Mental Wellness

Mental Wellness 2026; 4:71
doi: 10.4081/mw.2026.71

A systematic review of the impact of post-COVID-19 on mental health among populations in Nigeria

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Abstract

The COVID 19 pandemic precipitated a global mental health crisis, with low- and middle-income countries such as Nigeria bearing a disproportionate burden. Despite a growing body of local research, a comprehensive synthesis of the impact of post-COVID-19 on mental health among Nigerian populations is lacking. This systematic review aimed to synthesize peer reviewed evidence on the prevalence, patterns, risk factors, and protective factors associated with adverse mental health outcomes in the post-COVID-19 context in Nigeria.

A systematic search of PubMed, Scopus, AJOL, and other databases was conducted for grey literature and primary studies published between 2020 and 2026. A total of 22 studies met the inclusion criteria. The Joanna Briggs Institute Checklist was used for risk of bias and quality assessment. Thematic narrative synthesis was employed due to methodological heterogeneity.

The 22 included studies revealed a high burden of anxiety, depression, post traumatic stress symptoms, and psychological distress across diverse populations, including the general adult population, hospitalized and discharged COVID-19 patients, healthcare workers, students, children, older adults, pregnant women, and rural farming households. Key risk factors included female sex, pre existing chronic illness, prolonged isolation, fear of infection, economic disruption, and limited social support. Protective factors encompassed social support, resilience, higher education, and eHealth literacy.

The post-COVID-19 mental health burden in Nigeria is substantial and pervasive across demographic groups. There is an urgent need to integrate mental health services into primary care and pandemic preparedness frameworks, expand digital mental health interventions, and address social determinants of mental health through multi sectoral policy action.

Key words: impact, COVID−19, mental health, populations, Nigeria, systematic review.

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Introduction

The COVID-19 pandemic, caused by SARS-CoV-2, precipitated an unparalleled global health crisis that extended far beyond physical morbidity to engender a profound and pervasive mental health burden.[1] From the earliest phases of the outbreak, the World Health Organization warned that fear, uncertainty, and the stringent public health measures adopted to curb viral transmission, namely lockdowns, physical distancing, and enforced isolation, would exact a heavy psychological toll on populations worldwide.[1] The pandemic generated a parallel epidemic of mental distress, characterized by elevated rates of anxiety, depression, post-traumatic stress symptoms, sleep disturbances, and substance use across diverse demographic groups and geographic regions.[2-4] Systematic reviews and meta-analyses of the global literature subsequently confirmed substantial increases in the prevalence of common mental disorders during and after the acute phases of the pandemic.[5] However, the distribution of this mental health burden was far from uniform: low- and middle-income countries (LMICs), particularly those with already fragile health systems, limited social safety nets, and pre-existing socioeconomic vulnerabilities, bore a disproportionately heavy share of the psychosocial consequences of the pandemic.[6,7]

Nigeria, Africa's most populous nation with over 200 million inhabitants and the continent's largest economy, exemplifies the complex interplay of factors that rendered LMICs especially susceptible to the mental health impacts of COVID-19.[8] Even before the pandemic, Nigeria's mental health system was grossly underresourced, characterized by a severe shortage of mental health professionals, inadequate funding, and widespread stigma surrounding mental illness.[9] The country's Mental Health Policy of 2013 remained poorly implemented, and the ratio of mental health workers to the population stood at approximately 0.1 per 100,000, one of the lowest globally.[10,11] These systemic deficiencies were compounded by widespread poverty, high unemployment, internal displacement due to insurgency and banditry, and weak social protection mechanisms.[11] When COVID-19 reached Nigeria in February 2020, the federal and state governments responded with a series of containment measures, including a national lockdown imposed in March 2020, interstate travel bans, school closures, and the compul-

sory use of face masks, which, while necessary to slow viral spread, profoundly disrupted daily life, livelihoods, and social networks.[12]

The psychological reverberations of these disruptions were felt across the entire Nigerian population. Fear of infection, uncertainty about the future, loss of income, social isolation, and disruptions to routine healthcare access coalesced to create a perfect storm for mental health deterioration.[13,14] Early reports from Nigerian mental health professionals highlighted a surge in anxiety disorders, depressive episodes, post-traumatic stress symptoms, and even suicide ideation among various segments of the population.[15] Pregnant women, people living with chronic illnesses such as HIV, frontline healthcare workers, university students, adolescents, older adults, and individuals from lower socioeconomic strata emerged as groups particularly vulnerable to the mental health consequences of the pandemic.[16-19] The situation was further compounded by deeply rooted cultural and religious beliefs that often shaped public perceptions of the disease, contributing to stigma, denial, and reluctance to seek both medical and psychological care.[20]

Given the magnitude and multifaceted nature of the mental health challenge posed by the COVID-19 pandemic in Nigeria, it is imperative to systematically collate, appraise, and synthesize the available evidence to understand the scope, patterns, and determinants of post-COVID-19 mental health outcomes in the country. A comprehensive synthesis of the primary research conducted within the Nigerian context is essential to inform evidence-based policy, guide the allocation of scarce mental health resources, and design culturally appropriate interventions that can mitigate the long-term psychological sequelae of the pandemic. The rationale for this systematic review therefore rests on the urgent need to bridge the gap between a rapidly accumulating but fragmented body of local evidence and the formulation of actionable mental health strategies tailored to Nigeria's unique sociocultural and economic landscape. By focusing exclusively on peer-reviewed primary studies conducted among Nigerian populations, this review seeks to provide a granular, context-specific understanding that global syntheses cannot offer.

Objectives of the study

The primary objective of this systematic review was to comprehensively synthesize the available peer-reviewed evidence on the impact of post-COVID-19 on mental health outcomes among diverse populations within Nigeria. Specifically, this review aimed to identify and characterize the prevalence and patterns of common mental health conditions, including anxiety, depression, post-traumatic stress symptoms, psychological distress, and sleep disturbances that manifested during and following the acute phase of the COVID-19 pandemic across different demographic groups, geographical regions, and occupational categories in Nigeria. In addition, this review sought to elucidate the sociodemographic, clinical, and contextual risk factors and protective factors associated with adverse mental health outcomes in the Nigerian post-COVID-19 context. Furthermore, the study aimed to examine the coping strategies, resilience mechanisms, and support systems that individuals and communities mobilized to mitigate the psychological impact of the pandemic. By systematically collating and thematically analyzing the findings of primary research studies conducted exclusively in Nigeria, this review intended to generate a robust evidence base that can inform the design of culturally sensitive and contextually appropriate mental health interventions, policies, and future research priorities for post-pandemic mental health recovery in the country.

Methods

Study design

This study was conducted as a systematic review, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.[21] The review protocol was developed to ensure methodological rigor and transparency throughout the identification, screening, selection, and synthesis of eligible studies.[22]

Information sources

A comprehensive and systematic literature search was undertaken using multiple electronic databases to maximize the identification of relevant studies. The databases searched were PubMed, Scopus, Web of Science, AJOL, ScienceDirect, and the Cochrane Library. Reference lists of all eligible studies were also manually screened to identify additional relevant publications that may not have been retrieved through the electronic database searches.

Search strategy

A combination of controlled vocabulary terms, including Medical Subject Headings (MeSH) terms where applicable, and free-text keywords was employed to maximize sensitivity and specificity. The search strategy encompassed three major conceptual domains: i) the condition of interest ("COVID-19", "SARS-CoV-2", "coronavirus", "post-COVID", or "pandemic"); ii) mental health outcomes ("mental health", "anxiety", "depression", "post-traumatic stress", "PTSD", "psychological distress", "sleep", "suicide", or "wellbeing"); and iii) the study setting ("Nigeria" or "Nigerian"). Boolean operators ("AND" and "OR") were used to combine search terms appropriately, and database-specific syntax and indexing were applied for each electronic database. The literature search covered studies published from 1 January 2020 to 31 May 2026. Searches were conducted up to 31 May 2026, and all records retrieved within this period were screened for eligibility. Articles published in 2025-2026 were included only if they had been formally published or were available as officially indexed electronic publications ahead of print within the searched databases at the time of the search. No unpublished manuscripts or non-indexed preprints were included.

