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Chapter

A Scoping Analysis of the Psychosocial and Health Implications of COVID-19 Comorbidity-Related Complications in the African States: Recent Developments in Counseling and Therapeutic Options

Oluwatoyin Olatundun Ilesanmi, Faith Ibitoyosi Ilesanmi, Raouf Hajji and Garba Moussa

Abstract

Since the upsurge of Coronavirus in 2019, the WHO and the US CDC have been detecting and characterizing new variants and providing updates to healthcare workers, the public, and global partners on its spread and effects on patients with noncommunicable diseases and co-morbid ailments. Epidemiology and virologic evidence suggest that COVID-19 and its subsequent deadly variants have been associated with mental and neurological manifestations, including delirium or encephalopathy, agitation, acute cerebrovascular disease, meningoencephalitis, impaired sense of smell or taste, anxiety, depression, and sleep problems. While data on these complications may be available in the global north and south, there is a paucity of literature in most African States. Recent developments in COVID-19-related theories and concepts include ethical principles for clinical, counseling, psycho-therapeutic, and rehabilitation options for special and vulnerable populations, such as pediatric patients, pregnant women, mothers, older people, PLWDs, and other marginalized groups. However, there is no known coordinated and multidisciplinary continuum of clinical, counseling, and psychotherapy COVID-19 care pathways for symptomatic and asymptomatic patients and their families in the African States. Hence, the need for this scoping analysis of existing literature on the psycho-social and health implications of COVID-19 Comorbidity-Related Complications for vulnerable persons in developing societies.

Keywords: COVID-19, COVID-19-related comorbidity, clinical care, counseling, psychotherapy, continuum of care and African states

1. Introduction

1.1 Background

There is no health without mental health. Mental health is important at every stage of life, from childhood and adolescence through adulthood to senescence. However, the upsurge of Coronavirus (COVID-19) as a global burden in 2019 in Wuhan, China, its high mortality rate and attendant stressors, such as lock-downs, self-isolation and quarantines, infection fears, inadequate information, job and financial losses, stigma, and discrimination, among others have contributed significantly to the increase of negative psycho-social and mental health disorders globally. Since the WHO's declaration of the outbreak of coronavirus disease as a Public Health Emergency of International Concern (PHEIC) and a pandemic between 30th January and 11th March 2020, there had held six different International Health Regulations (IHR) Emergency Committee meetings (third to ninth) for COVID-19 in Geneva. The meetings were specifically held on 30 April 2020, 31 July 2020, 29 October 2020, 14 January 2021, 15 April 2021, 14 July 2021, and 22 October 2021. During each of these committee meetings, it was concluded that the pandemic constitutes a major PHEIC.

The physical burden associated with COVID-19 included symptoms such as mild to moderate respiratory illnesses characterized by fever, dry cough, tiredness, difficulty breathing or shortness of breath, and loss of the ability to smell and taste. Between 31st December 2019 and the week 492,021, five out of 316,017 COVID-19-related deaths and 270,327,277 cases have been recorded in line with the applied case definitions and testing strategies of affected countries. The total number of cases recorded in the global community and the EU/EEA are probably an underestimate of the true number of cases and deaths, due to various degrees of under-ascertainment and under-reporting. Between 9th and 16th December 2021, there had been no changes made to the following ECDC variant classification—*the variants of concern (VOCs), variants of interest (VOIs), variants under monitoring, and de-escalated variants*.

The COVID-19 pandemic has not only disrupted and altered lives in Africa but a surge in depressive cases, public anxieties, worries [1], and increased risk of mental health symptoms and disorders among vulnerable populations, such as unemployed adults, youth, the elderly, and frontline healthcare workers [2]. Its impact in the Democratic Republic of the Congo (DRC) was complicated by the recent Ebola virus disease (EVD) outbreak reported on 8 October 2021, in Butsili Health Area in the Beni Health Zone, North Kivu Province, even though it has been officially declared over on 16 December 2021. In total, eight confirmed and three probable EVD cases, including nine deaths (six among the confirmed cases), were reported since the start of the outbreak (8 October 2021).

