

A systematic review of the influence of hypertensive disorders of pregnancy on the mental health of expectant mothers in Nigeria

Adeyemi Ogedengbe Omoge,¹ Modupe Oluwatimileyin Omoge,¹ Precious Bolu Onifade,^{1,2}
Abdul-Raheem Folorunsho Ahmad^{1,3}

¹3Ps Health Initiative International, Akure; ²Adeleke University, Ede; ³University of Ilesa, Nigeria

Abstract

Hypertensive disorders of pregnancy (HDP) are a major contributor to maternal morbidity and mortality in Nigeria, yet their relationship with maternal mental health remains insufficiently synthesized. This systematic review maps and synthesizes evidence on depression, anxiety, and psychological distress among pregnant women with HDP in Nigeria. The review aimed to identify, describe, and thematically synthesize empirical studies examining mental health outcomes among Nigerian women with HDP, and to highlight key gaps in research and practice.

A systematic review was conducted following the PRISMA guideline. Six electronic databases (PubMed, Scopus, AJOL, ScienceDirect, CINAHL, and PsycINFO) and grey literature sources were searched for studies published between 2015 and 2025. Findings were synthesized using thematic analysis.

Eighteen studies met the inclusion criteria. Across studies, HDP was consistently associated with poorer mental health outcomes, particularly depression, anxiety, pregnancy-related anxiety, and psychological distress. Women with HDP were more likely to report adverse psychological outcomes compared with normotensive pregnant women. Key determinants of mental health outcomes included low socioeconomic status, intimate partner violence, marital dissatisfaction, poor social support, and low educational attainment. Evidence indicates a consistent association between HDP and adverse mental health outcomes among pregnant women in Nigeria, although the evidence base remains methodologically limited. Integration of routine mental health screening and scalable psychosocial support into antenatal care, particularly through task-sharing approaches, is urgently required.

Key words: hypertensive disorders of pregnancy, maternal mental health, HiP, mental health in pregnancy, hypertension in pregnancy, expectant mothers, Nigeria.

Correspondence to: Adeyemi Ogedengbe Omoge, 3Ps Health Initiative International, Akure, Nigeria. E-mail: omogeadeyemi@gmail.com

Introduction

Hypertensive disorders of pregnancy (HDP), also known as hypertension in pregnancy (HiP), comprising chronic hypertension, gestational hypertension, pre-eclampsia, eclampsia, and chronic hypertension with superimposed pre-eclampsia, remain a leading cause of maternal morbidity and mortality globally.¹ These conditions complicate approximately 5-10% of pregnancies worldwide and account for an estimated 14% of maternal deaths annually.² The burden is disproportionately concentrated in low- and middle-income countries (LMICs), which account for over 99% of maternal deaths, with sub-Saharan Africa contributing nearly two-thirds of the global total.³ Within this context, Nigeria represents one of the highest-burden settings globally.⁴ The country's maternal mortality ratio is estimated at 512 per 100,000 live births, accounting for approximately 20% of global maternal deaths.^{4,5} Hypertensive disorders have emerged as the leading direct obstetric cause of maternal mortality in Nigeria, surpassing postpartum hemorrhage in several facility-based studies.^{6,7} Evidence from a multicenter analysis of the MPD-4-QED dataset

indicates that HDP contributes to more than one-quarter of maternal deaths in tertiary facilities, with eclampsia alone associated with a case fatality rate of up to 25%.⁷ Similarly, pooled estimates suggest persistent high prevalence of pre-eclampsia and eclampsia in Nigerian clinical settings, with severe maternal and perinatal consequences.⁸ While the obstetric consequences of HDP are well established, increasing attention is being directed toward its intersection with maternal mental health.⁹ Pregnancy is a period of heightened vulnerability to mental disorders due to physiological, hormonal, and psychosocial changes.^{9,10} Globally, perinatal mental disorders affect 10-16% of women in high-income countries and up to 20-25% in LMICs.^{11,12}

In Nigeria, antenatal mental health disorders are highly prevalent, with depression rates ranging from 8.3% to 29.4%, anxiety from 10.1% to 43.5%, and psychological distress from 32.8% to 51.8%.¹³⁻¹⁷ Although estimates vary due to methodological and contextual differences, the overall evidence indicates a substantial unmet burden of perinatal mental illness within the Nigerian health system.¹⁸ Emerging international evidence suggests a bidirectional relationship between HDP and mental health disorders.¹⁹

