

Mental Health in Times of Disease Outbreaks: The Case of African University Students under COVID-19 Quarantine

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ABSTRACT TEXT: The COVID-19 pandemic, caused by the SARS-CoV-2 virus, developed into a global health crisis that necessitated restrictive public health measures such as quarantine, lockdown, and isolation. Although these measures were vital in slowing viral spread, they simultaneously generated widespread psychosocial consequences, particularly for vulnerable populations. African university students were among the most affected, as pre-existing socio-economic inequalities, fragile healthcare systems, and digital divides magnified the psychological toll of prolonged confinement. This review synthesised evidence from studies published between 2020 and 2024 to evaluate the mental health outcomes of quarantine on this demographic. A systematic search was conducted across PubMed, PsycINFO, Medline, and Ovid Embase, guided by the Population, Intervention, Comparison, and Outcome (PICO) framework to ensure focus and rigor. Retrieved records were screened using Rayyan software, which enhanced transparency and minimised selection bias, while the Joanna Briggs Institute (JBI) tools were employed for quality appraisal. Out of 595 studies identified, only nine satisfied the eligibility criteria. The findings demonstrated consistently high levels of anxiety, depression, and stress, exacerbated by poor access to online education, social isolation, and uncertainty about academic futures. Coping responses varied, with some students drawing on social networks and resilience, while others resorted to maladaptive behaviours. Collectively, the evidence underscores the urgent need for culturally relevant interventions and stronger institutional mental health support for African university students during health crises..

Keywords: mental health, Africa, university students, stress anxiety, depression, , loneliness.. COVID-19, quarantine

Statements

This study is based exclusively on secondary research and did not involve the direct participation of human subjects, animals, or the collection of primary data. The review synthesised existing evidence retrieved from peer-reviewed journal articles and reputable databases, which are already publicly accessible. As such, no ethical approval was required since there was no interaction with participants, no collection of identifiable information, and no potential for harm or infringement of rights. Furthermore, the inclusion of studies adhered to established academic integrity practices, ensuring that all sources were properly credited and that findings were reported objectively without misrepresentation. The methodological framework, including the use of Rayyan for screening and the Joanna Briggs Institute (JBI) tools for quality appraisal, reinforced transparency and minimized reviewer bias. Consequently, this review complies fully with ethical standards for secondary research, while safeguarding both academic rigor and respect for existing scholarly contributions.

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Use of artificial intelligence tools

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Conflict of interest

'None declared'.

I. INTRODUCTION

The emergence of COVID-19 in late 2019, caused by the novel coronavirus SARS-CoV-2, reshaped societies worldwide and triggered unprecedented public health responses (Muralidar et al., 2020). Governments enforced strict measures such as border closures, quarantine, and physical distancing, which were necessary for reducing viral spread but also carried unintended psychosocial costs (Ayouni et al., 2021). While these measures protected populations from infection, evidence shows they also amplified mental health concerns, as isolation, financial uncertainty, and fear of contagion became widespread stressors (Serafini et al., 2020; WHO, 2022a). Research confirms that anxiety, depression, and post-traumatic stress disorder surged globally during this period (Chamaa et al., 2021; Santomauro et al., 2021). Hence, the very strategies deployed to protect physical health paradoxically created new risks to psychological well-being.

In Africa, the context was uniquely complex. Mental health had long been marginalised within health policy, with insufficient infrastructure, entrenched stigma, and resource gaps limiting support (Aguwa et al., 2022; Gbadamosi et al., 2022). Furthermore, cultural narratives and social stigma frequently discouraged individuals from seeking professional help, compounding the crisis (Okafor et al., 2022; Ahad et al., 2023). These systemic weaknesses heightened vulnerability during outbreaks, particularly for young people negotiating academic pressures and life transitions.

University students represent a particularly fragile group within this landscape. Their susceptibility is heightened by the dual strain of academic uncertainty and psychosocial isolation during quarantine (Mofatteh, 2021; Worsley et al., 2021). The global literature has consistently highlighted quarantine as a driver of poor psychological outcomes (Brooks et al., 2020; Bonati et al., 2022). Brooks et al. (2020), for instance, emphasised the severe psychological cost of prolonged isolation, while cross-context studies have confirmed that this is not a geographically

isolated phenomenon but a universal trend. Nevertheless, African-specific evidence remains relatively sparse, despite growing indications of widespread psychological distress. For instance, the South African Depression and Anxiety Group (2020) recorded a dramatic rise in helpline calls during lockdown, while UNICEF Zimbabwe (2022) documented increased substance misuse among young people during the pandemic.

At the policy level, responses were mixed. International organisations such as the WHO (2020) called for integrating mental health into pandemic management, while African governments also attempted to address the crisis through mental health frameworks (Molebatsi et al., 2021). However, weak health systems and inadequate funding hindered implementation (Sodi et al., 2021). This gap between policy ambition and practice underscores the structural vulnerability of African students during pandemics. Despite increased attention to pandemic-related psychological impacts, research continues to overlook African university students, who face unique pressures shaped by academic demands, socio-economic instability, and weak institutional support systems (Selassie and Hakobyan, 2021). These overlapping factors highlight the importance of systematically assessing the effects of COVID-19 quarantine on this group. This review therefore aim to explore the mental health consequences of quarantine on African university students, situating their experiences within the broader debate on how disease outbreaks affect psychological well-being.

