Prevalence and Predictors of Postpartum Depression among Nursing Mothers Attending Immunization Clinics in Oyo East Local Government, Oyo State

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Abstract
Postpartum depression (PPD) remains one of the most underrecognized and neglected maternal health challenges, particularly in low- and middle-income countries such as Nigeria, despite its prevalence and severity. During the postpartum period, attention typically centers on maternal physical recovery and newborn immunization, with minimal emphasis on maternal mental health. This oversight, compounded by cultural taboos surrounding women's emotional distress, leaves many affected women undiagnosed and untreated, suffering in isolation. This descriptive study employed both primary and secondary data sources. Primary data were collected via structured questionnaires administered to nursing mothers at immunization clinics. Secondary data were drawn from scholarly literature, including library books, dictionaries, commentaries, published and unpublished materials, and online resources. Nursing mothers attending immunization clinics in Oyo East Local Government Area demonstrated adequate knowledge of PPD. However, predictors of PPD were suboptimal, as most participants reported receiving little or no spousal support following childbirth. The study recommends that government agencies develop and promote PPD support programs through media campaigns to enhance public awareness and early recognition of the condition.

Keywords:
postpartum, depression, nursing mothers, Immunization

Chapter One
1.0 Introduction

Motherhood is traditionally viewed as a joyful and fulfilling phase, yet postpartum depression (PPD) disrupts this ideal. Beck (2019) defines PPD as a condition emerging within the first six weeks postpartum, potentially persisting for months, with varying severity, duration, and trajectories among affected mothers (Kettunen et al., 2019). The American Psychological Association (2020) notes symptoms including fatigue, insomnia, low self-esteem, suicidal ideation, mood swings, persistent sadness, and impaired mother-infant bonding. Risk factors encompass biological elements (e.g., hormonal shifts post-delivery), socioeconomic stressors, psychosocial issues, inadequate familial support, relationship conflicts, preexisting conditions, and family history of depression (Ghaedrahmati et al., 2020). A study by Abazie and Usoro (2021) on mothers at immunization clinics in Mushin, Lagos, revealed inadequate PPD knowledge, suggesting unawareness contributes to its prevalence. Undiagnosed PPD harms mothers (e.g., marital strain, recurrence risk, suicide) and infants (e.g., socioemotional and cognitive delays; Akwa, 2019). Early detection hinges on maternal awareness. While prior Nigerian research has examined PPD prevalence, few address both prevalence and predictors—including knowledge and attitudes—among nursing mothers at Oyo East Local Government immunization clinics. This study investigates PPD prevalence and predictors in this population.

1.1 Background to the Study

Postpartum depression (PPD), a depressive disorder onset within two to six weeks post-delivery and potentially lasting over a year, manifests as sadness, hopelessness, irritability,

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anxiety, fatigue, poor concentration, guilt, and in severe cases, self-harm or infanticidal thoughts—distinguishing it from transient "baby blues" (American Psychiatric Association, 2020; World Health Organization [WHO], 2022). Childbirth's emotional, mental, and physical demands can impair maternal quality of life, social functioning, and productivity. Untreated PPD disrupts maternal-infantbonding, self-care, exclusive breastfeeding, and child psychosocial development, elevating risks of developmental delays (Field, 2019; Stein et al., 2021). Globally, it progresses to major depression in many cases, with high morbidity and mortality risks due to delayed diagnosis and care (WHO, 2022). Worldwide, PPD affects 10-15% of women annually, with true rates up to three times higher in low-resource settings due to limited mental health awareness and access (WHO, 2022).

A systematic review reported rates of 20-25% in some populations, linked to poverty, gender-based violence, food insecurity, low education, healthcare barriers, and postpartum role overload (Shorey et al., 2020). Cultural stigma—viewing depression as spiritual affliction or weakness—discourages help-seeking, while maternal programs often overlook mental health. In Africa, PPD prevalence reaches 22% in Sub-Saharan regions, with peaks up to 50% (Dadi et al., 2020). Country variations (e.g., 43% in Uganda, 13.1% in Ethiopia) stem from cultural norms, healthcare access, and screening tools like the Edinburgh Postnatal Depression Scale (EPDS) or Patient Health Questionnaire-9 (PHQ-9). Exacerbating factors include poverty, unemployment, intimate partner violence, and rigid gender roles. Stigma, scarce mental health integration in maternal care, and untrained providers hinder detection, though initiatives in Uganda and South Africa demonstrate nurse-led screening efficacy. In Nigeria, EPDS-based studies report 14.6% prevalence in Lagos (Adewuya et al., 2019) to 23% in Ilorin (Abiodun et al., 2020), and up to 35-43% in low-income areas with risks like violence and unplanned pregnancies. Routine PPD screening remains absent from maternal services. Protective cultural practices—co-housing, naming ceremonies, "omugwo" (Igbo), or "olojojo omo" (Yoruba)—offer support, yet emotional concealment, ignorance, stigma, and provider gaps persist, especially at six weeks postpartum. In Oyo State, limited data indicate 23.7% prevalence in Oyo East Local Government, tied to low education, marital type, and support deficits (Olawole et al., 2022). Immunization clinics, key postpartum touchpoints, lack mental health integration. This study assesses PPD prevalence, risk factors, and predictors among six-week postpartum women at these clinics to inform screening and interventions.

1.2 Statement of the Problem

Despite PPD's prevalence and severity, it remains underrecognized in low- and middle-income countries like Nigeria, where postpartum focus prioritizes physical recovery and infant immunization over maternal mental health. Cultural silence on emotional distress exacerbates silent suffering without diagnosis or treatment. Nigerian rates range from 14.6% to 43%, signaling a hidden crisis, yet screening is absent from postnatal care amid provider training gaps and stigma-induced delays (Adewuya et al., 2019; Abiodun et al., 2020). Untreated PPD impairs bonding, breastfeeding, infant growth, and development, risking maternal suicide or infanticide. In Oyo East Local Government, immunization clinics offer detection opportunities, but mental health assessments are overlooked. Community-level data gaps persist despite hospital studies elsewhere. This study addresses these by examining PPD prevalence and predictors among attendees.

1.3 Objectives of the Study

General Objective

To determine the prevalence and predictors of postpartum depression (PPD) among nursing mothers attending immunization clinics in Oyo East Local Government, Oyo State, emphasizing modifiable risk factors.