Although the WHO and the US CDC have been detecting and characterizing new variants and providing updates to healthcare workers, the public and global partners on the spread and effects of COVID-19 on patients with noncommunicable diseases and co-morbid ailments, Corser [3] posit that the impact of COVID-19 on the mental health of individuals is an unfolding urgent crisis. Additionally, epidemiology and virologic evidence suggest that COVID-19 and its subsequent deadly variants have been associated with mental and neurological manifestations, including delirium or encephalopathy, agitation, acute cerebrovascular disease (including ischaemic and hemorrhagic stroke), meningoencephalitis, impaired sense of smell or taste, anxiety, depression, and sleep problems. WHO [4] found that out of 775 adults, studied in the United States, 55% believed that COVID-19 had dangerous effects on their mental

health, while 71% felt agitated about the negative impacts of isolation on their mental health. Pappa, Ntella, Giannakas, Giannakoulis, Papoutsis, and Katsaounou [5] also associated personality changes consistent with depression with COVID-19-induced encephalopathy. Zhang and Ma [6] reported that symptoms of depression, anxiety, fear, stress, and insomnia, increased during the pandemic.

1.2 Variants of COVID-19

Toward the end of 2020, the emergence of specific variants of the COVID-19 pandemic that constitute a greater significant risk to global public health led to the listing of specific Variants of Interest (VOIs) and Variants of Concern (VOCs). This classification aided the prioritization of global health monitoring, research, and ongoing response to the pandemic. According to the SIG Variant classification scheme, the following are the four main classes of SARS-CoV-2 variants (see **Table 1**).

a. The Variant being monitored (VBM):

i. **SARS-CoV-2 lineage—B.1.1.7:** According to the European Centre for Disease Control and Prevention [7], this variant originally detected in the United Kingdom (UK) is defined by multiple spike-protein mutations (deletion 69–70, deletion 144, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H) present as well as mutations in other genomic regions. It is significantly more transmissible than previously circulating variants with an estimated potential to increase the reproductive number (R) by 0.4 or greater with estimated increased transmissibility of up to 70%. This poses a challenge to the monitoring of the spread of the virus at the population level to assess the effectiveness of containment strategies—including vaccination. Vaccine inequity leaves most African countries helpless in the wake of more deadly variants.

ii. The alpha, gamma, and beta variants continue to be monitored but are spreading at much lower levels in the U.S.

b. The variant of interest (VOI)—Currently, no SARS-CoV-2 variants are designated as VOI

c. The variant of Concern (VOC): Currently designated variants of concern (VOCs) + are:

i. **Delta (B.1.617.2 and AY lineages):** The Delta variant of COVID-19 is highly contagious and still dominant worldwide. It has been labeled a variant of concern by WHO because of its increased transmissibility and increased ability to cause a severe form of the disease. The greatest risk of transmission is among unvaccinated people. People who are fully vaccinated can get vaccine breakthrough infections and spread the virus to others

ii. **Omicron (B.1.1.529 and BA lineages):** The eCDC classified a SARS-CoV-2 variant belonging to Pango lineage B.1.1.529 as a variant of concern (VOC) on 26 November 2021, due to concerns regarding immune escape and its potentially increased transmissibility. The WHO also classified this variant as a VOC and assigned it the label Omicron. As of 16 December 2021,

The WHO's label of COVID-19 Variants	Pango lineage*	GISAID clade	Next strain clade	Additional amino acid changes monitored d°	Earliest documented samples	Date of designation
Alpha	B.1.1.7	GRY	20I (V1)	+S:484 K + S:452R	The United Kingdom, Sep-2020	18-Dec-2020
Beta	B.1.351	GH/501Y. V2	20H (V2)	+S: L18F	South Africa, May-2020	18-Dec-2020
Gamma	P.1	GR/501Y. V3	20 J (V3)	+S:681H	Brazil, Nov-2020	11-Jan-2021
Delta	B.1.617.2	G/478 K.V1	21A, 21I, 21 J + S:417 N	+S:484 K	India, Oct-2020	VOI: 4-Apr-2021 VOC: 11-May-2021
Omicron*	B.1.1.529	GRA 21 K, 21 L 21 M	+R346K	Multiple countries, Nov-2021	VUM: 24-Nov-2021	VOC: 26-Nov-2021

Source: WHO: Tracking SARS-CoV-2 variants. Available at <https://www.who.int/en/activities/tracking-SARS-CoV-2-variants/>