Review Question

The guiding research question for this study was framed using the Population, Intervention, Comparison, and Outcome (PICO) model, which is widely recognised for shaping focused and answerable research inquiries (Fineout-Overholt and Johnston, 2005). By structuring the review question in this way, the process becomes more systematic and transparent, ensuring that the scope and objectives are clearly aligned with the available evidence (Eriksen and Frandsen, 2018). As outlined in Table 1.0, the population of interest is university students in Africa, with quarantine measures during the COVID-19 pandemic identified as the intervention. The comparison is drawn against students' mental health status before the pandemic or in non-quarantine contexts, while the outcomes of interest include changes in levels of anxiety, depression, stress, and loneliness. Accordingly, the overarching review question is: **What is the impact of**

quarantine on the mental health of university students in Africa during the COVID-19

pandemic?

Table 1.0: PICO Framework

COMPONENT	DESCRIPTION	SYNONYMS
Population (P)	University students in Africa.	College students, Higher education students in Africa.
Intervention (I)	Quarantine measures during the COVID-19 pandemic.	Isolation, Lockdown, COVID-19 restrictions.
Comparison (C)	Mental health status before the pandemic or in non-quarantine conditions	Pre-pandemic mental health, non-quarantine conditions.
Outcome (O)	Changes in mental health, such as levels of anxiety, depression, stress, and loneliness.	Psychological impact, Emotional wellbeing, Mental health issues, psychological distress.

II. METHODS

Research Designs

This review adopted a systematic approach consistent with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which enhance clarity, accountability, and transparency in reporting study selection (Swartz, 2011; Shaheen et al., 2023). The included studies comprised eight quantitative and one qualitative design. Most quantitative studies applied cross-sectional methods, enabling efficient assessment of mental health outcomes at a single point in time and across large student populations (Capili, 2021). While valuable for capturing prevalence during COVID-19 quarantine, such designs are limited by their inability to establish causal relationships due to their snapshot nature (Wang and Cheng, 2020). In contrast, the single qualitative study provided deeper insights into students' lived experiences and contextual stressors, demonstrating the strength of qualitative approaches in exploring complex psychosocial phenomena (Tenny et al., 2020). However, as is typical, the small sample size limited generalisability (Leung, 2015). The integration of both approaches offered complementary perspectives: quantitative data highlighted patterns of anxiety, depression, and stress, while qualitative findings illuminated coping strategies and contextual vulnerabilities (Tenny et al., 2020; Rana et al., 2021). To ensure methodological rigour, all studies were appraised using the Joanna Briggs Institute (JBI, 2020) critical appraisal tools, which strengthened the reliability of conclusions and underscored the methodological variability within the available evidence on African students' mental health during COVID-19 quarantine.

Inclusion and Exclusion Criteria

This review applied predefined inclusion and exclusion criteria to ensure rigor and relevance in assessing the mental health effects of COVID-19 quarantine on African university students. Eligible studies were peer-reviewed primary research published between 2020 and 2024, focusing on university students in Africa and examining quarantine, lockdown, or isolation as exposures, with outcomes related to anxiety, depression, stress, or loneliness (Kelly et al., 2014). Only English-language articles were considered, given the challenges of translation and the potential for misinterpretation of non-English texts (Van et al., 2010; Rockcliffe, 2021). Studies published before March 2020, when COVID-19 was declared a global pandemic (WHO, 2023), as well as non-peer-reviewed publications, case studies, editorials, and commentaries, were excluded to maintain methodological quality. While this approach strengthens reliability by focusing on high-quality evidence, it also introduces limitations such as language bias, which may exclude relevant findings from French or Arabic-speaking regions of Africa, underscoring the need for future reviews to adopt multilingual strategies for more comprehensive coverage.

Search Strategy

A structured search strategy was applied to identify relevant studies on the psychological impact of COVID-19 quarantine on African university students. The search followed established recommendations for systematic reviews to ensure rigor and transparency (Bramer et al., 2018; Aveyard, 2023). Four electronic databases were selected: Medline, Ovid Embase, PubMed, and PsycINFO. These databases were

chosen for their comprehensive coverage of biomedical, psychological, and social science literature, making them suitable for capturing studies on mental health during disease outbreaks (Oermann et al., 2021; Bramer et al., 2017; Misra and Ravindran, 2022; Eady et al., 2008). Their complementary strengths provided a robust foundation for evidence synthesis (Gusenbauer and Haddaway, 2020).

The search was conducted using combinations of keywords and Boolean operators to capture a wide scope of relevant literature. The final search string was:

("Quarantine" OR "Lockdown" OR "Isolation" OR "Pandemic") AND ("Mental Health" OR "Psychological Impact" OR "Emotional Well-being") AND ("University Students" OR "College Students" OR "Higher Education")

AND ("Africa") AND ("COVID-19" OR "Coronavirus").