Eligibility criteria

Inclusion criteria

Studies were included if they: i) were primary research articles published in peer-reviewed journals; ii) explicitly examined one or more mental health outcomes, including anxiety, depression, post-traumatic stress, psychological distress, sleep disorders, suicidal ideation, or general psychological well-being, in relation to the COVID-19 pandemic; iii) were conducted among Nigerian populations or clearly defined sub-populations residing in Nigeria; iv) employed quantitative, qualitative, or mixed-methods study designs; v) were published in the English language; and vi) were published between January 2020 and May 2026.

Exclusion criteria

Studies were excluded if they: i) were systematic reviews, scoping reviews, narrative reviews, meta-analyses, editorials, commentaries, letters to the editor, conference abstracts, or other non-primary research publications; ii) were conducted entirely outside Nigeria or did not report Nigerian-specific findings that could be

disaggregated; iii) focused exclusively on physical health outcomes without assessing any mental health outcome; iv) represented duplicate publications based on the same dataset, in which case the most comprehensive or recent report was retained; or v) were not published in English.

To ensure methodological quality and consistency, only peer-reviewed published studies were included. While this approach strengthened the reliability of the evidence synthesis, it may have excluded relevant findings from grey literature, program reports, dissertations, government publications, and other unpublished sources. This restriction was considered during the interpretation of the review findings as a potential source of publication bias.

Risk of bias assessment

The risk of bias and quality appraisal of included studies were performed using a simplified framework adapted from the Joanna Briggs Institute critical appraisal checklists.[23,24] The risk of bias assessment of the included studies is presented in *Supplementary Table 1*.

Study selection

The study selection process was conducted in accordance with the PRISMA 2020 flow diagram. Two reviewers independently screened the titles and abstracts of all unique records against the pre-specified eligibility criteria. Records that clearly did not meet the inclusion criteria were excluded at this stage. The full texts of all potentially eligible records were then retrieved and independently assessed by the same two reviewers. Any disagreements regarding eligibility were resolved through discussion and consensus. The reasons for exclusion at the full-text screening stage were documented and are reported in the PRISMA flow diagram (Figure 1).

Data extraction and synthesis approach

A standardized data extraction form was developed in Microsoft Excel. For each included study, the following information was extracted: i) bibliographic information; ii) study objectives; iii) study design; iv) study setting and geographic location within Nigeria; v) sample size and sociodemographic characteristics; vi) key findings related to mental health prevalence, risk fac-

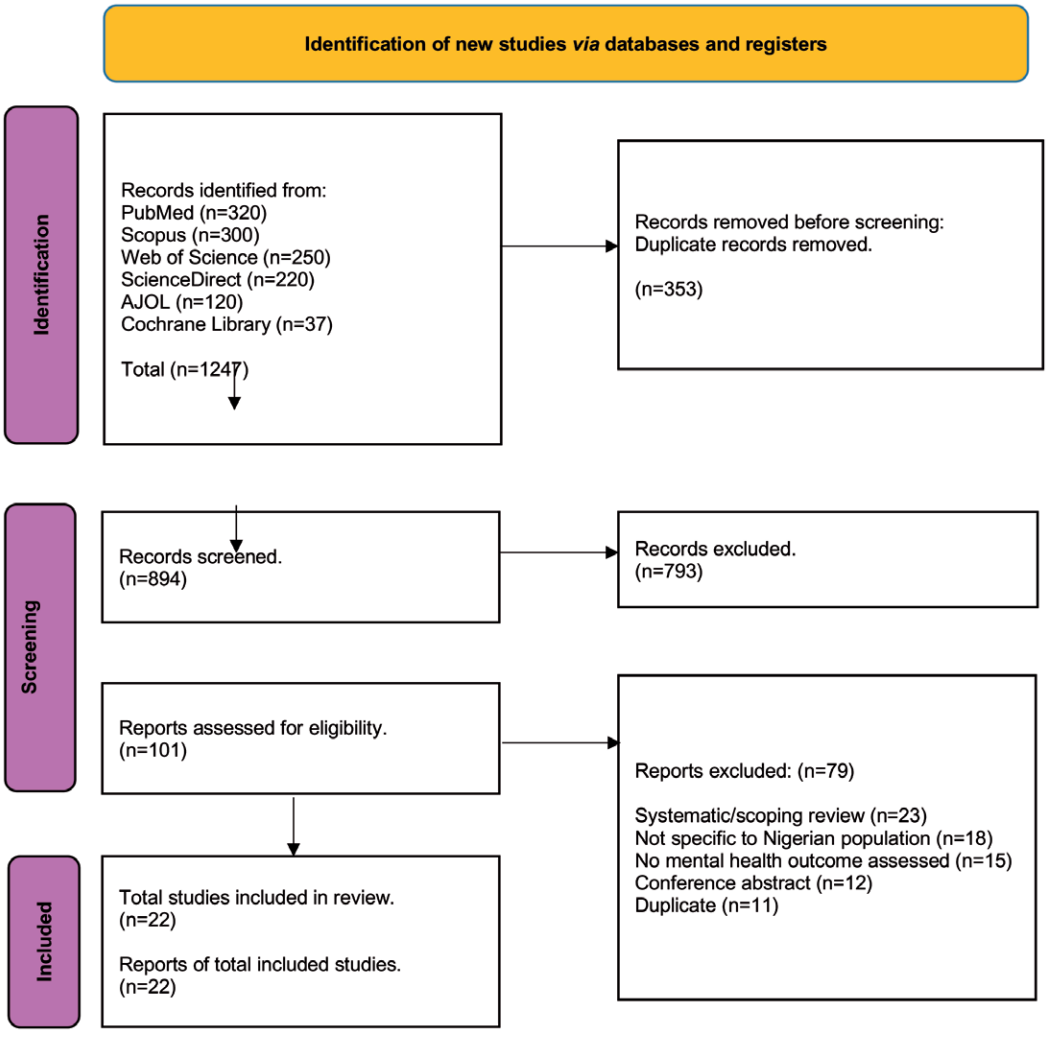

Figure 1. Diagram of the PRISMA 2020 Process for Systematic Reviews and Meta-Analyses.

tors, protective factors, and coping strategies; and vii) authors' main conclusions.

Given the substantial clinical and methodological heterogeneity observed across the included studies, including variations in study populations, mental health outcomes, measurement instruments, and analytic approaches, a narrative thematic synthesis approach was employed.[25]

Screening procedure

Records identified through database searching – total n=1247: PubMed (n=320), Scopus (n=300), Web of Science (n=250), ScienceDirect (n=220), AJOL (n=120), Cochrane Library (n=37). Records of duplicates removed n=353. Records screened (title/abstract) n=894. Records excluded n=793. Full-text articles assessed for eligibility n=101. Full-text articles excluded n=79: reasons – not primary research/review (n=23), not specific to the Nigerian population (n=18), no mental health outcome assessed (n=15), conference abstract/editorial (n=12), duplicate data (n=11); studies included in synthesis (n=22). The PRISMA 2020 flow diagram illustrating the study selection and screening procedure is presented in Figure 1.

Quality appraisal

The quality appraisal of the included studies revealed a generally moderate-to-high level of methodological quality. Among the 22 included studies,[26-47] 7 were rated as high quality with low risk of bias, 13 were rated as moderate quality with moderate risk of bias, and 2 were rated as low quality with high risk of bias. The most common methodological limitations identified across studies included reliance on convenience sampling, lack of a priori sample size calculations, use of non-validated or adapted mental health instruments, and failure to adequately control for confounding variables in multivariate analyses. Despite these limitations, the overall quality of the evidence base was deemed sufficient to support meaningful thematic synthesis and to draw credible conclusions regarding the impact of post-COVID-19 on mental health in Nigeria, particularly when findings were triangulated across multiple studies. *Supplementary Table 1* shows the summary of the quality appraisal of the included studies.