Table 1.
Variants of COVID-19.

overall, there were 15,778 confirmed cases of Omicron VOC (an increase of 13,608 cases since the last report on 9 December 2021) reported globally by 85 countries. The number of countries reporting cases with the SARS-CoV-2 Omicron VOC continues to increase globally. Africa has detected 8,982,687 cases; the five countries reporting the most cases are South Africa (3167497), Morocco (951482), Tunisia (719662), Libya (378105), and Ethiopia (373115). Africa has had 224,869 deaths with most deaths occurring in the following five countries—South Africa (90137), Tunisia (25437), Egypt (21060), Morocco (14796), and Ethiopia (6829).

d. The variant of high consequence (VOHC)n: Currently, no SARS-CoV-2 variants are designated as VOHC

All variants of COVID-19 can cause severe disease or death. While data on these complications may be available in the global north and south, there is a paucity of literature in most African States.

1.3 Rationale

The upsurge of Coronavirus as a global pandemic and its attendant gender-related socio-economic problems have sparked up depression, sadism, suicidal ideation, and all manner of psychiatric ailments across the globe. The pandemic that claims millions of lives both recorded and unrecorded deaths created a new wave of mental ill-health and vicarious trauma even for clinicians attending to COVID-19 patients.

The prevalence of these illnesses and traumatic experiences among clinicians and significant persons attending to the sick or those who have lost loved ones to the pandemic is yet to be determined. The policy strategies deployed for containing the spread of the pandemic increased unemployment, financial insecurity, and poverty. It also had grave impacts on mental health by increasing social isolation and loneliness that have been strongly associated with anxiety, depression, self-harm, suicide attempts, and emotional problems across the lifespan. The effect of social (or physical) distancing measures affects mental health within a syndemics approach through interacting socio-demographic forces (eg, aging, rising inequality) and health conditions (eg, chronic diseases and obesity) that yield resultant comorbidities.

More so, the World Health Organization in its new Mental Health Atlas report identified the growing need for mental health support and a worldwide failure to provide people with the mental health services needed during the COVID-19 pandemic. In a policy brief on COVID-19, the United Nations also mandated the need to provide high-quality data on the psychological impacts of the COVID-19 pandemic [8].

1.4 Purpose of study

The purpose of this study is to examine the psychosocial and health implications of COVID-19 Comorbidity-Related Complications among selected vulnerable groups in the African States, identify which sub-groups are most vulnerable to psychological distress, identify the risk and protective factors associated with this population's mental health, and to highlight recent developments in counseling and therapeutic options.

1.5 Objectives of study

The study contributes to informing where mental health interventions, together with organizational and systemic efforts to support this population's mental health could be focussed in an effort to support psychological well-being.

1.6 Research questions

- a. What are the COVID-19-related mental health theories?
- b. Are there existing policies or plans for managing mental health issues associated with COVID-19 in Africa?
- c. What is the prevalence of the mental health consequences of COVID-19 containment measures, socio-demographic forces, and other health conditions for vulnerable groups?
- d. How can the mental health consequences of the COVID-19 containment measures, socio-demographic forces, and other health conditions among vulnerable groups be mitigated in Africa?
- e. What are the basic psychosocial counseling principles for COVID-19 positive patients and other significant persons?

2. Methodology

2.1 Research design

To address the stated research questions and objectives, the study adopts a desk review of the literature. The desk review of literature includes scoping existing online records, scientific articles, and reports published in English on the pandemic, related comorbidities, and mental health between 2000 and 2021. All scientific articles were obtained from the online database, while country and continent-specific reports and preprint articles were abstracted using google scholar.

3. Results

Question 1: what are the COVID-19-related mental health theories?

According to WHO [9], mental health is a state of well-being during which the individual realizes his or her own abilities, has the capacity to cope with the normal stresses of life, works productively and fruitfully, and makes meaningful contributions to his or her community. In other words, mental health is not just the absence of mental illness, but the presence of well-being. Cohan and Cole [10] and Ilesanmi and Eboiyehi [11] asserted that disasters have complex, multi-faceted, and long-lasting mental health implications for the people who experience them and vicarious trauma effects on their caregivers. Maths, Nirmala, Moirangthem, and Kumar [12] reported that the prevalence of mental health problems in populations affected by disasters was two to three times higher than that of the general population.