This approach was aligned with the Population, Intervention, Comparison, and Outcome (PICO) framework, targeting university students in Africa (P), examining quarantine and related restrictions during COVID-19 (I), comparing pre-pandemic or non-quarantine conditions (C), and focusing on outcomes such as anxiety, depression, stress, and loneliness (O) (Fineout-Overholt and Johnston, 2005; Eriksen and Frandsen, 2018). While the strategy maximised retrieval of relevant studies, a limitation was that narrowing to "quarantine" may have excluded papers using alternative terms such as "confinement" or "shutdown." Nonetheless, the inclusion of synonyms for mental health outcomes and student demographics enhanced coverage and reduced selection bias (Brooks et al., 2020).

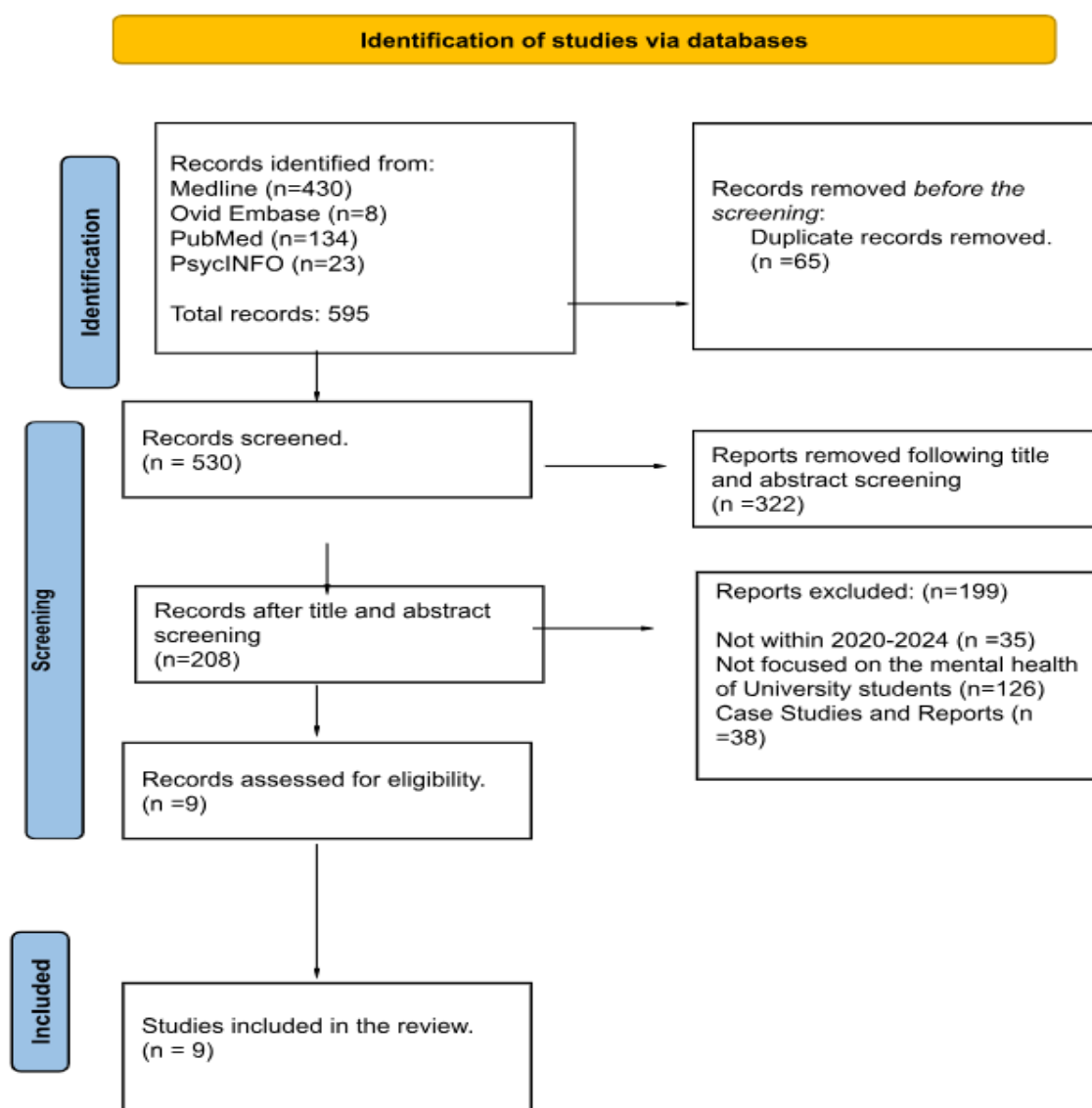
Table 1.1: Search Strategy and Justification

Search Strategy	Justification
("Quarantine" OR "Lockdown" OR "Isolation" OR "Pandemic")	Captures different forms of restrictions during COVID-19.
AND ("Mental Health" OR "Psychological Impact" OR "Emotional Well-being")	Ensures focus on psychological outcomes.
AND ("University Students" OR "College Students" OR "Higher Education")	Targets studies specific to the student population.
AND ("Africa")	Restricts scope to African contexts.
AND ("COVID-19" OR "Coronavirus")	Ensures relevance to the COVID-19 pandemic.