Prenatal depression and anxiety have been associated with increased risk of HDP through mechanisms involving dysregulation of the hypothalamic-pituitary-adrenal axis, sympathetic overactivity, inflammation, and endothelial dysfunction.^{19,20} Conversely, HDP may precipitate psychological distress through acute illness experiences, fear of mortality, and obstetric complications, including postpartum post-traumatic stress symptoms.^{21,22} A meta-analysis further confirms a consistent association between HDP and postpartum depression in LMICs.²³ Despite this growing global evidence, the HDP-mental health relationship remains poorly characterized in Nigeria. This is particularly important given the country's unique sociocultural and health-system context, marked by high fertility, poverty, regional inequality, limited mental health infrastructure, and persistent gender inequities.^{24,25} Cultural interpretations of HDP also influence illness perception and care-seeking, with pre-eclampsia often attributed to psychosocial stressors and eclampsia to environmental or spiritual causes.^{26,27}

Furthermore, antenatal care in Nigeria remains largely biomedical, with minimal integration of mental health screening or psychosocial support.^{18,28} Although the National Mental Health Act (2021) provides a legal framework for reform, implementation of maternal mental health services remains limited.²⁸ Stigma and cultural expectations surrounding pregnancy further constrain disclosure of psychological distress.^{14,15} This systematic review is therefore necessary for three reasons. First, while global reviews exist on HDP and mental health, there is no synthesis focused on Nigeria, a high-burden and resource-limited setting.^{23,19} Second, existing studies are heterogeneous in design, population, and measurement, limiting synthesis of evidence. Third, this approach is appropriate for mapping the breadth of evidence and identifying gaps.^{29,30}

Objectives of the study

The overarching aim of this systematic review is to map and synthesize the existing peer-reviewed evidence on the influence of HDP on the mental health of expectant mothers in Nigeria. The specific objectives are: i) to identify and describe the mental health outcomes among pregnant women with hypertensive disorders in Nigeria; ii) to determine the prevalence and nature of mental health problems reported among hypertensive pregnant women in Nigerian settings; iii) to explore the biopsychosocial pathways and contextual factors that mediate or moderate the relationship between HDP and maternal mental health in the Nigerian context; iv) to identify gaps in the existing evidence base and propose directions for future research, policy, and practice.

Methods

Study design

A systematic review was conducted in accordance with the methodological framework originally proposed by Page *et al.* and the Joanna Briggs Institute.^{29,30} The review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Systematic Review (PRISMA-SR) checklist.³¹

Information sources

A comprehensive search was conducted across six electronic bibliographic databases: PubMed (including MEDLINE), Scopus, the AJOL repository, ScienceDirect, CINAHL, and PsycINFO. To

minimize publication bias, grey literature was searched using Google Scholar (the first 10 pages), the World Health Organization Institutional Repository for Information Sharing, and the Nigerian Federal Ministry of Health website. The reference lists of all included articles were manually screened to identify additional eligible studies. The search was conducted, with a final update on 30 April 2026.

Search strategy

The search strategy was developed in consultation with an experienced health sciences librarian and refined through iterative testing. A combination of Medical Subject Headings (MeSH) terms and free-text keywords was employed, using Boolean operators (AND, OR) to combine terms related to three core concepts: i) HDP, ii) mental health, and iii) Nigeria. The full PubMed search string is provided in the search terms. The strategy was adapted for each database according to its specific syntax and indexing conventions.

Search terms: “hypertensive disorders of pregnancy” OR “pregnancy-induced hypertension” OR “gestational hypertension” OR “pre-eclampsia” OR “preeclampsia” OR “eclampsia” OR “high blood pressure in pregnancy” OR “maternal hypertension” AND “mental health” OR “mental disorder” OR “depression” OR “depressive” OR “anxiety” OR “psychological distress” OR “emotional distress” OR “stress” OR “psychiatric morbidity” OR “post-traumatic stress” OR “PTSD” OR “common mental disorder” OR “psychological well-being” OR “quality of life” AND “Nigeria” OR “Nigerian”. Filters applied: Publication date 1 January 2015 – 31 December 2025; English language; Human studies.

Eligibility criteria

Inclusion criteria

Population: pregnant women (any trimester) residing in Nigeria, with a confirmed diagnosis of any HDP [chronic hypertension, gestational hypertension, pre-eclampsia, eclampsia, or hemolysis, elevated liver enzymes, low platelets (HELLP) syndrome].

Concept: studies that assessed at least one mental health outcome [depression, anxiety, psychological distress, stress, post-traumatic stress disorder (PTSD), or psychiatric morbidity] using a validated screening instrument, structured diagnostic interview, or qualitative methodology.