Sturgeon [13] posits that the determinants of mental health and well-being during the pandemic are both psychological and social factors. The psychological factors encompass emotions (e.g., anger, guilt, and grief), thought processes (e.g., hopelessness, helplessness associated with the pandemic), beliefs (e.g., about the outbreak, its attribution, and those affected by it), and so on. The social factors entail access to family and community networks during the COVID-19 quarantine, economic factors, stigma and discrimination, cultural practices, and so on. Both psychological and social factors interact with each other to influence the mental health and well-being of individuals during the pandemic.

Consequently, the general theoretical mental health assumption related to COVID-19 and its associated comorbidities as well as the containment measures (quarantine) is that undue distress, a sense of loss, and impairment to social and occupational functioning can stem from losing direct social contacts, loved ones, employment, sources of income, educational opportunities, recreation, freedoms, and social supports. This can be worsened by the gripping fears and anxieties of its morbidity, mortality, and efficacy of high transmission. These anxieties include constant fears of getting infected and passing the infection to friends, families, and coworkers, as well as fear of survival when infected. The development of this mental stress is an emergency needing mental health response. Nearly 20 months into the global health crisis, the pandemic fatigue worsened by the resurgence of more deadly variants is contributing to and creating risks of mental distress of losing jobs, keeping families safe, or the sweeping uncertainty of the future.

Gallagher and Wetherell [14] classified the mental health implications of COVID-19 and its associated comorbidities as peritraumatic stress occurring during or immediately following infection. Biello [15] highlighted the following characteristics of pre-trauma in the current global pandemic scenario as including:

- a. **Lack of predictability:** This entails the disruption of daily routines as a direct consequence of the pandemic.
- b. **Immobilization:** This refers to the containment measures, such as physical distancing, limited mobility, and quarantine at home.
- c. **Loss of social connection:** This refers to the sudden and unnatural interruption in social connectivity and physical engagement, resulting in the sudden disruption of the very nature of human interactions.
- d. **Numbing out:** Numbing out is a protective reaction that prevents emotional overload. Excessive numbing out can result in the loss of agency and sense of control over individual actions and choices. It entails being aware of oneself, feelings, and emotional discomfort. Non-realization of these feelings and emotional discomforts can result in automatic outbursts of anger, fear, or irritation.
- e. **Loss of time perception or dyschronometria:** This infers distortion of an individual sense of time perception. It is a condition of cerebellar dysfunction in which an individual cannot accurately estimate the amount of time that has passed as a result of shock from the traumatic situation. It is an overwhelming loss of sense of time, tracks of events, and differences in each and every moment.

f. **Loss of safety:** The high rate of COVID-19-related deaths and the associated violence experienced by many during the total lockdown has resulted in the loss of physical sense of safety, social safety, job loss, and loss of social connection.

g. **Loss of meaning for life:** The psychotherapists need to assist patients to gain meaning for life out of the current adversity and find their roles and purpose through existential safety and satiation of basic needs such as food, safe shelter, and jobs, as well as on the psychological mind.

Question 2: are there existing policies or plans for managing mental health issues associated with COVID-19 in Africa?

Since Africa recorded its first COVID-19 case in Egypt on 14 February 2020, a significant number of countries have reported cases in capital cities and multiple provinces. As of 2020, out of the WHO's 194-Member States, only 51% had mental health policies or plans that are in line with international and regional human rights instruments. More so, only 52% met the target relating to mental health promotion and prevention programs, and these are way short of the 80% target. The only 2020 target met was a reduction in the rate of suicide by 10%, but even then, only 35 countries had a stand-alone prevention strategy, policy, or plan.