Search Results

The database search, conducted using the string **("Quarantine" OR "Lockdown" OR "Isolation" OR "Pandemic") AND ("Mental Health" OR "Psychological Impact" OR "Emotional Well-being") AND ("University Students" OR "College Students" OR "Higher Education") AND ("Africa") AND ("COVID-19" OR "Coronavirus")**, initially identified **595 records** from Medline (n = 430), Ovid Embase (n = 8), PubMed (n = 134), and PsycINFO (n = 23). Following the removal of **65 duplicates**, **530 unique records** were screened. Title and abstract screening excluded **322 studies** that were irrelevant to the review scope, leaving **208 full-text articles** for assessment. Of these, **199 were excluded** for not meeting inclusion criteria, including being

outside the 2020–2024 timeframe (n = 35), not addressing university students' mental health (n = 126), or being case studies and reports (n = 38). Ultimately, **9 studies** were included in the final synthesis. The process adhered to the PRISMA framework, which ensures transparency and methodological rigor in systematic reviews (Page et al., 2021). While the inclusion of multiple databases enhanced coverage, the restriction to English-language publications and the narrow timeframe may have excluded relevant non-English or earlier pandemic studies, underscoring a potential limitation for comprehensiveness. The PRISMA flow diagram (Figure 1) provides a detailed representation of the selection process (Page et al., 2021).



Characteristics of Included Studies.

A total of nine studies met the eligibility criteria following the search string. The included studies were conducted across Ethiopia, South Africa, Egypt, Uganda, and Nigeria, covering diverse institutional and regional contexts (Aylie et al., 2020; Bain et al., 2023; El-Monshed et al., 2022; Ghazawy et al., 2021; Kaggwa et al., 2022; Ojewale, 2021; Ominde et al., 2021; Visser and Wyk, 2021; Woday et al., 2021). Eight studies employed cross-sectional quantitative designs, while only one was qualitative (Bain et al., 2023), reflecting the dominance of quantitative approaches in assessing mental health during the pandemic. Sample sizes varied widely, ranging from 140 to 5,074 participants, suggesting variation in study power and representativeness. Data collection

methods included structured phone interviews and online surveys, with most studies using validated tools such as DASS-21, PHQ-9, GAD-7, HADS, FAD, COPE, and MHC-SF, though some relied on researcher-designed instruments, raising concerns about standardisation and comparability.

Outcomes consistently focused on depression, anxiety, and stress, with some studies incorporating suicidal ideation, family functioning, coping strategies, and emotional well-being. Prevalence estimates were high across settings: Aylie et al. (2020) reported depression (21.3%), anxiety (27.1%), and stress (32.5%), while Woday et al. (2021) found 77.2% depression, 71.8% anxiety, and 48.5% stress, underscoring heterogeneity in prevalence rates. Such variation reflects differences in measurement tools, sample

demographics, and timing of data collection. Analysis methods primarily involved descriptive statistics, regression, and logistic regression, with only Bain et al. (2023) employing reflexive thematic analysis to capture developmental and psychosocial impacts qualitatively. Overall, the evidence base demonstrates strong consistency in

identifying quarantine as a determinant of poor mental health among African university students, though limitations remain due to the predominance of cross-sectional designs, reliance on self-reported measures, and limited generalisability across diverse African contexts.

table 2.0: Summary of the Included Studies

Study Title	(Aylie et al., 2020)	(Bain et al., 2023)	(El-Mons hed et al., 2022)	(Ghazawy et al., 2021)	(Kaggwa et al., 2022)	Ojewale (2021).	(Omind e et al., 2021)	(Visse r and Wyk, 2021)	(Woda y et al., 2021)
Study Aims	To assess the prevalence of depression, anxiety, and stress	To explore developmental and mental health impacts	To assess the levels of depression, anxiety, stress, and coping	To determine the prevalence of depression, anxiety, and stress	To assess the prevalence of depression and suicidal ideation	To assess anxiety, depression, family functioning, and coping strategies	To determine the prevalence of anxiety and depression	To explore anxiety, depression, emotional well-being, and mental health	To assess the level of psychological problems among college students during school closure due to the COVID-19 pandemic
Location	Bench-Sheko Zone, South-West, Ethiopia	University of the Witwatersrand, South Africa	Mansoura University, Egypt	20 Egyptian Universities	Bishop Stuart University, Kampala International University, Mbarara University of Science and Technology, and	University of Ibadan, Nigeria	Delta State University, Nigeria	South Africa	Dream Science and Technology College, Dandii Boru College, Unity University and Dessie Health