Context: studies conducted in any Nigerian healthcare setting (primary, secondary, or tertiary) or community-based setting.

Study design: original peer-reviewed primary research employing quantitative (cross-sectional, case-control, cohort, longitudinal), qualitative, or mixed-methods designs.

Language: English.

Publication period: 1 January 2015 – 31 December 2025.

Exclusion criteria

Systematic reviews, scoping reviews, meta-analyses, narrative reviews, editorials, commentaries, letters, and conference abstracts; studies conducted outside Nigeria; studies that examined mental health among pregnant women without specifically including or reporting data on those with HDP; studies that assessed only non-mental health quality of life outcomes without a mental health component; studies focusing exclusively on the postpartum period (>6 weeks after delivery) without antenatal mental health data; full-text unavailable.

Risk of bias assessment

A structured quality appraisal framework was applied to each included study using a simplified tool adapted from the Mixed Methods Appraisal Tool version 2018.³² This framework assessed five domains: clarity of research aims, appropriateness of study design, rigor of data collection and analysis, clarity of findings, and relevance to the review question. Studies were not excluded based on quality, but the appraisal informed the interpretation of findings. *Supplementary Table 1* presents the risk of bias assessment of the included studies.

Study selection

Two reviewers independently screened titles and abstracts against the eligibility criteria. Studies deemed potentially eligible by either reviewer proceeded to full-text review. Full-text articles were independently assessed by both reviewers, with reasons for exclusion documented. Disagreements at both screening stages were resolved through consensus discussion, with a third reviewer arbitrating where necessary. The study selection process is illustrated in the PRISMA flow diagram (Figure 1).

Screening procedure

Records identified through database searching (n=1247): PubMed (n=342), Scopus (n=256), AJOL (n=189), ScienceDirect (n=178), CINAHL (n=134), PsycINFO (n=109), Google Scholar (n=39); duplicates removed (n=350); records after duplicates removed (n=897); records screened by title/abstract (n=897); records excluded (n=805); full-text articles assessed for eligibility (n=92); full-text articles excluded (n=74): no mental health outcome in HDP subgroup (n=28), no HDP subgroup (n=21), outside Nigeria (n=11), systematic/scoping review (n=8), commentary (n=2), full-text unavailable (n=4); studies included in qualitative synthesis (n=18).

Data extraction and synthesis approach

A standardized data extraction form was developed in Microsoft Excel. Data were extracted independently by two reviewers and cross-checked for accuracy. Extracted information included: author and year of publication, study objectives, study design, study setting and sample size, participant, key findings, and conclusion.