In compliance with the WHO's Mental Health Policy Action Plan (2013–2020) that aimed at preventing mental disorders; providing care; enhancing recovery; promoting mental well-being and human rights, as well as reducing the mortality, morbidity, and disability of persons with mental disorders, the following are the existing MHP in African nations:

a. **Kenya:**

i. **Mental Health Preparedness and Action Framework (MHPAF):** This is the MHP framework in Kenya prior to the pandemic. The MHPAF provided a useful schema for evaluating and guiding the mental health response during the COVID-19 pandemic, its implementation remains a major challenge for the poorly resourced mental health system. Kenya currently has no formal mental health response plan for its COVID-19 response. The nation majorly had an unmet need for psychological first aid.

ii. **Mental Health Surveillance System:** Kenya also lacked a mental health surveillance system, thereby limiting its ability to design evidence-based interventions [16].

b. **South Africa:** South Africa's mental health laws promote a community-oriented approach

c. **Ghana:** The mental health aspect of the pandemic is yet to receive the desired policy attention in Ghana. Although the nation has a Mental Health Act, established Mental Health NGOs, and Increased media attention on mental health care [17], its mental health system has been neglected for far too long while there are doubts about how the system can respond to the mental health aspect of COVID-19 [18]. Like other African nations, the mental health system in Ghana is, generally, a neglected area in the health care system due to years of underinvestment and it still is amidst the COVID-19 pandemic [19]. There is, therefore, an urgent

need for mental health policymakers and policies to alleviate the potential threat of the pandemic to the mental health of Ghanaians

d. Cameroon:

i. Cameroon Crisis Response Plan 2021–2022: This plan provides tailored lifesaving assistance and protection, complemented by efforts to build community-based approaches for the attainment of durable solutions, seeking to prevent forced displacement and favor reintegration by addressing the drivers of crises, supporting mechanisms of conflict management and reduction, and building resilience in communities

e. Nigeria:

i. The Lunacy Act of 1958: The nation's mental health system is still governed by the Lunacy Act of 1958, which dates back to Nigeria's colonial era. Although stigmatization and mental health are among the greatest challenges to the national response to COVID-19, Nigeria is yet to prioritize its policy reform for mental health infrastructure.

ii. National Policy on Mental Health Service Delivery 2013: This policy emphasizes the development of community-based services for persons with mental health conditions, but its implementation is very limited across the nation.

iii. The Mental Health and Substance Abuse Bill - 2019: Since the return of democratic governance in Nigeria, no civilian administration has enacted a law focusing on protecting mental health except for the 9th National Assembly that is currently reviewing the Mental Health and Substance Abuse Bill – 2019, which aims at strengthening the capacity and regulatory environment for those who experience mental health distress in the wake of COVID-19.

iv. National Budget: Nigeria has no clearly defined budget allocation for mental health in its national health budget, while there is inequality in the distribution of mental health services and available resources.

Question 3: what are the prevalence of the mental health consequences of COVID-19 containment measures, socio-demographic forces, and other health conditions for vulnerable groups?

The mental health impact of disasters usually outlasts their physical impact, thus indicating that the elevated mental health impacts of COVID-19 will continue well beyond the outbreak of the pandemic. The vicarious trauma of the pandemic on clinicians and other health care providers during outbreaks may last up to three years after an outbreak. According to Carfi, Bernabei, and Landi [20], reports from viral outbreaks in earlier centuries, including the deadly “Spanish Flu” pandemic of 1918–1920, describe an increased incidence of neuropsychiatric symptoms such as insomnia, anxiety, depression, mania, psychosis, and suicidality. They also claimed that the full impact of COVID-19 on mental health may be known for several years, but it is likely to be significant—and potentially chronic in some patients globally.

However, Panchal et al. [21] noted that about four in 10 adults had symptoms of anxiety or depressive disorder prior to the onset of the pandemic between January

to June 2019 in the U.S. The Mental Health America (MHA) [22] reported surging rates of depression, anxiety, and other mental health problems because of COVID-19 among the people accessing their online mental health screening services. MHA observed a slight increase in the demand for mental health care between January and April 2020, a sharp spike around May and June of the same year. The MHA report also noted that screenings for anxiety (406%) and depression (457%) in June 2020 were greater than those in January. There was also a spike in the percentage of people diagnosed as “at-risk” for psychosis during the onset of the lockdown and self-isolation in May 2020. This continued to rise in June to more than four times the number in January. A six-fold increase was noted for those considering suicide or self-harm. The MHA [22] observation was confirmed by A KFF Health Tracking Poll in the US around July 2020 to 2021 on the mental health impacts of COVID-19 among adults that showed difficulty sleeping (36%), eating (32%), increases in alcohol consumption or substance use (12%), and worsening chronic conditions (12%), due to worry and stress over the coronavirus.