Results

Characteristics of the eligible included studies

The 22 included studies comprised a total of 14,821 participants recruited from diverse population groups and geographical regions across Nigeria.[26-47] The studies were published between 2020 and 2026, with the greatest concentration appearing in 2022 and 2023. Most employed cross-sectional designs, while a smaller number used qualitative or mixed methods approaches. This methodological diversity provided broad insights into the mental health impact of COVID-19 but also contributed to substantial heterogeneity in study populations, outcome measures, and analytical approaches. The included studies represented all six geopolitical zones of Nigeria, although the geographical distribution was uneven, with some regions contributing substantially more evidence than others. Study populations included the general adult population, people living with HIV, hospitalized and discharged COVID-19 patients, frontline healthcare workers, university and radiography students, children and adolescents, older adults, pregnant women, farming households, and individuals living with pre-existing mental health conditions. Mental health outcomes assessed included anxiety, depression, post-traumatic stress symptoms (PTSS), psychological distress, stress, sleep disturbances, suicidal ideation, fear, social dysfunction, and overall psychosocial well-being.

Although the broad geographical coverage enhances the contextual relevance of the review, the evidence base was dominated by online questionnaire-based studies. Consequently, participants were predominantly individuals with internet access and adequate digital literacy, potentially resulting in the overrepresentation of younger, urban, more educated, and relatively higher socioeconomic populations. Conversely, older adults, individuals residing in rural or underserved communities, and persons with limited access to digital technologies may have been underrepresented. These sampling characteristics should therefore be considered when interpreting the reported prevalence of mental health outcomes and the generalizability of the findings to the wider Nigerian population.

Considerable heterogeneity was also observed in the assessment of mental health outcomes. The included studies employed a range of validated screening instruments to evaluate anxiety, depression, stress, PTSS, sleep disturbances, and psychological well-being. Differences in the choice of assessment tools, psychometric characteristics, and diagnostic cut-off scores may have contributed to variability in prevalence estimates across studies. The detailed characteristics of all included studies are presented in *Supplementary Table 2*. To facilitate comparison, a summary of the mental health assessment instruments and their corresponding outcome measures is provided in *Supplementary Table 3*. Across the included studies, substantial heterogeneity was observed in the mental health assessment instruments and diagnostic thresholds employed. Although most studies utilized internationally validated screening tools, differences in instrument selection, scoring systems, and cut-off values may partly explain the variation in reported prevalence estimates. A summary of the instruments used, their principal psychometric characteristics, and commonly applied cut-off scores is provided in *Supplementary Table 3* to facilitate comparison across studies.

Quality appraisal of the included studies

The methodological quality assessment of the 22 included studies,[26-47] summarized in *Supplementary Table 1*, demonstrated an overall moderate-to-high quality evidence base, although several recurring methodological limitations were identified. Eight studies were rated as high quality, reflecting clearly defined research objectives, appropriate study designs, validated measurement instruments, adequate sample sizes, and statistical analyses that appropriately accounted for potential confounding variables. These studies provide the strongest evidence underpinning the findings of this review, particularly where multivariable analyses were undertaken to identify independent predictors of adverse mental health outcomes. Twelve studies were assessed as moderate quality. While these studies generally employed validated outcome measures and appropriate analytical methods, common limitations included convenience sampling, insufficient justification of sample size, incomplete reporting of response rates, and reliance on self-reported measures without clinical confirmation. Although these limitations may have introduced some uncertainty into prevalence estimates, they were not considered sufficient to invalidate the principal findings. Two studies were rated as low quality owing to more substantial methodological concerns, including relatively small sample sizes, limited reporting of participant recruitment and

data collection procedures, and inadequate consideration of potential confounding variables.

Consequently, findings from these studies were interpreted cautiously and primarily used to complement patterns consistently observed in higher-quality investigations rather than serving as independent evidence. Across the evidence base, the most consistent methodological limitation was the predominance of cross-sectional study designs. While these studies are well suited for estimating the prevalence of mental health outcomes and identifying statistical associations, they do not establish temporal relationships or causal effects. Accordingly, associations reported throughout this review should not be interpreted as evidence that the COVID-19 pandemic directly caused the observed mental health outcomes. Rather, they indicate important relationships that warrant further investigation using longitudinal and prospective study designs. Another important methodological consideration was the widespread reliance on online surveys for participant recruitment. Although this approach was understandable during periods of movement restrictions and physical distancing, it increased the likelihood of selection bias by preferentially including participants with reliable internet access, smartphones, and higher levels of digital literacy. Such recruitment strategies may have underestimated the experiences of socially disadvantaged populations, including rural residents, individuals with lower educational attainment, older adults, and economically vulnerable households, who often experience substantial barriers to digital participation. This limitation should therefore be considered when interpreting the representativeness of the available evidence. Furthermore, although most studies employed validated screening instruments, relatively few incorporated structured clinical diagnostic interviews. Consequently, the reported prevalence estimates reflect probable symptoms of anxiety, depression, post-traumatic stress, and related conditions rather than confirmed psychiatric diagnoses. Differences in screening instruments, scoring thresholds, and outcome definitions also contributed to methodological heterogeneity across studies. Despite these limitations, the consistency of findings across diverse study populations, geographical settings, and methodological approaches provides reasonable confidence in the overall conclusions of this review. Nevertheless, the evidence should be interpreted alongside its methodological constraints, particularly the predominance of cross-sectional designs, heterogeneous outcome measures, and the potential for selection and publication biases.

Thematic review/key synthesis

The synthesis of the 22 included studies identified five overarching themes that collectively describe the mental health impact of the COVID-19 pandemic and its aftermath among populations in Nigeria.[26-47] Although the evidence consistently demonstrated a substantial psychological burden across diverse population groups, interpretation of the findings should acknowledge the predominance of cross-sectional study designs and the considerable heterogeneity in study populations, outcome measures, and analytical methods.

Pervasive burden of anxiety and depression across population subgroups

The most consistently reported finding across the included studies was the high prevalence of anxiety and depressive symptoms among diverse Nigerian populations during and following the COVID-19 pandemic.[26-47] Although prevalence estimates varied according to study population, geographical setting, assessment instrument, and diagnostic thresholds, the collective evidence suggests that anxiety and depression constituted the most frequently reported mental health outcomes. Large population-based cross-sectional surveys reported that nearly half of respondents experienced clinically significant symptoms of anxiety or depression during the pandemic.[26,30] Similarly, among hospitalized COVID-19 patients in Edo State, depressive and anxiety symptoms were reported in 49.1% and 38.0% of participants, respectively, while 9.0% experienced both conditions concurrently.[28] Comparable findings were observed among individuals undergoing self-isolation for COVID-19 infection in Osogbo, where anxiety, depression, insomnia, and suicidal ideation were reported in 40.0%, 35.6%, 23.0%, and 7.3% of participants, respectively.[36] Importantly, psychological symptoms also persisted among discharged COVID-19 patients in Jos, with anxiety and depression remaining evident in 17.2% and 9.5% of participants after recovery from acute infection.[29] These findings suggest that psychological distress frequently extended beyond the acute phase of illness, although the available cross-sectional evidence cannot determine symptom duration or establish temporal relationships.