Given the anticipated heterogeneity in study designs, popula-

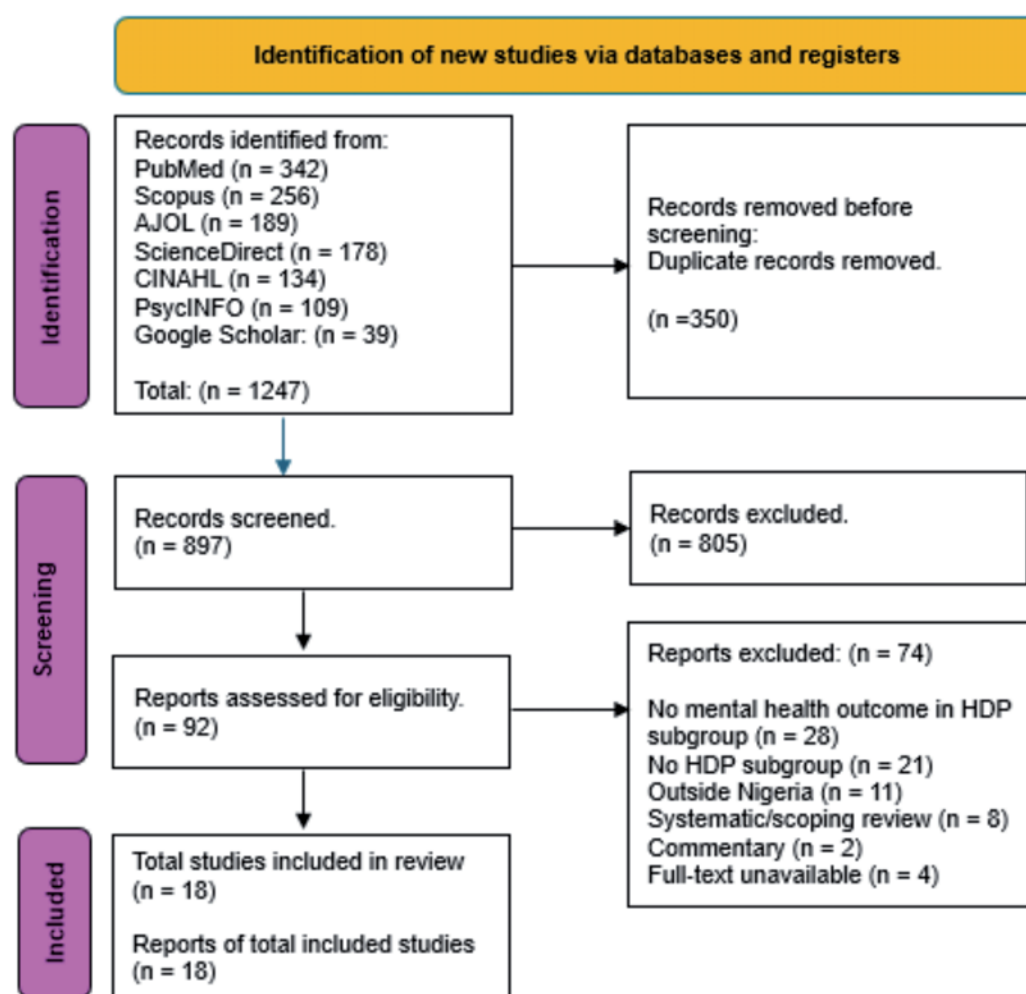


Figure 1. Diagram of the PRISMA 2020 Process for Systematic Reviews and Meta-Analyses.

tions, outcome measures, and analytical approaches, a meta-analysis was neither planned nor appropriate. Instead, findings were synthesized using a thematic analysis approach.

Results

Characteristics of eligible included studies

A total of 18 peer-reviewed articles met the inclusion criteria and were included in the final synthesis.^{13-18,27,33-43} The characteristics of these studies are summarized in *Supplementary Table 2* and described narratively below. The studies were concentrated in south-west and south-east Nigeria. Cross-sectional designs dominated, followed by qualitative, prospective cohort/longitudinal, mixed-methods, and case-control. Instruments used included Hospital Anxiety and Depression Scale, Depression, Anxiety and Stress Scale-21 (DASS-21), General Health Questionnaire-12 (GHQ-12), Edinburgh Postnatal Depression Scale (EPDS), Perinatal Anxiety Screening Scale, World Health Organization Quality of Life-Brief Version, Generalized Anxiety Disorder-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9), and Self-Reporting Questionnaire-20. The most frequently assessed outcomes were depression, anxiety, and psychological distress.

Quality appraisal of included studies

The risk of bias and quality assessment for the 18 primary studies is presented in *Supplementary Table 1*. Most studies had clear aims and relevant designs. Seven studies had moderate risk of bias mainly due to convenience sampling or lack of confounder adjustment. Two studies were rated high risk because of incomplete reporting and absence of validated cut-off reporting. Overall, the evidence base is of Moderate quality. *Supplementary Table 1* presents the quality assessment score of the included studies.

Thematic synthesis of findings

Three overarching themes were identified across included studies: i) increased psychological morbidity among women with HDP; ii) biopsychosocial pathways linking HDP and mental health; iii) health system constraints limiting identification and management of mental health conditions in antenatal care.

Psychological burden in hypertensive disorders of pregnancy

Across studies, HDP was consistently associated with higher levels of depression, anxiety, and psychological distress compared with normotensive pregnancies.^{13-18,27,33-43} Although prevalence estimates varied due to differences in measurement tools and study populations, all studies reported a consistent pattern of elevated psychological symptoms among women with HDP. The burden was evident across multiple validated instruments, including PHQ-9, GAD-7, EPDS, and DASS-21.^{13-17,35} Psychological impairment also extended to reduced quality of life, particularly in the psychological domain.³⁵ These findings indicate that HDP functions as a significant amplifier of pre-existing antenatal mental health risk in Nigeria.^{15,16,18}

Biopsychosocial pathways

Evidence suggests that the association between HDP and mental health is driven by interacting biological, psychological, and social mechanisms. Biological pathways include dysregulation of inflam-

matory and neuroendocrine systems that are implicated in both hypertensive and affective disorders.^{19,20} Psychologically, HDP represents an acute disruption of expected pregnancy trajectories, often accompanied by fear of adverse maternal and fetal outcomes and loss of perceived control.^{21,22} Socially, structural disadvantage including poverty, gender inequality, intimate partner violence, and financial dependence intensifies vulnerability and limits coping capacity.^{13-16,24,34,38}

