many healthcare professionals to identify it during the perinatal period. Among high-income nations, primary healthcare providers detect less than half of postnatal depression diagnoses during routine clinical practice (Bánovčinová & Škodová, 2022; Oladeji et al., 2023).

Interventions made by qualified healthcare professionals may lessen adverse effects of prenatal depression (Chorwe-Sungani et al., 2022; Garapati et al., 2023; Lasater et al., 2022). For some women, transitions into motherhood can be marked by emotional turmoil and lack of support, which results in a high possibility of PPD. Rather than focusing exclusively on childcare responsibilities, afterbirth assessments should involve considering life's broader challenges and depression screening (Bánovčinová & Škodová, 2022; Dagnaw et al., 2022; Saharoy et al., 2023; Wake et al., 2022). Symptoms of PPD

are related to the type of delivery, immediate postpartum complications, and mothers' perceptions of recent childbirth experiences (Ahmadpour et al., 2023).

Literature Review

Knowledge and Support in the Context of PPD

Individuals need to be aware of PPD symptoms and risk factors to prevent and manage the disease. Knowledge of PPD by women and healthcare providers is crucial for the diagnosis and prevention of PPD (Adelodun et al., 2021; Gbadamosi et al., 2022; Gureje et al., 2021; Saharoy et al., 2023; Soyemi et al., 2022). There may be a lack of awareness of PPD in Eastern Nigeria due to limited information and cultural beliefs. For PPD prevalence to be reduced, interventions must improve knowledge and understanding (Adelodun et al., 2021; Soyemi et al., 2022). The early postpartum period is crucial for the health and survival of both newborns and mothers. Still, it receives less attention from healthcare professionals compared to prenatal and childbirth periods. PPD often goes undiagnosed and untreated due to a lack of knowledge among women and their healthcare providers. Disparities in healthcare treatment and access can lead to poor outcomes for both mothers and infants, especially among low-income African Americans (Bánovčinová & Škodová, 2022; Chorwe-Sungani et al., 2022; Dagnaw et al., 2022; Garapati et al., 2023; Göbel et al., 2020; Lasater et al., 2022; Wake et al., 2022). The World Health Organization recommends if mothers and babies are discharged from hospitals within 48 hours after birth, qualified professionals should assess them within 24 to 48 hours after discharge for monitoring and early identification of PPD.

Social support plays a crucial role during the postpartum period. Extended family and community networks are essential components of interpersonal and community support systems. Husbands' loving support and social support for mothers has a positive impact on their mental health 1 and 2 years after childbirth (Bánovčinová & Škodová, 2022; Dagnaw et al., 2022; Umuziga et al., 2023; Wake et al., 2022). During the first year after childbirth, social support is the strongest predictor of PPD. Preventing and treating PPD can be achieved by evaluating expectant mothers' social support and building connections between them and their families, friends, and significant others. The combination of assessments of expectant mothers' object relationships and therapeutic interventions targeting fear and worry may be effective in terms of reducing postpartum anxiety (Ayoub et al., 2020; Bánovčinová & Škodová, 2022; Dagnaw et al., 2022; Wake et al., 2022).

PPD is less common among mothers who have larger social networks. PPD can be decreased by appropriately educating family members about mental health issues that affect mothers, their effects, and early detection techniques (Patabendige et al., 2020; Poreddi et al., 2020). To prevent PPD, it is advised that families be made aware of critical roles social support play via enhanced healthcare (Vaezi et al., 2019). PPD is impacted by pregnant women's desire for close family care and attention from conception to delivery, as well as being kept content and worry-free (Patabendige et al., 2020; Poreddi et al., 2020). Marital satisfaction, family income, and number of children are important factors associated with PPD among teenage mothers, highlighting the need for targeted support and interventions to improve mental health outcomes (Bekuma et al., 2020).

Postpartum social support promotes healthy infant growth and facilitates mothers' postpartum recovery (Badrin et al., 2021; Kim et al., 2023). Social support can mitigate the negative effects of life stress on pregnant women's emotional health, therefore serving as a protective factor. To empower pregnant women against psychosocial risk factors and reduce their chances of developing anxiety, depression, and mental disorders, early and effective therapies involving psychosocial support are expected to produce better biopsychosocial results for both mothers and infants (Ayoub et al., 2020; Ediz & Budak, 2023; Kettrey & Steinka-Fry, 2021).

Among low and middle-income populations, PPD is common due to factors such as marital dissatisfaction, unemployment, and psychosocial stress. Women who do not receive adequate support during pregnancy and postpartum periods are more likely to develop PPD (Huang et al., 2021; Kim et al., 2023; Nurbaeti et al., 2023; Wildali et al., 2024). Pregnancy-related health problems may be related to poor access to ANC, including limited access to quality healthcare and resources (Accortt et al., 2022; Adeyemo et al., 2020a; Odinka et al., 2018; Oladeji et al., 2022). Prevalence of PPD can be reduced by increasing access to healthcare for ANC during pregnancy, nutrition education, and exercise, as well as referrals to support services when patients present themselves at hospitals (Accortt et al., 2022; Adeoye et al., 2022; Gureje et al., 2020; Oladeji et al., 2022).

Research Gaps and Rationale for the Study

The rise in PPD among women in Eastern Nigeria after delivery was the social problem that spurred this investigation. The prevalence of this problem is widespread.

Among low and middle-income populations, PPD is common among women who do not receive adequate support during pregnancy. Prevalence of PPD can be reduced by increasing access to healthcare as well as referrals to support services when patients present themselves at hospitals (Accortt et al., 2022; Adeoye et al., 2022; Gureje et al., 2020; Huang et al., 2021; Kim et al., 2023; Nurbaeti et al., 2023; Oladeji et al., 2022; Wildali et al., 2024).

Gap in Literature

Researchers have previously investigated the prevalence of PPD in different geographical contexts (Adeyemo et al., 2020a; Gureje et al., 2019, 2020; Odinka et al., 2018; Oladeji et al., 2022). Among pregnant women, their families, and the healthcare provider, there is a lack of knowledge about PPD, as well as inadequate support during and after delivery. Several measures can be taken to reduce the prevalence of PPD among pregnant women in Eastern Nigeria (Adeyemo et al., 2020a; Gureje et al., 2019, 2020; Odinka et al., 2018; Oladeji et al., 2022). There are, however, two critical factors affecting the prevalence of PPD among pregnant women: a lack of knowledge and a lack of support. Many women are unaware of postpartum depression because they lack sufficient understanding of the illness, and they are also unaware of its indications and symptoms. A woman may not recognize the symptoms of postpartum depression and may choose not to receive therapy if she has inadequate awareness of the condition both throughout her pregnancy and after giving birth (Adeyemo et al., 2020a; Ajibade et al., 2022; Oladeji et al., 2023). Obioha et al (2021) found that only 6% of participants had adequate knowledge of postpartum depression, and 11% had a positive attitude toward

the condition in southern Nigeria, which confirms poor knowledge of PPD (Obioha et al., 2021a). Previous studies have not significantly investigated these factors in this context in this part of the country.

Rationale for the Study

The purpose of this study is to explore the experience of women who have experienced PPD, including their experience of the factors that contribute to PPD in Eastern Nigeria. The goal is to determine the variables that affect the prevalence of PPD, including knowledge and perceived support, taking regional variances and peculiarities into account. Determining the personal, social, and societal-level factors influencing PPD should help design projects to lower the prevalence of PPD in pregnant women in Eastern Nigeria. The broader societal variables, such as healthcare services, economic inequities, and the impact of traditional healers, are included to comprehend the role of these factors in PPD prevalence.

Drawing from the results of my research, I recommended culturally aware and multi-tiered projects aimed at reducing the occurrence of postpartum depression, advancing understanding, and offering pregnant women in Eastern Nigeria efficient support networks that will help them with PPD appropriately. This would be carried out by considering the socioeconomic and cultural aspects that might also have a role in the region's high incidence of this illness.

PPD Prevalence

Global and Regional Prevalence of PPD

PPD is recognized as a substantial concern affecting women of diverse backgrounds. The World Health Organization (YEAR?) estimated PPD affects approximately 10-15% of mothers worldwide. These estimates, however, tend to be conservative, as PPD is frequently underreported due to mental health stigma. Globally, around 10-20% of expecting mothers experience depression symptoms after giving birth. Postpartum depression (PPD) prevalence has increased by 18.4% between 2005 and 2015 worldwide (Adeyemo et al., 2020a; Wake et al., 2022). Research has shown that PPD rates vary across different regions and continents, with lower rates reported among women from Europe, Australia, and the United States. In contrast, women from Asia and South Africa tend to experience higher PPD rates. PPD prevalence is approximately 10% in developed countries and almost 20% in developing countries (Bánovčinová & Škodová, 2022; Wake et al., 2022). According to World Health Organization projections, depression will account for the majority of mental illnesses by 2030. Despite several studies conducted on the topic, not much has been done to contextualize the situation in Africa, and there is still much to learn about it (Gbadamosi et al., 2022).

Postpartum depression is a mental health disorder that affects women worldwide, irrespective of their cultural and socioeconomic background. However, it is more prevalent among mothers from disadvantaged socioeconomic backgrounds in low- and low-middle-income countries. Developed or high-income countries report significantly lower PPD rates. The World Health Organization (WHO) reports that women in

developing countries, between 20% and 40% of them, suffer from depression during or after pregnancy. While the socioeconomic conditions in the Middle East were similar, the prevalence rate differed. 10% of people with PPD were found in Sharjah, United Arab Emirates, whereas 17.6% of people with PPD were found in Qatar. Moreover, only 12.8% of PPD was detected in Lebanon. Furthermore, 49.5% of PPD was found in Minia, Egypt. The frequency of PPD was discovered to be 17.8% in the Saudi Arabian province of Dammam. In the same year, another research conducted in Riyadh discovered a 33.2% PPD prevalence. The differences between different populations may be explained by differences in healthcare environments, in addition to socioeconomic and geographic factors (Almuqbil et al., 2022; Ayoub et al., 2020).

African countries, on the other hand, have a higher prevalence of postpartum depression (PPD). PPD prevalence rates vary geographically, with the highest rate (39.96%) reported in Southern Africa. Southwestern Uganda has rates of 27.1%, 27.5% in Egypt, and 35.6% in Nigeria. The WHO has also highlighted that depression is the primary cause of illness among women of reproductive age. PPD is a significant public health concern in developing countries. (Bánovčinová & Škodová, 2022; Wake et al., 2022). Analyzing PPD prevalence through a socio-ecological lens can help understand the complex nature of this mental health issue. Studies conducted by Dagnaw et al. (2022) and Wake et al. (2022) have highlighted the need for a comprehensive approach to PPD. With limited resources, postpartum depression (PPD) is a prevalent mental health issue in sub-Saharan Africa (SSA). Determining its correlates will help with early detection, prevention, and prediction (Nweke et al., 2022).

Prevalence of PPD in Eastern Nigeria

In Nigeria, pregnant women frequently experience depression, which has been linked to detrimental long-term effects on both the mother and the child (Gureje et al., 2019, 2020). Like many other low- and middle-income countries (LMIC), Nigeria is not an exception when it comes to the prevalence and treatment of prenatal depression (Gureje et al., 2019, 2020; Okunola et al., 2022). There is a link between giving birth and experiencing postpartum depression (PPD), which can have serious negative effects on both the mother and child. Although PPD is a significant issue, healthcare providers often ignore it. The prevalence of PPD varies across different regions of Nigeria due to differences in socioeconomic status, healthcare accessibility, and culture. Healthcare services are still paid for out of pocket, making it difficult for those with low and middle incomes to receive care, which may have an impact on the prevalence of PPD (Adelodun et al., 2021; A. O. Soyemi et al., 2022). While there are no reliable national data on PPD prevalence, local studies have shed some light on the problem. To better understand the underlying factors contributing to these variations, we can apply socio-ecological theory (Adelodun et al., 2021; Adeyemo et al., 2020a; Gbadamosi et al., 2022; Odinka et al., 2018).

Nigeria's prevalence of PPD varies across regions and is influenced by socio-cultural and economic factors; it ranges between 10% and 35% (Dada et al., 2021; Odufuwa et al., 2022). PPD prevalence rates by Odufuwa et al (2022) are reported as 34.6% in the South East (Odufuwa et al., 2022). Eastern Nigeria, in particular, has an exceptional cultural and social landscape. Understanding pregnant women's specific

challenges in this region is crucial for designing effective interventions and support systems (Adelodun et al., 2021; Adeyemo et al., 2020a). PPD negatively impacts mother and child health and cognitive development. The factors associated with postpartum depression were multiple births, cesarean delivery, lack of marital satisfaction, unemployment, psychological stressors surrounding pregnancy, lack of adequate support given to women during pregnancy and the postpartum period, single pregnant women, the mother's illness following delivery, and not exclusively nursing the child. The higher prevalence of depressive disorder among pregnant single women may be explained by the absence of a companion to offer consolation and consistent support (Adelodun et al., 2021; A. O. Soyemi et al., 2022).

Promoting social support for women during their prenatal and postpartum phases, along with routine screening for postpartum depression, can enable early detection and prompt intervention (Adelodun et al., 2021; Adeyemo et al., 2020a; Dada et al., 2021). To cope with postnatal depression (PND), mothers employ various mechanisms such as music therapy and social support. Experts suggest that counseling should be given to mothers both during and after childbirth as part of their routine care for their children to prevent and overcome its effects (Adelodun et al., 2021; Adeyemo et al., 2020a; Uzobo et al., 2022). In western Nigeria, PPD prevalence was 33.7%, and 90.8% of the affected were religious. 29.6% of affected individuals turned to drugs as a coping mechanism. Factors strongly correlated with PPD include religion, marital status, education, and marriage nature (Adelodun et al., 2021; Dada et al., 2021).

In studies conducted in the middle belt, it was found that postpartum depression (PPD) was present in 37.7% of cases of mild depression, 3.5% of cases of moderate depression, and 3.2% of cases of severe depression. Adelodun et al reported these findings. (2021), Adeyemo et al. (2020), and Uzobo et al. (2022). On the other hand, PPD prevalence rates in Northern Nigeria range from 20% to 30%. Nigeria's high postpartum depression (PPD) rates can be attributed to various factors, such as cultural practices, limited access to mental health services, and economic disparities. PPD prevalence is still a worry, even if it is lower in Southern Nigeria than it is in Northern Nigeria, where it can reach as high as 54.5% among ANC clinic patients. Regional differences in social support networks, cultural norms, and healthcare availability are some of the contributing factors that impact PPD rates in Nigeria (Gbadamosi et al., 2022; Gureje et al., 2019, 2021; Oladeji et al., 2019, 2022).

Keywords were *postpartum depression*, *postnatal depression*, *maternal depression*, *perinatal depression*, *community-based*, *prevention*, *pregnant women*, *perinatal psychiatry*, *social support*, *prevalence-postpartum*, *socio-ecological model/framework*, *marriage satisfaction*, *depressive disorders*, *Nigeria*, and *Africa*. I used the following databases: Walden University Library, CINAHL, MEDLINE, and Google Scholar. All sources were published between 2020 and 2024.

Theoretical Framework

This study utilizes the integration of SST, HBM, and SEM to create a comprehensive understanding at various levels of influence to explain the role of perceived support and knowledge in the prevalence of PPD in Eastern Nigeria. Different

aspects of a person's experience are covered by each theory, and these interact to influence the prevalence of PPD.

SST

The SST underscores the significance of practical, emotional, and informational support in maintaining health and well-being. For women facing postpartum depression (PPD), the presence of a supportive network, including friends, family, and medical professionals, can profoundly influence their mental health during and after pregnancy (Cohen & Wills, 1985; Laquidara & Lincoln, 2024). Research shows that women who receive sufficient emotional support are less likely to experience severe symptoms of postpartum depression. In areas such as Eastern Nigeria, where familial and community bonds are strong, culturally ingrained support systems may contribute to a lower incidence of PPD among women (Adeyemo et al., 2020b; Akbari et al., 2020; Obioha et al., 2021a). Decades of research have demonstrated a clear link between social relationships and recovery from serious mental illness. Enhanced social support networks are associated with improved quality of life, better social functioning, reduced symptoms, and fewer hospitalizations (Cho et al., 2022a; Zhao & Zhang, 2024).

In contrast, a lack of support is correlated with postpartum depression and can adversely impact both the mother and her infant. Providing postpartum support can significantly improve well-being by facilitating a smoother transition into motherhood (Cheng et al., 2022; Corrigan et al., 2015). Furthermore, social support has been shown to lower the likelihood of experiencing postpartum depression, particularly for women dealing with challenges such as multiparity, pregnancy loss, negative body image, and

those who are employed. Women at risk of losing social support during and after pregnancy are more susceptible to mental health issues, highlighting the critical need for proper screening and assistance for expectant and new mothers (Jamshaid et al., 2023; Seymour-Smith et al., 2021).

HBM

HBM is used to understand health behaviors by focusing on individual beliefs about health conditions. The Key Components are Perceived Susceptibility: Belief about the likelihood of experiencing postpartum depression. Perceived Severity: Understanding the serious consequences of untreated postpartum depression. Perceived Benefits: Recognizing the advantages of seeking help and treatment. Perceived Barriers: Identifying obstacles that prevent seeking help, such as stigma or lack of support. Knowledge about PPD by women will encourage individuals to seek help, which helps to reduce postpartum depression by addressing these components, assisting new mothers to understand their risks and the importance of seeking support (Feth (Kalyn), 2017; C. L. Jones et al., 2015).

The basis for comprehending how these elements contribute to PPD is the interaction between knowledge (as outlined in HBM) and support (as outlined in Social Support Theory). These theories shed light on how enhancing support networks and disseminating knowledge can lower the prevalence of PPD in Eastern Nigeria, where traditional family support and developing healthcare systems coexist (Feth (Kalyn), 2017; C. L. Jones et al., 2015). Strong social support reduces the likelihood of severe PPD symptoms in women (Cohen & Wills, 1985). Furthermore, affected women's conduct

when seeking medical attention is greatly influenced by their knowledge of PPD (Becker, 1974).

The HBM examines how people's perceptions and knowledge influence their health-related behaviors. It helps explain why individuals change their health behaviors by focusing on their beliefs about health risks, the benefits of acting, barriers to acting, and their confidence in achieving success. This model emphasizes individual attitudes, beliefs, and intentions regarding treatment-seeking behaviors. Specifically, a woman's perception of her vulnerability to postpartum depression (PPD) and her decision to seek care is influenced by her understanding of the disorder's symptoms, causes, and available treatments (Feth (Kalyn), 2017; Grissette et al., 2018; C. L. Jones et al., 2015; Simhi et al., 2023). In Eastern Nigeria, where cultural views and awareness of mental health issues may vary, understanding PPD is crucial for early detection and care. Educated women are more likely to seek help and receive appropriate treatment, potentially lowering the occurrence of PPD (Feth (Kalyn), 2017; C. L. Jones et al., 2015).

Key components of HBM include:

1. Perceived Susceptibility: Beliefs about the likelihood of experiencing postpartum depression.

2. Perceived Severity: Understanding the serious consequences of untreated postpartum depression.

3. Perceived Benefits: Recognizing the advantages of seeking help and treatment.

4. Perceived Barriers: Identifying obstacles that may prevent seeking help, such as stigma or lack of support.

Awareness and knowledge about PPD will encourage women to seek help, thereby addressing the components of the model and aiding new mothers in understanding their risks and the significance of obtaining support.

Furthermore, the interaction between knowledge (as outlined in HBM) and support (as described in Social Support Theory) is essential for understanding how these elements contribute to PPD. These theories highlight how enhancing support networks and spreading knowledge can reduce the prevalence of PPD in Eastern Nigeria, where traditional family support interfaces with developing healthcare systems. Strong social support has been shown to diminish the likelihood of severe PPD symptoms in women. Additionally, a woman's behavior in seeking medical attention is significantly influenced by her knowledge of PPD (Becker, 1974).

SEM

The SEM helps to incorporate the other two theories in my study in the understanding of Knowledge and Support, operating at the individual, interpersonal, communal, and societal factors that interact to affect health outcomes and behaviors. The model is broad and considers many variables that impact health, including physical, mental, and psychological well-being. According to the World Health Organization Constitution of 1947, health encompasses all of these aspects. The social-ecological model recognizes that the interplay between the individual, community, and physical, social, and political environments influences health. This approach to health thinking is supported by various studies, such as Acheampong & Siiba (2018), Chapter 1 (2018), and Essiet et al. (2017) (Acheampong & Siiba, 2018; Essiet et al., 2017).

The Social Ecological Model (SEM) was developed as a theory in the 1980s. Bronfenbrenner created an original theory that depicted the individual at the center of numerous systems in nesting circles. The microsystem, the closest to the person, has the most significant effects, including relationships and interactions in the immediate environment. The mesosystem, represented by the second circle, considers interactions that extend beyond the moment and include those with which the person has a direct relationship, such as work, education, worship, and neighborhood. Although the environment does not have a direct impact on an individual, it interacts with them in both negative and positive ways, such as through social networks and community contexts. Social, religious, and cultural values and influences are part of the macrosystem. The chronosystem, which encompasses both internal and external components of time and historical information, is in the last stage. The updated models of SEM also consider policy influence at this level. In the SEM, health is defined broadly, and attention is given to the key factors that may impact it. According to the SEM, the interplay between an individual's, community's, and environment's physical, social, and political components impacts their health.

The Centers for Disease Control and Prevention have modified the Social-Ecological Model (SEM) for various health promotion initiatives. These initiatives aim to improve health on multiple levels, including interpersonal, organizational, community, and policy. The SEM has also been adapted to represent multilevel approaches in areas such as violence prevention, public health promotion, geriatric preventive health, healthy college campuses, and colorectal cancer prevention, among others. This is due to the

original model's recognition of the various factors that contribute to human development (Acheampong & Siiba, 2018; Essiet et al., 2017; Kilanowski, 2017). This study utilized the socio-ecological model to investigate the various factors that contribute to postpartum depression (PPD) among pregnant and parenting adolescents (Ajayi et al., 2023). PPD is prevalent among low and middle-income populations and is associated with factors such as lack of marital satisfaction, food insecurity, unemployment, psychosocial stressors during pregnancy and postnatal periods, as well as cultural factors (Accortt et al., 2022; Adeyemo et al., 2020a; Odinka et al., 2018; Oladeji et al., 2022). Many factors can contribute to women developing postpartum depression (PPD). These factors include individual, family, friends, and community factors. For example, when women become pregnant, they may face social challenges from their spouses and friends, and a lack of support in their community, which can lead to PPD. In addition, other factors that can affect them are a lack of education and economic empowerment, and exposure to physical and emotional abuse from certain people.

The model that explains these factors consists of four components: individual, interpersonal, community, and societal. These four levels are explained as follows:

At an individual level, several factors can influence PPD awareness, such as education, knowledge about mental health, and personal beliefs about motherhood and mental health. Women must be aware of the condition and its symptoms to seek help and access preventive measures. Research can examine how individual-level characteristics impact awareness and willingness to engage in prevention strategies that support health-

seeking behavior (Caperon et al., 2022; Chapman Lambert et al., 2018b, 2018b; Odinka et al., 2018).

Interpersonal factors refer to a mother's interactions with her family members, friends, and healthcare providers. When a mother has social support from her family and friends, it can positively impact her mental health and increase awareness of postpartum depression (PPD). However, if a mother faces stigma or a lack of understanding from her close contacts, it may discourage her from seeking help for PPD. Investigating the role of interpersonal relationships in raising awareness of PPD can provide valuable insights into social dynamics and support systems (Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022; Gureje et al., 2020; Oladeji et al., 2022).