Mental health outcomes among healthcare workers showed greater variability. While one study conducted in Northwest Nigeria reported relatively low overall psychological impact among healthcare workers,[34] another study involving frontline personnel documented substantial psychological distress, with female sex, younger age, and fewer years of professional experience showing statistically significant associations with poorer mental health outcomes.[35] Where multivariable analyses were performed, these characteristics remained independent predictors after adjustment for relevant covariates, suggesting that certain occupational and demographic groups may have been disproportionately affected during the pandemic.[35] Students consistently emerged as one of the most psychologically vulnerable populations. Among radiography students at Nnamdi Azikiwe University, depression affected 87.6% of respondents, while somatic stress and anxiety symptoms were also highly prevalent.[37] Similarly, medical students in Sokoto reported considerable anxiety, stress, and depression associated with prolonged school closures and disruption of academic activities.[47] Students from separated homes at the Federal University Oye-Ekiti also reported higher levels of anxiety and depression, while poorer academic, emotional, and social adjustment was associated with less favorable mental health outcomes.[39] Because these findings were derived primarily from observational cross-sectional studies, they should be interpreted as statistical associations rather than evidence of direct causal effects.

Across studies, substantial variability in prevalence estimates likely reflects differences in participant characteristics, geographical settings, recruitment methods, and the mental health screening instruments employed. Nevertheless, the consistency of findings across multiple independent studies indicates that anxiety and depressive symptoms represented a major component of the psychological burden associated with the COVID-19 pandemic in Nigeria.

Post-traumatic stress symptoms and trauma-related psychopathology

In addition to anxiety and depression, PTSS were frequently reported among Nigerian populations during the pandemic.[27] The largest nationwide study involving adults living both with and without HIV found that approximately 47.5% of respondents experienced PTSS related to the pandemic.[27] Importantly, several studies moved beyond simple bivariate analyses to identify factors

independently associated with PTSS. After adjustment for potential confounding variables, feelings of anger, loneliness, and social isolation remained significantly associated with increased odds of reporting PTSS.[27] Conversely, access to emotional support, consistent face-mask use, and living with HIV were independently associated with lower odds of PTSS.[27] The apparently protective association observed among people living with HIV was interpreted by the original authors as reflecting adaptive coping strategies and resilience developed through long-term management of a chronic health condition rather than indicating immunity to psychological distress. Although these findings highlight important correlates of trauma-related psychopathology, the predominantly cross-sectional nature of the evidence precludes conclusions regarding causal direction. For example, loneliness may contribute to psychological distress, but psychological distress itself may also increase social withdrawal. Consequently, these associations should be interpreted cautiously until confirmed through prospective longitudinal research.

The broader Nigerian sociocultural context may also have influenced the psychological impact of the pandemic. Several authors suggested that COVID-19 occurred within a population already exposed to multiple sources of chronic stress, including communal conflict, armed insurgency, displacement, and economic instability. While this contextual interpretation is plausible, the available studies were not designed to directly quantify the cumulative effects of these pre-existing stressors on pandemic-related mental health outcomes. Qualitative evidence further enriched understanding of trauma-related experiences. Among young people living with psychosis in Ibadan, participants described the pandemic as disrupting already fragile mental health while simultaneously creating opportunities for personal growth, acquisition of new skills, increased family connectedness, and strengthened coping strategies.[31] These findings demonstrate that psychological responses to the pandemic were complex and heterogeneous, with adverse experiences often coexisting alongside resilience and positive adaptation.

Exacerbation of mental health vulnerabilities among marginalized groups

A consistent finding across the included studies was that the psychological impact of the COVID-19 pandemic was not uniformly distributed across the Nigerian population. Rather, adverse mental health outcomes were more frequently reported among groups with pre-existing social, economic, or health-related vulnerabilities. These populations included people living with HIV, individuals with chronic medical conditions, pregnant women, older adults, rural farming households, and persons of lower socioeconomic status. Among pregnant women in Abakaliki, symptoms of depression, anxiety, and stress were commonly reported during the COVID-19 lockdown.[46] Although the available evidence cannot establish that the pandemic directly caused these symptoms, the findings highlight an important mental health burden within this population, with potential implications for maternal well-being, pregnancy outcomes, and child development. Likewise, qualitative evidence from older adults in Anambra State indicated that movement restrictions, reduced social interaction, limited access to support networks, and disruption of routine well-being activities were perceived to contribute to emotional distress and declining psychological well-being.[44]

The review also identified important socioeconomic disparities. Among farming households across four Nigerian states, more than half (54%) of respondents reported experiencing COVID-19-related mental health stress, with anxiety, excessive worry, depression, and recurrent headaches frequently described.[45] Male respondents, single individuals, and lower-income households consistently reported poorer psychological outcomes. While these characteristics were significantly associated with mental health stress, the observational nature of the evidence precludes conclusions regarding causality. Gender-related differences were also evident. One study specifically examining sex differences found that COVID-19-related stressors explained a greater proportion of the variation in anxiety and depressive symptoms among women than among men.[30] These findings suggest that women may have experienced greater psychological vulnerability during the pandemic, possibly reflecting the combined influence of economic insecurity, increased caregiving responsibilities, domestic pressures, and existing gender inequalities. However, these explanations remain interpretive, as the included studies were not designed to establish causal mechanisms. People living with HIV represented a particularly complex subgroup. Although this population has traditionally been considered vulnerable to psychological distress, one nationwide study found that living with HIV was independently associated with lower odds of PTSS after adjustment for potential confounders.[27] The authors proposed that long-term adaptation to chronic illness and established coping mechanisms may have contributed to this finding. Nevertheless, this observation should be interpreted cautiously until replicated by longitudinal studies conducted in similar settings. Collectively, these findings indicate that pre-existing social and health inequalities likely shaped the distribution of psychological distress during the pandemic, underscoring the importance of prioritizing vulnerable populations in future mental health preparedness and response strategies.

Psychosocial consequences of lockdown measures and social isolation

The studies consistently demonstrated that the public health measures implemented to control COVID-19 transmission, including lockdowns, movement restrictions, physical distancing, and school closures, were associated with substantial psychosocial disruption across multiple population groups. Evidence from Southeast Nigeria suggested that although some individuals experienced improved family cohesion and increased time with household members during the lockdown, many more reported loneliness, anxiety, depressive symptoms, reduced household income, financial insecurity, and increased social problems.[40] These findings illustrate the complex nature of lockdown experiences, with both positive and negative psychosocial consequences reported across different households. Access to mental healthcare also emerged as a major concern. Among patients receiving psychiatric care before the pandemic, socioeconomic characteristics significantly influenced continued access to mental health services during lockdown periods.[41] Many participants reported relying on alternative sources of care, including traditional healers, religious centers, and home-based management, reflecting both reduced accessibility of formal psychiatric services and the existing treatment gap within Nigeria's mental healthcare system. Although these findings demonstrate important associations between socioeconomic factors and healthcare utilization, they do not establish direct causal pathways.

Children and adolescents were similarly affected by pandemic-related restrictions. Parents and caregivers frequently reported deterioration in their children's emotional and social well-being during prolonged school closures and periods of restricted movement.[42] Children themselves described concerns relating to fear of COVID-

19 infection, disruption of education, reduced peer interaction, and increased household tension.[32] At the same time, strong parental support, family cohesion, and positive caregiving relationships were consistently identified as important protective influences that appeared to mitigate psychological distress among children.[32] The collective evidence suggests that the psychosocial consequences of lockdown extended beyond infection control, affecting educational experiences, healthcare access, economic stability, family functioning, and social connectedness. However, because most studies relied on cross-sectional designs, the persistence of these effects over time remains uncertain.

Resilience, coping strategies, and protective factors

Despite the considerable psychological burden reported across the included studies, several investigations also highlighted important sources of resilience and adaptive coping among Nigerian populations. Among frontline healthcare workers, moderate coping capacity was frequently attributed to strong family support, particularly support received from spouses and parents.[35] Across the general population, commonly reported coping strategies included resting, maintaining social relationships where possible, participation in religious activities, and attending social gatherings when restrictions permitted.[26] However, some participants also reported using psychoactive substances as a coping mechanism, highlighting the potential for maladaptive behavioral responses during periods of prolonged psychological stress. Among university students, social media emerged as the most frequently reported coping strategy, reflecting increased reliance on digital communication and online social interaction during lockdown periods.[37] While digital platforms may have helped reduce feelings of isolation for many individuals, the included studies did not evaluate the effectiveness or long-term psychological consequences of these coping behaviors.