Health system constraints

A consistent finding across studies is the weak integration of mental health care into antenatal services in Nigeria.^{18,28,34,38} Routine screening for psychological distress is not standard practice, resulting in substantial under-detection of mental health conditions in women with HDP. Health system limitations, including shortages of mental health professionals, further constrain service delivery.²⁵ Although task-sharing approaches have demonstrated improvements in detection of perinatal mental disorders, implementation remains limited.¹⁸ At the policy level, despite existing national frameworks, operational integration of maternal mental health services remains incomplete.²⁸

Cross-theme synthesis

Collectively, the evidence indicates that HDP-related mental health outcomes emerge from the interaction of elevated baseline antenatal psychological vulnerability, acute obstetric stress, and structural health system limitations.^{13-18,27,33-43} Rather than a simple comorbidity, HDP appears to intensify existing mental health risk within a context of fragmented service delivery and limited psychosocial support.

Discussion

The relationship between HDP and maternal mental health can be understood through a reinforcing biopsychosocial model in which biological stress responses, psychological trauma associated with high-risk pregnancy, and structural social adversity interact dynamically.^{19-22,26,27,44-49} These interacting mechanisms are further compounded by weak integration of mental health into antenatal care, creating a cycle of under-detection and untreated psychological morbidity.

Health system implications

The evidence highlights a critical gap in the integration of mental health into maternal health services in Nigeria. Antenatal care remains predominantly biomedical, with limited attention to psychological well-being, particularly in high-risk pregnancies such as HDP.^{18,28,50-52} Strengthening routine screening, task-sharing approaches, and referral systems is essential to addressing this gap.²⁵

Summary and interpretation of key findings

This systematic review synthesized evidence on the relationship between HDP and maternal mental health in Nigeria. Across 18 primary studies,^{13-18,27,33-43} findings consistently demonstrate that women with HDP experience higher levels of depression, anxiety, and psychological distress compared with normotensive pregnant women.^{13-17,35} Despite variability in measurement tools and study settings, the direction of effect is uniform, indicating HDP as a consistent amplifier of antenatal psychological morbidity within

an already high-risk population.^{15,16,18} The evidence further highlights substantial gaps in the integration of mental health services into antenatal care, resulting in persistent under-detection and undertreatment of psychological disorders in this group.^{18,28,50-52} The observed association between HDP and poor mental health outcomes is best understood through an integrated biopsychosocial framework. At the biological level, shared inflammatory and neuroendocrine dysregulation may contribute to both hypertensive and affective disorders in pregnancy.^{19,20} At the psychological level, HDP represents a significant disruption of expected pregnancy trajectories, often accompanied by fear of maternal and fetal mortality and reduced perceived control.^{21,22} At the social level, structural disadvantage including poverty, gender inequality, intimate partner violence, and financial dependence further exacerbates psychological vulnerability.^{13-16,24,47-49}

These interacting mechanisms are reinforced by systemic weaknesses in antenatal care delivery, particularly the absence of routine mental health screening and limited integration of psychosocial services.^{18,28,50-52} Health system constraints, including shortages of mental health professionals and incomplete implementation of task-sharing models, further limit service availability.²⁵ Collectively, these factors produce a reinforcing cycle of unmet mental health needs among women with HDP.

Unique contribution of this review

This review provides the first systematic synthesis of evidence on the intersection between HDP and maternal mental health in Nigeria. Unlike prior studies that examine antenatal mental health or hypertensive disorders separately, this review integrates both domains within a unified framework.^{13-18,27,33-43} It highlights how psychological morbidity in HDP is shaped not only by clinical risk but also by structural health system fragmentation and sociocultural interpretations of illness.^{26,27,47-49}

The findings therefore extend the literature by providing a context-specific synthesis relevant to low-resource health systems with limited integration of perinatal mental health services. The findings of this review are broadly consistent with evidence from other LMICs, where HDP have been associated with increased risk of antenatal depression and anxiety.^{19,20} However, the Nigerian context is distinguished by more pronounced health system fragmentation, limited integration of mental health services into antenatal care, and greater reliance on out-of-pocket healthcare financing. Compared with high-income settings where routine screening and referral pathways are more established, Nigeria demonstrates a substantial implementation gap, underscoring the unique contribution of this review in highlighting context-specific barriers and opportunities for integration.