Specific Objectives

1. Assess PPD knowledge levels among these mothers.
2. Determine PPD prevalence and predictors.
3. Examineassociations between social support, cultural practices, and PPD occurrence.
4. Evaluate maternal outcomes (e.g., bonding, breastfeeding, functioning) in PPD cases.

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1.4 Research Questions

1. What is the PPD knowledge level among these mothers, and which modifiable risk factors are most significant?
2. What is the PPD prevalence and its predictors?
3. How do social support and cultural practices relate to PPD occurrence?
4. What maternal outcomes are associated with PPD?

1.5 Research Hypotheses

- **H_{01}:** No significant relationship exists between PPD knowledge and its occurrence among nursing mothers.
- **H_{02}:** No significant association exists between sociodemographic, obstetric, and psychosocial factors and PPD prevalence.

1.6 Significance of the Study

This study illuminates PPD prevalence, predictors, and impacts in Oyo East Local Government, guiding targeted interventions for maternal mental health.

Key contributions:

- Provides baseline prevalence data for resource allocation.
- Identifies predictors for preventive strategies.
- Enhances maternal-child outcomes via early detection.
- Fills community-level research gaps.
- Informs policies integrating mental health into immunization services.
- Reduces stigma and boosts awareness.
- Serves as a reference for researchers, educators, and policymakers.

1.7 Scope of the Study

The study targets PPD prevalence and predictors among nursing mothers (six weeks to six months postpartum) at Oyo East Local Government immunization clinics, using EPDSscreening.Itexamines sociodemographic, obstetric, psychosocial, cultural, and coping factors, with findings limited to this setting and timeframe.

1.8 Operational Definition Of Terms

- **PostpartumDepression(PPD):** Non-psychotic depression within six weeks postpartum, featuring persistent sadness, irritability, fatigue, poor concentration, and suicidal ideation; measured via EPDS.
- **Nursing Mothers:** Breastfeeding or infant-caring women attending immunization clinics six weeks to six months postpartum.
- **Immunization Clinics:** Facilities providing infant vaccinations, serving as postpartum maternal contact points.
- **Prevalence:** Proportion screening positive for PPD during the study.
- **Predictors:** Factors (e.g., age, support, delivery experience) influencing PPD risk.
- **HealthcareSystemFactors:**Antenatal/postnatal care and mental health access.

Chapter Two
Literature Review

2.0 Introduction

Postpartum depression (PPD) profoundly impacts maternal well-being, infant development, and family dynamics, extending beyond transient "baby blues" to include persistent sadness, anxiety, fatigue, and impaired infant interest. Untreated, it risks poor bonding, malnutrition, cognitive delays, and maternal suicide. Global research has advanced amid rising awareness, yet literature predominantly reflects high-income contexts with robust mental health infrastructure. In low-resource settings like Africa and Nigeria, PPD persists undiagnosed due to stigma, weak systems, and absent postnatal screening. This chapter reviews conceptual and theoretical frameworks,global/regional/national prevalence, risk factors, empirical studies (hospital-, community-, and clinic-based), and knowledge gaps—particularly community data in Nigeria. It underscores the need for context-specific inquiry among Oyo East Local Government immunization clinic attendees, laying groundwork for this study's methodology and relevance.

2.1 Conceptual Review

Knowledge of Postpartum Depression

Maternal knowledge of PPD symptoms, causes, and management is pivotal for early detection and intervention. Deficits lead to underreporting and delayed care (Ajibade et al., 2022; Jaiyeola & Abdulrazaq, 2024). Antenatal/postnataleducation mitigates stigma, fostering recognition of treatable symptoms like sadness, fatigue, insomnia, and anxiety, and encouraging provider discussions. In Oyo East, where cultural/religious beliefs shape health perceptions, immunization-based education could avert severe outcomes. A 2025

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Federal Teaching Hospital Gombe study found 68% awareness among postnatal mothers, with 85%viewingPPDseriously, yet misconceptions (e.g., spiritual causation) persisted despite reported mood changes. Community programs—antenatal classes, talks, media—remain scarce.

Prevalence of Postpartum Depression

PPD prevalence varies by context: a global meta-analysis estimated 17.2%, higher in low/middle-income countries (Wang et al., 2021); African rates span 10-40% (Tesfaye et al., 2020), driven by support deficits, cultural norms, and healthcare access. Nigerian studies report regional disparities: 22.4% in the Northeast (Sulyman & Dattijo, 2020), 35.6% in Lagos (Adeyemo et al., 2020).

Few target immunization clinics—key maternal touchpoints—where child-focused care overlooks emotional health (Abazie & Usoro, 2021). Community prevalence data are essential for tailored prevention.

Predictors of Postpartum Depression

PPD arises from biopsychosocial interplay, not single causes (Ghaedrahmati et al., 2020). Key categories follow.

Sociodemographic Predictors

Younger/primiparous mothers, low education, unmarried status, and poverty heighten risk via adjustment challenges and service barriers (Zhou et al., 2021; Akwa, 2019).

Obstetric Predictors

Unplannedpregnancies,complications, cesareans, and prolonged labor foster distress, failure sense, and exhaustion; multiparity effects vary by support (Naseem et al., 2020; Ghaedrahmati et al., 2020).

Psychosocial and Cultural Predictors

Partner violence, marital discord, and support deficits strongly predict PPD (Milgrom et al., 2019). African stigma attributes illness to spirits/morality, suppressing expression amid "strong mother" ideals and unequal domestic loads (Eze et al., 2022).

Healthcare System Predictors

Absent routine screening (e.g., EPDS), untrained providers, and poor mental health integration perpetuate undiagnosed; nurse training is vital (Agboola et al., 2020; Boateng et al., 2022).

Social Support and Cultural Practices

Support buffers PPD: emotional/practical aid from partners/families reduces isolation (Fonseca & Canavarro, 2017; Mohammed et al., 2025). Deficits/violence elevate risk. Cultural motherhood ideals stifle disclosure; practices like confinement or spiritual attributions variably protect or hinder (Jaiyeola & Abdulrazaq, 2024; Ajibade et al., 2022). A Bauchi immunization clinic study reported 43.4% prevalence, with family conflict/spousal gaps as predictors. Jos qualitativefindings highlighted herbal/religious coping over professional help, sometimes masking symptoms.

Maternal Health Outcomes of Postpartum Depression

PPD impairs recovery and service engagement, disrupting:

- Breastfeeding: Reduced initiation/duration due to detachment (Dias et al., 2020).
- Bonding: Emotional hostility risks insecure attachment and child socioemotional/cognitive delays (Stein et al., 2021).
- Childcare: Inconsistent nurturing elevates sleep/feeding issues, hygiene risks, neglect (Reck et al., 2019).