Several studies identified factors independently associated with better mental health outcomes. Higher educational attainment, stronger social support networks, greater eHealth literacy, and adaptive coping skills developed through previous experiences of chronic illness were consistently associated with more favorable psychological outcomes.[26,27,35,38] Notably, one study reported that participants with high eHealth literacy had approximately 66% lower odds of experiencing anxiety and depression than those with lower eHealth literacy after adjustment for relevant confounding variables.[38] This finding represents one of the strongest inferential observations identified within the review and suggests that improving digital health literacy may constitute an important target for future mental health interventions. Qualitative evidence further illustrated the multidimensional nature of resilience. Young people living with psychosis described how, despite experiencing worsening mental health during the pandemic, they also developed stronger family relationships, acquired new practical skills, engaged in helping others, and devoted more time to personal growth and self-development.[31] These narratives emphasize that psychological responses to major public health crises are heterogeneous, and that adversity and resilience may coexist within individuals and communities. Overall, the available evidence suggests that social support, educational attainment, digital health literacy, and adaptive coping strategies may play important protective roles during future public health emergencies. Nevertheless, additional longitudinal and intervention studies are needed to determine whether strengthening these protective factors leads to sustained improvements in mental health outcomes.

Discussion

The present systematic review synthesized evidence from 22 primary studies involving more than 14,000 participants and provides a comprehensive overview of the mental health consequences associated with the COVID-19 pandemic among diverse populations in Nigeria.[26-47] Across the included studies, symptoms of anxiety, depression, post-traumatic stress, psychological distress, sleep disturbances, and impaired psychosocial well-being were consistently reported among the general population, hospitalized and discharged COVID-19 patients, healthcare workers, students, children and adolescents, pregnant women, older adults, rural farming households, and individuals living with pre-existing physical and mental health conditions. Although the consistency of findings across multiple populations and geographical settings strengthens confidence in the overall patterns observed, these findings should be interpreted within the methodological constraints of the available evidence, particularly the predominance of cross-sectional study designs, heterogeneous outcome measures, and reliance on self-reported data.

The burden of common mental disorders in the Nigerian post-COVID-19 context

The consistently high prevalence of anxiety and depressive symptoms identified across the included studies mirrors findings from global systematic reviews and meta-analyses that documented substantial deterioration in population mental health during the COVID-19 pandemic.[5] Within the Nigerian studies included in this review, reported prevalence estimates ranged from 12.9% to 55% for anxiety and from 9.5% to 49.1% for depression, depending on the study population, assessment instrument, and timing of data collection.[28,29,36-38,46] The wide variation in prevalence estimates should be interpreted cautiously because differences in screening instruments, diagnostic thresholds, sampling strategies, and participant characteristics likely contributed to this heterogeneity. Compared with evidence from many high-income countries,[6] the prevalence estimates reported in Nigeria appear relatively high. Although direct comparisons should be made cautiously because of methodological differences between studies, this pattern may reflect the interaction between pandemic-related stressors and longstanding structural challenges, including poverty, unemployment, limited social protection, constrained mental health services, and ongoing insecurity.[11,12] These findings support the broader understanding that the mental health consequences of public health emergencies are shaped not only by exposure to infectious disease but also by the social, economic, and health system contexts within which they occur.[6,7]

Persistent psychological symptoms among discharged COVID-19 patients further suggest that mental health difficulties may extend beyond recovery from acute infection.[29] Similar patterns have been documented following previous coronavirus outbreaks, including SARS and MERS, where psychological symptoms persisted for months or years after physical recovery. While the predominantly cross-sectional evidence included in this review cannot establish symptom duration, these findings highlight the importance of incorporating mental health screening and follow-up into post-COVID clinical care pathways.

Post-traumatic stress and the psychological legacy of the pandemic

PTSS emerged as another prominent mental health outcome across the reviewed literature.[27] Nearly half of respondents in one

large nationwide study reported PTSS associated with the pandemic.[27] This finding is broadly consistent with evidence from previous infectious disease outbreaks, where traumatic stress extended beyond infected individuals to affect wider populations exposed to prolonged uncertainty, bereavement, financial hardship, and social disruption. Importantly, some studies employed multivariable analyses to identify factors independently associated with PTSS. Feelings of loneliness, anger, and social isolation remained significantly associated with increased odds of PTSS after adjustment for potential confounding variables, whereas emotional support, face-mask use, and living with HIV were independently associated with lower odds of reporting PTSS.[27] These findings provide stronger inferential evidence than simple bivariate associations; however, because they were derived from observational cross-sectional studies, causal relationships cannot be established. Longitudinal research is required to determine whether these factors precede psychological distress or arise as consequences of it.

The observation that people living with HIV demonstrated lower adjusted odds of PTSS deserves careful interpretation.[27] Rather than suggesting reduced vulnerability, this finding may reflect adaptive coping mechanisms developed through long-term management of chronic illness, as proposed by the original investigators. Nevertheless, this hypothesis remains speculative and should be confirmed through prospective studies conducted in similar populations. Qualitative evidence further demonstrated that psychological responses to the pandemic were multidimensional. Young people living with psychosis described experiences of worsening mental health alongside strengthened family relationships, acquisition of new skills, and increased opportunities for personal growth.[31] These findings reinforce contemporary models of resilience, which recognize that psychological distress and positive adaptation may coexist following major adverse events.

Vulnerable populations and the amplification of pre-existing inequalities

The review consistently demonstrated that adverse mental health outcomes were more frequently reported among socially, economically, and medically vulnerable populations.[26,30,44-46] This pattern is consistent with syndemic theory, whereby biological threats interact with existing social and structural inequalities to amplify disease burden within disadvantaged communities. Pregnant women, older adults, rural farming households, and economically disadvantaged populations consistently reported poorer mental health outcomes.[44-46,48-50] Although the available studies cannot establish that pandemic-related restrictions directly caused these outcomes, they highlight important disparities that warrant targeted public health attention. The findings among pregnant women are particularly important given the well-established relationship between antenatal psychological distress and adverse maternal and child health outcomes.[46] Likewise, reports of emotional distress among older adults emphasize the psychological consequences of prolonged social isolation and reduced access to social support during public health emergencies.[44,51-55] Gender-related differences were also observed. One study demonstrated that COVID-19-related stressors accounted for a greater proportion of the variation in anxiety and depressive symptoms among women than among men.[30] While several explanations have been proposed, including increased caregiving responsibilities, economic hardship, and domestic violence, these mechanisms were not directly evaluated within the included studies and therefore remain plausible rather than definitive explanations.

Resilience, protective factors, and opportunities for intervention

Despite widespread psychological distress, the evidence also identified several protective factors that may inform future intervention strategies. Social support consistently emerged as an important factor associated with better psychological well-being among healthcare workers and other population groups.[26,35] Similarly, higher educational attainment, adaptive coping strategies, and stronger eHealth literacy were associated with more favorable mental health outcomes. Among the identified protective factors, eHealth literacy demonstrated particularly strong evidence. Individuals with higher eHealth literacy had approximately 66% lower adjusted odds of experiencing anxiety and depression than those with lower eHealth literacy.[38] Because this association remained significant after adjustment for potential confounders, it represents one of the more robust inferential findings identified within this review. Although causality cannot be inferred, improving digital health literacy may represent a promising component of future mental health promotion programs. The increasing reliance on digital platforms during the pandemic also highlights opportunities to expand tele-mental health services in Nigeria. However, successful implementation will require addressing persistent inequities in internet access, digital literacy, and technological infrastructure, particularly among rural communities, older adults, and socioeconomically disadvantaged populations.

Strengths and limitations of the study

The findings of this review should be interpreted alongside several important strengths and limitations within the available evidence base.