Prevalence and nature of mental health problems in hypertensive disorders of pregnancy

The evidence demonstrates that psychological morbidity among pregnant women in Nigeria is substantial, with depression, anxiety, and general psychological distress showing consistently elevated prevalence estimates.^{13-15,17} While general antenatal populations already exhibit high mental health burden, women with HDP appear to experience a disproportionate escalation in symptom severity.^{15,16,18} Across studies, HDP is consistently associated with poorer psychological outcomes, particularly elevated anxiety and depressive symptomatology and reduced quality of life in the psychological domain.^{17,35} Importantly, HDP functions not merely as a comor-

bid condition but as a significant stress amplifier within an already high-risk perinatal population.⁵⁰⁻⁵² These findings align with broader global evidence demonstrating bidirectional associations between HDP and mental health disorders.^{19,20,23}

The findings of this review are broadly consistent with evidence from other LMICs, where HDP have been associated with increased risk of antenatal depression and anxiety.^{19,20} However, the Nigerian context is distinguished by more pronounced health system fragmentation, limited integration of mental health services into antenatal care, and greater reliance on out-of-pocket healthcare financing. Compared with high-income settings where routine screening and referral pathways are more established, Nigeria demonstrates a substantial implementation gap, underscoring the unique contribution of this review in highlighting context-specific barriers and opportunities for integration. The variability in psychometric performance within Nigerian populations further complicates interpretation, underscoring the need for locally validated screening instruments.³⁷ Many instruments currently used in Nigerian studies were originally developed in high-income settings and may not fully capture culturally specific expressions of psychological distress during pregnancy. Future work should prioritize the cultural adaptation, validation, and, where necessary, development of contextually relevant perinatal mental health screening tools to improve diagnostic accuracy and comparability across studies.

Biopsychosocial pathways linking hypertensive disorders of pregnancy and mental health

The relationship between HDP and mental health outcomes is best understood through an integrated biopsychosocial framework rather than isolated causal mechanisms. At the biological level, international evidence suggests shared neuroendocrine and inflammatory pathways linking psychological distress and hypertensive pathology. Dysregulation of the hypothalamic–pituitary–adrenal axis, systemic inflammation, and endothelial dysfunction are implicated in both conditions.^{19,20} Conversely, hypertensive disorders may further exacerbate neurobiological stress responses, reinforcing a cyclical physiological burden. Psychologically, HDP represents a significant deviation from expected pregnancy trajectories, often accompanied by fear of maternal or fetal death, uncertainty, and perceived loss of control.^{21,22} Cultural interpretations further intensify this burden, as hypertensive disorders are frequently conceptualized as stress-induced or spiritually influenced conditions.^{26,27} Such explanatory models may increase guilt, self-blame, and emotional distress following diagnosis, shaping both psychological adjustment and care-seeking behavior.

At the social level, HDP occurs within entrenched structural disadvantage characterized by poverty, gender inequality, and weak social protection systems.^{13-16,47-49} Economic dependency on partners, limited financial autonomy, and high out-of-pocket healthcare costs exacerbate psychological distress, particularly in high-risk pregnancies requiring repeated clinical visits and potential emergency interventions.⁶ Intimate partner violence and marital instability further compound this vulnerability, reinforcing chronic stress exposure within pregnancy.¹⁶

Health system gaps and fragmentation of care

A central finding of this review is the substantial disconnect between mental health needs and service delivery within antenatal care systems in Nigeria. Despite high prevalence of psychological morbidity among pregnant women, mental health screening is not

routinely integrated into antenatal care pathways.^{18,28,50-52} As a result, mental health conditions remain largely undiagnosed and untreated, even in high-risk groups such as women with HDP. Health system constraints are structural rather than incidental. Severe shortages of mental health professionals and limited integration of mental health into maternal health services severely restrict service capacity.²⁵ Although task-sharing models demonstrate improved detection rates for perinatal mental disorders, implementation remains limited by workforce constraints, supervision gaps, and stigma.¹⁸

Furthermore, although national mental health legislation now exists, its translation into maternal mental health services remains incomplete.²⁸ The absence of standardized perinatal mental health guidelines and weak integration into health information systems further limits systemic responsiveness. Cultural stigma and normative expectations surrounding pregnancy as a universally positive experience also suppress help-seeking behaviors.^{14,15} This contributes to persistent underreporting and delayed identification of mental health problems among pregnant women. The findings underscore a critical gap in the integration of mental health into antenatal care in Nigeria.^{18,28,50-52} Antenatal services remain predominantly focused on physical health outcomes, with limited routine attention to psychological well-being, particularly in high-risk pregnancies such as HDP. Strengthening routine screening, task-sharing approaches, and referral systems is essential to addressing this gap and improving maternal outcomes.²⁵

Integrated interpretation

The evidence suggests that HDP-related mental health outcomes arise from the interaction of physiological stress mechanisms, acute obstetric risk experiences, and structural social vulnerabilities.⁴⁷⁻⁴⁹ Rather than a linear relationship, HDP and mental illness appear embedded within a reinforcing system in which biological, psychological, and social stressors interact dynamically.^{19-22,26,27,47-49} This integrated model better explains the observed heterogeneity of outcomes across studies and highlights the need for multi-level interventions that extend beyond clinical management of blood pressure alone.