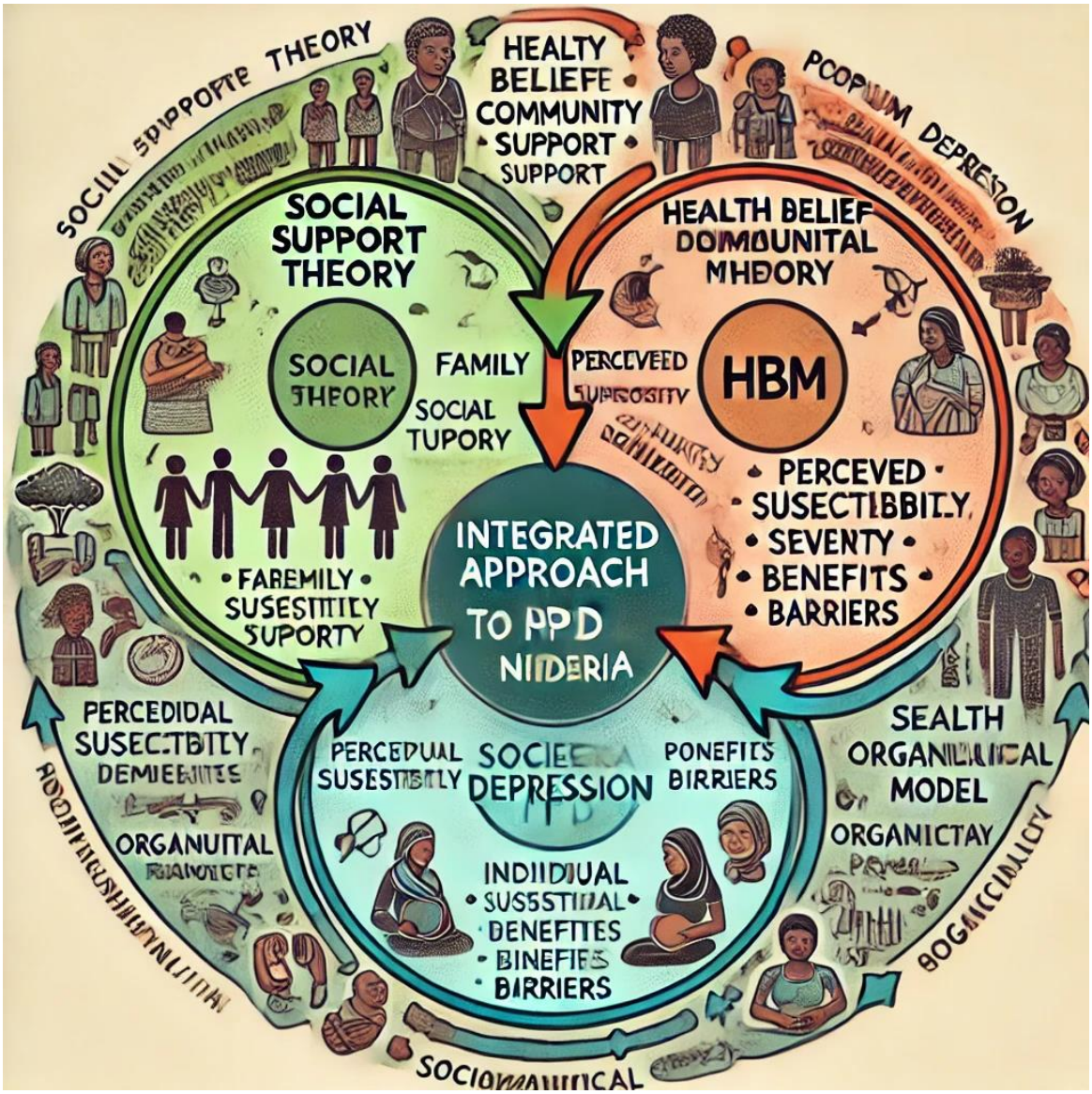
The community plays a crucial role in determining cultural norms and beliefs, as well as the availability of resources and services. In low-income countries, there might be cultural stigmas attached to mental health issues, and traditional remedies may be given more preference over professional help. To address this issue, it is important to understand the community-level factors that affect awareness and prevention. This can help in developing interventions that are tailored to the specific cultural context of the community (Accortt et al., 2022; Ajayi et al., 2023; Caperon et al., 2022; Odinka et al., 2018).

Various factors at the societal level, such as healthcare policies, the availability of health services, and broader economic and social conditions, can significantly impact maternal health. In low-income countries, limited access to healthcare and resources for antenatal care can hinder awareness and preventative efforts. However, policies that

prioritize maternal mental health and increase access to services can improve outcomes. Studies conducted by Accort et al. (2022), Adeyemo et al. (2020), Ajayi et al. (2023), and Caperon et al. (2022) highlight the importance of these policies.

Figure 1

SST, HBM, and SEM



Here is the diagram that harmonizes the Social Support Theory, Health Belief Model (HBM), and the Socioecological Model for addressing postpartum depression (PPD) in Nigeria. Each theory's key components are represented, and their interaction forms an integrated approach to understanding and addressing PPD.

Figure 2

SEM

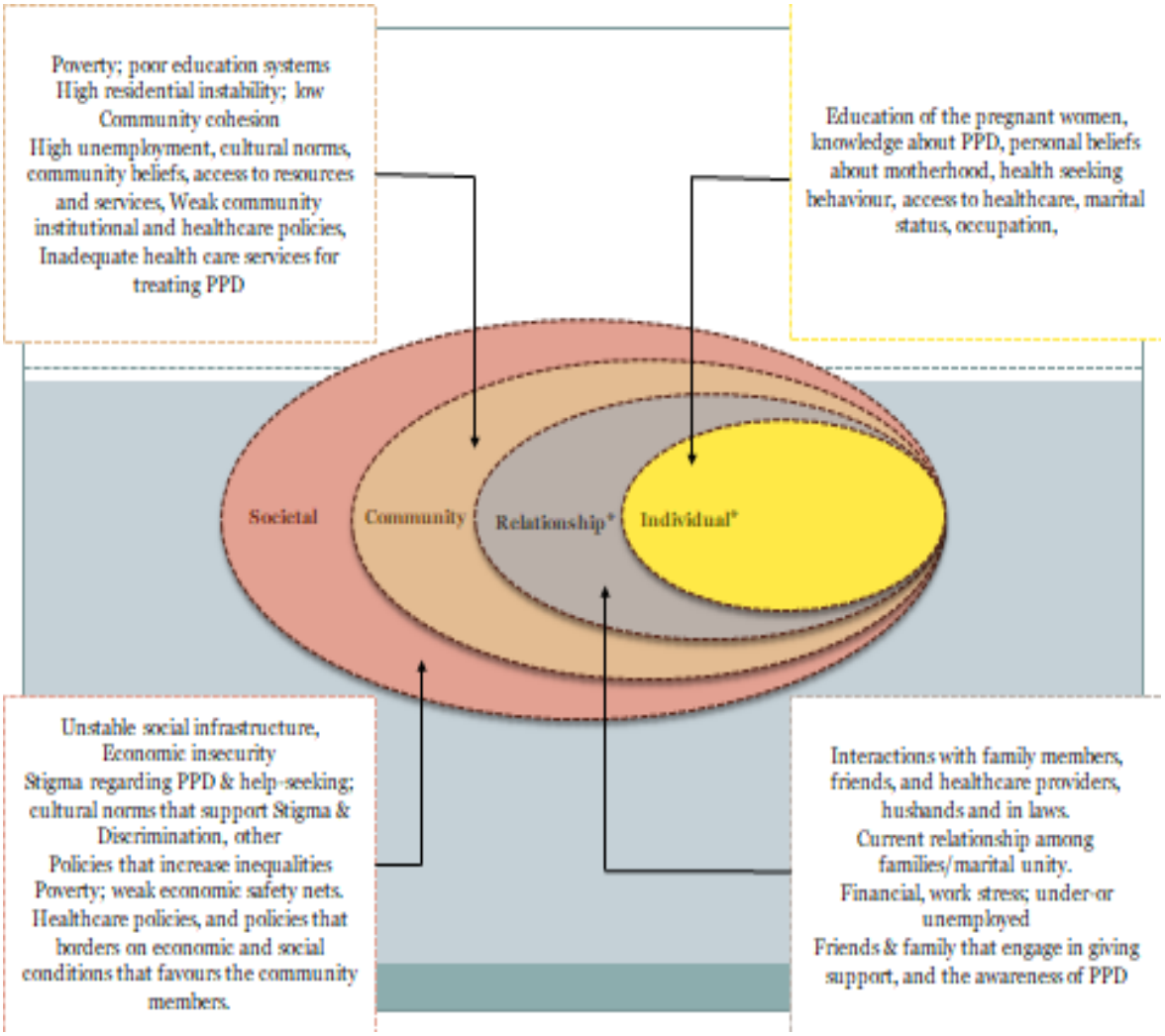


Table 1

Components of the SEM

Constructs	Variables

Individual Level from mothers	Age, education, employment, marital status, knowledge/awareness of PPD, health-seeking behavior, personal beliefs about motherhood, access to healthcare, marital status, and occupation.
Interpersonal Level from Mothers (Relationship)	Support obtained and interaction with family members, healthcare providers, husbands, and in-laws. Current relationship among families/marital unity. Confidence, communicating feelings, and any barriers. Friends and family who engage in giving support and raising awareness of PPD.
Community Level from mothers	Community resources or support utilized, beliefs of community attitudes towards PPD, and any stigma observed. Poverty, poor education systems, high residential instability, low community cohesion, high unemployment, cultural norms, access to resources and services, weak community institutions, and healthcare policies. Inadequate healthcare services for treating PPD.
Societal Level from healthcare providers and mothers	Health care facility attended, adequacy of center, staff, and competence, favorable. Any policy to support PPD, and ways of improvement by the government. Unstable social infrastructure, economic insecurity, stigma regarding PPD and help-seeking, cultural norms that support stigma and discrimination, other policies that increase inequalities, poverty, and weak economic safety nets. Healthcare policies and policies that border on economic and social conditions that favour the community members.

The HBM serves as a theoretical framework for elucidating how personal knowledge and perceptions of PPD inform health-related behaviors among women. In the

context of Eastern Nigeria, a woman's belief in the validity of PPD, as well as her perceived vulnerability to it and comprehension of its symptoms, significantly influences her likelihood of seeking assistance or adopting preventive measures. Insufficient awareness regarding PPD may lead women to overlook early symptoms or dismiss them altogether, often due to entrenched cultural stigmas associated with mental health disorders. For instance, women who lack adequate education about the signs and repercussions of PPD might interpret their emotional distress as a normative aspect of the postpartum experience or attribute it to other cultural or spiritual phenomena. This lack of understanding can contribute to underreporting and a higher prevalence of untreated PPD, underscoring how knowledge directly shapes individual health-seeking behaviors in alignment with the tenets of the HBM (Feth (Kalyn), 2017; Grissette et al., 2018; C. L. Jones et al., 2015; Simhi et al., 2023).

At the interpersonal level, Social Support Theory articulates the critical role of supportive social networks in buffering stress and enhancing mental health outcomes. Within the domain of PPD, emotional, informational, and instrumental support derived from family, friends, healthcare professionals, and community members can significantly mitigate the emergence or exacerbation of PPD symptoms (Cheng et al., 2022; Cho et al., 2022b; Corrigan et al., 2015; Laquidara & Lincoln, 2024; Zhao & Zhang, 2024). Given the prominence of extended family structures and communal ties in Eastern Nigeria, robust social support systems are pivotal in addressing PPD by providing emotional comfort, practical assistance, and essential knowledge regarding PPD symptoms and treatment options (Jamshaid et al., 2023; Seymour-Smith et al., 2021). This framework

complements HBM by illustrating how individual behaviors and knowledge are profoundly shaped by the dynamics of social networks. For example, if a woman's family possesses a thorough understanding of PPD, they are more likely to offer requisite emotional support and motivate her to seek medical intervention, thereby potentially alleviating the severity of her condition (Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022; Gureje et al., 2020; Oladeji et al., 2022).

The SEM broadens the analysis by considering how community, organizational, and policy variables influence health outcomes. It posits that individual health outcomes, such as those associated with PPD, are not solely the product of personal choices and social support; rather, they are also contingent upon community norms, healthcare accessibility, and public policy frameworks. In the specific context of Eastern Nigeria, numerous factors ranging from the availability of healthcare services to community attitudes toward mental health, as well as the quality of maternal healthcare infrastructure, impact the prevalence of PPD (Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022; Gureje et al., 2020; Oladeji et al., 2022). For instance, healthcare organizations are tasked with the responsibility of ensuring that women receive appropriate screening and education regarding PPD during both prenatal and postnatal care. Moreover, legislative policies aimed at promoting maternal mental health awareness and ensuring access to mental health services are essential for mitigating PPD rates on a systemic level. Furthermore, community attitudes, often shaped by traditional and cultural beliefs, can significantly affect the nature of support a woman receives and her willingness to seek help (Ajayi et al., 2023; Bakhtari et al., 2020; Buzi et al., 2015).

Suppose the prevailing community perspective views PPD as a taboo subject or a spiritually inflected issue. In that case, women may be less inclined to pursue care, even when they possess some understanding of the condition. This situation highlights the necessity for community educational initiatives and policy interventions to diminish the stigma surrounding PPD and enhance the mental health infrastructure (Ajayi et al., 2023; Bakhtari et al., 2020; Buzi et al., 2015). Understanding the community-level factors that affect awareness and prevention can help tailor interventions that resonate with the specific cultural context (Accortt et al., 2022; Ajayi et al., 2023; Caperon et al., 2022; Odinka et al., 2018). Finally, we have the societal level; factors such as healthcare policies, availability of mental health services, and broader economic and social conditions play a significant role. Limited access to healthcare and mental health resources in low-income countries can hinder awareness and preventive efforts. Policies that prioritize maternal mental health and increase access to services can be effective in improving outcomes (Accortt et al., 2022; Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022).

The Social Support Theory, the Health Belief Model (HBM), and the Socioecological Model work together to explain the role of perceived support and knowledge in the prevalence of postpartum depression (PPD) in Eastern Nigeria. Each theory addresses different levels of influence in an individual's experience, providing a comprehensive understanding of how these factors interact and contribute to the prevalence of PPD.

Practical Application of Theories Involving PPD to the Nigerian Situation

Prevalence of PPD in Nigeria, particularly in Eastern Nigeria, necessitates a multifaceted approach to its understanding and management. The integration of the Social Support Theory, the Health Belief Model (HBM), and the Socioecological Model provides a comprehensive framework for addressing PPD. Each theoretical model elucidates distinct, yet interconnected dimensions of how social structures, individual perceptions, and environmental factors collectively influence maternal mental health. The implementation of practical interventions derived from these theories can yield significant improvements in maternal well-being (Adeyemo et al., 2020a; Ajayi et al., 2023; Cohen & Wills, 1985; C. L. Jones et al., 2015; Laquidara & Lincoln, 2024; Simhi et al., 2023).

The Social Support Theory underscores the pivotal role that perceived and actual support from familial, social, and community networks plays in the prevention and management of mental health disorders, including PPD. Within the Nigerian context, where communal and familial ties are deeply entrenched, the availability or lack of such support can substantially affect the mental health of mothers (Adeyemo et al., 2020b; Akbari et al., 2020; Obioha et al., 2021a).

Mothers in Nigeria frequently depend on family members, particularly husbands, mothers, and in-laws, for emotional and practical support following childbirth. The absence of adequate emotional or tangible support can elevate the risk of PPD. Strengthening these support systems through family-centered health education initiatives is essential. For instance, health campaigns aimed at elucidating the significance of

emotional support during the postpartum period could motivate families to provide more enduring and meaningful assistance(Adeyemo et al., 2020a; Ajayi et al., 2023; Dennis & Letourneau, 2007).

Establishing community-based peer support groups for postpartum women can create conducive environments for mothers to share experiences, diminish feelings of isolation, and provide emotional reassurance. These support groups can be implemented through community health centers or religious organizations, addressing the needs of women in both rural and urban settings. By fostering both formal and informal support structures, social support interventions can alleviate the sense of isolation and stress that significantly contribute to PPD prevalence among Nigerian women (Adeyemo et al., 2020a; Ajayi et al., 2023; Dennis & Letourneau, 2007; Leahy-Warren et al., 2012).

The HBM emphasizes how individual beliefs concerning health problems, perceived threats, and the benefits of action influence health behaviors. When applied to PPD, this model can elucidate the rationale behind some Nigerian women's reluctance to seek preventative measures or assistance for PPD.

A considerable number of Nigerian women may not recognize their vulnerability to PPD, often attributable to insufficient awareness or pervasive cultural stigmas surrounding mental health. Consequently, health education initiatives must be devised to enhance awareness of PPD symptoms and the potential severity of untreated conditions. For instance, antenatal and postnatal care programs could incorporate educational sessions that address mental health issues, encompassing the risks and signs of PPD (C. L. Jones et al., 2015; Rosenstock, 1974).

The hesitation of women to pursue mental health care is often driven by fears of stigma, lack of comprehension, or perceived ineffectiveness of treatment. It is imperative to address these barriers through culturally relevant educational campaigns to help women recognize the benefits of early intervention and management of PPD. For example, informing women of the efficacy of counseling and pharmacotherapy could encourage them to seek help (Glanz et al., 2008, 2015).

Public health initiatives can harness cues to action, such as media campaigns, reminders from healthcare providers, and community outreach, to stimulate help-seeking behaviors among women for PPD. Methods such as radio programs and SMS notifications, which are extensively utilized across Nigeria, could serve to remind new mothers of the importance of mental health evaluations. Through the lens of the HBM, public health strategies can effectively alter women's perceptions regarding PPD, foster help-seeking behaviors, and mitigate the stigma associated with mental illness (Adeyemo et al., 2020b; Akbari et al., 2020; Champion & Skinner, 2008; Obioha et al., 2021a)

The SEM offers a comprehensive, multi-level framework for addressing PPD by considering individual, interpersonal, community, organizational, and policy-level factors. This model is particularly adept at informing the development of interventions that recognize the intricate nature of PPD within the Nigerian socio-cultural landscape.

At this level, healthcare practitioners can provide tailored care and counseling that cater to the specific mental health needs of postpartum women. For instance, healthcare providers may conduct screenings for PPD during routine postnatal visits and offer

referrals for additional support or treatment as necessary (Accortt et al., 2022; Adeyemo et al., 2020b; Ajayi et al., 2023; Soyer, 2019).

The dynamics within families are crucial in the management of PPD in Nigeria. Cultural expectations often impose significant burdens on new mothers, exacerbating feelings of inadequacy or stress. Interventions targeting this level could encompass family-involved counseling sessions, fostering understanding and support for the mother's mental health requirements (Adeyemo et al., 2020b; Ajayi et al., 2023; Golden & Earp, 2012; Salmon et al., 2020).

The synergistic application of these theoretical frameworks can lead to a holistic approach in addressing postpartum depression, ultimately enhancing maternal mental health in Nigeria.

It is crucial to address traditional beliefs and misconceptions about mental health within communities. In many regions of Nigeria, mental illness is often seen as a spiritual issue rather than a medical concern. Public health programs can partner with community leaders, religious figures, and traditional healers to transform this perspective, advocating for medical treatment and support for postpartum depression (PPD) (Accortt et al., 2022; Caperon et al., 2022; Jidong, Husain, Roche, et al., 2021; McLeroy et al., 1988).

Nigerian health facilities should be staffed with trained mental health professionals who specialize in maternal mental health. By integrating mental health services into maternal and child health clinics, women can access both physical and mental healthcare in a single location, facilitating their journey to seek help (Adeyemo et al., 2020b; Ajayi et al., 2023; Jidong, Husain, Roche, et al., 2021).

At a broader policy level, governmental and non-governmental agencies need to develop supportive policies for maternal mental health. This includes increasing funding for mental health services, providing training for healthcare providers, and launching initiatives that raise awareness about PPD. Additionally, policies that ensure maternity leave and job security can help mitigate stress for new mothers, which in turn can lower the risk of PPD (Akpor & Olorunfemi, 2023; Golden & Earp, 2012; Ling et al., 2023; T. S. Soyemi & Aborode, 2022; Soyer, 2019).

The socio-ecological model, by addressing multiple layers of influence, provides a comprehensive framework for designing interventions that target not only individual women but also engage their families, communities, health systems, and policy environments.

The application of Social Support Theory, the Health Belief Model, and the Socioecological Model to the issue of PPD in Nigeria underscores the importance of an integrated approach in reducing its prevalence. This approach must tackle individual beliefs, social support systems, and broader environmental factors. These theories guide practical interventions at various levels, from educating families and communities to influencing health policies.

Various factors, such as maternal age, education, and prior mental health history, can influence the likelihood of experiencing Postpartum Depression (PPD) at the individual level. In Eastern Nigeria, where access to education and healthcare services is limited and traditional gender roles are prevalent, the incidence of PPD is higher (Accortt

et al., 2022; Adeyemo et al., 2020a; Ajayi et al., 2023; Jidong, Husain, Francis, et al., 2021; Jidong, Husain, Ike, et al., 2021).

Interpersonal relationships and support networks are important factors that affect the experience of Postpartum Depression (PPD). In Eastern Nigeria, the extended family system and community support networks are essential in providing emotional and practical assistance to mothers. However, these networks can also place high expectations and demands on new mothers, leading to increased stress levels and contributing to the development of PPD (Accortt et al., 2022; Adeyemo et al., 2020a; Ajayi et al., 2023).

Community-level factors such as cultural norms, traditional practices, and access to healthcare play a significant role in determining people's knowledge and attitudes towards mental health in Eastern Nigeria. People's beliefs and norms have a significant impact on the perception of mental health issues in the community, and people tend to stigmatize those who face such challenges. Additionally, people are generally reluctant to discuss emotional distress, which further exacerbates the situation (Accortt et al., 2022; Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022; Jidong, Husain, Ike, et al., 2021).

Societal factors refer to broader issues that affect society. These factors include public policy, healthcare systems, and socioeconomic conditions. In Eastern Nigeria, women with Postpartum Depression (PPD) face challenges such as limited access to mental health services, economic disparities, and logistical issues that may make it difficult for them to seek professional help (Accortt et al., 2022; Adeyemo et al., 2020a; Ajayi et al., 2023; Caperon et al., 2022; Jidong, Husain, Francis, et al., 2021).

PPD Contributing Factors

Lack of PPD Knowledge

There are several considerations that directly or indirectly reflect the contributory role that the lack of knowledge about PPD can play as a predetermining factor. The engagement with knowledge may be at the individual level, where the patient is directly affected, and the broad community level, where culture actively shapes behaviors. Others, also described below, relate to the availability and access to knowledge and education intervention campaigns.

Knowledge as an Individual-Level Factor

Knowledge about PPD, its symptoms, and risk factors are crucial determinants of its prevalence. According to HBM, people's knowledge, beliefs, and understandings influence their actions linked to their health. Concentrating on people's perceptions of health hazards, the advantages of acting, the obstacles to taking action, and their confidence in their ability to achieve helps explain why people alter their health-related behaviors. Hence, a woman's understanding of the signs, causes, and therapies of postpartum depression may have an impact on how vulnerable she feels to the illness and whether or not she decides to seek therapy (Feth (Kalyn), 2017; Grissette et al., 2018; C. L. Jones et al., 2015; Simhi et al., 2023). In Eastern Nigeria, where cultural perspectives and awareness of mental health issues may vary, PPD knowledge aids in early detection and care (Dada et al., 2021; Feth (Kalyn), 2017; C. J. Jones et al., 2011; K. Wang et al., 2023; Y. Wang et al., 2023a).

Cultural Influences on PPD Knowledge

The belief systems and customs prevalent in Eastern Nigeria around childbirth and mental health have a significant impact on the understanding of postpartum depression (PPD). SEM explains that traditional beliefs may lead to misunderstandings or stigmatization of PPD, which can affect the decision to seek help (Afolabi et al., 2020). For instance, considering PPD as a spiritual problem rather than a medical one may discourage people from seeking appropriate assistance (Afolabi et al., 2020). For women from different cultural backgrounds, social support can play a key role in reducing the prevalence of postpartum depression (PPD). To ensure better outcomes for women with PPD, healthcare professionals should be culturally sensitive and aware of how women from diverse cultural backgrounds interpret, express, and communicate their PPD symptoms. Therefore, when providing PPD therapies, cultural sensitivity is crucial (Ayoub et al., 2020; Callister et al., 2010; Haque & Malebranche, 2020; Tembo et al., 2023). To effectively enhance knowledge, interventions must be tailored to be culturally sensitive (Jidong, Husain, Roche, et al., 2021).