Strengths of the study

This systematic review has several important strengths that enhance the credibility, relevance, and applicability of its findings. To our knowledge, it represents one of the most comprehensive syntheses of primary research examining the mental health impact of the COVID-19 pandemic among populations in Nigeria. By focusing exclusively on Nigerian evidence, the review provides context-specific insights that complement global systematic reviews and offer greater relevance for national policymakers, clinicians, program implementers, and researchers. Also, the review employed a rigorous and transparent methodology consistent with PRISMA guidelines. A comprehensive search strategy, predefined eligibility criteria, independent screening and data extraction, and systematic quality appraisal strengthened the methodological robustness and reproducibility of the review process. In addition, the inclusion of quantitative, qualitative, and mixed-methods studies enabled a broad and nuanced understanding of the available evidence. Quantitative studies provided estimates of the prevalence and correlates of mental health outcomes, while qualitative investigations enriched the synthesis by capturing lived experiences, contextual influences, and adaptive coping mechanisms that may not be adequately reflected in survey data alone. Finally, the narrative thematic synthesis facilitated the integration of evidence across diverse populations, geographical settings, and methodological approaches despite substantial heterogeneity in study designs and outcome measures. This approach enabled the identification of overarching patterns and policy-relevant themes that extend beyond the findings of individual studies.

Limitations of the study

Several limitations should be considered when interpreting the findings of this review. Although an extensive search strategy was employed across multiple databases, the review was restricted to English-language, peer-reviewed publications. Consequently, relevant studies published in other languages or indexed outside the selected databases may not have been identified. Second, the exclusion of grey literature including government reports, program evaluations, dissertations, conference proceedings, and unpublished studies may have introduced publication bias. This is particularly important in the Nigerian context, where mental health programs are frequently implemented by governmental and non-governmental organizations without subsequent publication in peer-reviewed journals. As a result, evidence relating to intervention effectiveness and implementation experiences may not have been fully captured. Third, the review findings are inherently influenced by the methodological characteristics of the included studies. Most studies employed cross-sectional designs, which are appropriate for estimating prevalence and identifying statistical associations but do not permit conclusions regarding causality or temporal relationships. Accordingly, relationships described throughout this review should be interpreted as associations rather than causal effects.

Fourth, many studies relied on online convenience sampling because of movement restrictions during the pandemic. While understandable under the prevailing circumstances, this recruitment strategy may have disproportionately represented younger, urban, digitally connected, and relatively well-educated individuals while underrepresenting rural residents, older adults, and socioeconomically disadvantaged populations. Consequently, the reported prevalence estimates may not fully reflect the experiences of the broader Nigerian population. Fifth, substantial heterogeneity existed in the measurement of mental health outcomes. Although most studies used validated screening instruments, differences in assessment tools, psychometric characteristics, and diagnostic cut-off scores limited direct comparability across studies and precluded quantitative meta-analysis. Furthermore, most studies relied on self-reported screening measures rather than structured clinical diagnostic interviews; therefore, reported prevalence estimates should be interpreted as probable symptoms rather than confirmed psychiatric disorders. Finally, although quality assessment was conducted systematically using validated appraisal tools, some degree of subjective judgement is unavoidable during methodological appraisal and narrative synthesis. Efforts were made to minimize this through transparent reporting and adherence to established systematic review methods.

Review of existing gaps in the literature

The findings of this review highlight several important gaps that should guide future research priorities. First, there is an urgent need for longitudinal cohort studies capable of examining the persistence, progression, and recovery of mental health outcomes following the COVID-19 pandemic. Such studies would provide stronger evidence regarding temporal relationships and potential causal pathways than the predominantly cross-sectional literature currently available. Second, intervention research remains remarkably limited. Future studies should evaluate the effectiveness, acceptability, implementation, and cost-effectiveness of pharmacological, psychological, psychosocial, community-based, and digitally delivered mental health interventions within the Nigerian context.

Third, important population groups remain underrepresented in the existing evidence base, including internally displaced persons, conflict-affected communities, persons who inject drugs, individuals living with disabilities, family caregivers, and other socially marginalized populations. Greater inclusion of these groups would improve understanding of mental health inequities and support the development of more inclusive public health interventions. Fourth, future research should prioritize nationally representative community-based studies employing probability sampling methods to improve the representativeness and generalizability of findings. Greater standardization of mental health assessment instruments would also facilitate comparison across studies and strengthen future evidence synthesis. Finally, implementation science and health economic research are needed to identify effective strategies for integrating evidence-based mental healthcare into Nigeria's resource-constrained health system while informing policy decisions regarding sustainable investment in mental health services.

Conclusions

This systematic review synthesized the available peer-reviewed evidence regarding the mental health impact of the COVID-19 pandemic among populations in Nigeria. Collectively, the evidence indicates that anxiety, depression, PTSS, psychological distress, sleep disturbances, and related mental health problems were commonly reported across diverse population groups, including the general population, COVID-19 survivors, healthcare workers, students, children and adolescents, pregnant women, older adults, rural farming households, and individuals living with chronic physical and mental health conditions. The available evidence also suggests that the psychological burden associated with the pandemic was not experienced uniformly across society. Socially and medically vulnerable populations consistently reported poorer mental health outcomes, highlighting the influence of pre-existing social and economic inequalities on psychological well-being during public health emergencies. Although the predominance of cross-sectional studies precludes causal inference, the consistency of findings across multiple independent investigations suggests that these disparities warrant sustained public health attention.

Importantly, the review also identified several protective factors, including strong social support, family connectedness, adaptive coping strategies, and higher eHealth literacy, that may inform future mental health promotion and intervention programs. These findings underscore the importance of adopting culturally appropriate, community-based, and digitally enabled approaches to strengthening mental health services in Nigeria. Overall, the review highlights the need for sustained investment in mental health systems, expansion of accessible and equitable mental health services, and the generation of higher-quality longitudinal and intervention-based evidence. Strengthening mental health preparedness should form an integral component of future public health emergency planning to improve resilience and reduce the long-term psychological consequences of future pandemics and other national emergencies.

Recommendations

Based on the findings of this systematic review, the following recommendations are proposed and prioritized according to their feasibility, resource requirements, and potential public health impact.

Immediate priorities (0-12 months)

1. Integrate mental health into routine healthcare and pandemic preparedness: the Federal Ministry of Health should strengthen the integration of evidence-based mental health screening and brief psychosocial interventions into primary healthcare, antenatal care, HIV services, and the management of chronic diseases. Mental health should also be explicitly incorporated into national pandemic preparedness and emergency response plans to ensure continuity of essential mental health services during future public health emergencies.

2. Strengthen mental health support for vulnerable populations: immediate attention should be directed towards populations consistently identified as being at increased risk of adverse mental health outcomes, including pregnant women, older adults, healthcare workers, students, rural farming households, people living with HIV, and individuals with pre-existing mental health conditions. Community-based psychosocial support, peer-support initiatives, and targeted outreach programs should be prioritized.
3. Enhance public awareness and reduce stigma: national mental health awareness campaigns should be expanded to improve mental health literacy, reduce stigma, and encourage early help-seeking behavior. Television, radio, community engagement platforms, and social media should be utilized to disseminate culturally appropriate mental health information to diverse populations.

Medium-term priorities (1-3 years)

1. Invest in digital mental health and eHealth literacy: given the observed association between higher eHealth literacy and improved mental health outcomes, investment should be directed towards strengthening digital health infrastructure, expanding tele-mental health services, and improving digital literacy. Particular emphasis should be placed on rural communities, older adults, and populations with limited educational opportunities to minimize existing digital inequalities.
2. Strengthen the mental health workforce: Nigeria should expand specialist mental health training while simultaneously strengthening task-sharing approaches that enable primary healthcare providers, nurses, community health workers, and other non-specialist providers to deliver evidence-based mental health services. Appropriate incentives should also be introduced to improve recruitment and retention of mental health professionals within the country.
3. Implement school-based mental health programs: schools, colleges, and universities should establish comprehensive mental health programs incorporating routine psychological screening, counseling services, peer-support initiatives, and mental health literacy education. Such programs should also include mechanisms for early identification and referral of students requiring specialized mental healthcare.