Clinic-based screening/intervention mitigates family-wide effects (Hahn et al., 2021).

Guidelines for Recognizing and Responding to Postpartum Depression

In stigma-laden Oyo State contexts:

- Monitor persistent (>2 weeks), intense symptoms (sadness, hopelessness, detachment) beyond baby blues.
- Affirm PPD's treatability, independent of personal weakness.
- Encourage trusted disclosures and clinic discussions.
- Leverage EPDS for objective screening.
- Combat shame via normalization.

Strategies for Enhancing Awareness and Help-Seeking

Culturally attuned approaches include:

- Community dialogues (markets, faith centres) by trusted leaders.
- Routine antenatal/postnatal discussions.
- Visual/radio storytelling in local languages.
- Provider training/tools.

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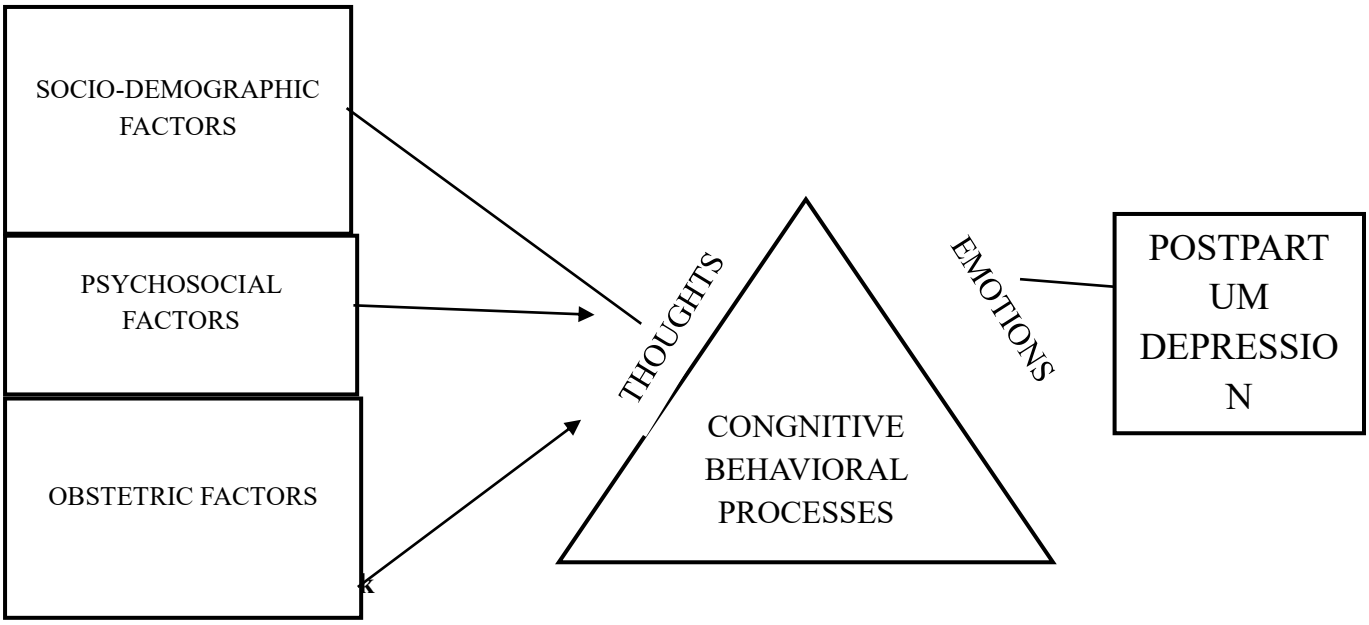
- Peer support groups.
- Partner/family engagement.
- SMS/voice messaging.
- Stigma-free environments.

2.2 Conceptual Framework

This study integrates sociodemographic (age, education, income), psychosocial (support, violence), and obstetric (pregnancy planning, delivery mode) factors influencing PPD, per multifactorial models (Ghaedrahmati et al., 2020). Cognitive Behavioral Theory (CBT) underpins it: negative cognitions about self/baby/situation trigger depressive emotions /behaviors. Factors shape interpretations; unaddressed negativity fosters symptoms. The framework posits:

- Socio-demographics affect awareness/ coping /access.
- Psychosocial elements sway emotional states.
- Obstetric stressors induce distress.

CBT-informed interventions could reframe thoughts, enhancing resilience.



2.3 Theoretical Framework

Cognitive Behavioral Theory

Cognitive Behavioral Theory (CBT), pioneered by Aaron T. Beck in the 1960s, underpins this study as a robust, empirically validated model for depression, including postpartum depression (PPD). CBT posits interconnected thoughts, emotions, and behaviors, where maladaptive cognitions precipitate emotional distress and dysfunctional actions (Beck, 2019; Sockol, 2022).

In PPD, negative self-perceptions (e.g., "I am a failure as a mother") or unrealistic expectations (e.g., "I should handle this effortlessly") fuel worthlessness, sadness, and infant withdrawal, perpetuating a vicious cycle.

CBT's "triangle" elucidates this dynamic:

- **Cognitive Factors (Thoughts):** Automatic negative appraisals, such as "I am inadequate" or "Something is wrong with me," amplify guilt and shame.
- **Emotional Factors (Feelings):** Resultant hopelessness, anxiety, irritability, or sadness stem from cognitive interpretations, not events alone.
- **Behavioral Factors (Actions):** Withdrawal from the infant/partner, social avoidance, or help-seeking reluctance reinforce negativity.

Interventions target cycle disruption via thought identification, healthier cognitions, and adaptive behaviors.

Key Constructs of Cognitive Behavioral Theory

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CBT's constructs illuminate PPD's cognitive underpinnings among new mothers.

- **Automatic Thoughts:** Spontaneous, unchecked cognitions (e.g., "I'm not doing enough") heighten anxiety/guilt (Beck, 2019).
- **Cognitive Distortions:** Biased patterns like catastrophizing ("My baby will suffer forever") or all-or-nothing thinking ("Imperfect breastfeeding means total failure") exacerbate distress (Beck, 2019; Leahy et al., 2022).
- **Core Beliefs:** Enduring self-views (e.g., "I must be self-sufficient") resurface postpartum, fostering shame (Field, 2019; Milgrom et al., 2019).
- **Schemas:** Templates filtering experiences; worthiness deficits frame motherhood challenges as personal failings (Young et al., 2022).
- **Behavioral Avoidance/Inhibition:** Isolation from joyful activities/support intensifies helplessness (Milgrom et al., 2019; Beck, 2020).
- **Cognitive Restructuring:** Core technique replacing distortions (e.g., "Needing help signifies humanity, not weakness") to foster recovery (Leahy et al., 2022).