					Kabale University.				Science College. Ethiopia
Target Population	University Students (US)	US	US	US	US	US	US	US	US
Study design	Cross-sectional, Quantitative	Qualitative	Cross-sectional, Quantitative	Cross-sectional, Quantitative	Cross-sectional, Quantitative	Cross-sectional, Quantitative	Cross-sectional, Quantitative	Cross-sectional, Quantitative	Cross-sectional, Quantitative
Sample size	322	140	612	1,335	540	386	259	5,074	422
Intervention/Exposure	Quarantine measures during COVID-19	Quarantine and social isolation	Quarantine measures during COVID-19	Quarantine measures during COVID-19	Quarantine measures during COVID-19	Quarantine measures during COVID-19	Quarantine measures during COVID-19	Quarantine measures	Quarantine measures during COVID-19
Comparison	Mental Health Status (MHS) before COVID-19	MHS before COVID-19	MHS before COVID-19	MHS before COVID-19	MHS before COVID-19	MHS before COVID-19	MHS before COVID-19	MHS before COVID-19	MHS before COVID-19
Data Collection methods and Time Scale	Structured phone interview with DASS-21 April 2020	Online survey	Online survey (COPE, UCLA and DASS-21); 30 May-6 June, 2020	Online arabic survey designed by researcher + DASS-21 ; May 2020	Online survey (PHQ-9); May-September 2021	Online survey; (HADS and FAD). 29 April- 5 May, 2020.	Online survey designed by researchers + (GAD-7, PHQ-9); 1 July- 15 August, 2020.	Online survey (PHQ, GAD and MHC-SF)); July, 2020	Phone call and personal interview applying DASS-21 questionnaire; 15 April to 15

									May, 2020
Data Analysis	Descriptive statistics, logistic regression	Reflexive thematic analysis	Descriptive statistics, regression analysis (SPSS)	Descriptive statistics, regression	Multivariable logistic regression analyses	Descriptive statistics, regression analysis	Descriptive statistics, logistic regression. (SPSS)	Descriptive statistics, regression analysis	Bivariate logistic regression analysis
Outcome measures	Depression, Anxiety, Stress	Depression, Anxiety, Social Anxiety	Depression, Anxiety, Stress, Coping	Depression, Anxiety, Stress	Depression, Suicidal Ideation	Anxiety, Depression, Family Functioning, Coping	Anxiety, Depression.	Anxiety, Depression, Emotional Wellbeing, Mental Health	Level of psychological problem.
Main Findings	High prevalence of depression (21.3%), anxiety (27.1%), and stress (32.5%).	Developmental and mental health challenges among South African university students post-COVID-19.	Psychosocial effects and coping strategies of Egyptian university students during lockdown.	Psychological impacts of COVID-19 pandemic on the university students in Egypt	Prevalence and factors associated with depression and suicidal ideation among Ugandan university students during COVID-19.	Psychological state, family functioning, and coping strategies among undergraduate students in Nigeria during the COVID-19 lockdown.	Impact of COVID-19 on the mental health of Delta State University students.	Mental health and emotional well-being of university students during COVID-19 lockdown in South Africa	77.2%, 71.8%, and 48.5% of students experienced depression, anxiety, and stress-related psychological problems, respectively

Critical Appraisal

The nine included studies were critically appraised using the Joanna Briggs Institute (JBI, 2020) tools to assess methodological quality. Overall, the majority of cross-sectional studies demonstrated strong methodological clarity, including clearly defined inclusion criteria, valid exposure and outcome measures, and appropriate statistical analyses (Aylie et al., 2020; El-Monshed et al., 2021; Ghazawy et al., 2020; Kaggwa et al., 2022; Ojewale, 2021; Ominde et al., 2021; Visser and Wyk, 2021; Woday et al., 2021). However, consistent limitations included incomplete control of confounding factors and variable detail in the description of study settings.

Validated instruments such as DASS-21, PHQ-9, and GAD-7 were widely used, ensuring reliable assessment of depression, anxiety, and stress, though they did not always capture broader psychological constructs such as loneliness or pandemic-specific fears (Johnson et al., 2019; Ford et al., 2020). Some studies used researcher-

designed questionnaires (Ominde et al., 2021), which provided contextual relevance but risked reduced validity and comparability. While pilot testing partially mitigated this concern (In, 2017), reliance on non-standard tools remains a methodological weakness.

All studies acknowledged potential confounders such as age, gender, and socio-economic status, but only Ghazawy et al. (2021) and Woday et al. (2021) comprehensively applied multivariate regression techniques to control for multiple confounding variables simultaneously. In contrast, others applied only partial adjustments (Aylie et al., 2020; El-Monshed et al., 2021), limiting the robustness of their findings (Pourhoseingholi et al., 2012). Consequently, while most studies were rated as medium-to-high quality, the variability in confounder control and reliance on cross-sectional designs restricts causal inference and reduces generalisability across African contexts.

Table 2.1: Quality Assessment of the Included Cross-sectional Studies.