Long-term priorities (beyond 3 years)

1. Establish a national mental health surveillance system: a sustainable surveillance system should be developed to monitor trends in population mental health, identify emerging priorities, and evaluate the effectiveness of mental health policies and interventions over time. Such a system would strengthen preparedness for future public health emergencies and support evidence-informed decision-making.
2. Strengthen research capacity and evidence generation: long-term investment should prioritize longitudinal cohort studies, intervention trials, implementation science, and health economic evaluations to strengthen Nigeria's evidence base. Particular attention should be given to underrepresented populations, including internally displaced persons, conflict-affected communities, persons who inject drugs, individuals living with disabilities, and other socially marginalized groups whose mental health needs remain insufficiently understood.

Implications of the study

The findings of this systematic review have important implications for policy, clinical practice, and future research in Nigeria and comparable low- and middle-income settings.

1. For policymakers, the review provides context-specific evidence demonstrating that mental health problems were commonly reported across multiple population groups during and following the COVID-19 pandemic. These findings reinforce the need to prioritize mental health within national health planning, emergency preparedness strategies, and resource allocation. The identification of both risk and protective factors also provides practical entry points for developing targeted and equitable mental health policies.
2. For clinicians and healthcare administrators, the findings support the routine incorporation of mental health screening into clinical practice, particularly for patients recovering from COVID-19 and other vulnerable populations. The review also highlights the importance of strengthening psychosocial support systems for healthcare workers, who experienced considerable occupational stress during the pandemic.
3. For researchers, the review identifies important methodological and evidence gaps. The predominance of cross-sectional studies highlights the need for stronger longitudinal designs capable of clarifying temporal relationships and identifying predictors of recovery or persistent psychological distress. The limited availability of intervention studies further underscores the need to evaluate scalable, culturally appropriate mental health interventions within the Nigerian context.

More broadly, this review contributes to the international literature by providing a comprehensive synthesis of evidence from Nigeria, demonstrating how the mental health consequences of global public health emergencies are shaped by local socioeconomic conditions, health system capacity, and existing structural inequalities.

Future directions

Future research should prioritize longitudinal cohort studies capable of examining the long-term trajectory of mental health outcomes following the COVID-19 pandemic and identifying factors associated with recovery, resilience, and persistent psychological distress. Such studies should incorporate biological, psychological, social, and environmental determinants to provide a more comprehensive understanding of mental health following public health emergencies. Rigorous evaluations of mental health interventions are also urgently needed. Randomized controlled trials, pragmatic implementation studies, and high-quality quasi-experimental designs should evaluate psychological, psychosocial, community-based, digital, and task-shared interventions that are scalable within Nigeria's resource-constrained healthcare system. Implementation science should receive greater emphasis to identify barriers and facilitators influencing the successful integration of mental healthcare into primary healthcare and community settings. Such research should actively engage policymakers, healthcare providers, community leaders, and service users to improve the translation of evidence into sustainable practice.

Future investigations should also prioritize underserved and underrepresented populations, including internally displaced persons, conflict-affected communities, persons who inject drugs, individuals living with disabilities, sexual and gender minority populations, family caregivers, and people living with severe mental illness. Greater use of qualitative and participatory research approaches will improve understanding of their lived experiences and support the development of culturally responsive interventions. Finally, health economic evaluations examining the societal costs of pandemic-related mental health conditions, and the cost-effectiveness of preventive and therapeutic interventions are needed to support evidence-informed investment in mental health services and strengthen the economic case for sustained mental health financing in Nigeria.

References

1. World Health Organization. Mental health and COVID-19: early evidence of the pandemic's impact. 2022. Available from: https://www.who.int/publications/i/item/WHO-2019-nCoV-Sci_Brief-Mental_health-2022.1
2. Moreno C, Wykes T, Galderisi S, et al. How mental health care should change as a consequence of the COVID-19 pandemic. Lancet Psychiatry 2020;7:813-24.
3. Xiong J, Lipsitz O, Nasri F, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. J Affect Disord 2020;277:55-64.
4. Vindegaard N, Benros ME. COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. Brain Behav Immun 2020;89:531-42.
5. COVID-19 Mental Disorders Collaborators. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet 2021;398:1700-12.
6. Kola L, Kohrt BA, Hanlon C, et al. COVID-19 mental health impact and responses in low-income and middle-income countries: reimagining global mental health. Lancet Psychiatry 2021;8:535-50.
7. Omoge AO, Shalini. Impact of post COVID-19 pandemic on healthcare administration and services delivery in Nigeria. JOKAP 2026;8:106-20.
8. World Bank Group. Nigeria. Available from: https://www.worldbank.org/en/country/nigeria/overview
9. Wada YH, Rajwani L, Anyam E, et al. Mental health in Nigeria: a neglected issue in public health. Public Health Pract 2021;2:100166.
10. Federal Ministry of Health. National Policy for Mental Health Services Delivery. 2013. Available from: https://thesunshineseriesng.com/wp-content/uploads/2024/07/National-Mental-Health-Policy.pdf
11. Adeloye D, David RA, Olaogun AA, et al. Health workforce and governance: the crisis in Nigeria. Hum Resour Health 2017;15:32.
12. Amzat J, Aminu K, Kolo VI, et al. Coronavirus outbreak in Nigeria: Burden and socio-medical response during the first 100 days. Int J Infect Dis 2020;98:218-24.
13. Nri-Ezedi CA, Nnamani CP, Ezeh NI, et al. Psychological distress among residents in Nigeria during the COVID-19 pandemic. Int Neuropsychiatr Dis J 2020;14:8-21.
14. Shallangwa MM, Iwenya HC, Musa SS, et al. Knowledge, attitude and practice towards COVID-19 among people living with HIV/AIDS attending State Specialist Hospital Maiduguri, Borno State, Nigeria. PAMJ-One Health 2022;8:10.
15. Aborode AT, Corriero AC, Mehmood Q, et al. People living with mental disorder in Nigeria amidst COVID-19: challenges, implications, and recommendations. Int J Health Plann Manage 2022;37:1191-8.
16. Ojewale LY, Mukumbang FC. Access to healthcare services for people with non communicable diseases during the COVID-19 pandemic in Ibadan, Nigeria: a qualitative study. BMC Health Serv Res 2023;23:1231.
17. Walker SH, Grierson J, Sullivan A, Alagaratnam J. The effects of the COVID-19 pandemic on people living with HIV. HIV Med 2025;26:479-88.
18. Ibigbami OI, Akinsulore A, Opakunle T, et al. Psychological distress, anxiety, depression, and associated factors among Nigerian healthcare workers during COVID-19 pandemic: a cross-sectional study. Int J Public Health 2022;67:1604835.
19. Panchal U, Salazar de Pablo G, Franco M, et al. The impact of COVID-19 lockdown on child and adolescent mental health: systematic review. Eur Child Adolesc Psychiatry 2023;32:1151-77.
20. Kwaghe AV, Kwaghe VG, Habib ZG, et al. Stigmatization and psychological impact of COVID-19 pandemic on frontline healthcare Workers in Nigeria: a qualitative study. BMC Psychiatry 2021;21:518.
21. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71.
22. Moola S, Munn Z, Tufanaru C, et al. Chapter 7: systematic reviews of etiology and risk. In: Aromataris E, Munn Z, eds. JBI reviewer's manual. Adelaide, Australia: JBI; 2019. pp. 219-71.
23. Lockwood C, Munn Z, Porritt K. Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. Int J Evid Based Healthc 2015;13:179-87.
24. Petticrew M, Roberts H. Systematic reviews in the social sciences: a practical guide. Oxford: Blackwell Publishing; 2006.
25. Popay J, Roberts HM, Sowden AJ, et al. Guidance on the conduct of narrative synthesis in systematic reviews: a product from the ESRC Methods Programme. Lancaster, UK: Lancaster University; 2006.
26. Folayan MO, Ibigbami O, El Tantawi M, et al. Factors associated with experiences of fear, anxiety, depression, and changes in sleep pattern during the COVID-19 pandemic among adults in Nigeria: a cross-sectional study. Front Public Health 2022;10:779498.
27. Folayan MO, Ibigbami O, Brown B, et al. Factors associated with COVID-19 pandemic induced post-traumatic stress symptoms among adults living with and without HIV in Nigeria: a cross-sectional study. BMC Psychiatry 2022;22:48.
28. Okogbenin EO, Seb-Akahomen OJ, Edeawe O, et al. Psychiatric manifestations and associated risk factors among hospitalised patients with COVID-19 in Edo State, Nigeria: a cross-sectional study. BMJ Open 2022;12:e058561.
29. Tungchama FP, Gomerep SS, Maigari YT. Anxiety and depressive symptoms among discharged COVID-19 patients from isolation centers in North-Central, Nigeria: a cross-sectional study. Niger J Med 2023;32:606-13.
30. Oginni OA, Oloniniyi IO, Ibigbami O, et al. Depressive and anxiety symptoms and COVID-19-related factors among men and women in Nigeria. BMC Public Health 2021;21:1205.
31. Bella-Awusah T, Adedokun B, Dogra N, Omigbodun O. Lessons of hope and resilience: a co-produced qualitative study of the experiences of youth living with psychosis during the COVID-19 pandemic in Nigeria. Community Ment Health J 2024;60:47-59.
32. Asemota OA, Napier-Raman S, Takeuchi H, et al. Exploring children's knowledge of COVID-19 and stress levels associated with the pandemic in Nigeria: a mixed-method study. BMJ Paediatr Open 2022;6:e001444.
33. James BC, Okeke CO, Nwokocha CR, Ezeonwuka CN. Knowledge and attitudes towards COVID-19 infection and anxiety levels of Nigerian youths regarding the COVID-19 pandemic. Acta Med Philipp 2023;57:96-105.
34. Aliyu D, Mahmud AS, Anyebe EE, et al. Psychosocial impact of COVID-19 on frontline healthcare workers at a tertiary healthcare facility in Northwest Nigeria. Niger Health J 2024;24:1701-14.
35. Aliyu D, Anyebe EE, Igbinlade AS, et al. Coping strategies among frontline healthcare workers during COVID-19 in a Nigerian tertiary hospital: implications for psychosocial support in future emergency health. Bayero J Nurs Health Care 2025;7:1483-93.