Information Sources and Accessibility

Access to accurate information regarding Postpartum Depression (PPD) is of utmost importance for its effective management. However, in Eastern Nigeria, limited access to healthcare resources and dependency on traditional healers may hinder access to evidence-based information about PPD. Furthermore, disparities in healthcare infrastructure and literacy levels could aggravate the challenge of obtaining reliable information (Adelodun et al., 2021; Adeyemo et al., 2020b).

Antenatal care (ANC) is primarily focused on the accessibility and provision of relevant information that prepares women for childbirth and prevents issues for expectant moms, newborns, and women through early detection, treatment, and/or management of health issues, such as postpartum depression (PPD), that impact expectant mothers and babies. Unfavorable pregnancy outcomes have been linked to inadequate antenatal care, concerning both coverage and quality, and the women's availing themselves of the appropriate information that will be helpful for them. The literature is replete with examples of how improvements in ANC coverage in Nigeria do not necessarily translate into efficient and high-quality ANC service delivery. The effectiveness of ANC services cannot be ensured by ANC coverage alone. A pregnant woman needs to be offered all of the components of ANC to have a safe pregnancy and birth; simply visiting an ANC facility is not enough. Meeting the ANC's global standards and goals was put in jeopardy because of Nigeria's low levels of desirable and minimally acceptable ANC service quality. To guarantee that the primary components of ANC are received by the users, the national and state governments of Nigeria, along with other relevant parties, must intensify their commitment (Fagbamigbe & Idemudia, 2015; Jidong, Husain, Francis, et al., 2021).

Educational Interventions and Awareness Campaigns

To improve the understanding of PPD (postpartum depression) in Eastern Nigeria, it is important to have targeted educational interventions and awareness campaigns. These efforts should be culturally sensitive, considering local beliefs and customs while promoting evidence-based information. Collaboration between healthcare professionals,

community leaders, and traditional healers could enhance the effectiveness of such interventions. (Obioha et al., 2021a). Healthcare professionals can better recognize and assist women who are at risk by learning more about PPD rates. To increase awareness and encourage early intervention, it is crucial to give moms thorough and accurate information regarding PPD. Skilled practitioners, including social workers or nurses, can make follow-up visits to new mothers to offer information, consolation, and practical help. Increasing the availability of mental health therapies is essential to meeting the requirements of PPD-affected moms. To guarantee that all moms have timely access to appropriate treatment and support, policymakers and healthcare institutions need to give this issue top priority (Abazie & Usoro, 2021; Ajibade et al., 2022; Kariuki et al., 2021; Obioha et al., 2021a; VanderWall et al., 2020).

Numerous studies have demonstrated the effectiveness of awareness campaigns and educational interventions in treating postpartum depression in low-resource environments. In Nairobi neighborhood with limited resources, Kariuki (2020) discovered that a quick psychoeducational intervention dramatically decreased depression. In a similar vein, Abazie (2021) and Obioha (2022) found that mothers in Nigeria had inadequate information about postpartum depression, indicating a need for better education and awareness. In a high-risk group, VanderWall (2020) showed the efficacy of an educational intervention in boosting prenatal depression detection. The aforementioned results highlight the significance of focused educational interventions and awareness initiatives in the management of postpartum depression in Eastern Nigeria

(Abazie & Usoro, 2021; Ajibade et al., 2022; Kariuki et al., 2021; Obioha et al., 2021a; VanderWall et al., 2020).

Educational Interventions and Awareness Campaigns as Community-Level Factors

Efforts to enhance awareness and knowledge about Postpartum Depression (PPD) in Eastern Nigeria must include targeted educational interventions and awareness campaigns. These initiatives need to be culturally sensitive and should address local beliefs and customs while promoting evidence-based information. Collaborative efforts between healthcare professionals, community leaders, and traditional healers could significantly improve the effectiveness of such interventions (Afolabi et al., 2020). Research conducted in Nigeria, particularly in Eastern Nigeria, has revealed several factors that influence women's postpartum depression (PPD). Adeyemo (2020) lists these as multiparity, maternal illness, cesarean section delivery, and not exclusively breastfeeding. PPD has also been linked to psychosocial variables such as postpartum blues, unsupportive partners, intimate partner abuse, and a lack of assistance with baby care (Adeyemo et al., 2020b).

Inadequate Support

The fact that the experience and outcome of a medical condition, such as PPD, is generally influenced by the presence or lack of adequate support has been highlighted from a cultural and social perspective (Afolabi et al., 2020; Akbari et al., 2020). From the wider community level, educational, traditional, personal, and other social considerations contribute to PPD. Cultural variations in PPD and social support have been observed, raising concerns about the usefulness of informal assistance in Nigeria's entangled family

system (Afolabi et al., 2020). PPD is inversely connected with perceived social support and spiritual well-being (Akbari et al., 2020). These results highlight the value of social support for women in Eastern Nigeria, both in terms of interpersonal and communal support, in avoiding and treating PPD (Adeyemo et al., 2020b; Cohen & Wills, 1985; Laquidara & Lincoln, 2024).

Traditional Support Systems in Eastern Nigeria

The Eastern Nigerian culture relies on an extended family system to provide support for women after childbirth. The effectiveness of these support systems can be influenced by sociocultural expectations and gender roles. Although traditional practices like postpartum confinement can provide support, they can also worsen feelings of isolation and stress (Odufuwa et al., 2022). Studies conducted in Nigeria, particularly in the East, have shown how common postpartum depression (PPD) is there and how important it is to have social support networks in place to deal with it. Adeyemo (2020) found indicators including multiparity, cesarean sections, and a lack of social support, whereas Afolabi (2020) highlighted the importance of culture in the development of PPD. Enyidah (2022) emphasized furthermore how crucial social and emotional support is in preventing PPD. All of these studies point to the importance of traditional support networks like extended family and community involvement in eastern Nigeria's efforts to combat PPD (Adeyemo et al., 2020b; Afolabi et al., 2020; Nonyenim Solomon Enyidah & Esther Ijeoma Nonye-Enyidah, 2022a).

Stigma and Isolation

In Eastern Nigeria, the stigma associated with PPD is still a major problem that impedes early intervention and fosters social isolation. Cultural preconceptions and false assumptions about mental illness have the potential to reinforce stigma and further marginalize people with PPD (Kola et al., 2020). Stigma and Isolation are found to characterize PPD in this part of the country. Stigmatization of mental health issues and the fear of being labeled as "crazy" or "weak" can lead to Isolation and a lack of emotional support. Pregnant women in Eastern Nigeria may be hesitant to express their emotional struggles, further isolating themselves (Kola et al., 2020). However, these support systems are not always adequate or may, at times, contribute to PPD. High expectations and demands from the extended family and cultural norms can increase stress levels, exacerbating PPD symptoms (Adeponle et al., 2012). Thus, the quality and nature of support are essential in understanding PPD in this region.

Dual Role of Extended Families and Communities

In Eastern Nigeria, the community and extended family are involved in postpartum depression in two ways. Afolabi (2020) draws attention to the cultural variations in PND and emphasizes the value of social support in the context of healthcare services that are sensitive to cultural differences. Çankaya (2022) highlights the influence of partner connections and family function on postpartum depression, whereas Guo (2023) highlights the necessity of a program involving family and community involvement to enhance PND treatment. Postpartum depression is predicted by some characteristics, including multiparity, cesarean section delivery, postpartum blues,

insufficient assistance with newborn care, intimate partner violence, and unsupportive spouses (Adeyemo et al., 2020b). Together, these studies highlight how important the extended family and community are to the onset and management of postpartum depression in Eastern Nigeria (Adeyemo et al., 2020b; Afolabi et al., 2020; Çankaya & Alan Dikmen, 2022; Guo et al., 2023).

Balancing Support and Sociocultural Expectations

Research in Nigeria, particularly in Lagos and Port Harcourt, has highlighted the high prevalence of postpartum depression (Adeyemo et al., 2020b; Nonyenim Solomon Enyidah & Esther Ijeoma Nonye-Enyidah, 2022b). Factors such as multiparity, cesarean section, maternal illness, and lack of exclusive breastfeeding have been identified as predictors of postpartum depression (Adeyemo et al., 2020b). The role of social support in mitigating postpartum depression has also been emphasized, with poor emotional and social support, partner violence, and an unsupportive partner being significant risk factors (Adeyemo et al., 2020b; Nonyenim Solomon Enyidah & Esther Ijeoma Nonye-Enyidah, 2022b). These findings underscore the need for culturally sensitive interventions that balance support and socio-cultural expectations to address postpartum depression among women in Eastern Nigeria (Adeyemo et al., 2020b; Nonyenim Solomon Enyidah & Esther Ijeoma Nonye-Enyidah, 2022a).

Birth Practices

Research conducted in Nigeria, particularly in Eastern Nigeria, has revealed several factors that influence women's postpartum depression (PPD). Adeyemo (2020) lists these as multiparity, maternal illness, cesarean section delivery, and not exclusively

breastfeeding. PPD has also been linked to psychosocial variables such as postpartum blues, unsupportive partners, intimate partner abuse, and a lack of assistance with baby care (Adeyemo et al., 2020b).

Barriers to Seeking Help

In eastern Nigeria, there are critical barriers that make access to medical help problematic, and there is a range of societal factors that are responsible for this trend. There are factors relating to the shortage of available health facilities, and then, the underutilization of the facilities that do exist (Akpor & Olorunfemi, 2023; T. S. Soyemi & Aborode, 2022). Other factors that relate to the traditional healers, a low perceived need for mental healthcare, fear of stigma, and unsupportive clinical environments (Kola et al., 2020; Odufuwa et al., 2022). These barriers are further compounded by cultural perceptions of shame and stigma, as well as a lack of support from family and healthcare professionals (Ling et al., 2023). To address these challenges, there is a need for mental healthcare sensitization programs, patient-centered and culturally sensitive approaches in healthcare, and interventions to reduce stigma among healthcare providers (Kola et al., 2020; Ling et al., 2023; Odufuwa et al., 2022).

Several barriers hinder pregnant women in Eastern Nigeria from seeking help for PPD.

Availability of Healthcare Facilities

The shortage and underutilization of health facilities in eastern Nigeria are significant issues impacting the healthcare system (Archibong et al., 2023; Ogochukwu et al., 2023; P et al., 2023). In southeast Nigeria, nonpublic health facilities exhibit poor

implementation of essential newborn care practices, with only 35.1% scoring well in essential newborn practices (Ipinnimo et al., 2023). Additionally, the region faces challenges such as inadequate health facilities/structure, poor healthcare financing, and insufficient equipment in public health facilities, leading to inefficient service delivery and increased job stress for healthcare workers (Akpor & Olorunfemi, 2023). This shortage and underutilization contribute to reduced quality of healthcare, increased morbidity, and hinder the achievement of universal access to healthcare in the region (T. S. Soyemi & Aborode, 2022).

Lack of Access to Mental Health Services

The availability of mental health services in Eastern Nigeria is limited, making it challenging for women to access appropriate care. When mental health services are neglected, time, money, and therapeutic progress are lost (Adeponle et al., 2012). (Adeponle et al., 2012). It was also discovered that two significant obstacles to entering mental health facilities were inadequate proficiency (Adeponle et al., 2012). It was also discovered that two significant obstacles to entering mental health facilities were inadequate proficiency in the English language and a lack of awareness of mainstream culture (Li & Browne, 2000). Socioeconomic Factors Economic and logistical challenges, such as transportation costs and time constraints, can encourage women to seek professional help for PPD (Adeponle et al., 2012; Jidong, Husain, Francis, et al., 2021).

Traditional Healers as Support

Some women opt for the option of seeking guidance from traditional healers or religious leaders instead of seeking professional mental health care, which can delay effective treatment (Nonyenim Solomon Enyidah & Esther Ijeoma Nonye-Enyidah, 2022a; Odufuwa et al., 2022). Traditional healing systems are gaining popularity in Nigeria. A recent study found that traditional healing is highly valued and shapes the current mental health care provision in the country. It was the first treatment option for mental health problems in Nigeria and is seen as a useful, effective, affordable, and culturally compatible treatment for indigenous Nigerians. Religion and spirituality dominate mental health discussions in Nigeria, with many believing that religious healing is a useful and affordable source of treatment. According to a survey, 59% of Nigerians attribute mental health problems to supernatural forces, and 45% first seek healing through religious practices. Therefore, alternative practitioners, such as priests, spiritualists, and natural therapists, are often the first point of contact for those seeking treatment. Cultural beliefs and practices play a vital role in mental health-seeking behaviors (Jidong et al., 2022). According to a study in Egypt, a similar pattern is seen where the majority of mentally ill patients would rather consult religious healers first. Which delays access to psychiatric care admission and worsens the prognosis for BAD patients. This emphasizes how crucial it is to provide mental health education and cultivate a cooperative, constructive connection with traditional healers. Additionally, a sizable portion of OCD sufferers choose to see traditional healers first because of their

own beliefs, mostly religious and social acceptance (Assad et al., 2015; Ibrahim Awaad et al., 2020; Jidong et al., 2022; Okasha et al., 2021).

In Eastern Nigeria, traditional healers are an important part of the healthcare system, especially in rural areas where access to conventional healthcare services is restricted. While some people may find comfort in traditional healing methods, these methods may not necessarily address the underlying mental health problems linked to PPD (Jidong et al., 2022; Nonyenim Solomon Enyidah & Esther Ijeoma Nonye-Enyidah, 2022a).

Mental Health Services

Eastern Nigeria is currently facing several challenges in terms of a shortage and access to vital mental health services (Archibong et al., 2023; Ogochukwu et al., 2023). These challenges include a shortage of mental health professionals and infrastructure. The rural-urban divide further exacerbates the disparities in access to mental health resources, with rural areas often being underserved (Jidong et al., 2022; Odufuwa et al., 2022).

Support networks for women can affect the treatment of postpartum depression. Factors such as awareness, stigma reduction, and mental health importance play a role. Education campaigns are needed to reduce stigma and increase awareness. In rural areas, barriers to mental health care include family history, stigma, lack of awareness, and isolation. To improve help-seeking behaviors, women need access to stigma-free mental health care, acknowledgment of familial trauma, and limited social support (Kola et al., 2020; Ling et al., 2023).

Socioeconomic Challenges and Barriers

Poverty and illiteracy are socioeconomic issues that add to the PPD load in Eastern Nigeria. The risk of PPD may rise as a result of economic instability, which may restrict access to healthcare and worsen motherhood-related stressors. Poverty increases the likelihood of depression in people. As a result, dangerous areas and depression may be correlated. To lessen the effects of PPD in Eastern Nigeria, it is imperative to fill in information gaps and improve support networks. Interventions must, however, be customized to the cultural and socioeconomic environment, taking regional differences into account, and removing obstacles to help-seeking behaviors. To promote comprehensive support for postpartum mothers in Eastern Nigeria, cooperation between healthcare professionals, community leaders, and traditional healers is crucial (Ajayi et al., 2023).

Summary

Postpartum depression (PPD) and mental health struggles in eastern Nigeria are complex issues influenced by social, cultural, and economic factors. Lack of strong family support systems and traditional beliefs can lead to isolation and the choice of traditional healers over established medical facilities. Limited access to healthcare and mental health services, particularly in rural areas, creates a significant barrier to seeking help. Poverty can exacerbate stress and anxiety, further impacting mental well-being. These factors can make mothers experiencing PPD and other mental health challenges hesitant to reach out for support, leading to a cycle of suffering. Addressing these challenges requires a multifaceted approach that includes culturally sensitive education

and awareness campaigns to normalize mental health struggles and encourage help-seeking behavior. Additionally, investing in healthcare infrastructure and training healthcare providers in maternal mental health can ensure timely and appropriate support for mothers in eastern Nigeria.

Chapter 3: Research Method

PPD has far-reaching consequences, affecting the mother's health, the infant's well-being, and the family unit. Although PPD is a global issue, its prevalence and risk factors differ across regions. In this study, I focused on Eastern Nigeria, where cultural and social factors may contribute significantly to the occurrence and management of PPD. I examined the prevalence of PPD in Eastern Nigeria and the role of knowledge and support in its occurrence. Several organizations, including the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Pediatrics (AAP), have guidelines and recommendations for universal PPD screening as part of standard care during pregnancy and postpartum. Maternal mental disorders can have a significant impact on the mother's physical well-being, as well as the child's growth and social relationships. Many researchers have proposed solutions to reduce the prevalence of PPD, including increased access to healthcare for antenatal care (ANC) during pregnancy, health education on nutrition and exercise, and referrals to support services when necessary. However, the knowledge of PPD by women and healthcare givers, including the support that affected women may require to overcome this issue, has not been adequately clarified in the context of this study.

Research Design

This quantitative study employed a descriptive retrospective cross-sectional research design to investigate the role of knowledge and support in PPD among women in Eastern Nigeria. This cross-sectional approach allows for data collection at a single point in time, providing insights into the current state of knowledge, support systems, and

PPD prevalence among the study population (Obioha et al., 2021b). This design allows for the collection of quantitative data, providing a comprehensive understanding of the prevalence of PPD, knowledge levels, and support systems among pregnant women in Eastern Nigeria. The quantitative component involved survey administration to assess PPD prevalence and associated factors.

Role of the Researcher

As a clinician with 28 years of experience as a public health and family medicine physician, my professional journey has been deeply rooted in understanding the health challenges faced by diverse populations, particularly in maternal and child health in my country, Nigeria, especially in the East. With an MBBS and a master's degree in public health (MPH), my work encompassed both clinical practice and public health interventions, providing me with a well-rounded perspective on the intersection of individual health behaviors and community health systems. Throughout my career, I have encountered numerous cases of postpartum depression (PPD) and its profound impact on mothers and their families. As a family medicine physician, I have had the opportunity to engage directly with women during their prenatal and postnatal periods, allowing me to gain firsthand insight into the psychological, emotional, and social challenges they face. Particularly, my experience in diverse settings such as Nigeria and the UAE has revealed varying levels of healthcare access, cultural perceptions, and community support, all of which influence the prevalence and management of PPD. Additionally, my active involvement in public health has equipped me with a strong understanding of the importance of health education and the critical role that knowledge plays in shaping

health outcomes. My work in health promotion, especially about maternal health, has deepened my appreciation for how awareness, or the lack thereof, can impact health-seeking behavior and the overall well-being of mothers.

My motivation for researching the role of support and knowledge in the prevalence of PPD among women in Eastern Nigeria stems from my dedication to improving maternal mental health and reducing health disparities. Having worked extensively in both clinical settings and public health domains, I have witnessed the profound impact that untreated mental health conditions, particularly PPD, can have on families and communities. In Eastern Nigeria, where cultural factors and barriers to healthcare access often hinder early diagnosis and treatment of PPD, there is an urgent need to understand how social support and knowledge dissemination can alleviate these challenges. I am driven by the desire to contribute to research that highlights the importance of social and familial support while addressing gaps in mental health awareness and service provision for postpartum women. By focusing on Eastern Nigeria, I aim to illuminate a region where traditional social structures coexist with evolving healthcare systems, presenting a unique opportunity to explore the interaction between cultural, social, and medical influences on maternal mental health.

Study Setting

The Eastern region of Nigeria is located in the Eastern part of the country, consisting of several states with diverse cultures, languages, and socio-economic characteristics. The people speak the Igbo language, but a vast majority speak ‘pidgin’, which is an English-based creole language spoken as a lingua franca across Nigeria, used

for ease of trade with visiting Europeans. The states in this region include Abia, Anambra, Ebonyi, Enugu, and Imo. The Eastern region is renowned for its rich history, vibrant traditions, and significant contributions to Nigeria's socio-economic development (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022). The Eastern region of Nigeria has undergone major historical and political changes over the years. After Nigeria gained independence in 1960, the region was initially governed as the Eastern Region, with Enugu serving as its capital (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022). However, in 1967, the region was further divided into several states, including Anambra State, which was created from the old Anambra and parts of the old East-Central State (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022).

Anambra State is one of the Eastern states of Nigeria. The State boasts a rich cultural heritage and entrepreneurial spirit, with a diverse socio-economic landscape and several ethnic groups, including the Igbo (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022). The state's capital is Awka, and other major cities include Onitsha and Nnewi. Anambra State has a significant historical background dating back to pre-colonial times when it was a prominent center of trade and commerce in the ancient Kingdom of Nri (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022). The state was known for its sophisticated political and religious institutions. Over the years, Anambra State has played a pivotal role in Nigeria's socio-economic development, particularly in the areas of trade, agriculture, and industry

(Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022; Ezekwesili et al., 2016; jierade, 2022; Odife, 2023).

Anambra State has a variety of healthcare facilities, including both state-owned and private hospitals, clinics, and health centers. Some examples of these facilities include Anambra State University Teaching Hospital in Awka, General Hospital in Onitsha, Nnamdi Azikiwe University Teaching Hospital in Nnewi, St. Charles Borromeo Hospital in Onitsha, and Iyi-Enu Mission Hospital in Ogidi, among others. These healthcare facilities offer primary care, specialty care, and emergency services to residents across the state. Nnewi North is one of the twenty-one local government areas (LGAs) of Anambra State, Nigeria.

PPD has also been linked to a lack of emotional or social support, stress, a mother's relationship with her partner, a lack of social support, a lack of awareness of PPD in postpartum women, and a failure on the part of medical professionals to recognize its symptoms (Adeyemo et al., 2020b; Chinawa et al., 2016; Obioha et al., 2021b). The area is mainly inhabited by the Igbo ethnic group and has its headquarters in Nnewi, a bustling town with a strong entrepreneurial spirit and vibrant markets (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022). Nnewi North LGA is famous for its industrial prowess, with a high concentration of manufacturing companies and industrial estates. These factories produce a diverse range of products, including automobiles, plastics, textiles, and electronics. The industrial sector plays a vital role in the economic development of the LGA, providing employment

opportunities and contributing to the overall prosperity of the community (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022).

Apart from its industrial base, Nnewi North LGA is also rich in cultural heritage, with vibrant festivals, traditional ceremonies, and historical landmarks that showcase the community's cultural identity and heritage. The people of Nnewi North are known for their strong sense of community, resilience, and commitment to progress and development. (Abasilim, 2019; *Anambra History - Anambra State Government Website*, 2022; Ezekwesili et al., 2016; jierade, 2022; Odife, 2023).

Study Population and Sampling

The study concentrated on women aged between 18-49 years who were in the postpartum phase and were visiting randomly selected health centers in Nnewi North LGA, Anambra State. To ensure the samples' representativeness, a multistage sampling technique was used to recruit participants.

The study used a multistage sampling methodology. The first stage was the selection of one state out of the five states in the East (Abia, Anambra, Ebonyi, Enugu, and Imo) using a simple random sample. The states were assigned simple numbers 1 to 5, and folded up; then one paper was picked randomly, with each having an equal chance of being selected. Hence, Anambra was picked randomly. The second stage involved selecting Nnewi North LGA from the 21 local government areas in Anambra state, using the same method. The third stage involved identifying the healthcare facility to use for the study, while the fourth stage entailed identifying participants who met the inclusion and exclusion criteria by using a convenient sampling method. The inclusion criteria

were women aged between 18-49 years who had given birth during the last 12 months, who lived in the Nnewi North LGA, and who did not have a diagnosis of a psychiatric problem. The sample size was determined by the number of women who visited the health facility during the study period and agreed to participate. (Asaye et al., 2020; Atuhaire et al., 2021; Raghavan et al., 2021).

The dataset was stored on a device that is owned by me and in my sole control. The data was coded, and the linked list of codes and identifiers was stored separately from all coded data. I took reasonable precautions to ensure that the device and drive storing the data were not stolen (not left unattended in public and kept in a locked area when not in use). I was the only person with a password to access the device, drive, and the cloud, where the electronic data was stored.