Study	Aylie et al. (2020)	El-Monshed et al. (2021)	Ghazawy et al. (2020)	Kaggwa et al. (2022)	Ojewale (2021)	Ominde et al. (2021)	Visser and Wyk (2021)	Woday et al., (2021)
Criteria for Inclusion	Yes,	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Subjects and Setting Described	Yes,	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Exposure Measured Validly and Reliably	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Objective Standard Criteria used.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Confounding Factors Identified	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Strategies to Deal with Confounding Factors	Partially addressed	Partially addressed	Yes	Partially addressed	Partially addressed	Partially addressed	Partially addressed	Yes
Outcomes Measured Validly and Reliably	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Statistical Analysis Conducted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Overall Appraisal	Medium quality due to lack of confounder control	High quality with minor limitations	High quality with minor limitations	High quality with minor limitations	High quality with minor limitations	High quality with minor limitations	High quality with minor limitations	High quality with comprehensive addressing of confounders
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Table 2.2: Quality Assessment of Qualitative Study Bain et al., (2023).

Criteria	Yes	No	Unclear	Not Applicable	Comments
Is there congruity between the stated philosophical perspective and the research methodology?	✓				The study clearly aligns its qualitative methodology with a constructivist perspective.
Is there congruity between the research methodology and the research question or objectives?	✓				The research question focused on understanding students' experiences, suitable for qualitative methods.
Is there congruity between the research methodology and the methods used to collect data?	✓				Data collection through interviews is appropriate for a qualitative study exploring personal experiences.
Is there congruity between the research methodology and the representation and analysis of data?	✓				Thematic analysis was used, which is suitable for qualitative data.
Is there congruity between the research methodology and the interpretation of results?	✓				The interpretation of the results was consistent with qualitative methodology, focusing on students' subjective experiences.
Is there a statement locating the researcher culturally or theoretically?	✓				The researchers discussed their backgrounds and potential biases
Is the influence of the researcher on the research, and vice-versa,	✓				Reflexivity was discussed, acknowledging the researchers' influence on the data.

addressed?					
Are participants, and their voices, adequately represented?	✓				Direct quotes from participants were used to illustrate key themes.
Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	✓				Ethical approval was obtained, and ethical considerations were discussed.
Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	✓				Conclusions were logically derived from the thematic analysis.

The study by Bain et al. (2023) demonstrates strong methodological rigour and congruity across all assessed criteria. The research question, methodology, data collection, and analysis were well-aligned, ensuring robust and

credible findings. The researchers adequately addressed their potential biases and provided a clear ethical framework, enhancing the study's reliability and trustworthiness.

3.6 Themes Derived from the Included Studies

Table 2.3: Themes Deduced from the Included Studies.

Themes	Studies Discussing the theme	Findings
Psychological Impact	Depression: Aylie et al. (2020), Bain et al. (2023), El-Monshed et al. (2021), Ghazawy et al. (2020), Kaggwa et al. (2022), Ojewale (2021), Ominde et al. (2021), Visser and Wyk (2021), Woday et al. (2021). Anxiety: Aylie et al. (2020), El-Monshed et al. (2021), Ghazawy et al. (2020), Kaggwa et al. (2022), Ojewale (2021), Ominde et al. (2021), Visser and Wyk (2021), Woday et al. (2021). Stress: Aylie et al. (2020), El-Monshed et al. (2021), Ghazawy et al. (2020), Woday et al. (2021).	High prevalence of depression and anxiety among students, exacerbated by isolation, academic disruptions, and fear of infection.
Educational Impact	El-Monshed et al. (2021), Ojewale (2021), Visser and Wyk (2021), Woday et al. (2021).	Significant disruptions due to school closures, transition to online learning, and decreased motivation
Coping strategies	El-Monshed et al. (2021), Ojewale (2021), Visser and Wyk (2021).	Varied coping mechanisms, including problem-focused strategies, social media use, and maintaining hopefulness.

Findings on Psychological, Educational, and Coping Dimensions

The nine included studies consistently demonstrated significant psychological distress among African university students during COVID-19 quarantine, with high prevalence of depression, anxiety, and stress. Elevated depression was reported in Ethiopia and Egypt, linked to isolation and fear of infection (Aylie et al., 2020; El-Monshed et al., 2021), while anxiety levels were particularly high in Egypt and Uganda due to academic uncertainty and disrupted learning trajectories (Ghazawy et al., 2020; Kaggwa et al., 2022). Stress-related outcomes were also common, with Woday et al. (2021) documenting that nearly half of respondents experienced stress during institutional closures, and Bain et al. (2023) identifying social anxiety and motivational decline among South African students.

Educational disruption was a central factor exacerbating mental health challenges. Transition to online learning and loss of academic structure resulted in decreased motivation and adaptability challenges in Nigeria and South Africa (Ojewale, 2021; Visser and Wyk, 2021; Bain et al., 2023), while Egyptian findings confirmed that academic discontinuity was strongly associated with heightened anxiety (El-Monshed et al., 2021). Similarly, Ethiopian evidence highlighted the additional burden of stress related to sustaining academic progress during prolonged lockdown (Woday et al., 2021).