36. Opakunle T, Ola BA, Adewuya AO, Adeleke OA. Associated psychological factors of viral load among self-isolating Nigerian COVID-19 patients. West Afr J Med 2022;39:609-15.
37. Ogolodom MP, Nyenke CU, Nwadike SO, et al. Psychological stress of COVID-19 pandemic on radiography students in Nigeria: a single centre study. Salud Cienc Tecnol 2025;5:545.
38. Akingbade O, Adeleye O, Olaogun A, et al. eHealth literacy was associated with anxiety and depression during the COVID-19 pandemic in Nigeria: a cross-sectional study. Front Public Health 2023;11:1194908.
39. Lawal AM, Azikiwe JC, Fadaka BF. School life in COVID-19 post-lockdown: differential effects of socio-demographics and adjustments on mental health indicators among university students. Psychol Health Med 2023;28:2993-3004.
40. Uneke CJ, Okedo-Alex IN, Uneke BI, et al. An assessment of the experiences, and perceptions of the collateral effects of the COVID-19 lockdown measures in Southeast Nigeria: implications for policy and action. Pan Afr Med J 2023;46:122.
41. Chinedu HN, Asadu N, Ogochukwu EC, Agboti CI. COVID-19 lockdown and access to health services among people with mental health problems in Nigeria. J Forensic Psychol Res Pract 2025;25:805-25.
42. Ogunbajo A, Oginni O, Ibigbami O, et al. COVID-19: mental and social health-related complaints among children and adolescents in Nigeria: parents'/caregivers' perception – an online survey. J Child Adolesc Health 2020;2:1-10.
43. Nwakozo NC, Ngwu KJ, Obah AI, Igwegbe AB. Accessing the risk factors associated with suicide in Anambra State amid the COVID-19 pandemic. Socialscientia 2026;10.
44. Rahman FN, Iwuagwu AO, Ngwu CN, et al. Psychosocial well-being and risk perception of older adults during COVID-19 pandemic in Nigeria: perspectives on the role of social workers. Front Psychiatry 2025;15:1505279.
45. Olowogbon T, Yoder A, Adebisi L. COVID-19 Lockdown and mental health consequences among farming households in Nigeria . Open Public Health J 2025;18:e18749445369397.
46. Nwafor JI, Okedo-Alex IN, Ikeotuonye AC. Prevalence and predictors of depression, anxiety, and stress symptoms among pregnant women during COVID-19-related lockdown in Abakaliki, Nigeria. Malawi Med J 2021;33:54-8.
47. Ango UM, Babazhitsu M, Bakare AT, et al. Psychological effects of COVID-19 pandemic school closure among medical students in a tertiary institution in Sokoto State, Nigeria. Int J Adv Res 2024;12:695-703.
48. Omoge AO, Omoge MO, Arogundade AO, et al. Factors contributing to mental health issues in Nigeria: a scoping review of their prevalence, associated factors, and patterns. Mental Wellness 2026;4:43
49. Omoge AO, Omoge MO. A systematic review of community-based counseling interventions for improving mental health and social well-being among vulnerable populations in Nigeria. Mental Wellness 2026;4:50.
50. Omoge AO, Omoge MO. A systematic review of the impact of economic and security conditions on mental health and well-being in Nigeria. Mental Wellness 2026;4:52.
51. Omoge AO, Omoge MO, Erinsakin OB, Oyetunji OO. A scoping review of public health challenges and systemic barriers facing unmet health and social care needs of older populations in Nigeria. Mental Wellness 2026;4:62.
52. Omoge AO, Omoge MO. A systematic review of challenges facing climate change education in Nigeria and its public health consequences. Mental Wellness 2026;4:47.
53. Omoge AO. A narrative review of determinants, consequences, and public health implications of vaccine hesitancy in Nigeria. Discov Public Health 2026;23:1278.
54. Omoge AO, Omoge MO, Arogundade AO, et al. A systematic review of climate change and its health outcomes on populations in Nigeria. Mental Wellness. 2026;4:66.
55. Omoge AO, Omoge MO, Ahmad AF, Onifade PB. A systematic review of the influence and challenges of environmental change on nutrition, health, and wellbeing in Nigeria. Nutr Cur 2026;05:e169.

Online supplementary material:

Supplementary Table 1. Quality appraisal and risk of bias assessment of the included studies.

Supplementary Table 2. Summary of the included studies.

Supplementary Table 3. Summary of the mental health assessment instruments used in the included studies.

Received: 27 June 2026; Accepted: 3 July 2026.

Contributions: Adeyemi Ogedengbe Omoge: conceptualizing, overall project supervision, manuscript writing, corresponding, submission, editing, and final proofreading. Modupe Oluwatimileyin Omoge: source for articles, proofreading.

Ayorinde Ololade Arogundade, Abdul-Raheem Folorunsho Ahmad, Precious Bolu Onifade: references, editing.

Conflict of interest: the authors declare no conflicts of interest.

Ethics approval and consent to participate: not applicable. Ethical approval was not required for this study because it is secondary research.

Informed consent: not applicable.

Availability of data and materials: no new data generated or analyzed in this study.

Declaration of generative artificial intelligence and artificial intelligence-assisted technologies in the writing process: AI/LLM tools were used for reference formatting, language editing and grammar improvement. (Tool: ChatGPT version 1.2026.111 & Quillbot version 3.13.0). All conceptual development, analysis, and interpretation were conducted solely by the authors. The authors reviewed and took full responsibility for the content.

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