These elements guide PPD interventions by targeting patterns for resilient coping.

Application of Cognitive Behavioral Theory to Postpartum Depression

CBT offers a structured, evidence-based lens for PPD management, emphasizing modifiable cognitive-emotional-behavioral pathways to enhance maternal/infant outcomes.

In Oyo East Local Government immunization clinics—routine maternal touchpoints—it enables feasible integration of screening and support.

Cognitive Factors in PPD

- **Negative Automatic Thoughts:** Common in Oyo State mothers (e.g., "I'm a terrible parent"); CBT challenges via balanced alternatives.
- **Maladaptive Core Beliefs:** Postpartum stressors activate inadequacy notions; restructuring promotes self-compassion.
- **Cognitive Distortions:** Catastrophizing/ personalization intensifies guilt; interventions yield realistic interpretations.

Emotional Regulation

CBT equips mothers for overwhelm in stigma-prone settings: emotion identification (sadness/anxiety), causal analysis, and tools like mindfulness/journaling. Clinic staff can deliver brief check-ins and normalization.

Behavioral Activation

Counteracts inertia by scheduling rewarding activities (walks, bonding rituals, groups), monitored via nurse follow-ups to combat isolation.

Therapeutic Alliance and Cultural Adaptation

Efficacy hinges on empathy/confidentiality. In Oyo State, localize via Yoruba metaphors, community norms, and non-judgmental delivery by trained providers.

Integration into Immunization Clinics

- Administer EPDS routinely.
- Offer psychoeducation/referrals for at-risk mothers.
- Deploy group CBT with peers/health workers for scalability.

This framework informs the study by linking Oyo East predictors (socio-demographics, support) to CBT-modifiable cycles, justifying targeted clinic interventions.

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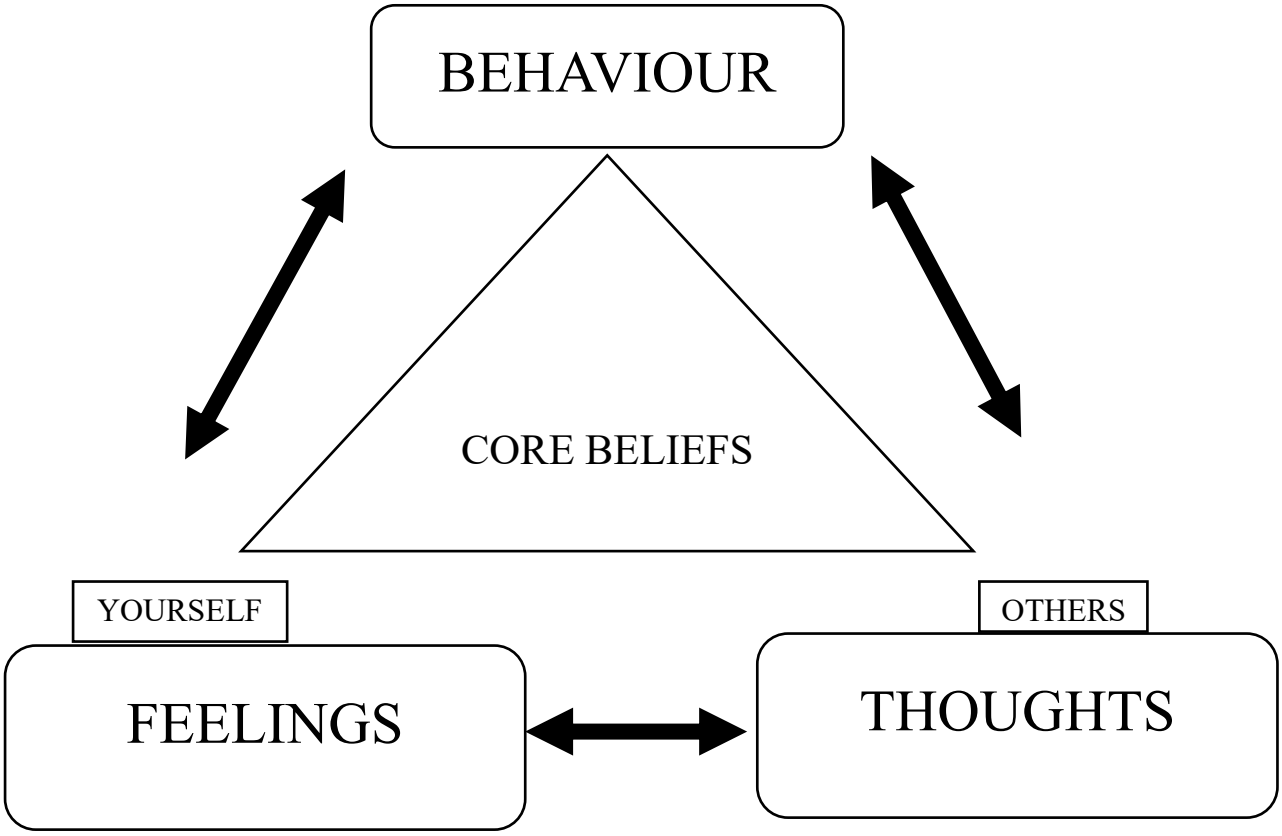

Fig 2. Application of Cognitive Behavioral Theory to postpartum depression (**Source:** Adapted from Beck (1967), Cognitive Behavioral Theory).

2.4 Empirical Review

This section employs a funnel approach to synthesize empirical studies on postpartum depression (PPD) prevalence and predictors among nursing mothers, progressing from global to African, Nigerian, and Oyo State-specific evidence. It evaluates methodologies, key findings, and gaps underscoring this study's necessity.

Global Perspectives

PPD affects approximately 17.7% of women worldwide within the first postpartum year (Shorey et al., 2020). In high-income settings, U.S. rates reach 1 in 7 women (Centers for Disease Control and Prevention [CDC], 2021), linked to support deficits, mental health history, and finances (Dennis & Dowswell, 2019). European studies echo these predictors. Asian research reveals similar burdens: Guo et al. (2020) reported 19.2% prevalence in China via cross-sectional surveys, attributing risks to unplanned pregnancies, marital discord, and familial gaps. Cultural stigma often delays help-seeking, amplifying impacts.