Coping strategies varied across contexts, though they received comparatively less research attention. Reported approaches included adaptive mechanisms such as seeking social support and maintaining productive activities (El-Monshed et al., 2021; Ojewale, 2021), alongside maladaptive reliance on social media for distraction (Visser and Wyk, 2021; Bain et al., 2023). Hopefulness and positive outlooks were observed as protective, though such findings remained descriptive and context-dependent, limiting generalizability. Taken together, the evidence illustrates that mental health outcomes among African university students were shaped by the combined influence of quarantine, educational disruption, and varied coping responses. While consistent in showing quarantine as a driver of poor mental health, the studies highlight methodological gaps and contextual differences that point to the urgent need for integrated institutional responses that jointly address academic continuity and psychological wellbeing during future outbreaks.

III. DISCUSSION

Educational Impact

The abrupt transition to online learning during the COVID-19 pandemic, combined with the uncertainty of academic calendars, severely disrupted the education of university students worldwide, with African institutions facing particularly acute challenges. Existing literature underscores that the educational disruptions were not limited to learning outcomes but also had profound implications for students' mental health. For instance, Bain et al. (2023) reported elevated levels of depression and anxiety among students, attributing these to isolation and the disruption of academic routines. Similarly, Visser and Wyk (2021) found that many students scored low on the mental health continuum, which was strongly correlated with diminished academic performance. These findings highlight how compromised mental health functioned both as a consequence of and a contributor to educational setbacks.

Within the African context, such disruptions align with broader global patterns but also reveal unique regional vulnerabilities. Comparative studies demonstrate that the pandemic's psychological toll on students was not geographically confined. For example, research in Asia confirmed similar patterns, with Cao et al. (2020) and Saraswathi et al. (2020) documenting increased anxiety and depression among learners, often linked to the uncertainties of online instruction. Likewise, Ghazawy et al. (2020) emphasized that disruptions in academic continuity exacerbated stress levels, paralleling African students' struggles. In North America, Xia et al. (2022) observed that many students also struggled to adapt to online learning modalities, although the impact was somewhat mitigated by greater access to digital infrastructure.

A critical difference across regions lies in the degree of institutional preparedness for the sudden pivot to online learning. Some universities had pre-existing digital platforms and support systems, which allowed for a smoother adaptation, while others were unprepared and thus faced prolonged disruptions. For example, Bain et al. (2023) highlighted that students at the University of the Witwatersrand in South Africa experienced heightened social anxiety and academic challenges, illustrating how institutional readiness can shape educational outcomes. Conversely, many North American universities leveraged robust technological resources to support students,

softening the educational shock, even if psychological distress remained a shared outcome.

This comparative perspective reveals that although mental health deterioration and academic decline were common globally, the severity varied depending on access to resources, institutional resilience, and the socio-economic context of learners. African universities, in particular, bore the compounded burden of weak technological infrastructure, limited access to digital devices, and inadequate institutional support, which intensified both academic losses and mental health strains. The evidence therefore suggests that, while psychological distress was universal, African students faced deeper structural barriers that amplified the disruption. Overall, the literature demonstrates that mental health challenges manifesting as anxiety, depression, and social isolation were consistently associated with academic decline across regions. However, the African case underscores the double jeopardy of inadequate mental health support systems and fragile e-learning infrastructures. This dual challenge exacerbated educational inequalities and compounded the pandemic's impact on university students. Moving forward, policy and institutional interventions must not only prioritize mental health support but also invest in strengthening technological readiness for online education. Without such integrated measures, African students remain disproportionately vulnerable to both psychological and academic fallout during future disease outbreaks.

Psychological Impact

The reviewed studies consistently demonstrated that the COVID-19 quarantine exerted a profound psychological toll on African university students, with high prevalence rates of depression, anxiety, and stress. For example, Woday et al. (2021) reported that 77.2% of students experienced depression, 71.8% reported anxiety, and 48.5% reported stress-related symptoms, suggesting an acute and widespread impact. Similar findings were observed in South Africa, where Visser and Wyk (2021) reported that 45.6% of students experienced anxiety and 35.0% reported depression, while Ojewale (2021) demonstrated that poor family functioning and residence in high COVID-19 incidence areas accounted for 14% of depression cases. Qualitative insights from Bain et al. (2023) further highlighted the lived realities of social isolation, reduced motivation, and heightened psychological strain among South African students. Collectively, these findings

confirm the pervasive psychological impact of quarantine, while also showing that the magnitude of its effects differed across contexts, reflecting variations in infection severity, governmental responses, and cultural dynamics.

When considered comparatively, these African findings align with global literature but also present notable differences. In Asia, Wang and Liu (2022) documented elevated anxiety (24.9%) and depression (21.1%) among Chinese university students, findings broadly consistent with Ghazawy et al. (2020) in Egypt but lower than those reported by Woday et al. (2021) in Ethiopia. Similarly, in Europe, Odriozola-González et al. (2020) found anxiety (21.3%) and depression (34.1%) rates among Spanish students, while Conceição et al. (2021) and Volken et al. (2021) highlighted academic disruptions and uncertainty as primary psychological stressors. Although there is global convergence on the adverse psychological consequences of the pandemic, African studies often underscore additional factors such as socio-economic instability, weak healthcare systems, and family dynamics as critical determinants (Ojewale, 2021). This indicates that, while the pandemic was a universal stressor, its effects were mediated by local contexts.