Data Collection Method

Structured surveys were conducted face-to-face with women who had given birth in the last 12 months to collect data. Pretested closed-ended questionnaires were used to conduct these surveys. The PHQ-9 was used to obtain data on postpartum depression (PPD), while the Multidimensional Scale of Perceived Social Support (MSPSS) was used to evaluate the adequacy of social support subjectively perceived by these women. One frequently used instrument for identifying, diagnosing, and gauging the severity of depression is the Patient Health Questionnaire-9 (PHQ-9). It had nine questions that were based on DSM-IV's major depressive disorder diagnostic criteria. Each question evaluated the frequency of symptoms during the last two weeks and was graded on a scale from 0 (not at all) to 3 (almost every day). Higher scores indicated more severe

depression. The total score goes from 0 to 27. The PHQ-9 aids in the early detection and effective treatment of depression in postpartum mothers by identifying depressive symptoms in this population (L. Wang et al., 2021). The Multidimensional Scale of Perceived Social Support (MSPSS) is a psychometric instrument that was created to measure how much people believed they had access to three different types of social support: friends, family, and significant others. There were twelve items total, and each one was graded from 1 (strongly disagree) to 5 (strongly agree) on a 5-point Likert scale. An individual's perceived social support was measured comprehensively with the MSPSS, which produces subscale scores for each source of support in addition to a total score. Understanding postpartum women's mental health and well-being requires knowing how well they feel supported by their social networks, which is assessed using the MSPSS (Calderón et al., 2021; *Multidimensional Scale of Perceived Social Support (MSPSS)*, n.d.; Zimet, 2016).

Closed-ended questions were used in the questionnaire as they were best suited to answering the research questions and providing data for statistical analysis. The questionnaire included sections on respondents' demographic characteristics, socioeconomic status, awareness about PPD, and its preventive strategies, as well as the level of support obtained during pregnancy. Women who speak the Igbo language also speak pidgin and English, which enables them to be able to participate, since the questionnaires were made available in English and there was no need for interpretation. Socio-demographic information, including age, marital status, education, income, and obstetric history, was also collected. The questionnaire was informally pretested among

women from 3 families of varying age groups, who do not have postpartum depression but are attending a healthcare center in another local government area, to ensure that the survey is understandable and comfortable and allows for correction and modification of the questionnaire. Fortunately, the questionnaire was understandable and relaxed, so no adjustments were needed. The study was conducted between 24th February and 13th April 2025 after the clearance and approval by both the Institutional Review Board (IRB) at Walden University with the approval number 02-06-25-0652204, and the Anambra State Ethical Committee with the approval number ASMOHREC/2024/1112024/26 which was submitted to Walden IRB and permission also granted. The data were collected and analyzed using IBM SPSS Statistics version 26.

Instrumentation

The survey questionnaire consisted of three sections. The first section included a widely used screening tool for Postpartum Depression (PPD) symptoms, the Patient Health Questionnaire-9 (PHQ-9). The second section collected socio-demographic information, including age, marital status, education, income, and obstetric history. This section also included a questionnaire called the Knowledge of Postpartum Depression Questionnaire, which had been designed based on relevant literature and expert input to assess the participants' understanding of PPD symptoms, risk factors, and available support resources. The third section consisted of the Multidimensional Scale of Perceived Social Support (MSPSS), which is a validated scale to measure the perceived level of social support from family, friends, and significant others. (Calderón et al., 2021; *Multidimensional Scale of Perceived Social Support (MSPSS)*, n.d.; Zimet, 2016).

Sampling Procedures and Sample Size

The sample size was based on the number of eligible women available during the study period and was 406. This was a convenient sampling method.

Convenience Sampling Procedure

Convenience sampling is a non-probability sampling method in which participants are selected based on their availability and willingness to take part, rather than through random selection (Bornstein et al., 2013; Etikan, 2016; Jager et al., 2017). In this study, convenience sampling involves recruiting women in Eastern Nigeria who are either currently in the postpartum period or have recently given birth, making them accessible for participation.

Identification of Accessible Locations

The first step was identifying healthcare centers where postpartum women frequently receive care in Anambra State, Nigeria. (Bornstein et al., 2013; Etikan, 2016, 2017). These were Uru Primary Health Center, Chimex Hospital, Immaculate Heart Hospital, finally, Chidera Hospital and Maternity.

Selection of Participants

Within these identified settings, postpartum women who met the inclusion criteria (e.g., women within 12 months of delivery) were approached and invited to participate. These women were chosen based on their accessibility during routine healthcare visits, creating a convenient sample (Bornstein et al., 2013).

Criteria for Inclusion

Although the sample is convenient, the women met the specific inclusion and exclusion criteria as described above to ensure a degree of homogeneity within the sample. Participants were those who voluntarily agreed to complete the questionnaires during their visits to these healthcare facilities (Taherdoost, 2016).

Recruitment Methods

Recruitment involved direct face-to-face contact at these health centers, and informational pamphlets were distributed in collaboration with healthcare providers to introduce the study to potential participants. Efforts were made to approach as many women as possible within the study's timeframe to maximize the sample size of available participants (Etikan, 2016, 2017).

Voluntary Participation

Participants were selected based on their voluntary agreement to participate, following an explanation of the study's purpose (Taherdoost, 2016).

This was considered a convenient sample because participants were selected based on their availability and ease of access. The women recruited were those who happened to visit healthcare centers during the study period. This method was beneficial for both the researcher and the participants, as it did not require complex sampling frameworks or a comprehensive recruitment process covering the entire population of postpartum women in Eastern Nigeria (Bornstein et al., 2013).

Advantages of Convenience Sampling

Convenience sampling allows researchers to collect data quickly, avoiding the extensive time required for random selection processes (Bornstein et al., 2013).

This method reduces costs associated with more rigorous sampling techniques that require additional resources (Etikan, 2016, 2017).

In regions with limited access to the entire population's data, such as rural areas in Eastern Nigeria, convenience sampling often becomes the most feasible option (Taherdoost, 2016).

To reduce the impact of these biases and bring the sample closer to being representative, the following strategies were implemented:

The sample size was increased, which accounted for variability within the convenience sample, led to more robust findings (Taherdoost, 2016).

After data collection, the sample's demographic characteristics (such as age, education, income level, etc.) could be compared to known population statistics of postpartum women in Eastern Nigeria. This allows researchers to evaluate how closely the sample approximates the larger population and make necessary adjustments in interpreting the results (Bornstein et al., 2013).

While convenience sampling is practical and efficient, it does not ensure a statistically representative sample of postpartum women in Eastern Nigeria. However, by thoughtfully selecting diverse recruitment sites and analyzing demographic representativeness, it helps to make valuable inferences about the population, albeit with limitations concerning bias and generalizability (Etikan, 2016, 2017).

Data Analysis Procedures

The data collected was cleaned, coded, and analyzed using IBM SPSS version 26.0. Descriptive statistics such as means and frequencies were used to summarize socio-demographic characteristics, prevalence rates, knowledge levels, social support scores, and other maternity-related variables. The chi-square test was employed to evaluate the statistical significance of differences in proportions. Additionally, bivariate and multivariate logistic regression analyses were conducted to determine the relationship between dependent and independent variables. A p-value of ≤ 0.05 was considered an indicator of statistical significance.

Participants' socio-demographic characteristics, knowledge levels, perceived social support, and PPD symptoms were summarized using descriptive statistics such as frequencies, percentages, means, and standard deviations. Bivariate analyses, including correlation coefficients and chi-square tests, were conducted to explore relationships between variables. Multiple regression analysis was utilized to identify predictors of PPD while controlling for relevant covariates (Obioha et al., 2021b).

The PHQ-9 was used to determine the prevalence rate of Postpartum depression among postpartum mothers and graded as follows: The total score is 27, a score of 1-4 showed minimal depression, 5-9 was mild depression, 10-14 was moderate depression, 15-19 was moderately severe depression and 20-27 showed severe depression (L. Wang et al., 2021). As shown in the table below.

Table 2

Interpretation of Total Scores

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

Ethical Considerations

Before data collection, ethical approval was obtained from the Anambra State Ministry of Health Research Ethics Committee, Awka (ASMOHREC) in Nigeria, with the approval number ASMOHREC/2024/11112024/26 and from Walden's IRB with approval number 02-06-25-0652204. All participants were provided with informed consent, a study flyer, and confidentiality and anonymity were ensured throughout the study. All information obtained from the participants was kept strictly confidential, and their identities were not disclosed at any time during the study. Respondents were recruited based on their willingness to participate in the study, and they had the choice of taking part in it or not. Those who voluntarily consented to participate were well-informed about the potential risks and benefits of the study. Additionally, participants were assured of their right to withdraw from the study at any time without any penalty.

The requirements, processes, and people to be contacted if the need arose were included in the forms.

Summary

The approach described here offered a structured method for investigating the occurrence and factors associated with postpartum depression (PPD) among women who had recently given birth in Nnewi North LGA, Anambra State. The study has helped me in achieving the goal of gathering reliable data that I have used to understand the prevalence of PPD, the role of perceived support and knowledge in its prevalence in the study area and has helped me to suggest targeted interventions to address PPD among the study population and the region as a whole. This was achieved by using validated research tools and a strong sampling process. By integrating the results within the socio-ecological framework, Social Support and Health Belief Model theories, I aim to gain a comprehensive understanding of how different levels of influence impact PPD. This would help to guide future research, practices, and policies in this area.

Chapter 4: Results

This chapter outlines the findings of a study examining the influence of social support and awareness of postpartum depression (PPD) on its prevalence among postpartum women in Eastern Nigeria. Utilizing a quantitative approach, the study investigates how perceived social support and knowledge of PPD affect its incidence among mothers who have given birth in the last 12 months.

Research Questions

RQ1: Is there an association between mothers' PPD knowledge and prevalence of PPD among postpartum women in eastern Nigeria after controlling for age, gender, and socioeconomic status?

$H_0$1: There is no association between PPD knowledge and prevalence of PPD among pregnant women in eastern Nigeria after controlling for age, gender, and socioeconomic status.

H_a1: There is an association between PPD knowledge and prevalence of PPD among postpartum women in eastern Nigeria after controlling for age, gender, and socioeconomic status.

RQ2: Is there an association between mothers' perceptions of family and social support and the prevalence of PPD among postpartum women in eastern Nigeria?

$H_0$2: There is no association between mothers' perceptions of family and social support and prevalence of PPD among postpartum women in eastern Nigeria.

H_a2: There is an association between mothers' perceptions of family and social support and the prevalence of PPD among postpartum women in eastern Nigeria.

This chapter is organized as follows: Section 4.1, Introduction provides a brief overview of the purpose and research questions. Section 4.2 presents the demographic characteristics of the participants in the study settings. Section 4.3 reports on the findings related to postpartum depression prevalence based on PHQ-9 scores. Section 4.4 examines the level of knowledge of PPD among participants. Section 4.5 analyzes the role of perceived social support using MSPSS scores. Section 4.6 presents inferential statistical findings addressing the study's research questions. Section 4.7 summarizes key results and transitions to Chapter Five, which discusses the implications of the findings.

Modified Pilot

A pilot's study was not conducted; instead, three families were given the questionnaire to fill out and assess their understanding. The families understood the questionnaires, and there were no ambiguities. Therefore, no changes were made to the questionnaires. Hence, the instrumentation and data analysis strategies were executed as planned.

Setting of the Study

Personal or organizational conditions that influenced participants or their experience at the time of the study might influence the interpretation of the study results.

The research was carried out in various healthcare facilities and community settings in Eastern Nigeria. It specifically targeted postpartum women who had given birth within the previous 12 months. Participants were recruited from Uru Primary Health Center, Chimex Hospital, Immaculate Heart Hospital, and Chidera

Hospital and Maternity. Several contextual factors affected the participants' experiences and may have influenced the study's findings.

Healthcare System Challenges

At the time of the study, the healthcare system in Eastern Nigeria encountered significant structural and resource challenges, which likely impacted the availability and quality of maternal mental health services.

The majority of healthcare facilities in the region prioritized physical maternal health, such as safe delivery and postpartum recovery, over mental health care. Out of about 55 healthcare facilities, only 3 provide mental health services. Many facilities were lacking in trained mental health professionals, and there were few, if any, dedicated programs for screening or treating postpartum depression.

The number of healthcare providers available to support postpartum women was insufficient, resulting in overburdened staff who often lacked the time and resources to engage in comprehensive mental health discussions with mothers.

Numerous public healthcare facilities faced budgetary constraints, hindering their capacity to offer free or subsidized mental health support, counseling services, and awareness programs for postpartum depression.

Even when postpartum depression (PPD) was recognized, referrals to psychiatric or counseling services were restricted due to geographic barriers, financial costs, and social stigma, resulting in underdiagnosis and insufficient treatment.

Cultural and Social Influences on Mental Health

Cultural attitudes towards mental health in Eastern Nigeria significantly influenced participants' experiences with postpartum depression.

In many communities, mental illness, including postpartum depression, is frequently misunderstood and stigmatized. As a result, women experiencing symptoms of PPD may hesitate to seek help for fear of being labeled as "weak" or "unfit" mothers.

Some participants might perceive postpartum depression as a spiritual or moral failing rather than a medical issue, leading them to seek guidance from religious leaders or traditional healers instead of healthcare professionals.

A strong cultural expectation exists for women to endure hardships without complaint, especially postpartum. Mothers may feel pressured to project strength and dedication to their new roles, further deterring them from disclosing depressive symptoms or seeking the support they need.

Economic Constraints and Financial Stress

Economic factors significantly impact the well-being of postpartum women, especially in low-income communities.

In the study population, many women reported being either unemployed or in business, holding private employment, or relying financially on their spouses or extended family. This financial instability heightened stress levels and intensified feelings of helplessness, which could contribute to the onset or exacerbation of postpartum depression (PPD).

Even when mental health services are available, the costs associated with consultations, medication, and therapy often prove prohibitive for many women. This limited access to affordable mental health services further discourages early diagnosis and intervention.

Many husbands or partners, particularly in low-income households, experience economic stressors that can diminish their ability to provide emotional and financial support to their spouses. This dynamic may potentially elevate the risk of PPD among affected women.

Family and Social Support Variability

In many Nigerian communities, extended families play a crucial role in postpartum care. While some women benefit from robust family support, others encounter conflicts, unsupportive in-laws, or a lack of understanding from family members, which may contribute to postpartum depression (PPD).

Some participants reported receiving considerable emotional and practical support from their partners, while others experienced neglect, emotional distance, or even domestic abuse, all of which can significantly affect mental health outcomes.

The availability or absence of support groups for new mothers, postpartum counseling services, and peer networks greatly influenced participants' experiences. Women lacking strong social networks were often more vulnerable to feelings of isolation and depressive symptoms.

Community-Based Interventions and Awareness Programs

In response to the increasing awareness surrounding maternal mental health, various NGOs, religious organizations, and community health initiatives have begun to implement postpartum support programs. However, the effectiveness and reach of these interventions have varied significantly:

Many women in the study were either unaware of these programs or faced geographic and economic barriers that restricted their access.

Certain programs prioritize general maternal health rather than specifically targeting postpartum depression and raising mental health awareness.

In some instances, traditional and religious leaders have influenced perceptions of postpartum depression. While some leaders have actively promoted mental health awareness, others have perpetuated stigma and misconceptions surrounding the issue.

Post-Pandemic Effects and External Stressors

While the peak of the COVID-19 pandemic has passed, its economic, social, and healthcare disruptions continue to affect the experiences of postpartum women:

The pandemic strained healthcare facilities, resulting in delays or reductions in postpartum check-ups that could hinder the early detection of postpartum depression (PPD).

Many new mothers faced decreased community interactions, restricting their access to emotional and social support from family and friends.

The economic downturn that followed the pandemic led to job losses and financial instability, which may have intensified mental health challenges for new mothers.

Policy and Government Interventions

At the time of the study, the Nigerian government had limited policies specifically addressing postpartum depression. While some maternal health policies were in place, they predominantly focused on reducing maternal and infant mortality, neglecting the crucial area of mental health.

There was also a lack of structured screening programs, as routine screening for postpartum depression (PPD) was not widely implemented in public health facilities. This oversight resulted in underreporting and missed diagnoses. Additionally, many women, especially those in low-income areas, faced gaps in health insurance coverage that hindered their access to mental health services.

The findings of this study have the potential to advocate for stronger maternal mental health policies, emphasizing the need for PPD screening, awareness campaigns, and accessible support services.

Implications of These Contextual Factors in Study Findings

In light of these contextual factors, the study's findings should be interpreted with the following considerations in mind:

Stigma and cultural norms may have led some women to underreport their depressive symptoms, possibly resulting in an underestimation of the prevalence of postpartum depression (PPD).

Differences in the levels of support from partners, family, and the community could have influenced individual responses to postpartum depression.

The findings may reveal gaps in the availability of mental health services, highlighting the need for policy reforms and targeted intervention programs.

Gaining insight into the socioeconomic, cultural, and healthcare challenges that influenced participants' experiences is essential for a comprehensive analysis of the study's findings. These external factors underscore the urgent need for enhanced awareness of maternal mental health, improved healthcare services, and effective policy interventions to support postpartum women in Eastern Nigeria.

Participants Demographics

Table 3

Age, Education, and Marital Status of Participants

		Count	Column N %
Age	< 15	0	0.0%
	15 - 19	2	0.5%
	20 - 24	66	16.3%
	25 - 29	119	29.3%
	30 - 34	145	35.7%
	35 - 39	61	15.0%
	40+	13	3.2%
Q2. Education level	No formal education	1	0.2%
	Primary education	3	0.7%
	Secondary education	81	20.0%
	Tertiary education	321	79.1%
Q4. Marital status	Single	28	6.9%
	Married	363	89.4%

	Divorced	7	1.7%
	Widowed	8	2.0%

	N	Minimum	Maximum	Mean	Std. Deviation
Q1. Age in years	406	19	45	29.71	5.178
Valid N (listwise)	406				

The sociodemographic profile of the postpartum women who participated in this study provides essential context for interpreting the results. Tables 4.1 present the distribution of respondents by age, educational level, and marital status, along with descriptive statistics for age.

As detailed in Table 3, a substantial majority of the participants, accounting for 64.9%, fell within the age range of 25 to 34 years. Within this age group, the most prominent subset was the 30–34 year cohort, which represented 35.7% of respondents, showcasing a strong presence of individuals in their early thirties. Following closely was the 25–29 age group, comprising 29.3% of the participants. In contrast, only 16.3% were between the ages of 20 and 24, while fewer than 4% were aged 40 years or older, highlighting a distinct absence of respondents from the more senior age brackets. Notably, there were no individuals under the age of 15, indicating a clear focus on young adults.

Table 3 also illustrates the descriptive statistics of age, revealing that participants' ages varied from 19 to 45 years, with an average age of 29.71 years and a standard deviation of 5.18. This data underscores that the study sample predominantly consisted of

women who are in their prime childbearing years, reflecting a demographic that is particularly significant for research in this area.

An impressive 79.1% of respondents reported having achieved tertiary education, reflecting a strong trend toward higher learning in the surveyed population. Conversely, 20.0% completed only secondary education, indicating a notable segment with a less formal academic background. Even more rare were those with primary education, at just 0.7%, and a mere 0.2% who had received no formal education whatsoever. This considerable level of educational attainment may significantly influence individuals' awareness and attitudes regarding mental health issues, such as postpartum depression, suggesting a potential for heightened understanding and sensitivity surrounding these critical topics.

Among the participants, a substantial majority were married, comprising 89.4% of the group. In contrast, a smaller segment of the population was single, accounting for 6.9%. The figures reveal that only a minimal portion of the respondents experienced divorce, with 1.7% in that category, while 2.0% identified as widowed. This significant prevalence of marriage among the respondents highlights the prevailing social norms and cultural expectations within the study area, offering important insights into the dynamics of social support systems in the community.

Table 4

Employment Status of Participants

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Employed Government	70	17.2	17.2	17.2
	Not Employed	120	29.6	29.6	46.8
	Business	162	39.9	39.9	86.7
	Employed Private	54	13.3	13.3	100.0
	Total	406	100.0	100.0	

In examining the employment landscape reflected in Table 4.2 among the postpartum women surveyed, a vibrant and complex picture of professional engagement unfolds. Notably, a significant segment of this group, 39.9% (n = 162), proudly identifies as self-employed or actively running their businesses, showcasing a remarkable entrepreneurial spirit and resilience. On the other hand, government employment holds a place of stability, with 17.2% (n = 70) of respondents finding safety in the structured avenues it offers. In contrast, 13.3% (n = 54) are navigating the private sector, exploring a diverse array of job opportunities. However, it is crucial to acknowledge that a substantial 29.6% (n = 120) of the participants reported being unemployed, highlighting the significant barriers many face in their pursuit of stable employment. Collectively, these figures drawn from a total of 406 participants paint a multifaceted portrait of the varied economic realities experienced by postpartum women, illustrating both the challenges and triumphs that define their journeys in the workforce.

Table 5

Prevalence of PPD

		Count	Column N %
PHQ_9Scategories	Minimal	236	58.1%
	Mild	153	37.7%

	Moderate	16	3.9%
	Moderately severe	1	0.2%
	Severe	0	0.0%

	N	Minimum	Maximum	Mean	Std. Deviation
PHQ_9Score	406	.00	18.00	3.9212	3.04837
Valid N (listwise)	406				

Prevalence and Severity of PPD Symptoms

The severity of postpartum depression (PPD) symptoms among respondents was thoroughly evaluated using the 9-item Patient Health Questionnaire (PHQ-9). Table 4.3 presents a detailed analysis of both categorical and continuous results derived from the PHQ-9 scores.

PHQ-9 Categories

58.1% of participants fell into the “minimal” depression category, indicating a very low level of depressive symptomatology. In contrast, 37.7% of participants reported experiencing “mild” symptoms, suggesting a slight but notable burden of mood disturbances. Notably, 3.9% were categorized as experiencing “moderate” levels of depression, reflecting a more concerning degree of distress. Remarkably, only one participant, representing a mere 0.2%, was classified as having “moderately severe” symptoms, and none of the respondents fell into the “severe” category. These findings illuminate the landscape of postpartum mental health within this sample, indicating that, while the vast majority of new mothers displayed minimal or mild depressive symptoms, a small yet significant proportion faced clinically meaningful depressive challenges, highlighting the need for further evaluation and potential intervention.

PHQ-9 Total Score

As illustrated in Table 4.3, the range of PHQ-9 scores spanned from 0 to 18, with an overall mean score of 3.92 (SD = 3.05). This average score firmly resides within the "minimal" range, reinforcing the notion that most women did not experience debilitating depressive symptoms. However, the presence of moderate-to-severe cases underscores the critical importance of early screening and intervention in postpartum care.

These findings stress that, although a considerable majority of respondents did not meet the diagnostic criteria for major depressive disorder, a substantial proportion, 41.9%, exhibited at least mild depressive symptoms. This revelation underscores an urgent need for targeted screening processes and proactive early intervention strategies within postpartum care services, aimed at effectively supporting the mental health and overall well-being of new mothers during this pivotal time.

These demographics provided an overview of the participants and set the foundation for further data analysis.

Data Collection

Sample Size and Response Rate

A total of 406 women participated in this study. The response rate was 100%, with no incomplete questionnaires or missing data.

Data collection was carried out using the Postpartum Depression Questionnaire (PDQ) to evaluate participants' demographics, their understanding of postpartum depression (PPD), and the level of social support they receive. The Patient Health Questionnaire (PHQ-9) was utilized to assess depressive symptoms among the women,

allowing for the identification of those experiencing depression. Additionally, the Multidimensional Scale of Perceived Social Support (MSPSS) was employed to gauge perceived social support from family, friends, and significant others. Each participant was provided with questionnaires, along with a flyer and a consent form, which they completed and submitted in the designated private box at the clinic.

A total of 406 participants completed three distinct assessment instruments designed to gather comprehensive data on their mental health and social support. The first instrument was a general questionnaire that collected demographic information and various lifestyle factors of the participants. The second was the Patient Health Questionnaire-9 (PHQ-9), a standardized tool specifically created to evaluate the severity of depressive symptoms experienced by individuals over the past two weeks. This tool includes nine items that reflect mood, interest in activities, and other related symptoms. Lastly, participants completed the Multidimensional Scale of Perceived Social Support (MSPSS), which assesses the extent to which individuals perceive social support from three distinct sources: family, friends, and significant others. Together, these instruments provide a well-rounded understanding of the interplay between mental health and social support among the participants.

Data was gathered from a range of healthcare facilities in Nnewi North Local Government Area (LGA) of Anambra State, located in the Eastern region of Nigeria. The collection included information from Uru Primary Health Center, known for its community-oriented services; Chimex Hospital, recognized for advanced medical care; Immaculate Heart Hospital, which specializes in maternal and child health; and Chidera

Hospital and Maternity, a facility that focuses on comprehensive maternal healthcare. This diverse array of institutions provides a well-rounded perspective on health outcomes in the area.

collection was conducted over an extended period from February 24th to April 11th, 2025. During this timeframe, each participant engaged in a session that lasted approximately 30 to 45 minutes. These sessions were designed to gather comprehensive data.