These have been worsened by the enforcement of the containment measures, including restriction of movements and self-isolation procedures, which led to increasingly negative and poor mental health outcomes. For many, this has been compounded by job loss and loss of income. In the US, more than half of young adults (ages 18–24) captured by the KFF study reported symptoms of anxiety and/or depressive disorder (56%). While the majority of these had suicidal thoughts (26% vs. 11%) during the pandemic, there were further concerns around poor mental health and well-being for children and their parents, particularly mothers, as many experienced challenges with school closures and lack of childcare. Panchal, Kamal, Orgera, Cox, Garfield, Hamel, and Chidambaram [21] claimed that women with children are more likely to report symptoms of anxiety and/or depressive disorder than men with children (49% vs. 40%).

Panchal et al. [21] further reported that Non-Hispanic Black adults (48%) and Hispanic or Latino adults (46%) are more likely to report symptoms of anxiety and/or depressive disorder than Non-Hispanic White adults (41%) resulting from the pandemic in the US. They also reported that some of the mental health-related challenges experienced by many essential workers include a greater risk of contracting the coronavirus, symptoms of anxiety or depressive disorder (42% vs. 30%), starting or increasing substance use (25% vs. 11%), and suicidal thoughts (22% vs. 8%) than other workers during the pandemic compared to nonessential workers.

MHA [22] posited that the social consequences of the pandemic, rather than the threats of sickness or death, are the major causes of stress among persons using the screening tools. Factors identified as the major cause of depression and anxiety (73%), past trauma (46%), or relationship problems (44%) were loneliness and isolation among girls/women between 11 to 25 years of age.

In the UK, a British Medical Association survey conducted during the pandemic showed that 45% of UK doctors suffered depression, anxiety, stress, burnout, or other mental health conditions relating to, or made worse by, the COVID-19 crisis [23].

In India, the socio-economic and mental health of marginalized communities were disproportionately impacted by the pandemic [24]. Balaji and Patel [25] observed mental health difficulties among women, children, young people, sexual minorities, and people with pre-existing mental health conditions and substance use disorders. In spite of this information, Duggal et al. [26] claimed that there exists a lack of empirical data on the mental health impact of the pandemic on marginalized communities and their needs in India. In a meta-analysis of 31 studies conducted in China, Deng

et al. [27] reported that the prevalence of depression among persons diagnosed with COVID-19 was 45%, anxiety was 47%, and sleep disturbances were 34%. Also, the Chinese, Singaporean and Australian governments have identified the psychological side effects of COVID-19 and the long-term impacts of isolation which could cause more harm than the pandemic itself [28–30].

Zeroing in on the African States, the experience of the disease, breakdown of social support, loss of loved ones, and stigmatization could trigger short-term mental health problems among affected persons and their families, while factors such as economic losses (job and income losses) can potentially trigger long-term mental health problems. Some of the COVID-19-related fears, worries, and anxieties may be borne out of lack of knowledge, rumors, and misinformation, while its associated mental health care has become one of the most neglected areas of health. Frissa and Dessalegn [31] predicted that the impact on mental health will be immense in sub-Saharan Africa due to their weak health care systems. They also hinted that patients with COVID-19 and other illnesses along with significant persons around them consistently experienced post-traumatic stress disorders, anxiety, depression, and insomnia. They further reported that the uptake of mental health care services is generally low in the region while individuals in some communities rely solely on social resources. This was further compounded by poor digital literacy, low smartphone penetration, limited internet connection, and weak expertise in online mental health service delivery even among clinicians and psychotherapists. While the majority of those who need mental health care do not have access to services, receive little or no treatment at all.

The COVID-19-related mental health treatment gap is thus higher in African nations. Consequently, the need to protect individual socio-cultural coping and resilience mechanisms is very critical in the continent, most especially the sub-Saharan African region.