Two structural dimensions emerged as particularly important in shaping psychological outcomes: socio-economic conditions and healthcare infrastructure. First, socio-economic disparities influenced vulnerability, with students from rural or low-income backgrounds experiencing disproportionate psychological distress due to financial instability, limited access to digital learning, and food insecurity (Woday et al., 2021). These findings contrast with European studies, where stressors were more frequently linked to academic uncertainty rather than material deprivation (Conceição et al., 2021). Second, healthcare infrastructure was pivotal in determining the adequacy of psychological support. Regions with weak mental health systems, limited counselling services, and minimal integration of mental health into public health responses were unable to meet increased demand, exacerbating student distress (Sodi et al., 2021). Conversely, contexts with stronger healthcare structures, such as those observed in some European universities, were comparatively better positioned to mitigate psychological harm (Volken et al., 2021). The synthesis of findings underscores the need for both universal and context-specific responses. Universally, the evidence demonstrates that disease outbreaks and associated quarantine measures

consistently produce high rates of psychological distress among university students, pointing to the necessity of embedding mental health services within institutional frameworks globally. However, the African case highlights that interventions must also address broader socio-economic and infrastructural vulnerabilities. Without strengthening digital access, family support mechanisms, and healthcare systems, interventions may fail to mitigate the compounded risks faced by students in low-resource settings.

Coping Strategies

The COVID-19 pandemic not only disrupted academic routines but also compelled students to develop diverse coping mechanisms in response to heightened psychological distress and educational challenges. Understanding how students managed the stressors associated with quarantine is crucial, as coping strategies significantly influenced both mental health outcomes and educational performance. Within the African context, Ojewale (2021) reported that students commonly turned to social media, entertainment such as movies, and participation in online skills-development programs as ways of alleviating stress. While such strategies offered temporary relief, their long-term effectiveness is debatable. Drazenovic et al. (2023), for instance, warned that excessive reliance on social media can paradoxically exacerbate anxiety, illustrating how certain coping behaviors may inadvertently undermine psychological well-being. This duality highlights the importance of distinguishing between adaptive and maladaptive strategies when examining coping during crises.

El-Monshed et al. (2021) further reinforced this distinction, noting that functional coping mechanisms such as planning, active coping, and problem-solving were more frequently employed by students than dysfunctional strategies, which scored lowest on the Brief COPE scale. This preference for problem-focused approaches suggests resilience among African students in the face of uncertainty. However, it also raises questions about whether such strategies were sufficient to buffer the compounded stressors of limited technological access, poor institutional preparedness, and academic disruptions. The extent to which coping strategies moderated the relationship between psychological strain and educational performance remains an area requiring deeper exploration.

Comparative evidence from outside Africa provides a useful lens for contextualizing these

findings. For example, Odriozola-González et al. (2020) and Lee, Jeong, and Kim (2021) documented similarly high rates of anxiety and depression among European and Asian students, aligning with Visser and Wyk's (2021) findings in Africa. In these contexts, students also relied heavily on online courses, virtual socialization, and mixed coping approaches that included both adaptive (e.g., structured routines, planning) and maladaptive (e.g., avoidance, overreliance on social media) behaviors. The relative balance in coping strategies reported in these studies contrasts with El-Monshed et al.'s (2021) findings, where African students showed a more distinct inclination toward problem-focused coping. This suggests potential cultural or contextual differences in coping behavior, shaped by varying levels of access to resources, institutional support, and sociocultural expectations around resilience and adaptation.

Taken together, the evidence underscores that coping strategies played a mediating role in shaping both mental health outcomes and academic continuity during the pandemic. While students across regions shared common stressors such as isolation, uncertainty, and academic disruption, their chosen coping mechanisms varied in scope and effectiveness. African students' emphasis on problem-focused coping reflects commendable resilience but also signals a narrower range of responses compared to their global counterparts. This reliance may have been shaped by structural constraints, where limited technological access and fewer institutional support systems left students with fewer adaptive options. The implication for policy and practice is clear: interventions in African universities should not only prioritize mental health support but also foster the development of diverse adaptive coping mechanisms. Programs that encourage emotional regulation, balanced use of digital tools, and social connectedness could complement problem-focused approaches and strengthen students' resilience in future crises. By addressing both the psychological and structural dimensions of coping, universities can better support students in navigating the dual challenges of disease outbreaks and academic continuity.

IV. CONCLUSION

This review synthesised evidence from nine studies on the mental health of African university students during COVID-19 quarantine, revealing heightened anxiety, depression, and stress linked to isolation and academic disruption,

particularly due to unequal access to technology and learning resources. While the studies employed validated measures, the findings emphasize the need for culturally appropriate psychological interventions, promotion of adaptive coping strategies, and institutional measures to support academic continuity. Future research should adopt longitudinal designs to capture long-term effects and focus on developing targeted interventions such as online counselling, peer support groups, and resilience-building programs. Culturally relevant approaches to managing stress, addressing learning loss, and fostering student resilience are essential for strengthening mental health support systems and academic outcomes across diverse African contexts.

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