Limitations and evidence gaps

The current evidence base exhibits several important limitations. First, geographic representation is uneven, with most studies concentrated in southern Nigeria, leaving northern and conflict-affected regions underrepresented. Second, the dominance of cross-sectional designs limits causal inference, with very few longitudinal studies available. Third, important mental health outcomes such as PTSD, tokophobia, and suicidality remain largely unexplored, despite their established relevance in high-risk obstetric populations globally. Fourth, qualitative evidence capturing lived experiences of women with HDP is limited, restricting understanding of contextual and cultural dimensions. Fifth, no intervention studies have evaluated psychological or psychosocial treatments specifically for women with HDP in Nigeria, representing a critical translational gap between evidence and practice. Finally, HDP subtypes are rarely disaggregated, limiting understanding of whether severity or classification influences mental health outcomes. Future research should prioritize prospective cohort studies capable of establishing temporal relationships between HDP and mental health outcomes across pregnancy and the postpartum period. Randomized and implementation trials evaluating psychosocial, behavioral, and task-shared interventions

are urgently needed. Research should also incorporate standardized outcome measures, disaggregate HDP subtypes, include conflict-affected and northern regions, and examine underexplored outcomes such as post-traumatic stress disorder, suicidality, fear of childbirth, resilience, and maternal functioning. Mixed-methods studies exploring women's lived experiences would further strengthen contextual understanding and inform culturally responsive interventions.

Strengths and limitations of the study

The quality appraisal indicated that most included studies clearly articulated their research objectives and employed appropriate study designs. However, several studies were limited by cross-sectional methodologies, small sample sizes, and inconsistent reporting of analytical procedures. Consequently, while confidence in the overall direction of findings is high, confidence in the magnitude of reported associations is more moderate. The predominance of observational evidence underscores the need for longitudinal and intervention studies to strengthen causal inference and inform evidence-based interventions. The reliance on self-report screening instruments rather than clinical diagnostic interviews may have resulted in misclassification and over- or under-estimation of prevalence estimates. Potential publication bias cannot be excluded, as studies reporting significant associations may be more likely to be published than null findings.

As a systematic review, no meta-analysis or effect size estimation was conducted. A quantitative meta-analysis was not undertaken because of substantial heterogeneity in study populations, HDP classifications, mental health outcomes, and assessment instruments. Consequently, pooled prevalence estimates and summary effect sizes could not be generated, limiting the ability to quantify the overall magnitude of associations between HDP and maternal mental health outcomes. Furthermore, formal statistical assessment of publication bias was not feasible. The findings should therefore be interpreted primarily as a narrative synthesis of current evidence rather than a precise estimate of effect. Language restrictions may have excluded relevant non-English studies. Some grey literature may not have been captured. The quality appraisal indicated that most included studies clearly articulated their research objectives and employed appropriate study designs. However, several studies were limited by cross-sectional methodologies, small sample sizes, and inconsistent reporting of analytical procedures. Consequently, while confidence in the overall direction of findings is high, confidence in the magnitude of reported associations is more moderate. The predominance of observational evidence underscores the need for longitudinal and intervention studies to strengthen causal inference and inform evidence-based interventions.

Conclusions

This review demonstrates that HDP in Nigeria are strongly associated with increased psychological morbidity, including depression, anxiety, and reduced quality of life. These outcomes occur within a broader context of limited mental health integration into antenatal care systems, weak health system capacity, and significant structural inequalities. The relationship between HDP and mental health is multidimensional, shaped by biological stress pathways, psychological trauma responses, and socio-economic deprivation. However, the absence of longitudinal and intervention research limits causal understanding and constrains clinical translation. Addressing this dual burden requires integrated mater-

nal mental health strategies embedded within antenatal care, supported by health system strengthening and culturally responsive interventions.

Recommendations

Based on the findings of this review, the following are the suggested recommendations.

Priority recommendations

Based on the evidence synthesized in this review, we propose a prioritized set of recommendations organized into immediate, medium-term, and long-term actions to support implementation within the Nigerian health system.