Data Recording and Storage

Paper questionnaires were manually entered into a secure Microsoft Excel spreadsheet to facilitate seamless transfer to SPSS version 27 for analysis. Digital records were stored in an encrypted, password-protected database. Participants took their consent forms and flyers with them.

There were no deviations from the Data Collection plan outlined in Chapter 3.

Some mothers were initially hesitant to participate in responding to the questionnaire due to cultural beliefs associated with postpartum depression. This reluctance was alleviated through assurances of confidentiality and the involvement of female healthcare workers, who clarified the purpose of the study.

This section outlines the demographic characteristics of the study participants and describes the data collection process. Despite facing challenges such as stigma and constraints within the healthcare system, data were successfully gathered from a diverse group of women in Eastern Nigeria.

Data Analysis

This section describes the analytical approach used to examine the relationship between postpartum depression (PPD), perceived social support, and PPD knowledge among postpartum women in Eastern Nigeria. The study employed quantitative analysis using SPSS version 26 to process and analyze the collected data. The data analysis process followed a structured approach, including data coding, cleaning, descriptive statistics, inferential statistical analysis, and interpretation of results.

Data Processing and Coding

Descriptive and Inferential Statistical Analysis

After coding, the data was cleaned for missing values, outliers, and inconsistencies. The analysis was conducted in three key stages:

Descriptive statistics summarized the demographic characteristics and prevalence of postpartum depression. This included: Frequencies & percentages for categorical variables such as education level, Employment status, and marital status. Means & standard deviations for continuous variables such as age and PHQ-9 scores.

A binary logistic regression was performed to assess the relationship between PPD prevalence (dependent variable) and the independent variables (knowledge of PPD, perceived social support, and demographic factors). This helped determine predictors of PPD after controlling for confounders like age and socioeconomic status.

Discrepant Cases and Their Influence on the Analysis

No Discrepant cases were found, such as high social support but high PHQ-9 scores, those with no knowledge of PPD but no depressive symptoms, women who had

no prior knowledge of PPD yet scored very low on the PHQ-9, and women with education but no awareness of PPD. The Discrepant cases would have been addressed by including them in subgroup analyses to explore possible explanations instead of removing these cases. If found, it would have suggested that while social support and PPD knowledge are important, other unmeasured factors (e.g., personal resilience, prior trauma, or personality traits) may also play a role.

Knowledge of PPD was significantly associated with lower depression scores ($p < 0.05$), supporting the need for maternal mental health education.

Perceived social support was a strong protective factor against PPD—women with high support reported significantly lower PHQ-9 scores.

This section outlines the data analysis process, including coding and statistical methods. The findings underscore the importance of social support and awareness in reducing PPD prevalence among women in Eastern Nigeria. These findings will be examined in the upcoming chapter along with their implications for policy and the body of existing knowledge.

Evidence of Trustworthiness

Ensuring the trustworthiness of this study was crucial in maintaining the validity and reliability of the findings. The four primary criteria for trustworthiness—credibility, dependability, confirmability, and transferability—were carefully considered throughout the research process. The strategies outlined in Chapter 3 were implemented, and adjustments were made where necessary to enhance the rigor of the study.

Credibility and Dependability

Credibility refers to the internal validity of the study and ensures that the findings accurately reflect the participants' experiences and responses. In this study, credibility was enhanced using the following strategies. To ensure that the study accurately measured postpartum depression (PPD) and perceived social support, well-established instruments were used: PHQ-9, A validated screening tool for assessing depression levels. Multidimensional Scale of Perceived Social Support (MSPSS): A validated measure for assessing social support from family, friends, and significant others. The use of these standardized instruments ensured that the data collected was reliable and minimized measurement errors.

A diverse sample of postpartum women was recruited across various demographic backgrounds, including age, education, and employment status. The survey was administered anonymously, reducing response bias and allowing participants to answer honestly.

To enhance credibility, public health experts, maternal health specialists, and biostatisticians reviewed the research design, questionnaire, and statistical analysis both from the Walden IRB and the Study site's ethical committee. Their feedback assured that the study design was methodologically sound. The questionnaire was clear and culturally appropriate. The statistical analysis approach was appropriate for the research questions.

Given the cultural stigma surrounding mental health in Nigeria, anonymous self-reporting was encouraged. Participants were assured that their responses were confidential, reducing the likelihood of social desirability bias.

There was no need to change the questionnaire items following the testing with the three families, as it was assumed that everything was unambiguous.

Dependability refers to the stability and consistency of the research findings over time. The following strategies were employed to ensure dependability:

A clear and structured process was followed for data collection, analysis, and interpretation. This included maintaining and following all the documented decisions made during the study; also, recording any changes or adjustments made to the methodology.

To minimize errors in data entry and analysis, all responses were double-checked for inconsistencies. Automated error detection was used in SPSS to identify missing values and outliers, and data analysis procedures were standardized and reproducible.

Before full implementation, this was conducted with three families of women to ensure clarity of questions to test the feasibility of the data collection process and assess the reliability of the PHQ-9 and MSPSS instruments in the study setting, which is a validated instrument globally.

Expanded the sample size beyond the initial plan to improve reliability, from 300 to 406. Extended the data collection period to include more participants and ensure representativeness, from 4 weeks to 6 weeks plus.

Confirmability and Transferability

Confirmability refers to the objectivity and neutrality of the study's findings. The following strategies ensured that results were not influenced by research bias:

Automated coding of responses in SPSS ensured that results were not manually manipulated. Statistical tests (chi-square, t-tests, logistic regression) were used to identify patterns in an objective, data-driven manner. A self-reflection journal was kept to document and minimize potential biases in interpreting the findings.

Ensured that all assumptions for statistical tests were met to prevent misinterpretation.

Transferability refers to the extent to which the study findings can be applied to other contexts. The following strategies were implemented:

The study provided a detailed description of the sociocultural, economic, and healthcare contexts of postpartum women in Eastern Nigeria. This enables other researchers to determine whether the findings apply to similar populations in Sub-Saharan Africa.

Women from different educational, marital, and socioeconomic backgrounds were included. By recruiting participants from urban and rural areas, the study ensured a broad representation of postpartum experiences.

Findings were compared with global and African studies on PPD to highlight similarities and contextual differences. This strengthens the transferability of findings to other developing countries with similar healthcare challenges.

The study employed rigorous strategies to ensure the trustworthiness of the findings. Validated measurement tools and expert review, which strengthened the credibility of the results. Dependability was ensured by maintaining a structured data management process and conducting family testing. Confirmability was achieved through

statistical objectivity, while transferability was enhanced by providing a rich description of the study context and recruiting a diverse sample.

These measures contribute to the overall reliability, validity, and applicability of the study's findings, reinforcing their value in informing maternal mental health policies and interventions in Nigeria and beyond.

Results

Table 6

Level of Social Support

		Count	Column N %
Overall social support	Low	5	1.2%
	Moderate	57	14.0%
	High	344	84.7%
Family social support	Low	3	0.7%
	Moderate	14	3.4%
	High	389	95.8%
Friends social support	Low	81	20.0%
	Moderate	82	20.2%
	High	243	59.9%
Significant others	Low	17	4.2%
	Moderate	22	5.4%
	High	367	90.4%

The sum of the scores from all the questions was obtained, divided by the number of questions, which is 12. The score obtained was graded as follows: low social support (1-2.1), moderate (2.2-3.6), and High social support (3.7 -5.0)

The sum of the scores from questions 3,4,8,11 of the MHPSS scale was obtained, divided by the number of questions, which is 4. The score obtained was graded as follows: low social support (1-2.1), moderate (2.2-3.6), and High social support (3.7 -5.0)

The sum of the scores from questions 6,7,9,12 of the MHPSS scale was obtained, divided by the number of questions, which is 4. The score obtained was graded as follows: low social support (1-2.1), moderate (2.2-3.6), and high social support (3.7 -5.0)

The sum of the scores from questions 1,2,5,10 of the MHPSS scale was obtained, divided by the number of questions, which is 4. The score obtained was graded as follows: low social support (1-2.1), moderate (2.2-3.6), and high social support (3.7 -5.0)

Levels of Perceived Social Support

Table 4.4 presents a comprehensive overview of the levels of perceived social support among postpartum women, meticulously categorized into four key domains: overall social support, family, friends, and significant others. These insightful results shed light on the protective social factors that may play a crucial role in either facilitating or alleviating the challenges associated with postpartum depression (PPD).

A striking 84.7% of participants reported experiencing high levels of overall social support, reflecting a predominantly nurturing environment during the sensitive postpartum period. In contrast, 14.0% indicated moderate levels of support, while a mere 1.2% faced the daunting experience of low support. This data suggests that most women benefit from a strong network of encouragement and assistance as they navigate the complexities of new motherhood.

Domain-Specific Support

An impressive 95.8% of respondents expressed high levels of support from their families, highlighting the profound involvement of familial networks during this transformative time. Only 3.4% reported moderate levels of support, while a scant 0.7%

experienced low support, underscoring the critical role that family plays in fostering a sense of security and belonging for postpartum women.

In terms of support from friends, the distribution was more varied. While 59.9% of women reported high levels of friendship support, 20.2% indicated moderate support, and an equal 20.0% felt they received low support. This illustrates that although friendships can offer significant emotional backing for many, they tend to be a less stable source of support when compared to the steadfast presence of family or significant others.

A noteworthy 90.4% of participants reported high levels of support from their significant others, such as partners or spouses. In contrast, 5.4% indicated moderate support, and 4.2% reported low levels, positioning the support from significant others as one of the most robust sources of emotional strength after family ties.

These findings emphasize the vital importance of close interpersonal relationships, particularly familial connections and partnerships, in fostering emotional resilience. They also suggest that an enriched support system may serve as a protective barrier against the onset of postpartum depression, reinforcing the notion that strong social bonds are essential during this pivotal phase of life.

Table 7

Level of Social Support Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MHPSS_Score	406	12.00	60.00	52.138	8.64874
Mean_MHPSS_Score	406	1.00	5.00	4.3448	.72073
Family_mean_MHPSS_Score	406	1.00	5.00	4.6693	.51321
Friends_mean_MHPSS_Score	406	1.00	5.00	3.7611	1.35077
Significant_other_mean_MHPSS_Score	406	1.00	5.00	4.6041	.82165
Valid N (listwise)	406				

Descriptive Statistics of Multidimensional Social Support

Table 4.5 presents a comprehensive overview of the descriptive statistics concerning social support, as evaluated through the Multidimensional Scale of Perceived Social Support (MSPSS). This scale meticulously captures the nuances of support across three distinct yet interconnected domains: family, friends, and significant others, providing both aggregate and mean scores to illustrate the participants' perceptions of their social support networks.

The total score for social support exhibited a broad range, spanning from a minimum of 12 to a maximum of 60, with a calculated mean of 52.14 (SD = 8.65). This notable average suggests that participants generally enjoy a robust perception of social support in their lives. On a 5-point scale, the mean score was a commendable 4.34 (SD = 0.72), further underscoring a strong sense of support that participants experience across all domains.

Delving deeper into the specific domains, Family Support emerged with the highest mean score of 4.67 (SD = 0.51), signaling a consistent and profound sense of emotional and practical support from family members. This suggests that family connections play a vital role in an individual’s support system.

Support from Significant Others also yielded a high mean score of 4.60 (SD = 0.82), indicating that intimate partnerships or spousal relationships provide a substantial layer of support, bolstering individuals in their times of need.

In contrast, Friend Support presented a comparatively lower mean score of 3.76 (SD = 1.35). This indicates greater variability in the perceived availability and

effectiveness of support from friends, suggesting that while friends play an important role in a support system, their contributions may be less consistent or reliable compared to family and significant others.

These findings resonate with earlier research that emphasizes the critical importance of family and spousal support as protective factors against postpartum depression, particularly within collectivist or closely-knit cultural contexts where such support structures are paramount.

Table 8

Responses to the PHQ-9 Questionnaire

	Not at all		Several days		More than half the days		Nearly every day	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Q1. Over the last 2 weeks, how often have you been bothered by Interest or pleasure in doing things	293	72.2%	102	25.1%	4	1.0%	7	1.7%
Q2. Over the last 2 weeks, how often have you been bothered by feeling down, depressed, or hopeless	251	61.8%	130	32.0%	19	4.7%	6	1.5%
Q3. Over the last 2 weeks, how often have you been bothered by Trouble falling or staying asleep, or sleeping too much	162	39.9%	205	50.5%	35	8.6%	4	1.0%
Q4. Over the last 2 weeks, how often have you been bothered by feeling tired or having little energy	122	30.0%	169	41.6%	74	18.2%	41	10.1%

Q5. Over the last 2 weeks, how often have you been bothered by Poor appetite or overeating	168	41.4%	139	34.2%	68	16.7%	31	7.6%
Q6. Over the last 2 weeks, how often have you been bothered by any Feeling bad about yourself or that you are a failure or have let yourself or your family down	365	89.9%	36	8.9%	5	1.2%	0	0.0%
Q7. Over the last 2 weeks, how often have you been bothered by Trouble concentrating on things, such as reading the newspaper or watching television	347	85.5%	57	14.0%	1	0.2%	1	0.2%
Q8. Over the last 2 weeks, how often have you been bothered by Moving or speaking so slowly that other people could have noticed. Or the opposite being so fidgety or restless that you have been moving around a lot more than usual	375	92.4%	30	7.4%	0	0.0%	1	0.2%
Q9. Over the last 2 weeks, how often have you been bothered by thoughts that you would be better off dead, or of hurting yourself	373	91.9%	28	6.9%	4	1.0%	1	0.2%

The PHQ-9 was employed to evaluate depressive symptoms among women in the postpartum period. The findings, detailed in Table 4.6, showcase the distribution of

responses across the nine items of the questionnaire, providing valuable insights into the mental health of these individuals.

A significant portion of the participants, reflecting a sense of emotional resilience, indicated "Not at all" concerning their experiences over the previous two weeks. Remarkably, 72.2% of women expressed that they had not faced any loss of interest or pleasure in activities they typically enjoy (Q1). Additionally, 61.8% reported not having felt down, depressed, or hopeless (Q2), highlighting a prevailing spirit of well-being among many.

However, certain symptoms were more pronounced. Sleeping difficulties (Q3) emerged as a notable concern, with 50.5% of respondents acknowledging experiencing sleep troubles for "Several days." Furthermore, 41.6% reported feelings of tiredness or a lack of energy during the same period (Q4), suggesting that fatigue may be an area worthy of further exploration.

When considering appetite changes (Q5), 41.4% of the women reported no significant issues, indicating a degree of stability in this aspect of their health. The overwhelming majority denied any feelings of self-blame (Q6; 89.9%) or difficulties with concentration (Q7; 85.5%). Furthermore, psychomotor changes (Q8) were denied by 92.4% of participants, and only 8.1% revealed any suicidal thoughts (Q9), underscoring that severe depressive symptoms were relatively uncommon within this population.

These results suggest that, while there are some symptoms of depression present among the respondents, instances of severe depression appear to be rare. Nevertheless, the increased reports of tiredness, sleep disturbances, and low energy signal potential

areas for targeted psychosocial interventions that could offer significant benefits to new mothers.

It is crucial to note that although most respondents do not appear to meet the criteria for severe depression, the fact that over 8% admitted to experiencing suicidal ideation points to an urgent need for regular mental health screenings as an essential component of postpartum care. This highlights the importance of ongoing support and vigilant monitoring of mental health among postpartum women to ensure their well-being during this critical life phase.

Table 9

Responses to MSPSS Questionnaire

	Strongly Disagree		Mildly Disagree		Neutral		Mildly Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Q1. There is a special person who is around when I am in need	8	2.0%	13	3.2%	15	3.7%	13	3.2%	357	87.9%
Q2. There is a special person with whom I can share joys and sorrows.	6	1.5%	13	3.2%	24	5.9%	54	13.3%	309	76.1%
Q3. My family really tries to help me	1	0.2%	3	0.7%	15	3.7%	58	14.3%	329	81.0%
Q4. I get the emotional help & support I need from my family	1	0.2%	3	0.7%	22	5.4%	117	28.8%	263	64.8%
Q5. I have a special person who is a real source of comfort to me.	8	2.0%	16	3.9%	23	5.7%	61	15.0%	298	73.4%
Q6. My friends really try to help me	25	6.2%	71	17.5%	50	12.3%	45	11.1%	215	53.0%
Q7. I can count on my friends when things go wrong	37	9.1%	62	15.3%	63	15.5%	63	15.5%	181	44.6%
Q8. I can talk about my problems with my family	2	0.5%	3	0.7%	14	3.4%	85	20.9%	302	74.4%

Q9. I have friends with whom I can share my joys and sorrows.	36	8.9%	70	17.2%	45	11.1%	52	12.8%	203	50.0%
Q10. There is a special person in my life who cares about my feelings	8	2.0%	15	3.7%	23	5.7%	54	13.3%	306	75.4%
Q11. My family is willing to help me make decisions	1	0.2%	6	1.5%	12	3.0%	86	21.2%	301	74.1%
Q12. I can talk about my problems with my friends.	43	10.6%	73	18.0%	50	12.3%	44	10.8%	196	48.3%

Participants' perceptions of social support were further examined across 12 specific items from the Multidimensional Scale of Perceived Social Support (MSPSS). Table 4.7 summarizes the responses for each item, classified as Strongly Disagree, Mildly Disagree, Neutral, Mildly Agree, and Strongly Agree.

Findings show that the majority of respondents strongly agreed with the most positive statements regarding available social support. For example, 87.9% of respondents strongly agreed that there is a special person around when they are in need (Q1), and 76.1% strongly agreed that they have someone with whom they can share joys and sorrows (Q2). Similarly, 81.0% strongly agreed that their family really tries to help them (Q3), and 64.8% strongly agreed they get emotional help and support from their family (Q4).

Support from friends appeared somewhat lower compared to family and significant others. For instance, 53.0% strongly agreed that their friends try to help them (Q6), and 44.6% strongly agreed that they could count on friends when things go wrong

(Q7). Similarly, 48.3% strongly agreed they can discuss problems with their friends (Q12).

Overall, these results suggest a generally high perception of emotional and instrumental support among postpartum women, with slightly higher levels of support perceived by family and significant others than friends.

Overall, the data indicate that participants perceive high levels of support from family members and significant others, while the levels of perceived support from friends are comparatively lower. These findings highlight the crucial role of close family relationships and intimate connections in promoting postpartum well-being within the Eastern Nigerian context.

Table 10

Knowledge or Awareness and Sources of Information on PPD

		Count	Column N %
Q11. Did you have any prior knowledge or aw: postpartum depression before delivering your c	Yes	340	83.7%
	No	66	16.3%
Q12a. If yes to Q11, please specify the sources	Healthcare provider	317	93.2%
	Family	11	3.2%
	Media	12	3.5%
	Others	0	0.0%

Knowledge and Sources of Information on PPD

To understand awareness about PPD, participants were asked about their knowledge of the condition before the arrival of their child, and for those who acknowledged some familiarity, the sources of their information were thoroughly

documented. The findings are summarized in Table 4.8. Among the 406 women who participated in the survey, an impressive majority—340 women, representing 83.7% of the respondents—indicated that they had prior knowledge or awareness of PPD. In stark contrast, 66 participants (16.3%) reported that they had no awareness of this significant mental health issue.

For the 340 women who were familiar with PPD, healthcare providers emerged as the most prominent source of information, with a striking 317 individuals (93.2%) citing them as their primary source of knowledge. This statistic underscores the vital role that healthcare professionals play in increasing awareness and understanding of mental health, particularly in the postpartum phase.

A much smaller fraction of participants reported gaining knowledge about PPD through media outlets (12 participants, or 3.5%) or family members (11 participants, or 3.2%). Interestingly, none of the respondents mentioned receiving information from alternative sources, which emphasizes the overwhelming reliance on health professionals for this crucial information.

These results reveal a significant level of awareness regarding postpartum depression among the surveyed women, highlighting not only the importance of healthcare providers in the dissemination of mental health information but also the need for broader channels to ensure that all expectant and new mothers are well-informed about this condition.

Table 11

Response to Multilevel Factors

		Count	Column N %
Interpersonal Level	Yes	348	85.7%
Q1. Did you receive emotional support from your partner during the postpartum period?	No	58	14.3%
Q2. Did you confide in any family members or friends about your feelings during the postpartum period?	Yes	385	94.8%
	No	21	5.2%
Q3. Did you communicate your feelings with your healthcare provider during postpartum check-ups?	Yes	380	93.6%
	No	26	6.4%
Q4. Were you satisfied with their response and support?	Yes	378	93.3%
	No	27	6.7%
Q5. Were there barriers that prevented you from discussing your mental health with them?	Yes	49	12.1%
	No	357	87.9%
Community Level	Yes	28	6.9%
Q1. How would you describe the cultural beliefs and attitudes towards mental health and postpartum depression in your community? Is it positive?	No	378	93.1%
Q2. Were any community resources or support groups available to you during the postpartum period?	Yes	8	2.0%
	No	398	98.0%
Q3. Did you utilize these resources, and did they help impact your experience?	Yes	4	1.0%
	No	402	99.0%
Societal Level	Yes	4	1.0%
Q1. Did you have access to mental health services or programs specifically addressing postpartum depression in your area?	No	402	99.0%
Q2. Did these services have an impact on your willingness to seek help?	Yes	5	1.2%
	No	401	98.8%
Q3. Were there any policies or initiatives related to maternal mental health in your country during your postpartum period?	Yes	3	0.7%
	No	403	99.3%
Overall Experience	Yes	405	99.8%

Q4. Do you think the government or healthcare system could improve support and awareness for postpartum depression in low-income communities?	No	1	0.2%
Q1. Do you think the government could help to improve the experience of women with postpartum depression?	Yes	406	100.0%
	No	0	0.0%
Q2. Do you think there is anything the government could do to improve the support given to women with postpartum depression in your community and country?	Yes	406	100.0%
	No	0	0.0%

This study delved into the intricate web of ecological influences—spanning interpersonal relationships, community dynamics, and societal structures—that shape the experiences of women grappling with postpartum depression (PPD) in Nnewi North Local Government Area, Anambra State. The findings, illustrated in Table 4.9, showcase responses to pivotal questions framed within the socioecological model.

The interpersonal sphere revealed a predominantly supportive environment, with a noteworthy 85.7% of respondents affirming that they received emotional support from their partners during the challenging postpartum period. Additionally, an overwhelming majority (94.8%) found solace in confiding their emotions to family or friends, fostering a network of understanding amid their struggles. Communication with healthcare providers was also prevalent, as 93.6% engaged with professionals during postpartum check-ups, expressing satisfaction with the responses and support they received, an encouraging 93.3%. However, a concerning minority (12.1%) disclosed encountering barriers that hindered them from discussing their mental health openly. This suggests that, despite a generally supportive interpersonal landscape, certain women faced obstacles in seeking the dialogue they needed.

At the community level, the landscape appeared bleak concerning support for maternal mental health. A staggering 93.1% of respondents indicated that cultural beliefs and attitudes towards mental health and postpartum depression within their community were notably negative. The lack of available resources was striking, with only 2.0% claiming access to community support groups during the postpartum phase, and a mere 1.0% reporting the actual utilization of such resources. This paints a daunting picture of community-based support systems, revealing not only structural deficiencies but also potential stigma and neglect surrounding maternal mental health issues.

On a broader societal level, access to mental health services for PPD was alarmingly scarce. Merely 1.0% of respondents reported having access to services specifically designed to address postpartum depression, while just 1.2% mentioned that these services had any bearing on their willingness to seek help. Furthermore, a staggering 99.3% of participants expressed unawareness of any policies or national initiatives aimed at promoting maternal mental health during their postpartum journey. This highlights systemic gaps not only in health service provision but also in the implementation of supportive policies for postpartum mental health within the region.

Despite the evident void of structured support across all levels, a resounding consensus emerged among the participants regarding the urgent need for enhancement. Nearly every respondent (99.8%) advocated for increased efforts by the government and healthcare systems to bolster support and raise awareness surrounding postpartum depression. There was an overwhelming affirmation (100%) that the government could and should take on a more proactive role in improving both the experience and support

extended to women facing PPD, with particular emphasis on low-income communities. This overwhelming call to action underscores a critical opportunity for change, aiming to transform the landscape of maternal mental health support in the region.