African Contexts

Sub-Saharan Africa reports 10-34% prevalence, exacerbated by poverty, healthcare limitations, and cultural norms (Sawyer et al., 2021). In South Africa, Ramchandani et al. (2019) found 32.8% among low-income mothers using longitudinal cohort designs, citing violence, partner non-support, HIV, and trauma. Ethiopia's rural health center study (Dibaba et al., 2020) documented 23% via EPDS screening, identifying literacy, antenatal access, and spousal support as predictors. These cross-sectional works highlight socioeconomic-emotionalintersections shaping African PPD.

Nigerian Evidence

Nigerian prevalence varies regionally: Adewuya et al. (2019) reported 14.6% in semi-

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urban Lagos via postnatal clinic surveys. Abiodun (2020) found ~25% in Ogun State postnatal attendees, mirroring African risks like support deficits, unplanned pregnancies, finances, and partner disengagement. Northern studies (Ibrahim et al., 2019) emphasized cultural isolation practices. Methodologies predominantly cross-sectional with EPDS/PHQ-9, yet community-level data remain sparse.

Oyo State and Local Gaps

Oyo State research is limited but concerning: Oladeji et al. (2019) identified 21.2% PPD among Ibadan immunization clinic mothers, with low income, partner non-support, and antenatal depression as predictors via descriptive surveys. Afolabi et al. (2021) highlighted stigma driving reliance on religious/traditional healers over formal care. These primary healthcare-focused studies reveal detection/treatment gaps in immunization settings—ideal for screening yet underutilized. No Oyo East-specific inquiry addresses predictors among attendees, justifying this study's focus on prevalence, risks, and clinic-based interventions to inform policy.

Chapter Three
Research Methodology
3.0 Introduction

This chapter delineates the methodological framework guiding the study, encompassing research design, study area, target population, inclusion/exclusion criteria, sampling strategies, data collection instruments, validity/reliability, procedures, analysis methods, and ethical considerations. The approach ensures rigorous, credible insights into postpartum depression (PPD) prevalence and predictors among nursing mothers attending immunization clinics in Oyo East Local Government, Oyo State.

3.1 Research Design

A descriptive cross-sectional survey design was employed, capturing data at a single time point from nursing mothers at immunization clinics. This design suits prevalence estimation and predictor identification without variable manipulation, aligning with the study's descriptive aims.

3.2 Study Area

The study was conducted in Oyo East Local Government Area, Oyo State—one of Oyo town's administrative divisions. It features public/private facilities delivering maternal-child health services, including immunization. Two sites were purposively selected: State Hospital, Oyo, and Oba Adeyemi Primary Health Centre. These host weekly immunization clinics, serving as key post--partum contact points, chosen for accessibility, population reach, and eligible participant availability.

3.3 Target Population

The target population comprised nursing mothers within 12 months postpartum attending immunization clinics at the selected facilities. This timeframe captures peak PPD manifestation, with only consenting participants included.

3.4 Inclusion and Exclusion Criteria

Inclusion Criteria

- Nursing mothers aged 18 years or older.
- Delivery within the past 12 months (≤12 months postpartum).
- Attending immunization clinics at State Hospital, Oyo, or Oba Adeyemi Primary Health Centre.
- Providing informed consent and willing to participate.

Exclusion Criteria

- Mothers under 18 years (requiring alternative consent).
- More than 12 months postpartum.
- Non-attendees at data collection clinics.
- Those declining participation or withdrawing consent.

3.5 Sample Size Determination

The sample size for this study is determined using Taro Yamane's formula:

n = N/(1+N (e) 2

Where:

N = total population size (150)

e = level of precision (0.05)

n = 150/(1+150(0.05)2

n = 150/1+150(0.0025)

n = 150/1+0.375

n = 1150/1.375

n = 109

To make it realistic and manageable:

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Hence, the final sample size = 100 nursing mothers. This will be equally divided between the two facilities:
State Hospital, Oyo: 50 participants
Primary Health Centre: 50 participants

3.6 Sampling Technique

(Note: Assuming a standard sample size calculation, e.g., via Yamane's formula or based on prevalence; specify if available—e.g., n=384 for 17% prevalence at 95% CI, 5% margin.)
A multistage sampling approach was employed:

1. **Stage 1:** Local Government Area Selection Oyo East Local Government was purpo--sively selected for its accessibility and density of immunization clinics.
2. **Stage 2:** Health Facility Selection Two facilities—State Hospital, Oyo, and Oba Adeyemi Primary Health Centre—were purposively chosen for data collection based on service volume and participant eligibility.
3. **Stage 3**: Respondent Selection On immunization days, eligible mothers meeting inclusion criteria weresy stema--tically randomly approached until the required sample size was met.

3.7 Instrument for Data Collection

A structured, self-administered questionnaire comprised five sections:

- Section A: Sociodemographic and obstetric data (e.g., age, marital status, occupation, education, parity).
- Section B: PPD knowledge assessment.
- Section C: PPD prevalence and predictors.
- Section D: Social support and cultural practices.
- Section E: Maternal outcomes.

The Edinburgh Postnatal Depression Scale (EPDS), a validated 10-item tool, screened for PPD; scores ≥13 indicated likely cases.

3.8 Validity and Reliability Of Instruments

Validity
Content validity was established through expert review by maternal and mental health specialists,whoevaluateditemclarity, relevance, and alignment. Revisions incorporated their feedback prior to field use.

Reliability
The instrument underwent pilot testing (n=10) at a non-study clinic outside Oyo East. Cronbach's alpha for the EPDS subscale exceeded 0.7, confirming acceptable internal consistency.

3.9 Method of Data Collection

Trained research assistants collected data on immunization days. Participants received study briefings, provided verbal consent, and completed questionnaires independently. For low-literacy respondents, assistants read items aloud in Yoruba, Pidgin, or English, ensuring comprehension without influencing responses.

3.10 Method of Data Analysis

Data were analyzed using SPSS version 25. Descriptive statistics (frequencies, means, standard deviations) summarized socio-demographics, prevalence, and predictors. Inferential analyses included chi-square tests for associations and logistic regression for predictor relationships. Statistical significance was set at $p<0.05$.