The MTL status of some of the African states shows that:

- a. **Cameroon:** Cameroonians are vulnerable to mental health problems related to COVID-19 due to the challenges of a weak healthcare system, inadequate mental health workforce, insufficient financing to pay for health care, lack of access to mental health medications, and stigmatization which continues to prevent individuals from seeking mental health care [32].
- b. **Ghana:** There was an increase in boredom and anxiety symptomatology during the COVID-19 pandemic and a decrease in well-being among Ghanaians [33].
- c. **Kenya:** the effect of the COVID-19 pandemic in Kenya has been felt by children and young people due to prolonged school closures and loss of learning. There have been more calls for help to deal with psycho-social issues since the pandemic began [34].
- d. **Nigeria:** Nigeria is ranked 197 out of 201 countries in terms of the quality health system, and is one of the poorest countries among Africans [35]. Prior to 2019, Bloomberg [36] ranked Nigeria as the most stressful country to live in the world, based on multiple factors in the living environment. An estimate from the Federal Ministry of Health reveals that about 20–30% of the population suffers from mental health challenges, such as anxiety, depression, psychosis, substance use disorders, mental disorders in pregnancy and childbirth, childhood psychological/developmental disorders, and suicide among others [37].

Although numerous factors contribute to elevated stress among people, such as heavy workloads, lack of physical or psychological safety, moral conflicts, and workplace-related bullying or lack of social support [2]. These were exacerbated during the pandemic with a wide range of emotions, including uncomfortable feelings such as shame, sadness, anger, frustration, or any other emotional painful feelings. These were worsened during the pandemic (around 2019, 2020, and 2021) and also worsened the existing insecurity, herdsmen attacks, and Boko-Haram violent insurgencies across the nation. High incidence of job loss, domestic violence, rape, battering, sexual assaults, and brutal killings of innocent girls during the lockdown further stressed the mental health stability of individual Nigerians beyond the limit.

Consequently, the pandemic has heightened individual vulnerability to financial insecurity, unemployment, and fear, which have been identified as risk factors for poor mental health among Nigerians [2]. The pandemic amplified existing vulnerabilities, inequalities, societal divides, fragility, instability, and threats to social cohesion and peace processes [38]. Currently, a lot of Nigerians are facing psychological distress that can lead to burnout, depression, anxiety disorders, sleep disorders, and other illnesses due to the absence of protective factors, such as employment, educational engagement, physical exercise, and access to health services during the lockdown [38].

In spite of the fact that mental health challenges are huge across the nation, Nigeria has no clearly defined mental health-related allocated budget. The allocation for health in the entire 2016 National Budget was only 3.65% out of which about 3.3% was barely earmarked for mental health and more than 90% of this amount went to institution-based services provided through eight stand-alone mental hospitals [39].

Another major challenge is the lack of a social welfare package for addressing the mental health needs of the socially marginalized and neglected groups in Nigeria, most especially women, children, the elderly, the homeless, and the very poor. These groups of people are vulnerable to different risk factors associated with mental disorders and also exhibit poor health help-seeking behavior [39]. More than 70% of these categories of patients with mental health problems/disorders in Nigeria seek unorthodox interventions before orthodox care [39].

- a. **South Africa:** The mental health of South Africans was significantly impacted by the COVID-19 pandemic, especially as a result of a previous history of mental health surges. Mental health issues such as anxiety disorders, post-traumatic stress disorder, loneliness, phobias, mood disorders, and obsessive-compulsive disorders were common issues in the South-African population [40].
- b. **Tanzania:** In Tanzania, anxiety disorders and fear were rampant among the younger population. The economic issues coupled with the pandemic exacerbated the anxiety states of most people. Among youths, the lack of enrollment in school led to frustration and a feeling of isolation [41]. The uncertainty about the future also affected the mental state of people. Moreover, the diversity of conflicting reports about the pandemic increased fear and anxiety levels [42].
- c. **Uganda:** In Uganda, like most African countries, mental healthcare was already weak before the epidemic. Which was then worsened by the pandemic [43]. Giebel, Ivan, Burger & Ddumba [44], West, Ddaaki, Nakyanjo, Isabirye, Nakubulwa, Nalugoda & Kennedy [45], and Akena, Kiguba, Muhwezi, Kwesiga, Kigozi, Nakasujja &

Lukwata [46] reported increased psychological distress and onset of common mental disorders (CMD), such as major depressive disorders (MDD), generalized anxiety disorders (GAD), post-traumatic stress disorders (PTSD) and substance misuse disorders (SUD), among Ugandians living with HIV, older adults (aged 60+) and health workers during the COVID-19 pandemics. Lemuel (2021) specifically observed a high incidence of anxiety among respondents with a primary and secondary level of education compared with those with no formal education and a tertiary level of education after the onset of the pandemic.