Table 12

Factors Associated with PPD

		Binary_PHQ_9_Cat			
		Minimal/none		Depressed	
		Count	Column N %	Count	Column N %
Age2	< 15	0	0.0%	0	0.0%
	15 - 24	35	14.8%	33	19.4%
	25 - 34	157	66.5%	107	62.9%
	35+	44	18.6%	30	17.6%
Q2. Education level	No formal education	1	0.4%	0	0.0%
	Primary education	3	1.3%	0	0.0%
	Secondary education	48	20.3%	33	19.4%
	Tertiary education	184	78.0%	137	80.6%
Q3. Employment status	Employed Government	46	19.5%	24	14.1%
	Not Employed	62	26.3%	58	34.1%
	Business	96	40.7%	66	38.8%
	Employed Private	32	13.6%	22	12.9%
Q4. Marital status	Single	17	7.2%	11	6.5%
	Married	211	89.4%	152	89.4%
	Divorced	5	2.1%	2	1.2%
	Widowed	3	1.3%	5	2.9%

Q5. Number of children		1		47	19.9%	45	26.5%
		2		103	43.6%	61	35.9%
		3		67	28.4%	51	30.0%
		4		13	5.5%	12	7.1%
		5		6	2.5%	1	0.6%
Family social support	Low	Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Yes	1	50.0%	0	0.0%
			No	1	50.0%	1	100.0%
	Moderate	Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Yes	5	71.4%	2	28.6%
			No	2	28.6%	5	71.4%
	High	Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Yes	203	89.4%	129	79.6%
			No	24	10.6%	33	20.4%
Significant others	Low	Friends social support	Low	4	80.0%	9	75.0%
			Moderate	1	20.0%	3	25.0%
			High	0	0.0%	0	0.0%
	Moderate	Friends social support	Low	4	33.3%	6	60.0%
			Moderate	6	50.0%	2	20.0%
			High	2	16.7%	2	20.0%
	High	Friends social support	Low	32	14.6%	26	17.6%

	Moderate	42	19.2%	28	18.9%
	High	145	66.2%	94	63.5%
Overall social support	Low	2	0.8%	3	1.8%
	Moderate	28	11.9%	29	17.1%
	High	206	87.3%	138	81.2%
	Total	236	100.0%	170	100.0%

Factors Associated with PPD

This section delves into the intricacies of postpartum depression (PPD) by exploring the bivariate analysis that scrutinizes the interplay between sociodemographic characteristics, levels of social support, and the prevalence of depressive symptoms among respondents. To gauge depression levels, a binary classification of the PHQ-9 scale was employed, dividing respondents into two categories: Minimal/None and Depressed. A summary of the findings is provided in Table 4.10, which outlines the distribution of postpartum depression status in relation to various predictor variables.

Among the individuals who were identified as depressed (n = 170), a notable 62.9% fell within the 25–34 age bracket, highlighting a substantial vulnerability within this demographic. In comparison, only 19.4% of respondents were in the 15–24 years group, while those aged 35 years and older represented 17.6%. Interestingly, there were no participants below the age of 15. Conversely, analysis revealed that 66.5% of the non-depressed individuals were also situated within the same 25–34 age group, indicating that age differences do not appear to be a strong predictor of PPD.

The data revealed that a significant majority of both depressed (80.6%) and non-depressed women (78.0%) possessed tertiary education, suggesting that higher education

levels do not safeguard against PPD. Meanwhile, the secondary education category accounted for 19.4% of those categorized as depressed and 20.3% of those not depressed, with very few respondents reporting only primary or no formal education.

The findings highlighted a concerning trend, revealing that 38.8% of depressed women were engaged in business, while a substantial 34.1% were unemployed. This indicates a possible correlation between unemployment and heightened depressive symptoms. Within the non-depressed group, 26.3% reported being unemployed, while 40.7% were involved in business ventures.

The data painted a relatively uniform picture: a striking 89.4% of both depressed and non-depressed women were married. This distribution suggests that marital status does not exhibit significant variability concerning PPD within this demographic, with low frequencies observed among single, divorced, and widowed respondents.

When considering parity, the data revealed that women with two children comprised 35.9% of those classified as depressed, while 30.0% had three children. Additionally, a notable 26.5% of depressed women reported having only one child, highlighting potential stressors associated with the challenges of early motherhood or the complexities of first-time parenting.

Turning to social support levels, the analysis uncovered that an overwhelming 95.8% of respondents reported high levels of family support. This trend held steady across both the depressed and non-depressed populations. However, a slightly higher proportion of women classified as depressed noted experiencing moderate or low family support, indicating a nuanced picture of emotional resilience.

In terms of support from friends, the findings showed that 20.0% of depressed women reported low support, while 20.2% experienced moderate support. Conversely, 59.9% of those categorized as depressed reported high levels of support from friends. In contrast, 90.4% of all respondents indicated high support from significant others, yet the depressed group was more frequently found within the lower support categories compared to their non-depressed counterparts.

Finally, when assessing overall social support, it was revealed that 81.2% of depressed women reported receiving high support, while 17.1% acknowledged having moderate support, and a mere 1.8% reported low support. In comparison, an even higher 87.3% of non-depressed women expressed having high levels of support.

These findings illuminate that while a considerable number of women benefit from strong support systems, those who experience lower or moderate levels of support, particularly in terms of friendships and significant relationships, are more likely to be diagnosed with depression. The analysis suggests that further multivariate examination is warranted to pinpoint the most predictive individual and contextual factors contributing to postpartum depression.

Table 13

Pearson Chi-Square Tests

		Binary_PHQ_9_Cat
Age2	Chi-square	1.487
	df	2
	Sig.	.475[a]
Q2. Education level	Chi-square	3.010
	df	3
	Sig.	.390[a,b]

Q3. Employment status	Chi-square			3.827
	df			3
	Sig.			.281
Q4. Marital status	Chi-square			1.984
	df			3
	Sig.			.576[a]
Q5. Number of children	Chi-square			6.010
	df			4
	Sig.			.198[a]
Family social support	Low	Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Chi-square	.750
			df	1
			Sig.	.386[a,b]
	Moderate	Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Chi-square	2.571
			df	1
			Sig.	.109[a]
	High	Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Chi-square	7.256
			df	1
			Sig.	.007*
Significant others	Low	Friends social support	Chi-square	.049
			df	1
			Sig.	.825[a]
	Moderate	Friends social support	Chi-square	2.237
			df	2
			Sig.	.327[a]
	High	Friends social support	Chi-square	.590
			df	2
			Sig.	.745
Overall social support	Chi-square			3.010
	df			2
	Sig.			.222[a]

Results are based on nonempty rows and columns in each innermost subtable.

*. The Chi-square statistic is significant at the .05 level.

a. More than 20% of cells in this subtable have expected cell counts less than 5. Chi-square results may be invalid.

b. The minimum expected cell count in this subtable is less than one. Chi-square results may be invalid.

Association Between Socio-demographics, Support Factors, and PPD

This study aimed to evaluate the statistical significance of the relationships between various sociodemographic variables, indicators of social support, and the presence of postpartum depression (PPD). To analyze these associations, Pearson's Chi-square tests were meticulously performed, with the findings detailed in Table 4.11.

Across the analyses, no statistically significant correlations emerged between key sociodemographic factors such as age group, educational attainment, employment status, marital relationship, or the number of children and the status of PPD, as evidenced by p-values consistently exceeding the .05 threshold ($p > .05$). For instance, the evaluation of age groups revealed no significant link to PPD ($\chi^2(2) = 1.487$, $p = .475$). Similarly, educational levels did not exhibit a significant association with depressive symptoms ($\chi^2(3) = 3.010$, $p = .390$), implying that these demographic characteristics did not effectively distinguish between women experiencing depression and those who were not.

In terms of social support, the overall measure did not demonstrate a significant association with depression status ($\chi^2(2) = 3.010$, $p = .222$), despite prior analyses indicating observable differences in descriptive proportions. Furthermore, the investigation into employment status in relation to PPD ($\chi^2(3) = 3.827$, $p = .281$) and

marital status concerning PPD ($\chi^2(3) = 1.984$, $p = .576$) also yielded non-significant results.

Nevertheless, a notable finding surfaced during the stratified analysis focusing on family social support. Among respondents who reported high levels of family support, a significant association was identified between prior knowledge of postpartum depression and PPD status ($\chi^2(1) = 7.256$, $p = .007$). This result suggests that awareness of PPD before childbirth was linked to a decreased likelihood of experiencing depression in those with strong family backing. This highlights the potential protective influence of both knowledge about PPD and robust family support networks.

Conversely, other stratified comparisons, including those examining low or moderate family support, as well as the dynamics between support from significant others and friends failed to yield statistically significant associations ($p > .05$). It is also important to note that several sub-analyses faced limitations, such as small, expected cell counts, which were duly noted in footnotes. These limitations raise questions about the validity of some chi-square assumptions, urging a cautious interpretation of the results.

RQ1

A Chi-square test was performed to examine the relationship between knowledge of PPD and reported depression levels among the surveyed participants.

Table 14

Crosstab Prior Knowledge of PPD and Depression

			Binary_PHQ_9_Cat		
			Minimal/none	Depressed	Total
Q11. Did you have any prior knowledge or awareness of postpartum depression before delivering your child?	Yes	Count	209	131	340
		% within Binary_PHQ_9_Cat	88.6%	77.1%	83.7%
	No	Count	27	39	66
		% within Binary_PHQ_9_Cat	11.4%	22.9%	16.3%
Total		Count	236	170	406
		% within Binary_PHQ_9_Cat	100.0%	100.0%	100.0%

A cross-tabulation was conducted to examine the relationship between prior knowledge or awareness of postpartum depression (PPD) and PPD status as measured by the PHQ-9. Among participants with no or minimal depressive symptoms, 88.6% (n = 209) reported having prior knowledge or awareness of PPD, while 11.4% (n = 27) reported no prior knowledge. Conversely, among those classified as depressed, 77.1% (n = 131) reported prior awareness of PPD, whereas 22.9% (n = 39) did not. Overall, 83.7% (n = 340) of the total sample had some prior awareness of PPD, while 16.3% (n = 66) did not.

These results suggest a potential protective relationship between awareness and reduced likelihood of postpartum depression. This descriptive trend indicates that higher prior awareness of PPD may be associated with lower prevalence of depressive symptoms. Further statistical testing (e.g., the Chi-square test) is needed to confirm whether this association is statistically significant.

Table 15

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	9.601[a]	1	.002	.003	.002	
Continuity Correction[b]	8.774	1	.003			
Likelihood Ratio	9.472	1	.002	.003	.002	
Fisher's Exact Test				.003	.002	
Linear-by-Linear Association	9.577[c]	1	.002	.003	.002	.001
N of Valid Cases	406					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.64.
b. Computed only for a 2x2 table
c. The standardized statistic is 3.095.

A Chi-square test of independence confirmed that this association was statistically significant, $\chi^2(1, N = 406) = 9.60$, $p = .002$. The results indicate that prior awareness of PPD was significantly associated with a lower prevalence of depressive symptoms in the postpartum period. This finding underscores the importance of prenatal mental health education and awareness campaigns, which may serve as protective factors against the development of PPD symptoms in postpartum women.

Because the p-value is less than 0.05, the null hypothesis (H0), which stated that there is no significant association between PPD knowledge and prevalence of PPD, is rejected. Thus, the alternative hypothesis (HA1) is supported: There is a significant association between knowledge of PPD and the likelihood of experiencing PPD symptoms.

Results indicate that there is a significant association ($p < 0.05$) between prior knowledge of PPD and the likelihood of experiencing PPD symptoms. Women who had prior knowledge of PPD were less likely to report moderate-to-severe PPD symptoms.

RQ2

Table 4.14

Table 16

UNDERSTANDABLE TABLE TITLE WITH GRAMMATICAL ENGLISH, CORRECT PUNCTUATION, AND SPACES BETWEEN WORDS

Crosstab

			Binary_PHQ_9_Cat		
			Minimal/none	Depressed	Total
Family social support	: Low	Count	2	1	3
		% within Binary_PHQ_9_Cat	0.8%	0.6%	0.7%
	Moderate	Count	7	7	14
		% within Binary_PHQ_9_Cat	3.0%	4.1%	3.4%
	High	Count	227	162	389
		% within Binary_PHQ_9_Cat	96.2%	95.3%	95.8%
Total		Count	236	170	406
		% within Binary_PHQ_9_Cat	100.0%	100.0%	100.0%

A cross-tabulation was performed to explore the relationship between the level of family social support and postpartum depression (PPD) status among participants. Among those with minimal or no depressive symptoms, 96.2% (n = 227) reported high family support, 3.0% (n = 7) reported moderate support, and 0.8% (n = 2) reported low support. Similarly, among the depressed participants, 95.3% (n = 162) had high support, 4.1% (n = 7) had moderate support, and 0.6% (n = 1) had low support.

Overall, the majority of the respondents (95.8%) experienced high levels of family support, with only a small proportion reporting moderate (3.4%) or low (0.7%) support.

This result suggests that, while high family support was commonly reported across both groups, it may not independently predict postpartum depression outcomes within this population.

To further evaluate the relationship between levels of family social support and postpartum depression (PPD) status, a Pearson Chi-Square test was conducted. The test revealed no statistically significant association, $\chi^2(2, N = 406) = 0.478$, $p = .787$. The Fisher's Exact Test also indicated a non-significant relationship, $p = .825$ (2-sided).

Additionally, the Linear-by-Linear Association was not significant, $\chi^2(1) = 0.064$, $p = .800$, indicating no linear trend across levels of family support in relation to PPD status.

It is important to note that 33.3% of the cells had expected counts less than 5, with the minimum expected count being 1.26, which may affect the validity of the chi-square test result.

These findings suggest that, despite a high proportion of respondents reporting high family support, there is no statistically significant association between the level of family social support and postpartum depression among the sample.

Overall, although most participants reported high family social support, there was no statistically significant relationship between support level and likelihood of postpartum depression in this sample.

Table 17

UNDERSTANDABLE TABLE TITLE WITH GRAMMATICAL ENGLISH, CORRECT PUNCTUATION, AND SPACES BETWEEN WORDS

Table of Crosstab

			Binary_PHQ_9_Cat		
			Minimal/none	Depressed	Total
Friends social support	Low	Count	40	41	81
		% within Binary_PHQ_9_Cat	16.9%	24.1%	20.0%
	Moderate	Count	49	33	82
		% within Binary_PHQ_9_Cat	20.8%	19.4%	20.2%
	High	Count	147	96	243
		% within Binary_PHQ_9_Cat	62.3%	56.5%	59.9%
Total		Count	236	170	406
		% within Binary_PHQ_9_Cat	100.0%	100.0%	100.0%

A cross-tabulation was performed to assess the relationship between friends' social support levels (low, moderate, high) and postpartum depression status, classified into "Minimal/none" and "Depressed" based on PHQ-9 scores. As presented in Table X, the majority of participants with both minimal/none (62.3%) and depressed (56.5%) status reported high support from friends. Meanwhile, low support was more commonly reported among depressed women (24.1%) compared to those with minimal symptoms (16.9%). Moderate support levels were similar across both groups (20.8% and 19.4%, respectively).

While these patterns suggest that higher friend support may be somewhat associated with reduced depressive symptoms, statistical significance should be confirmed through chi-square testing (see next table). However, descriptively, the data indicate that a larger proportion of those experiencing postpartum depression reported

lower levels of support from friends, compared to their counterparts with minimal or no depressive symptoms.

A Pearson chi-square test was conducted to evaluate the association between friends' social support levels (low, moderate, high) and binary postpartum depression status (Minimal/none vs. Depressed). The test revealed no statistically significant association between friends' social support and PPD status, $\chi^2(2, N = 406) = 3.19$, $p = .203$. This suggests that the observed differences in depression prevalence across varying levels of friend support may be due to chance.

Additionally, the Fisher's exact test yielded similar results (two-sided exact $p = .206$), and the linear-by-linear association was not significant, $\chi^2(1) = 2.60$, $p = .107$, indicating no clear trend in the data. All expected cell counts met assumptions, with none below 5.

In summary, although descriptively more depressed women reported low friend support, this relationship was not statistically significant, highlighting the need to consider additional variables or larger sample sizes for clearer insights.

Table 18

UNDERSTANDABLE TABLE TITLE WITH GRAMMATICAL ENGLISH, CORRECT PUNCTUATION, AND SPACES BETWEEN WORDS

			Binary_PHQ_9_Cat		
			Minimal/none	Depressed	Total
Significant others	Low	Count	5	12	17
		% within Binary_PHQ_9_Cat	2.1%	7.1%	4.2%
	Moderate	Count	12	10	22
		% within Binary_PHQ_9_Cat	5.1%	5.9%	5.4%

	High	Count	219	148	367
		% within Binary_PHQ_9_Cat	92.8%	87.1%	90.4%
Total		Count	236	170	406
		% within Binary_PHQ_9_Cat	100.0%	100.0%	100.0%

The table above displays the distribution of postpartum depression (PPD) status across different levels of support from significant others (low, moderate, high). Among participants with minimal or no depressive symptoms, 92.8% reported high support from significant others, compared to 87.1% of those who were depressed. Conversely, a higher proportion of depressed women (7.1%) reported low support compared to those with minimal/none depressive symptoms (2.1%).

These descriptive findings suggest that women with lower levels of support from significant others may be more likely to experience postpartum depression. However, to determine if these differences are statistically significant, reference to the associated chi-square test is required.

A chi-square test of independence was conducted to determine the association between the level of support from significant others and postpartum depression (PPD) status. The result was statistically significant, $\chi^2(2, N = 406) = 6.24$, $p = .044$ (Fisher's Exact $p = .047$), suggesting a significant relationship between the level of support from significant others and postpartum depression status.

The linear-by-linear association was also significant, $\chi^2(1) = 5.55$, $p = .019$, indicating a linear trend as support from significant others decreases, the likelihood of experiencing PPD increases.

These findings highlight the protective role of emotional and practical support from significant others in reducing the risk of postpartum depression among women.

A chi-square test of independence was conducted to examine the relationship between the level of support from significant others and postpartum depression (PPD) status among participants. The result was not statistically significant, $\chi^2(2, N = 406) = 4.441$, $p = .108$ (Fisher's Exact $p = .112$), indicating that the differences in depression status across levels of support from significant others were not significant at the .05 level.

Although the descriptive data suggested that women with lower support were more likely to be depressed, this association was not strong enough to reach statistical significance in this sample.

Table 19

UNDERSTANDABLE TABLE TITLE WITH GRAMMATICAL ENGLISH, CORRECT PUNCTUATION, AND SPACES BETWEEN WORDS

Crosstab

			Binary_PHQ_9_Cat		
			Minimal/none	Depressed	Total
Overall social support	Low	Count	2	3	5
		% within Binary_PHQ_9_Cat	0.8%	1.8%	1.2%
	Moderate	Count	28	29	57
		% within Binary_PHQ_9_Cat	11.9%	17.1%	14.0%
	High	Count	206	138	344
		% within Binary_PHQ_9_Cat	87.3%	81.2%	84.7%
Total		Count	236	170	406
		% within Binary_PHQ_9_Cat	100.0%	100.0%	100.0%

A cross-tabulation was conducted to examine the relationship between overall social support levels and the presence of postpartum depression. Among respondents with minimal or no depression, 87.3% reported high overall social support, while 11.9% had moderate support, and only 0.8% had low support. In contrast, among those categorized as depressed, 81.2% reported high support, 17.1% moderate, and 1.8% low support.

While the majority of women in both groups reported high support, a slightly higher proportion of those experiencing depression had moderate or low levels of overall social support. This suggests a possible inverse relationship between perceived social support and depressive symptoms, with lower support potentially linked to a higher risk of postpartum depression.

A Chi-Square test of independence was conducted to examine the association between levels of overall social support and postpartum depression status. The results indicated that the association was not statistically significant, $\chi^2(2, N = 406) = 3.01$, $p = .222$ (Fisher's Exact $p = .219$). The likelihood ratio test and linear-by-linear association were also not significant, with p values of .226 and .083, respectively.

These findings suggest that although there is a visible pattern in which lower levels of social support correspond to higher rates of postpartum depression, the differences were not statistically significant in this sample. Therefore, no conclusive evidence was found to support an association between overall social support and PPD in this context.

Summary of Findings

Chi-square tests were conducted to examine associations between different dimensions of social support—family, friends, significant others, and overall support—and postpartum depression (PPD) among women in Nnewi North LGA.

There was no statistically significant association between levels of family support and PPD status, $\chi^2(2, N = 406) = 0.48$, $p = .787$ (Fisher's Exact $p = .825$). This indicates that while most participants with both low and high support levels experienced minimal PPD symptoms, the variation across groups was not statistically meaningful.

The association between support from friends and PPD was also not statistically significant, $\chi^2(2, N = 406) = 3.19$, $p = .203$ (Fisher's Exact $p = .206$). Though a larger proportion of those with low support reported depressive symptoms, this did not reach statistical significance.

. A statistically significant relationship was found between support from significant others and PPD, $\chi^2(2, N = 406) = 6.24$, $p = .044$ (Fisher's Exact $p = .047$). Post-hoc trends showed that women with low or moderate support were more likely to report depressive symptoms, highlighting the protective role of strong support from significant others.

The association between overall social support and PPD was not statistically significant, $\chi^2(2, N = 406) = 3.01$, $p = .222$ (Fisher's Exact $p = .219$). Although women with high overall support reported fewer depressive symptoms, this trend was not statistically confirmed.

These findings emphasize the critical influence of support from significant others in reducing the likelihood of postpartum depression. While support from family and friends is undoubtedly valuable, it appears that the emotional and practical backing from significant partners plays a particularly pivotal role in postpartum mental health in this population.

In contrast, while the general trend suggests that higher social support correlates with lower rates of PPD, the lack of significant associations for family, friends, and overall support may be due to sample homogeneity (i.e., a majority reporting high support) or cultural/contextual buffering effects in collectivist settings.

This finding leads to a partial rejection of the null hypothesis and supports the alternative hypothesis that a significant association exists, particularly with support from significant others. The lack of significance in other domains suggests that the role of intimate or emotionally close relationships may be more crucial than broader family or social circles in mitigating PPD risk in this context.

Implications of Findings

The results underscore the importance of strengthening emotional and intimate support systems for postpartum women, especially involving partners or individuals the women consider as significant others. Culturally tailored interventions that enhance spousal involvement and couple-based counseling could be instrumental in lowering the risk of postpartum depression in Anambra and similar settings (see Figure 3).

Figure 3

Association Between Knowledge of PPD and Depression Status

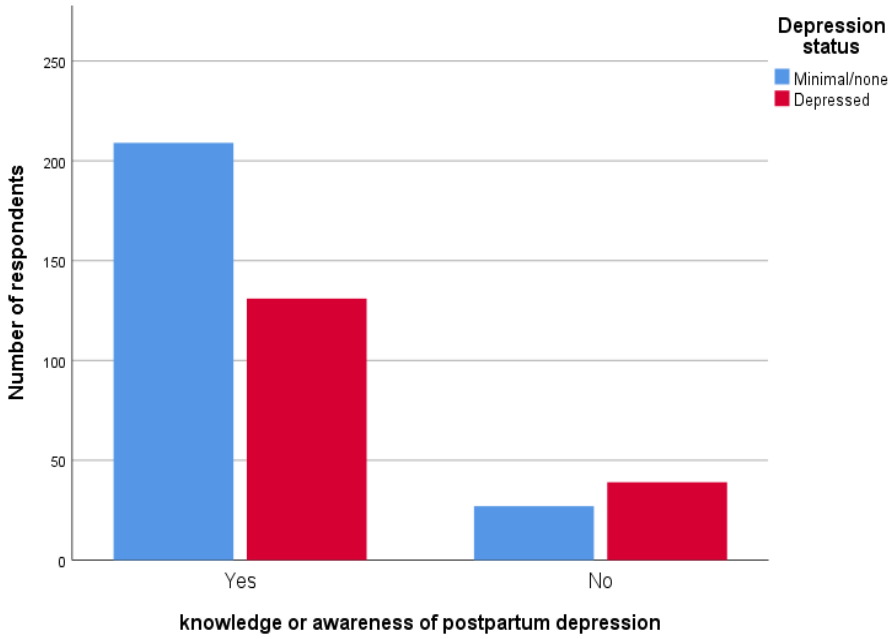


Figure 1 illustrates the relationship between awareness of postpartum depression (PPD) and depression status. Women who were informed about PPD before delivery exhibited a greater proportion of minimal or no depression. In contrast, those lacking prior knowledge showed a significantly higher rate of depression.