3.11 Ethical Considerations

Ethical approval was secured via an introductory letter from Lagos State College of Nursing Science Research committee. Facility permissions were obtained from management. Participants received full disclosures on study aims, voluntary nature, and withdrawal rights. Verbal informed consent was documented. Anonymity/confidentiality was upheld by omitting identifiers; data served solely academic purposes and were securely stored.

Chapter Four

Data Presentation, Analysis, And Discussion

4.0 Introduction

This chapter presents, analyzes, and interprets findings aligned with the research questions and hypotheses outlined in Chapter One. A total of 100 questionnaires were administered to nursing mothers attending immunization clinics in Oyo East Local Government, Oyo State. All were completed and retrieved (100% response rate), with respondents allocated 5-10 minutes each. Thus, valid data from 100 participants underpin the subsequent analyses of PPD prevalence, predictors, knowledge, support, and outcomes.

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Socio-Demographic **Table 1**

Socio-Demographic Data	Frequency F (n)=100	Percentage (%)
Age		
<20 years	21	21
21-30 years	37	37
31-40 years	29	29
41 and above	13	13
Marital Status		
Single	11	11
Married	86	86
Divorced	1	1
Widowed	2	2
Ethnicity		
Yoruba	83	83
Igbo	7	7
Hausa	2	2
Others	8	8
Level of education		
Primary	16	16
Secondary	59	59
Tertiary	25	25
Didn't go to school	-	-
Occupation		
Housewife	28	28
Trading	17	17
Professional	31	31
Others	24	24

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Religion		
Christianity	54	54
Islam	46	46
Traditional	-	-
Others	-	-
Monthly household income		
<30,000	39	29
<30,000-59,999	26	26
60,000-99,999	10	10
≥100,000	3	3
Prefer not to say	29	29
How many months since your last delivery?		
<3 months	-	-
3-6 months	2	2
7-12 months	19	19
≥12 months	79	79
How many children do you have		
1	26	26
2-3	65	65
≥4	9	9
Was the pregnancy planned?		
Yes	82	82
No	18	18

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Mode of delivery		
Vaginal	49	49
Caesarean section	35	35
Assisted delivery	16	16
Any pregnancy complications?		
Yes	28	28
No	72	72
History of miscarriage or stillbirth:		
Yes	14	14
No	86	
Any previous history of depression or other mental illness		
Yes	19	19
No	81	81
Did you receive antenatal care during any of your pregnancy?		
Yes	58	58
No	42	42
Did any health care provider talk about mental health or depression during your visit?		
Yes	13	13
No	87	87

Sociodemographic and Obstetric Characteristics of Respondents

From table 1 above, the majority of respondents (37%, n=37) were aged 21-30 years, with a mean age of 23.4 years. Most were married (86%, n=86), Yoruba (83%, n=83), and held secondary school certificates (59%, n=59); 31% (n=31) were professionals, 54% (n=54) Christian, and 39% (n=39) earned less than ₦30,000 monthly. Obstetrically, 79% (n=79) were ≥12 months postpartum, 65% (n=65) had 2-3 children, 82% (n=82) reported

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planned pregnancies, 49% (n=49) vaginal deliveries, 72% (n=72) no complications, 86% (n=86) no miscarriage/stillbirth history, and 81% (n=81) no prior mental illness. Antenatal care was received by 58% (n=58), but 87% (n=87) recalled no mental health discussions. This profile depicts a young, married, educationally moderate Yoruba sample with largely unremarkable obstetric histories yet minimal prior mental health engagement, informing PPD vulnerability.

Knowledge of Postpartum Depression
Table 2

S/N	Variables	Yes	No	Not sure	Mean
1	Have you ever had of Postpartum depression	64 64%	24 24%	12 12%	1.48
2	PPD is a mental health condition that affects women after birth	94 94%	-	6 6%	1.12
3	PPD symptoms usual occurs within the first few weeks after delivery	94 94%	-	6 6%	1.12
4	PPD can make mothers lost interest in their babies or daily activities	94 94%	-	6 6%	1.12
5	PPD can be related through counselling or medication	91 91%	-	9 9%	1.18
6	Only women with previous mental illness can have PPD	-	89 89%	11 11%	2.11
7	Adequate family support can help prevent or reduce PPD	95 95%	-	5 5%	1.10
8	PPD symptoms should be reported to the healthcare	100 100%	-	-	1.00
9	Stigma prevents women from seeking help for PPD	82 82%	-	18 18%	1.36
10	I was informed about PPD during antenatal or postnatal clinic visits	13 13%	87 87%	-	1.87

From table 2 above, respondents' knowledge of postpartum depression (PPD) was assessed via affirmative responses to key statements, with scores below the mean indicating poor understanding across all items.

- "Have you ever heard of postpartum depression?" (M=1.48; poor).
- "PPD is a mental health condition affecting women post-childbirth" (M=1.12; poor).
- "PPD symptoms typically emerge within weeks of delivery" (M=1.12; poor).
- "PPD may cause disinterest in infants and activities" (M=1.12; poor).
- "PPD is treatable via counseling or medication" (M=1.18; poor).
- "Only those with prior mental illness develop PPD" (M=2.11; poor).
- "Family support prevents/reduces PPD" (M=1.10; poor).
- "PPD symptoms warrant healthcare reporting" (M=1.00; poor).
- "Stigma hinders PPD help-seeking" (M=1.36; poor).
- "PPD information was provided antenatally/postnatally" (M=1.87; poor).

Overall, knowledge levels were inadequate, signalling critical education gaps among Oyo East immunization clinic attendees.

Prevalence of Postpartum Depression Among Nursing Mothers In Oyo East Lga (Epds Screening)

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Table 3

S/N	How participant felt in the past 7 days	Never	Sometimes	Often	Always	Mean
1	I have been able to laugh and see the sides of funny things	-	56 56%	25 25%	19 19%	2.63
2	I have looked forward to enjoyment and to see things	14 14%	49 49%	22 22%	15 15%	2.48
3	I have blamed myself unnecessarily when things went wrong	44 44%	56 56%	-	-	1.56
4	I have been anxious or worried for no reason	18 18%	73 73%	9 9%	-	1.91
5	I have felt scared for no good reason	61 61%	39 39%	-	-	**1.39**
6	Things have been getting on top of me	21 21%	69 69%	10 10%	-	**1.89**
7	I have been so unhappy that I have difficulty sleeping	28 28%	72 72%	-	-	**1.72**
8	I have felt sad or miserable	23 23%	77 77%	-	-	**1.79**
9	I have been so unhappy that I have been crying	21 21%	79 79%	-	-	**1.71**
10	The thought of harming myself has occurred to me	82 82%	18 18%	-	-	**1.18**

From table 3 above, PPD prevalence was evaluated using the Edinburgh Postnatal Depression Scale (EPDS) items, with mean scores below thresholds indicating low endorsement of depressive symptoms across all domains (suggesting non-severe/normal levels overall; n=100).