Immediate priorities (0–2 years: “quick wins”)

Routine integration of brief validated mental health screening tools (e.g., EPDS, PHQ-9, GHQ-12) into antenatal care should be implemented nationwide, with intensified screening for women diagnosed with HDP. This should be accompanied by basic training of midwives, community health extension workers, and antenatal care providers in psychosocial assessment and referral pathways using a task-sharing model. Simple referral protocols linking antenatal clinics to existing mental health services should be established at primary and secondary care levels. In addition, mental health education should be incorporated into routine antenatal health talks to reduce stigma and improve help-seeking behavior.

Medium-term priorities (2–5 years)

The Federal Ministry of Health should develop and disseminate standardized national guidelines for perinatal mental health, with explicit integration into HDP care pathways. Mental health indicators, including screening coverage, detection rates, and treatment uptake, should be incorporated into District Health Information Software 2 and National Health Management Information System reporting systems. Dedicated budgetary allocation for maternal mental health within existing financing mechanisms such as the Basic Health Care Provision Fund is also required to support scale-up.

Long-term priorities (5+ years)

Sustained investment is needed to expand the mental health workforce and institutionalize integrated maternal mental health services within routine antenatal and obstetric care. This includes embedding perinatal mental health into national Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) strategies, strengthening specialist referral networks, and establishing monitoring systems for maternal mental health outcomes.

Implications of the study

Public health implications

The review underscores that maternal mental health is an integral component of maternal and child health, not an optional add-on. The high prevalence of undetected and untreated mental disorders among women with HDP represents a significant public health burden, with implications for maternal mortality, preterm birth, low birth weight, impaired mother-infant bonding, and adverse child developmental outcomes. Integrated maternal mental health services should be prioritized within the national RMNCAH strategy.

Practice implications

Healthcare providers at all levels, from community health extension workers to consultant obstetricians, must be equipped with the knowledge, skills, and tools to identify and respond to mental health problems among women with HDP. This requires investment in pre-service and in-service training, the development of simple clinical algorithms, and the creation of enabling practice environments that support holistic, woman-centered care.

Research implications

The identified gaps provide a clear agenda for future research. Priority areas include longitudinal cohort studies, intervention trials, qualitative explorations of lived experience, psychometric validation of screening tools, investigation of neglected outcomes (PTSD, suicidality), and research in under-represented regions and populations. Implementation science research that examines how to translate evidence into practice within the constraints of the Nigerian health system is particularly critical.

Global health implications

Nigeria’s experience is emblematic of the broader challenge facing LMICs: how to address the growing double burden of non-communicable diseases (including HDP) and mental disorders within resource-constrained health systems. The findings of this review are relevant to other countries in sub-Saharan Africa and South Asia that share similar epidemiological profiles and health system challenges. Lessons learned from Nigeria could inform regional and global efforts to integrate mental health into maternal health services.

Policy and health system implications

This review highlights that maternal mental health remains insufficiently integrated into Nigeria’s antenatal care system, despite high burden among women with HDP. The National Mental Health Act (2021) provides a legislative foundation; however, operationalization within maternal health services remains limited. Strengthening integration requires alignment of policy, financing, and service delivery structures, with explicit inclusion of perinatal mental health within national RMNCAH frameworks.

Education and community engagement

Pre-service and in-service training curricula for medical, nursing, and midwifery professionals should include structured content on perinatal mental health, with emphasis on high-risk pregnancies such as HDP. Community-based mental health literacy programs should engage families, religious leaders, and community influencers to reduce stigma and improve early identification and support for affected women.

Future directions

Future research should prioritize prospective longitudinal cohort studies tracking women with HDP from early pregnancy through at least 12 months postpartum to establish temporal relationships and bidirectional pathways between HDP and mental health outcomes. There is also a critical need for multi-site studies across all geopolitical zones of Nigeria, including underserved northern and conflict-affected populations. Research should disaggregate HDP subtypes (e.g., chronic hypertension, gestational hypertension, pre-eclampsia, eclampsia, HELLP syndrome) to better understand severity-specific mental health risks. Intervention research, including randomized

controlled trials and implementation studies, is urgently needed to evaluate culturally adapted psychological and psychosocial interventions delivered through task-sharing models.

Additionally, future studies should prioritize the development and validation of culturally appropriate perinatal mental health screening tools and examine underexplored outcomes such as PTSD, suicidality, tokophobia, and maternal functioning.

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Online supplementary material:

Supplementary Table 1. Risk of bias/quality assessment of the included studies.

Supplementary Table 2. Summary of the included studies.

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