Figure 4

Distribution of PHQ-I Scores by PPD Knowledge

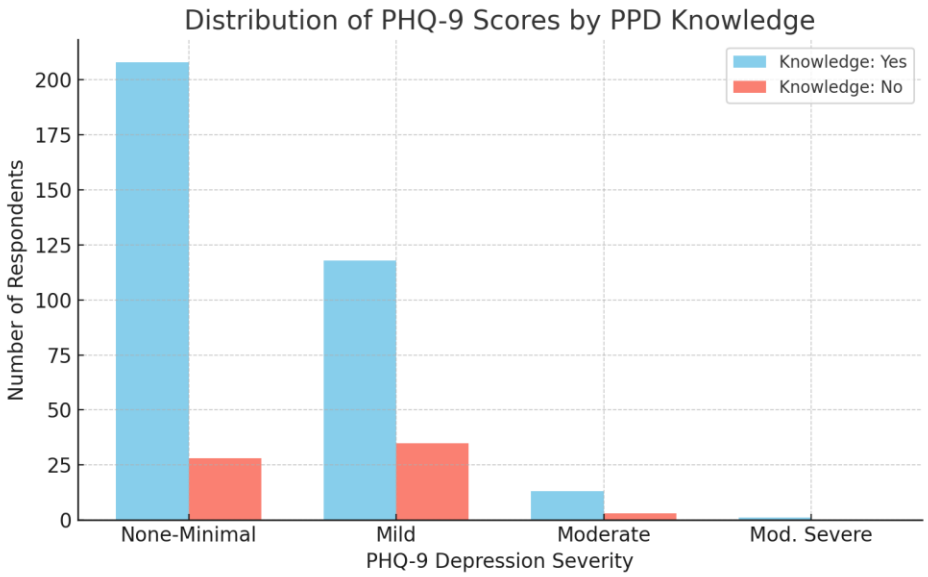
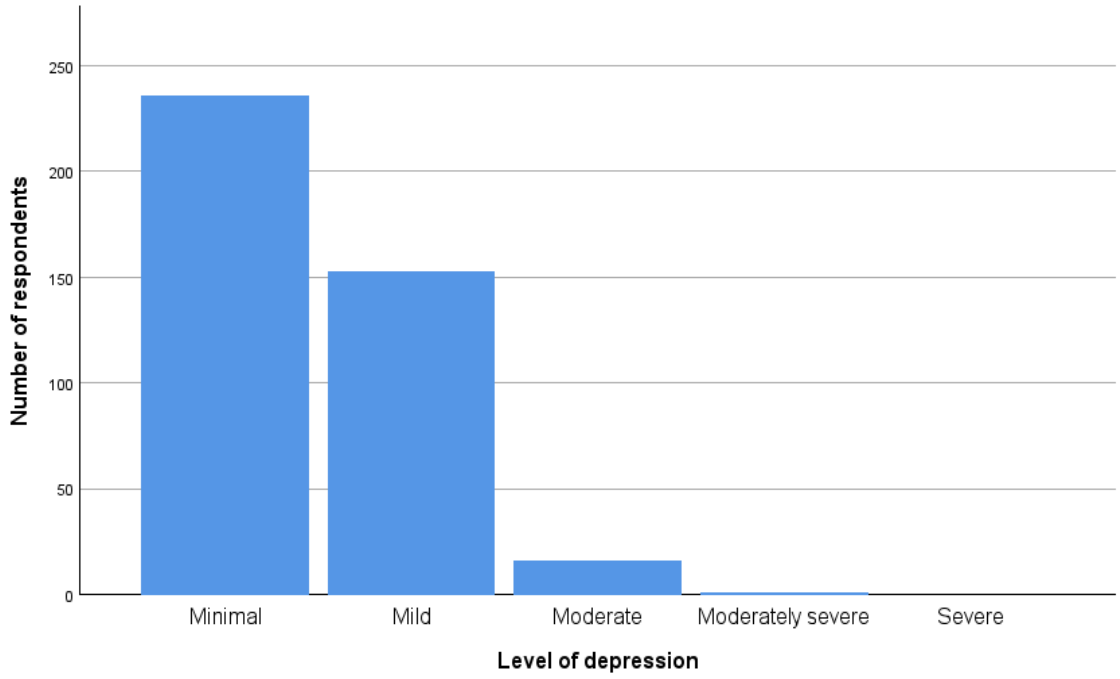


Figure 2 illustrates the distribution of PHQ-9 scores categorized by knowledge of postpartum depression (PPD). This visual representation effectively compares the severity levels of depression, identified by the various PHQ-9 categories, between respondents who possessed prior knowledge of PPD and those who were unaware. By doing so, it sheds light on the correlation between awareness of PPD and the occurrence of depressive symptoms. Notably, respondents with a solid understanding of postpartum depression tended to report significantly fewer instances of moderate and moderately severe depressive symptoms. This observation underscores the potential protective impact that knowledge and awareness of PPD can have on individuals, suggesting that increased education about the condition may play a crucial role in mitigating the severity of depressive experiences.

Figure 5



The prevalence of postpartum depression (PPD), as shown in Figure 3, was explored through the use of the Patient Health Questionnaire-9 (PHQ-9), a widely recognized tool for measuring depressive symptoms. Among the 406 individuals surveyed, the mean PHQ-9 score was 3.92 with a standard deviation of 3.04. This score reflects a relatively low average level of depressive symptoms within the sample, suggesting that most participants were experiencing few emotional difficulties in the postpartum period. A significant portion of the respondents, specifically 58.1% (n = 236), reported experiencing none to minimal depressive symptoms, indicating a stable emotional state. In contrast, 37.7% (n = 153) acknowledged the presence of mild depressive symptoms, hinting at the challenges some new parents face during this

vulnerable time. Overall, this data provides valuable insight into the mental health landscape of postpartum individuals within this study.

Figure 6

Level of Support from Significant Others

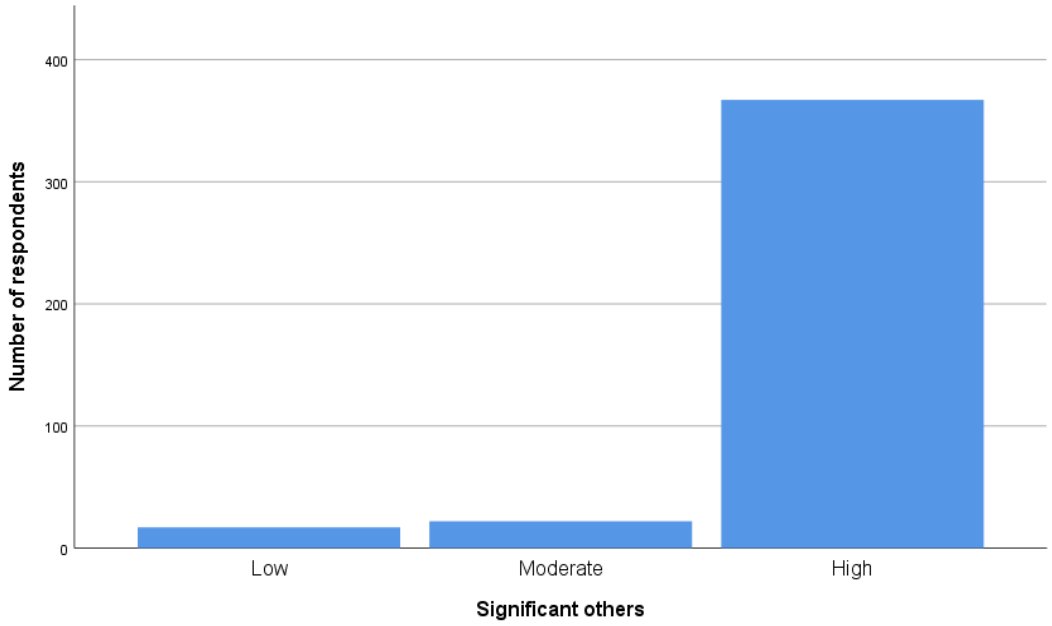


Figure 7

Level of Support from Friends

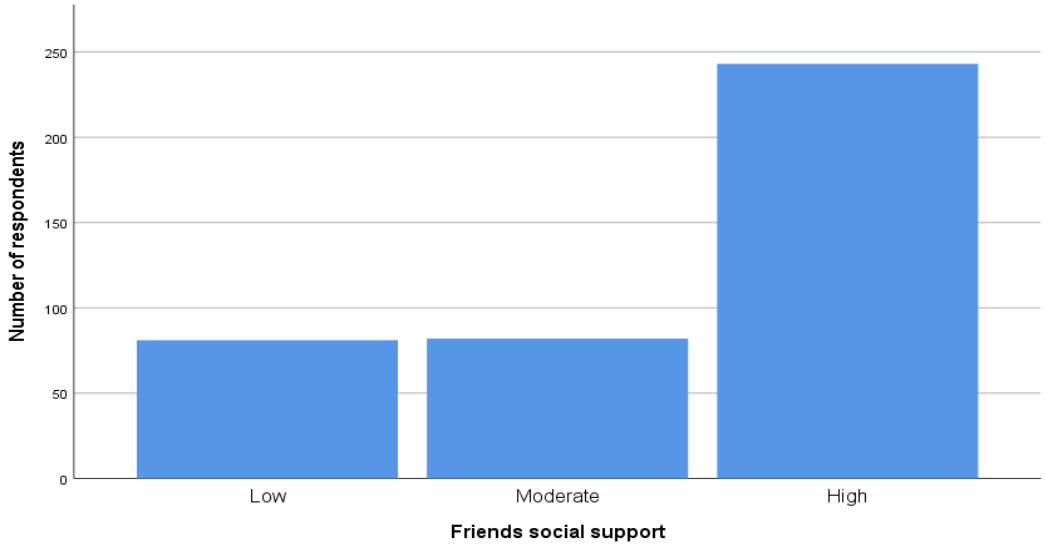


Figure 4b

Level of Support from Friends - Mean MSPSS Scores Across Levels of PPD.

Figure 8

NEW TITLE OF FIGURE 8 THAT IS DIFFERENT FROM FIGURE 7

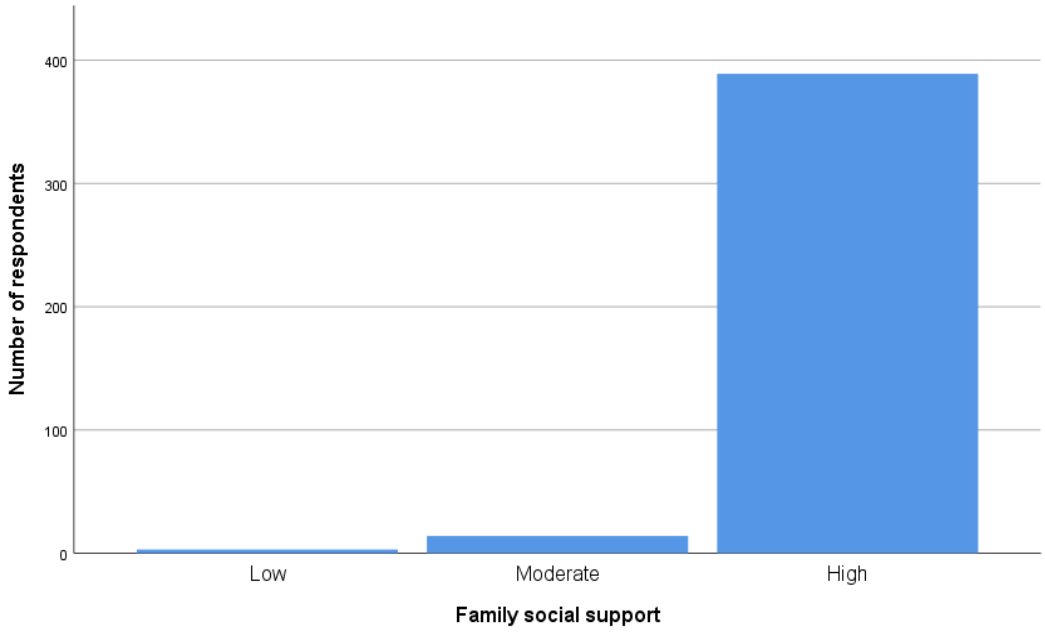


Figure 4c

Level of support from family- Mean MSPSS Scores Across Different Levels of PPD.

Figure 9

Level of Overall Social Support Received by Respondents

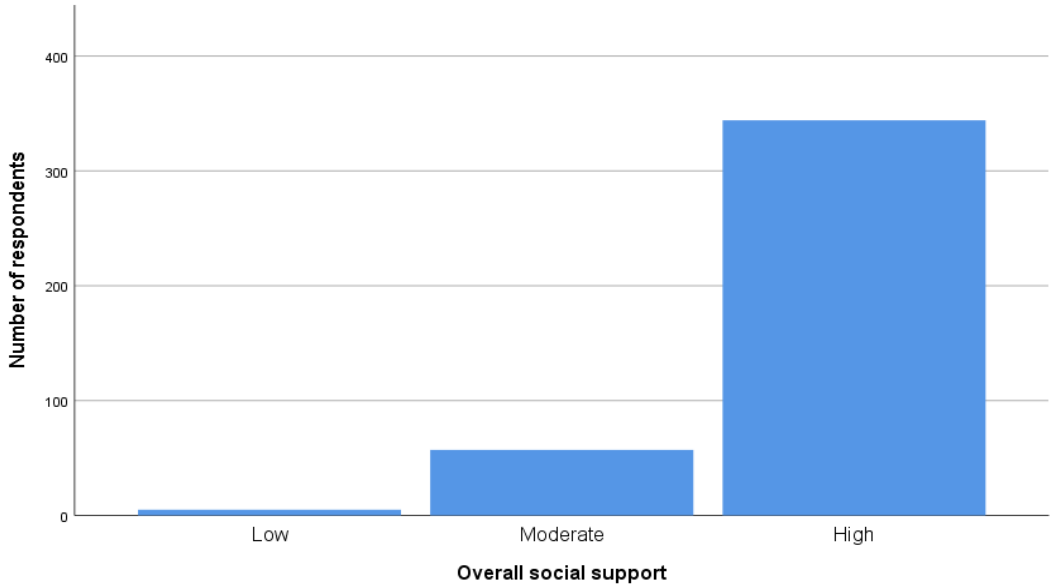


Figure 4a-d above shows the individual level of Social Support received by respondents. Figure 4a presents the distribution of respondents according to the level of significant others' social support received concerning postpartum depression. The majority of the respondents (n = 367; 90.4%) reported receiving a high level of social support from significant others. A smaller proportion received moderate (n = 22; 5.4%) and low (n = 17; 4.2%) levels of support, respectively.

Figure 4b shows the distribution of respondents based on the level of friends' social support. A majority of respondents (n = 243; 59.9%) reported a high level of social support from friends. Meanwhile, 82 respondents (20.2%) reported receiving moderate support, while 81 (20.0%) experienced low levels of social support from friends.

Figure 4c illustrates the level of family social support received by the respondents. An overwhelming majority (n = 389; 95.8%) reported high family support.

Only 14 respondents (3.4%) received moderate family support, and a very small number (n = 3; 0.7%) experienced low family social support.

Finally, Figure 4d reflects the overall social support perceived by the respondents. Most of the participants (n = 344; 84.7%) reported a high level of overall social support. Moderate levels of support were reported by 57 respondents (14.0%), while only 5 (1.2%) experienced low overall social support.

Conclusion

This chapter delineates the findings of the study, which are grounded in comprehensive statistical analyses and the insights gathered from participant responses. The results highlight that knowledge of postpartum depression (PPD) and the perceived level of social support play crucial roles in influencing the prevalence of PPD among postpartum women in Eastern Nigeria. In Chapter 5, we will delve deeper into the implications of these findings, elaborating on their significance and offering targeted recommendations for policymakers, healthcare practitioners, and community health initiatives aimed at mitigating the incidence of postpartum depression. Furthermore, we will critically examine the limitations of the study and outline potential directions for future research, paving the way for a more nuanced understanding of this pressing issue.

Chapter 5: Discussion, Conclusions, and Recommendations

This chapter examines the findings of a study on postpartum depression (PPD) among women residing in the Nnewi North Local Government Area of Anambra State, Nigeria. The study aimed to shed light on the prevalence of PPD and the degree of social support and awareness that these women had at a critical juncture in their lives. The goal of the study was to determine how the different interpersonal, community, and social forces at work affect the mental health of postpartum women.

Clarifying the crucial impact that social support plays in reducing PPD symptoms and evaluating the region's women's knowledge and comprehension of the disorder were two of the main goals of this study. Given the increasing awareness of maternal mental health concerns and the concerning consequences that untreated PPD can have on women, their families, and the larger community, this investigation is especially important. Postpartum depression can have a lasting negative impact on a family's health and harmony if it is not treated, so this study is not only relevant but also crucial for well-informed support and intervention plans (Alfayumi-Zeadna et al., 2022; Bánovčinová & Škodová, 2022; Leonard et al., 2020a; Oladeji et al., 2023; Wake et al., 2022; Y. Wang et al., 2023a). Three theoretical frameworks were used in the study: the Socioecological Model, the Health Belief Model (HBM), and the Social Support Theory. Contextualizing the various elements that affect postpartum depression (PPD) was made possible, in large part, thanks to these frameworks (Cohen & Wills, 1985; Feth (Kalyn), 2017; Grissette et al., 2018; C. L. Jones et al., 2015).

The conversation is carefully organized to provide a comprehensive analysis of the study's results, situating them within the broader context of the existing literature. This method clarifies the consequences for public health procedures and identifies important topics for additional study and possible policy improvements. The recommendations that are made in light of these findings are intended to improve community support networks and maternal mental health care in Nnewi North Local Government Area and similar settings.

Overview of Key Findings

The findings of the study illuminated a significant and alarming prevalence of postpartum depression (PPD) among the participants, bringing attention to a critical mental health issue that often remains cloaked in silence. A significant 41.9% of respondents indicated experiencing depressive symptoms of post-childbirth, underscoring the challenges encountered by many new mothers during this transitional phase.

Remarkably, a substantial majority, encompassing 83.7% of the women surveyed, exhibited a commendable awareness of postpartum depression. These women identified healthcare providers as their foremost source of information and support, underscoring the pivotal role medical professionals play in addressing this condition.

Moreover, the level of social support reported by the respondents was notably high, with many indicating robust encouragement and assistance from family, friends, and significant others. This supportive network is crucial, yet it is essential to recognize that the statistics depict significant disparities across various geographical regions. Such variations suggest that local cultural and systemic factors heavily influence both the

understanding of, and the experiences related to postpartum depression. For instance, while Singapore reported a prevalence rate as low as 3%, other countries presented starkly different figures: 8% in the Netherlands, 11% in Switzerland, 32% in Vietnam, 38% in Chile, and a concerning 44% in South Africa (Fish-Williamson & Hahn-Holbrook, 2023; Y. Wang et al., 2023a).

There were notable associations between knowledge of PPD and reduced prevalence of depression, as well as between high levels of support from significant others and lower rates of PPD. These findings support the importance of knowledge and emotional support as key protective factors against postpartum depression. This agrees with other literature that knowledge of PPD by the women and the healthcare provider is crucial in the diagnosis and prevention of PPD (Adelodun et al., 2021; Gbadamosi et al., 2022; Gureje et al., 2021; Saharoy et al., 2023; A. O. Soyemi et al., 2022; Y. Wang et al., 2023a).

According to the PHQ-9 scale, a considerable percentage of mothers in the study area had mild to moderate depressive symptoms, indicating a noteworthy prevalence of postpartum depression.

Most respondents (83.7%) said they had previously heard about PPD, mostly via healthcare providers (93.2%), underscoring the vital role that medical professionals play in spreading knowledge.

Factors linked to PPD include Potential factors linked to PPD were investigated, including age, education, employment status, marital status, number of children, and

social support levels. Significantly, reduced rates of PPD were linked to higher levels of social support, particularly from friends and significant others.

There was a high prevalence of social support, particularly from family members (95.8%) and significant others (90.4%). However, there was a noticeable paucity of societal interventions and community-level support, suggesting a deficiency in more extensive systemic support.

Although a large number of women reported talking to healthcare professionals about their mental health, others pointed out obstacles such as societal norms and the stigma attached to mental health conditions.

According to the study, women who were working and had completed postsecondary education had a lower likelihood of experiencing PPD. Conversely, a higher susceptibility to PPD was linked to reduced unemployment and educational attainment.

The next sections will offer suggestions for better maternal mental health care and support networks after critically evaluating these findings in the context of the body of current literature.

Interpretation of Findings Through Theoretical Lenses

SST

According to the Social Support Theory, social ties act as a protective barrier against stress and mental health issues. This notion is well supported by the results in this study, especially the protective function of emotional support from significant others. There was a significant decrease in the likelihood of depressed symptoms among

respondents who reported high support. This confirms earlier research that has repeatedly demonstrated the importance of emotional support from friends, family, and spouses in reducing postpartum depression (Cohen & Wills, 1985; Laquidara & Lincoln, 2024; Leahy-Warren et al., 2012).

HBM

According to the Health Belief Model, people's beliefs of vulnerability, severity, advantages, and obstacles all affect how ready they are to take action. According to this study, women who already knew about PPD were more likely to recognize symptoms early and get treatment, which decreased their risk of developing severe depression. By showing that more awareness encourages protective health behaviors, this supports the HBM (Alyafei & Easton-Carr, 2025; Feth (Kalyn), 2017; C. L. Jones et al., 2015; Rosenstock, 1974).

SEM

Individual, interpersonal, community, and societal levels of impact are all included in the Socioecological Model's framework for health behavior. High interpersonal support was reported in this study, but little social and communal support. Just 1% of women reported having access to mental health care, and just 2% used community resources. This disparity highlights the need for interventions at all model levels and exposes Nigeria's dearth of formal support networks for mental health (Acheampong & Siiba, 2018; Ajayi et al., 2023; Essiet et al., 2017; McLeroy et al., 1988).

Implications of the Findings

The study's findings have important policy, community, and individual implications. Focused interventions are desperately needed because PPD is very prevalent among postpartum women in Nnewi North LGA. Since the prevalence of depression and PPD awareness are directly correlated, public health efforts should focus on educating women of reproductive age about mental health.

Support from significant people and loved ones was a protective factor against PPD. This emphasizes how crucial it is to include family-centered therapies in maternal health programs. As demonstrated by the low use of mental health services and the lack of awareness of current support groups, stronger health systems that are more inclusive of mental health are also needed.

Healthcare providers, especially those in primary care, must be able to screen for, identify, and treat PPD early. Culturally appropriate approaches are essential to reducing stigma and promoting help-seeking behavior.

Interpretation of the Findings

Confirmation, Disconfirmation, and Extension of Knowledge

In many respects, the results of this study on postpartum depression (PPD) in women in Nnewi North LGA, Anambra State, Nigeria, complement and add to the body of knowledge already in existence. The study's objectives were to determine the prevalence of PPD, investigate risk variables, and comprehend how social support can lessen its effects.

Confirming Existing Knowledge

Several of the study's findings align with previous research, confirming the well-documented association between social support and PPD. For example, the study revealed that high levels of family and significant other support were significantly associated with lower rates of PPD. This aligns with existing literature indicating that social support from partners and family members is a critical protective factor against PPD (Adelodun et al., 2021; Gbadamosi et al., 2022; Gureje et al., 2021; Milgrom et al., 2019; Saharoy et al., 2023; A. O. Soyemi et al., 2022; Thongsomboon et al., 2020; Tuksanawes et al., 2020). Similarly, the higher prevalence of PPD among younger mothers observed in this study corroborates findings from studies by Adeyemo et al. (2020) and Bakshi et al. (2024), which also reported a heightened risk of PPD in younger age groups (Adeyemo et al., 2020a; Bakshi, 2024).