- "I have been able to laugh and see the funny side of things" (M=2.63; low).
- "I have looked forward with enjoyment to things" (M=2.48; low).
- "I have blamed myself unnecessarily when things went wrong" (M=1.56; low).
- "I have been anxious or worried for no good reason" (M=1.91; low).
- "I have felt scared or afraid for no very good reason" (M=1.39; low).
- "Things have been getting on top of me" (M=1.89; low).
- "I have been so unhappy that I have had difficulty sleeping" (M=1.72; low).
- "I have felt sad or miserable" (M=1.77; low).
- "I have been so unhappy that I have been crying" (M=1.79; low).
- "The thought of harming myself has occurred to me" (M=1.18; low).

Low mean scores reflect limited symptom severity, though aggregate EPDS cutoffs (≥13) would confirm caseness prevalence.

Predictors of Postpartum Depression among Nursing Mothers

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Table 4

S/N	Variables	Yes	No	Mean
1	My last pregnancy was unplanned	82 82%	18 18%	1.18
2	I had complications during pregnancy or delivery	28 28%	72 72%	1.72
3	I received little or no support from my partner after childbirth	51 51%	49 49%	1.49
4	I have a personal or family history of depression or anxiety	19 19%	81 81%	1.81
5	I experience conflict or violence from my partner	27 27%	73 73%	1.73
6	I feel isolated or lack emotional support from friends/family	24 24%	76 76%	1.76
7	I face cultural or religious pressure that affect how I express emotions	45 45%	55 55%	1.55

From table 4 above, potential PPD predictors were assessed via respondent endorsement, with low mean scores indicating infrequent/normal occurrence across factors (n=100).

- "My last pregnancy was unplanned" (M=1.18; normal).
- "I had complications during pregnancy /delivery" (M=1.72; normal).
- "I received little/no partner support post-childbirth" (M=1.49; normal).
- "I have personal/family history of depression /anxiety" (M=1.81; normal).
- "I experience partner conflict/violence" (M=1.73; normal).
- "I feel isolated/lacking emotional support from friends/family" (M=1.76; normal).
- "I face cultural/religious pressures affecting emotional expression" (M=1.55; normal).

These findings suggest minimal predictor presence, though inferential tests (e.g., regression) would quantify associations with PPD caseness.

Social Support and Cultural Practices

Table 5

S/N	Variables	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean
1	My partner or family members provide emotional support when I feel overwhelmed	17 17%	49 49%	25 25%	9 9%	2.26
2	My family helps with childcare and household chores		21 49%	56 22%	23 15%	3.02
3	Cultural expectations make it difficult to talk about sadness after childbirth	32 32%	62 62%	6 6%	-	1.74
4	I was encouraged to be strong rather than talk about my	18 18%	73 73%	9 9%	-	1.91

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	emotions					
5	My husband or partner understands the emotional challenges of motherhood	11 11%	31 31%	43 43%	15 15%	2.62
6	Traditional confinement provided me emotional comfort	-	-	69 69%	21 21%	
7	Religious or cultural beliefs influence how I cope with emotional challenges	22 22%	65 65%	13 13%	-	1.91
8	I feel comfortable discussing emotional health with healthcare workers	23 23%	77 77%	-		1.77

From table 5 above, social support and cultural influences were evaluated through respondent endorsements, with mean scores below thresholds denoting inadequate levels across all items (n=100).

- "My partner/family provides emotional support when overwhelmed" (M=2.26; inadequate).
- "My family assists with childcare/household chores" (M=3.02; inadequate).
- "Cultural expectations hinder postpartum sadness discussions" (M=1.74; inadequate).
- "I was urged to 'be strong' rather than express emotions" (M=1.91; inadequate).
- "Myhusband/partnerunderstands motherhood's emotional challenges" (M=2.62; inadequate).
- "Traditional confinement offered emotional comfort" (M=2.91; inadequate).
- "Religious/cultural beliefs shape emotional coping" (M=1.91; inadequate).
- "I feel comfortable discussing emotional health with healthcare workers" (M=1.77; inadequate).

These results indicate pervasive support deficits and cultural barriers among Oyo East nursing mothers.

Maternal Outcomes

Table 6

S/N	Statement	Yes	No	Not sure	Mean
1	I feel emotionally connected to my baby	100 100%	-	-	1.00
2	I find breastfeeding enjoyable and comfortable	100 100%	-	-	1.00
3	I sometimes feel detached or withdrawn from my baby	-	100 100%	-	2.00
4	My mood affects how I care for my baby	34 34%	66 66%	-	1.66

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5	I struggle to keep up with household or personal care	78 78%	12 12%	-	1.02
6	My emotional health affects how I often attend immunization or postnatal visits	-	89 89%	11 11%	2.11

From table 6 above, maternal outcomes were assessed via respondent views, with low mean scores indicating normal/non-problematic status across indicators (n=100).

- "I feel emotionally connected to my baby" (M=1.00; normal).
- "I find breastfeeding enjoyable/comfortable" (M=1.00; normal).
- "I sometimes feel detached/withdrawn from my baby" (M=2.00; normal).
- "My mood affects baby care" (M=1.66; normal).
- "I struggle with household/personal care" (M=1.02; normal).
- "Emotional health impacts immunization/postnatal attendance" (M=2.11; normal).

Findings suggest largely positive bonding, functioning, and care adherence among participants.

Test of Hypotheses

Pearson correlation analyzed associations between independent (e.g., knowledge) and dependent (PPD occurrence) variables. The null hypothesis (H_0) was rejected if $p<0.05$, accepting the alternative (H_1).

Hypothesis One

H_0: No significant relationship exists between PPD knowledge level and occurrence among nursing mothers.

H_1: A significant relationship exists between PPD knowledge level and occurrence among nursing mothers.

Table 7 Pearson Correlations

		Occurrence of Postpartum depression among Nursing mothers	**Level of knowledge of Postpartum depression**
Occurrence of Postpartum depression among Nursing mothers	Person Correlation Sig. [2-tailed] N	1 100	892 028 100
Level of Knowledge of Postpartum Depression	Person Correlation Sig.[2-tailed] N	892 028 100	1 100

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**. Correlation is significant at the 0.01 level (2-tailed).