Disconfirming or Diverging Findings

One area where the findings diverge from existing literature is in the relationship between educational level and PPD. While some studies, Tsai et al, 2023, and Kuklová et al, 2024, have reported that lower educational attainment increases the risk of PPD, the current study found no statistically significant association between education level and PPD prevalence (Kuklová et al., 2024; Tsai et al., 2023). This disparity may reflect the unique socio-cultural context of Nnewi North LGA, where communal support systems might mitigate the educational impact.

Extending Knowledge

The study contributes to the literature by examining the specific role of community and societal-level factors in PPD, which has been relatively underexplored in previous Nigerian studies. The finding that community support structures were largely absent highlights the need for targeted public health interventions, a gap previously noted but not empirically demonstrated in the local context (Adelodun et al., 2021; Chinedu James Ezeh et al., 2024; A. O. Soyemi et al., 2022).

Interpretation in the Context of the Theoretical Framework

The findings can be interpreted within the study's theoretical framework, which included the Social Support Theory, the Health Belief Model (HBM), and the Socioecological Model. The Social Support Theory posits that emotional, informational, and instrumental support buffers against stress. The study's results confirmed this, as women who reported high support levels were significantly less likely to experience PPD. This finding underscores the theory's relevance in understanding PPD within familial and communal contexts.

The HBM emphasizes perceived susceptibility and barriers to help-seeking. The lack of awareness about PPD among some respondents highlights a critical gap in perception, consistent with the HBM's assertion that low perceived threat can reduce proactive health behavior (Alyafei & Easton-Carr, 2025; Glanz et al., 2008, 2015). The Socioecological Model, which considers individual, relational, community, and societal factors, also aligns with the study's findings. While individual factors such as age and support were significant, community and societal-level supports were notably absent,

emphasizing the model's assertion that interventions must be multi-tiered to be effective (Acheampong & Siiba, 2018; Essiet et al., 2017).

Strengths and Limitations of the Study

Strengths

These included a high response rate, and a robust sampling method ensures representativeness, multidimensional analysis using three theoretical models adds depth to the findings, and community-based design allows for real-world applicability.

Limitations

These included the cross-sectional design, which limits causal interpretations; social desirability bias, which may have affected responses on mental health and support systems; and generalizability limited to similar sociocultural settings in Nigeria.

Despite the robust methodological approach employed in this study, some limitations to trustworthiness inevitably arose. These limitations may affect the interpretation and generalization of the findings.

The study was conducted within a specific geographic and cultural context—Nnewi North LGA, Anambra State, Nigeria. Therefore, the findings may not be entirely transferable to other populations or settings with different socio-cultural dynamics.

The data were collected using self-reported questionnaires, which are susceptible to social desirability bias. Participants might have underreported or overreported their symptoms or social support due to stigma or social norms regarding postpartum depression (PPD).

The study's cross-sectional nature precludes establishing causality between social support, awareness, and the prevalence of PPD. Longitudinal studies would be necessary to establish temporal relationships.

While validated tools (e.g., PHQ-9) were employed, there remains a possibility of measurement bias due to cultural interpretations of mental health symptoms.

Since the study required participants to recall their postpartum experiences, there is a potential for recall bias, particularly regarding emotional and social support experiences.

Addressing these limitations transparently enhances the credibility of the study and acknowledges potential areas where future research can improve upon the current findings.

Contributions to Existing Knowledge

This study offers one of the few comprehensive, community-centered assessments of the prevalence of postpartum depression (PPD), as well as the awareness and existing support systems within Eastern Nigeria, with a particular emphasis on the Nnewi North Local Government Area. By delving deep into this specific region, it sheds light on the unique challenges and needs of the community.

The research employs a robust integration of Social Support Theory, the Health Belief Model, and the Socioecological Model, creating a nuanced and multifaceted framework for analyzing the intricacies of PPD. This innovative, layered approach is rarely seen in studies emerging from low- and middle-income countries, making it a significant contribution to the field.

This study provides critical empirical data that illuminates how various forms and levels of social support affect the prevalence of postpartum depression within an African context. It reveals the complex interplay between social dynamics and mental health outcomes, thereby enriching our understanding of PPD's impact on new mothers in the region.

The findings underscore significant gaps in the availability of maternal mental health services, as well as the potential strategies for integrating these essential services into current healthcare frameworks. By aligning with global initiatives calling for enhanced maternal mental health care, this research aims to inform policymakers and healthcare providers about effective interventions that could greatly benefit mothers in need.

Policy Recommendations

The Nigerian government should integrate comprehensive mental health education and postpartum depression (PPD) screening into the essential guidelines for antenatal and postnatal care. This initiative is crucial for fostering the well-being of mothers and their infants.

It is imperative to equip healthcare providers with specialized training focused on the detection of postpartum depression and effective referral systems. This training must emphasize culturally sensitive communication techniques to ensure that the needs and feelings of new mothers are understood and addressed appropriately.

To challenge prevailing stigmas associated with mental health, it is vital to engage community leaders and religious institutions actively. Their involvement can create a

supportive environment that encourages open discussions about mental health, helping to validate the experiences of new mothers and reduce feelings of isolation.

Establishing local peer support groups is essential for fostering emotional and social reinforcement for women navigating the postpartum period. These groups, built on shared experiences, can provide a compassionate space for mothers to express their feelings, share coping strategies, and receive encouragement from others who understand their journey.

The Nigerian government should integrate a robust framework of comprehensive mental health education and proactive postpartum depression (PPD) screening into the essential guidelines for antenatal and postnatal care. This vital initiative is instrumental in nurturing the well-being of mothers and their infants, laying a foundation for healthier family dynamics and a supportive community.

It is essential to equip healthcare providers with specialized training that focuses not only on identifying postpartum depression but also on the establishment of effective referral systems for further support. This training should prioritize culturally sensitive communication techniques, ensuring that the unique needs and emotional experiences of new mothers are not just acknowledged but deeply understood, fostering trust and support in the maternal healthcare setting.

To combat the entrenched stigmas that often surround mental health, it is crucial to actively involve community leaders and religious institutions in this initiative. Their engagement can pave the way for a supportive and inclusive environment that encourages open and honest discussions about mental health. By validating the experiences of new

mothers, this grassroots approach can significantly help reduce feelings of isolation and create a communal support network that champions mental well-being.

Establishing local peer support groups is vital for providing emotional and social reinforcement to women navigating the often-challenging postpartum period. These groups, rooted in shared experiences, can serve as compassionate havens where mothers can freely express their emotions, exchange practical coping strategies, and receive encouragement from others who truly understand their journeys. This collective empowerment can enhance resilience and foster connections among mothers.

To better inform policy and practice, conducting longitudinal studies that span various regions in Nigeria and the broader Sub-Saharan African context is necessary. Such research should aim to evaluate long-term trends and causal relationships in maternal mental health, enabling a deeper understanding of the challenges new mothers face and guiding future interventions.

Recommendations for Further Research

Based on the findings of this study and the literature reviewed in Chapter 2, several critical areas warrant further investigation to deepen our understanding of postpartum depression (PPD) and enhance interventions, particularly in the context of Nnewi North LGA and similar regions. The following recommendations aim to guide future research while thoughtfully considering the scope and boundaries of this study:

Future research should prioritize longitudinal studies that track fluctuations in postpartum depression prevalence and its intricate relationship with social support over extended periods. This approach will yield comprehensive insights into causal

relationships and the long-term efficacy of various support interventions. By employing a well-defined time frame and consistent metrics, researchers can better understand how changes in social support networks over time may correlate with variations in PPD symptoms.

Conducting experimental studies that evaluate the impact of targeted social support programs specifically designed to alleviate PPD symptoms would be immensely valuable. Such investigations should explore diverse models of social support, including structured peer support groups, family counseling sessions, and community-based initiatives, assessing their effectiveness across various socio-demographic groups. By utilizing standardized outcomes and control groups, this research can rigorously assess which interventions yield the most significant improvements in maternal mental health.

While quantitative data offers meaningful insights, qualitative research can provide deeper, richer perspectives on how cultural beliefs shape perceptions and management of PPD. Ethnographic studies, in-depth interviews, and focus groups can uncover the nuanced ways in which traditional practices and societal expectations influence the experiences of new mothers. Understanding these cultural dynamics will enable healthcare providers to develop culturally sensitive and appropriate interventions.

To gain a broader perspective on the factors influencing PPD, conducting comparative studies between Nnewi North LGA and other regions in Nigeria, or similar socio-economic contexts, is essential. Such research can identify both unique and common determinants of PPD, thus informing public health strategies that are more tailored to the specific needs and challenges of different populations. This comparative

approach could shed light on regional disparities and help allocate resources more effectively.

While this study primarily focused on social support, future research should expand its scope to include other potential determinants of PPD, such as socioeconomic status, marital quality, and access to healthcare services. By integrating these factors into research designs, we can develop a more holistic understanding of the multifaceted influences on PPD. A richer set of data would inform comprehensive intervention programs that address not only mental health but also underlying socio-economic issues.

Further research should evaluate the impacts of recent maternal mental health policies on both the prevalence of PPD and the behaviors of women seeking help. Understanding the practical effects of these policies will provide invaluable insights for policymakers and stakeholders, ensuring that maternal mental health initiatives are evidence-based and effectively address the real needs of mothers experiencing PPD.

Additionally, further research is needed to explore the specific contribution of Caesarean section (C-section) to postpartum depression (PPD) in Nnewi North LGA. Although C-sections are often life-saving procedures, they have been linked to an increased risk of PPD due to the physiological, psychological, and social stressors they impose on new mothers (Adeyemo et al., 2020; Grisbrook et al., 2022; Osaro et al., n.d.). These stressors include prolonged physical pain and recovery, loss of the expected birth experience, impaired early mother-infant bonding, and cultural or social expectations that may stigmatize surgical delivery (Adeyemo et al., 2020; Doke et al., 2021; Grisbrook et al., 2022; Lin et al., 2022; Mohammed-Durosinlorun et al., 2022).(Doke et al., 2021; Lin

et al., 2022; Mohammed-Durosinlorun et al., 2022). Nationally, the prevalence of C-sections in Nigeria is approximately 3%, which is below the World Health Organization's recommended range of 10–15%, indicating a possible unmet need for essential obstetric care. However, in the Southeast geopolitical zone where Anambra State is located the prevalence is higher, at around 5.8%. Understanding the link between C-section and PPD in this context is essential for designing appropriate public health responses. Findings from such research can inform context-specific, community-based interventions in Nnewi North LGA, including antenatal and postnatal mental health screening, targeted health education and counseling, the establishment of support groups for post-Caesarean mothers, postpartum home visits, family involvement initiatives, and the strengthening of mental health services within the health system. By implementing these multi-layered strategies, the burden of PPD associated with C-sections can be significantly reduced, ultimately improving maternal and infant health outcomes in the region.

In conclusion, broadening the scope of research while remaining aligned with the foundational findings of this study can significantly enhance our understanding of postpartum depression. The recommendations outlined here provide a strategic roadmap for future research endeavors, ensuring they build upon established knowledge while remaining contextually relevant and responsive to the needs of mothers and families.

The findings of this study on postpartum depression (PPD) among women in Nnewi North LGA, Anambra State, Nigeria, carry profound implications for fostering positive social change across multiple levels. These implications are elaborated as follows, ensuring alignment with the study’s defined boundaries.

The study underscores the urgent necessity for heightened awareness and comprehensive education regarding postpartum depression among women, particularly those within their reproductive years. By gaining a deeper understanding of the symptoms, causative factors, and potential consequences of PPD, women can empower themselves to seek timely assistance and better manage their mental health. Implementing targeted educational campaigns can play a crucial role in dismantling the stigma surrounding PPD, thereby promoting early detection and enhancing the overall mental well-being of those affected.

The findings reveal that robust family support systems significantly influence the outcomes associated with PPD. Interventions designed to strengthen family dynamics and foster supportive environments can effectively alleviate the adverse effects of postpartum depression. Educating family members about the nuances of PPD can cultivate an atmosphere of empathy, compassion, and proactive engagement, which is vital for the emotional recovery of the affected woman. Promoting open dialogues within families regarding mental health can also diminish feelings of isolation, enabling better coping strategies and heightened resilience within family units.

Healthcare organizations, particularly those focused on maternal and child health, stand to gain substantially by incorporating mental health screenings into standard postpartum care protocols. Training healthcare professionals to recognize and respond to signs of PPD can lead to improved health outcomes for women during the postpartum period. Additionally, the development of family-centered care models within hospitals and clinics can facilitate the active involvement of partners and close relatives in the

treatment journey. Such models can strengthen the support network necessary for addressing mental health challenges effectively.

At the societal level, public health policies need to prioritize maternal mental health as a critical component of healthcare agendas. Strategies that promote the integration of PPD screening into primary healthcare services, particularly in rural and semi-urban locales, can significantly enhance early identification and intervention efforts. Advocacy for government-funded mental health support services, alongside the establishment of community-based programs, can broaden access to essential PPD care. Furthermore, the implementation of culturally sensitive interventions that resonate with local customs and beliefs can bolster acceptance and effectiveness, thus ensuring that care is both relevant and impactful.

The potential for meaningful social change emerging from this study lies in addressing existing knowledge gaps, enhancing family support mechanisms, improving healthcare delivery systems, and shaping public policy. By concentrating on these critical areas, stakeholders can play a pivotal role in alleviating the burden of postpartum depression and fostering the overall well-being of mothers and their families.

Conclusion

This comprehensive study has uncovered vital insights into the dynamics of PPD among women residing in Nnewi North LGA, Anambra State, Nigeria. It highlights not only the prevalence of this mental health challenge but also the myriad associated factors and the pivotal role that social support plays in alleviating its impact. Utilizing a robust quantitative method approach rooted in established frameworks such as the Social

Support Theory, Health Belief Model (HBM), and Socioecological Model, the research illuminates how elements like knowledge, varying levels of social support, and demographic characteristics influence both the prevalence and severity of PPD.

A significant number of women experience symptoms of postpartum depression. However, it is evident that robust social support, specifically from family members and other significant individuals, serves as a vital buffer, helping to diminish the severity of depressive symptoms. Moreover, the study uncovers critical gaps in both awareness and accessibility of mental health services, emphasizing an urgent need for targeted interventions and policies aimed at enhancing social support systems and promoting mental health literacy within the community.

By bolstering social support networks and fostering a deeper understanding of postpartum depression, we can substantially reduce the burden of this condition. It is essential for health practitioners, community leaders, and policymakers to prioritize the creation of supportive environments and to raise awareness about PPD. Such efforts can empower mothers and their families, ultimately contributing to the overall well-being of the community and fostering healthier generations to come.

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Appendix A: Consent Form

You are invited to take part in a research study about the role of knowledge and perceived social support in causing depression after a woman has given birth to her baby, up to 12 months after the delivery. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study seeks 300 to 500 volunteers who are:

- Within 12 months after delivery from the study period
- Who do not have a mental or psychiatric problem

This study is being conducted by a researcher named _Raphael Folorunsho, who is a _doctoral student at Walden University.

Study Purpose:
The purpose of this study is to find out the factors that affect the prevalence of PPD and the effect that knowledge and perceived support have on reducing the prevalence of PPD in pregnant women in Eastern Nigeria.

Procedures:
This study will involve you completing the following steps:

- Complete a questionnaire Survey (30 minutes)

Here are some sample questions:

- Individual Level: age, education level, employment status, marital status, number of children, knowledge of PPD, and mental health.
- Interpersonal Level: Was any support obtained during the postpartum period? Were clinic workers or family helpful?
- Community Level: How do people in your community view mental health, and are there groups that provide health for it in the community? etc.

Voluntary Nature of the Study:
Research should only be done with those who freely volunteer. So, everyone involved will respect your decision to join or not.
If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this study could involve some risk of minor discomforts that can be encountered in daily life, such as sharing sensitive information. With the protections in place, this study would pose minimal risk to your well-being. However, in case you are disturbed by the memory of what you went through, you could contact this number for immediate emotional support (+2347042118631).

This study offers no direct benefits to individual volunteers. This study is for academic purposes in partial fulfillment of the acquisition of a doctorate, not for personal, profit, or political purposes. This study aims to benefit society by disseminating the findings to the government authorities, and NGOs who will be encouraged to support the move to find ways to spread the knowledge and increase communal support and family support base for women, which will help in reducing PPD in the community and the region at last. Once the analysis is complete, the researcher will share the overall results by emailing you a summary.

Payment:
There is no monetary involvement in this study, however verbal or written appreciation will be sent to the participants at the end of the study

Privacy:
The researcher is required to protect your privacy. Your identity will be kept anonymous, within the limits of the law. The researcher will not ask for your name at any time or link your responses to your contact info.". The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. If the researcher were to share this dataset with another researcher in the future, the dataset would contain no identifiers, so this would not involve another round of obtaining informed consent. Data will be kept secure by the use of codes in place of names. Data will be kept for at least 5 years, as required by the university.

Contacts and Questions:
You can ask questions of the researcher by using this email: effolorunsho2005@yahoo.com.If you want to talk privately about your rights as a participant or any negative parts of the study, you can call Walden University's Research Participant Advocate at 1612-312-1210. Walden University's approval number for this study is **IRB will enter the approval number here**. It expires on **IRB will enter the expiration date.**

You might wish to retain this consent form for your records. You may ask the researcher or Walden University for a copy at any time using the contact information above.

Obtaining Your Consent

If you feel you understand the study and wish to volunteer, please indicate your consent by returning a completed questionnaire.

Appendix B: Flier

Join my Study on Postpartum Depression (PPD)

Are you a woman aged 18-49 in the postpartum period living in Nnewi North LGA, Anambra State?
I want to hear from you!

Study Title: Postpartum Depression (PPD) - Role of Knowledge and Perceived Support

Purpose of the Study
The study aims to understand the level of awareness about postpartum depression and the role of perceived support among women in your community. Your participation can help me advise the government to develop better support systems for new mothers.

Who Can Participate?

- Women aged 18-49
- Currently in the postpartum period (up to one year after childbirth)
- Residents of Nnewi North LGA, Anambra State

What Will You Do?
Participate by confidentially completing a survey
Share your experiences and knowledge about postpartum depression
Help identify the support systems available to new mothers

Why Participate?
Contribute to important research that can benefit new mothers in your community
Receive information on postpartum depression and available support resources
Help improve maternal mental health services in Nnewi North LGA

How to Join:
Contact me at:
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Research Team:
Walden University USA

Confidentiality
Your responses will be kept confidential and used only for research purposes.
Participation is voluntary, and you can withdraw at any time.

Thank you for considering participating in the study!

Appendix C: PPD Questionnaire

To be administered to women who have experienced postpartum depression. The questionnaire should address all four levels in the socioecological model.

Section 1 - Individual Level

1. Age:
2. Education level:
   a. No formal education
   b. Primary education
   c. Secondary education
   d. Tertiary education
3. Employment status:
   a. Employed Government
   b. Not Employed
   c. Business
   d. Employed Private
4. Marital status:
   a. Single
   b. Married
   c. Divorced
   d. Widowed

5. Number of children:
6. Did you have any prior knowledge or awareness of postpartum depression before experiencing it yourself? (Yes/No)
• If yes, please specify the sources of information (e.g., healthcare provider, family, media).
7. What were your beliefs and attitudes towards mental health and seeking help before experiencing postpartum depression?

Section 2 - Interpersonal Level

8. Did you receive emotional support from your partner during the postpartum period? (Yes/No)
• If yes, how did this support positively influence your experience?
• If no, how did the lack of support impact on your emotional well-being?
9. Did you confide in any family members or friends about your feelings during the postpartum period? (Yes/No)
• If yes, how did their understanding and response affect your willingness to seek help?
• If no, what were the reasons for not seeking support from your close contacts?
10. Did you communicate your feelings with your healthcare provider during postpartum check-ups? (Yes/No)

• If yes, were you satisfied with their response and support?
• If no, what barriers prevented you from discussing your mental health with them?

Section 3- Community Level

11. How would you describe the cultural beliefs and attitudes towards mental health and postpartum depression in your community?
12. Were there any community resources or support groups available to you during the postpartum period? (Yes/No)
• If yes, did you utilize these resources, and how did they impact your experience?
• If no, what challenges did you face in accessing community resources for mental health support?

Section 4 - Societal Level

14. Did you have access to mental health services or programs specifically addressing postpartum depression in your area? (Yes/No)
- If yes, how did the availability of these services impact your willingness to seek help?
- If no, what were the barriers you faced in accessing mental health services?
15. Were there any policies or initiatives related to maternal mental health in your country during your postpartum period?
16. How do you think the government or healthcare system could improve support and awareness for postpartum depression in low-income communities?

Section 5 - Overall Experience

17. Reflecting on your experience with postpartum depression, what were the most significant factors that influenced your awareness and access to prevention strategies?
18. Based on your experience, what recommendations do you have to improve awareness and support for postpartum depression in your community and country?

Thank you for participating in this questionnaire. Your responses will contribute to understanding the factors influencing postpartum depression awareness and prevention strategies, leading to better support for women in similar situations.

Appendix D: MSPSS Scale

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

		Very Strongly Disagree	Strongly Disagree	Mildly Disagree	Neutral	Mildly Agree	Strongly Agree	Very Strongly Agree
1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2.	There is a special person with whom I can share joys and sorrows.	1	2	3	4	5	6	7
3.	My family really tries to help me.	1	2	3	4	5	6	7
4.	I get the emotional help & support I need from my family.	1	2	3	4	5	6	7
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6.	My friends really try to help me.	1	2	3	4	5	6	7
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7

Scale Reference:

Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment* 1988;52:30-41.

Scoring Information:

To calculate mean scores:

Significant Other Subscale: Sum across items 1, 2, 5, & 10, then divide by 4.

Family Subscale: Sum across items 3, 4, 8, & 11, then divide by 4.

Friends Subscale: Sum across items 6, 7, 9, & 12, then divide by 4.

Total Scale: Sum across all 12 items, then divide by 12.

More information at:

http://gzimet.wix.com/mspss

Other MSPSS Scoring Options:

There are no established population norms on the MSPSS. Also, norms would likely vary on the basis of culture and nationality, as well as age and gender. I have typically looked at how social support differs between groups (e.g., married compared to unmarried individuals) or is associated with other measures (e.g., depression or anxiety). With these approaches you can use the mean scale scores.

If you want to divide your respondents into groups on the basis of MSPSS scores there are at least two ways you can approach this process:

1. You can divide your respondents into 3 equal groups on the basis of their scores (trichotomize) and designate the lowest group as low perceived support, the middle group as medium support, and the high group as high support. This approach ensures that you have about the same number of respondents in each group. But, if the distribution of scores is skewed, your low support group, for example, may include respondents who report moderate or even relatively high levels of support.

2. Alternatively, you can use the scale response descriptors as a guide. In this approach any mean scale score ranging from 1 to 2.9 could be considered low support; a score of 3 to 5 could be considered moderate support; a score from 5.1 to 7 could be considered high support. This approach would seem to have more validity, but if you have very few respondents in any of the groups, it could be problematic.

Appendix E : PHQ-9 Questionnaire

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

ID #: _____ **DATE:** _____

Over the last *2 weeks,* how often have you been bothered by any of the following problems? *(use "✓" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
		add columns	+	+
(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card).			TOTAL:	

10. If you checked off *any problems,* how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

A2663B 10-04-2005

PHQ-9 Patient Depression Questionnaire

For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment.
2. If there are at least 4 ✓s in the shaded section (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.

Consider Major Depressive Disorder

- if there are at least 5 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

Consider Other Depressive Disorder

- if there are 2-4 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient.
Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

1. Patients may complete questionnaires at baseline and at regular intervals (eg, every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
2. Add up ✓s by column. For every ✓: Several days = 1 More than half the days = 2 Nearly every day = 3
3. Add together column scores to get a TOTAL score.
4. Refer to the accompanying **PHQ-9 Scoring Box** to interpret the TOTAL score.
5. Results may be included in patient files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

Scoring: add up all checked boxes on PHQ-9

For every ✓ Not at all = 0; Several days = 1;
More than half the days = 2; Nearly every day = 3

Interpretation of Total Score

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

A2662B 10-04-2005