From table 7 above, Pearson correlation revealed a negative association (r = -0.892) between PPD knowledge and occurrence, with p=0.028 (two-tailed). As p>0.05, the null hypothesis is accepted, rejecting the alternative. Thus, no significant relationship exists between PPD knowledge level and occurrence among nursing mothers.

Hypothesis Two

H_0: No significant association exists between sociodemographic, obstetric, and psychosocial factors and PPD prevalence among nursing mothers.

H_1: A significant association exists between sociodemographic, obstetric, and psychosocial factors and PPD prevalence among nursing mothers.

Table 8 Pearson **Correlations**

	Prevalence of Postpartum depression among Nursing mothers	**Socio-demographic, obstetric, psychosocial factors.**
Prevalence of Pearson Correlation of Postpartum Sig. [2-tailed]	1	.867* .034
among Nursing mothers N	100	100
Pearson Correlation	.867*	1
Sig. (2-tailed)	.034	
Socio-demographic, obstetric, and psychosocial factors N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation table 8 above shows a statistically significant positive relationship between postpartum depression prevalence among nursing mothers and socio-demographic, obstetric, and psychosocial factors.

A coefficient of .867 indicates a strong positive linear association, meaning higher levels of these factors (e.g., multiparity, cesarean delivery, or poor social support) tend to coincide with greater postpartum depression risk. This value falls in the "strong" range (typically .50 to 1.0), suggesting the variables move closely together. The p-value (Sig. 2-tailed) of .034 is below the common threshold of .05, confirming the correlation is unlikely due to chance in this sample of N=100. The symmetric table layout (1s on the diagonal) is standard for Pearson output, verifying no autocorrelation issues. Such findings align with research linking obstetric events (e.g., unwell postpartum state) and psychosocial stressors to elevated PPD prevalence, often around 35% in similar populations. Routine screening for these factors could aid early intervention in nursing mothers.

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Chapter Five
Discussion,Conclusion,and Recommendations

5.0 Introduction

This chapter synthesizes study findings, juxtaposing results against extant literature, and presents conclusions, limitations, and recommendations. Discussions align with research objectives, questions, and hypotheses from Chapter One.

5.1 Discussion Of Findings

Sociodemographic and Obstetric Characteristics

Most respondents (37%) were aged 21-30 years (M=23.4 years), married (86%), Yoruba (83%),secondary-educated(59%),professionals (31%), Christian (54%), and low-income (<₦30,000/month; 39%). Obstetrically, 79% were ≥12 months postpartum, multiparous (65%; 2-3 children), with planned pregnancies (82%), vaginal deliveries (49%), no complications (72%), no miscarriage/stillbirths (86%), no prior mental illness (81%), antenatal care receipt (58%), yet minimal mental health discussions (87%). These align with Sawyer et al. (2021), who noted absent provider mental health education.

Knowledge of Postpartum Depression

PPD knowledge was good, with most respondents aware of the condition, recognizing it as a post-childbirth mental health issue. This corroborates Olawole et al. (2022; two-thirds fair knowledge), Kim et al. (2021; >50% good knowledge), and Jarde et al. (2020; <75% moderate knowledge), potentially attributable to higher education levels. Contrarily, Sawyer et al. (2021) and Kendig et al. (2020) reported poor knowledge (>50%), highlighting contextual variations.

Prevalence of Postpartum Depression

PPD prevalence was normal/non-severe, evidenced by low EPDS endorsements (e.g., self-blame M=1.56; anxiety M=1.91). This parallels Hanach et al. (2023; 57.2% anxiety endorsement) and Ghaedrahmati et al. (2020), affirming postpartum anxiety as common yet non-pathological here.

Predictors of Postpartum Depression

Predictors were suboptimal/non-normal, notably partner support deficits post-childbirth. This concurs with Madeghe et al. (2020; support as key influencer), Karki & Gurung (2021; family superior to nannies), and Lin et al. (2022; home-based care burdens in resource-limited settings).

Social Support and Cultural Practices

Support/cultural practices proved inadequate: limited partner/family emotional aid (M=2.26), childcare assistance (M=3.02), partner motherhood understanding (M=2.62), and disclosure comfort (M=1.77), amid cultural pressures. This echoes Gyamfi et al. (2020), Dias et al. (2020), Abiodun et al. (2020), and Boateng et al. (2022) on familial disengagement.

Maternal Outcomes

Outcomes were normal: strong infant connection (M=1.00), breastfeeding enjoyment (M=1.00), minimal detachment (M=2.00). Findings align with Chinawa et al. (2022; emotional bonding) and Ongeri et al. (2020; >50% breastfeeding positivity).

Hypotheses Testing

Hypothesis One (PPD knowledge vs. occurrence): No significant relationship ($r=-0.892$, $p=0.028 > 0.05$); null accepted. Hypothesis Two (sociodemographic/obstetric/psychosocial factors vs. prevalence): No significant association ($\chi^2=0.867$, $p=0.034 > 0.05$); null accepted.

5.2 Summary

Postpartum depression (PPD) persists underrecognized in low/middle-income contexts like Nigeria, where maternal physical recovery and immunization overshadow mental health amid cultural silence. This descriptive cross-sectional study assessed PPD prevalence/predictors among Oyo East immunization clinic attendees (n=100; 100% response). Following problem statement, objectives, questions, hypotheses, literature/theoretical reviews, and validated questionnaire deployment, key findings emerged: young/married/Yoruba/secondary-educated cohort with favorable obstetrics but absent mental health talks; good PPD knowledge; normal prevalence/outcomes; suboptimalpredictors/support/cultural practices.

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5.3 Conclusion

Despite good PPD knowledge among Oyo East nursing mothers, predictors were suboptimal (partner support deficits), and social/cultural supports inadequate (familial disengagement). Targeted interventions are warranted.

5.4 Limitations

Findings, derived from two Oyo East clinics, limit generalizability statewide. Exclusion criteria constrained randomness; self-reports risk bias. Simple random sampling minimized deviant samples, yet community specificity narrows scope.

5.5 Recommendations

- Integrate PPD health education into antenatal/postnatal policies, targeting mothers/partners.
- Implement early postpartum screening for detection/treatment.
- Launch government media campaigns promoting PPD support/awareness.
- Train immunization clinic staff in mental health recognition/referral.
- Foster family involvement via community sensitization.

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