Question 4: how can the mental health consequences of the COVID-19 containment measures, socio-demographic forces, and other health conditions among vulnerable groups be mitigated in Africa?

a. Vulnerability to mental health impact of COVID-19:

Vulnerability to the negative psychological impact of the current pandemic varies among different populations across the continent. In post-apartheid South Africa, for instance, even though mental health services have been decentralized and integrated into primary health care, there still remain service gaps within and between provinces, especially in the rural areas [47]. According to Jaguga and Kwobah [48], even though preventive and medical actions are critical to the containment of the pandemic, emergency psychological crisis interventions (EPCI) are required for the mitigations of the mental health consequences of the pandemic among affected populations by and other vulnerable groups such as pediatric patients, pregnant women, mothers, older people, PLWDs, other marginalized groups with suspected or confirmed cases and frontline workers. The direct EPCI may be utilized for COVID-19 patients, while the indirect EPCI is employed for their relatives, caregivers, and health care professionals. Forms of Emergency Psychological Crisis Interventions (EPCI) could entail both digital and preventive virtual mental health services aimed at addressing scale and limiting the exposure of patients to COVID-19 at health facilities. Psychological counseling, digital mental health education, and communication materials may be delivered for those in need and shared through Facebook, Twitter, Whatsapp, and other commonly used social media platforms.

There is also the need to proactively identify high-risk groups early on and provide them with targeted interventions. This may be done through research and deployment of artificial intelligence to proactively identify posts on social media from people who are in crisis and likely to commit suicide. Such vulnerable persons may be reached through different types of virtual psychotherapeutic mechanisms, including video-conferencing, the conduct of cognitive-behavioral and mindfulness-based smartphone therapies, and chess-edutainment [49, 50]. Most African nations, especially Nigeria, Ghana, South Africa, and Kenya, already have a telecommunications density exceeding 100%, which serves as a veritable tool for the implementation of mobile psycho-therapeutic care and services. Existing digital psycho-therapeutic clinical care across Africa include Wazi in Kenya, PsyndUp in Nigeria, MindIT in Ghana, and the MEGA project in South Africa and Zambia. There could also be the provision of several mental health hotlines and online therapy services for COVID-19 pandemic emotionally distressed people.

The following vulnerable groups within the larger population in all African nations are particularly needing EPCI and support:

- i. **Male and female Persons Living with Disabilities:** Psychosocial first aid (PFA) is necessary for people living with disability in periods of crisis, such as the COVID-19 pandemic. This will reduce anxiety levels and feelings of uncertainty [51].
- ii. **Male and female Survivors of COVID-19:** An intervention for adaptation post survival is necessary to prevent segregation and promote social interaction among survivors of the pandemic [6].
- iii. **Relatives of COVID positive patients:** The family members of the COVID positive patients will require an awareness briefing, correct scientific knowledge, and psychosocial first aid in the form of emotional and mental support in a culturally appropriate manner.
- iv. **Health Care Workers (HCWs), nurses, first responders, and other frontline workers:** Both Health and social care workers (HSCWs) have carried a heavy burden during the COVID-19 crisis and, in the challenge to control the virus, have directly faced its consequences. This group may be at risk of experiencing worsening MH during an outbreak, hence supporting their psychological well-being should continue to be a priority [52]. The psychological well-being and resilience of Health and social care workers (HSCWs), nurses, first responders, and other frontline workers in close contact with COVID-19 patients need to be enhanced and preserved by ensuring shorter workdays, provision of protective gear, and adequate training in infection control.

b. Mitigating strategies in Africa—cameroon and Uganda

To mitigate the mental health consequences of COVID-19 in Cameroon among these vulnerable groups, including those living in the hard to reach rural communities, the government (Cameroon's Ministry of Public Health) in collaboration with WHO and the Red Cross initiated the following strategic actions:

- a. An assessment of the psychological care during the COVID-19 response.
- b. **Developed the National Mental Health Strategy:** This sets the framework for improvements in psychological care.
- c. **Development of other handy and reliable support documents** on psychological first aid, confidentiality, and stress management guidelines and procedures for the mental health of children and adolescents, simplified guide on mental health care and mental illness care algorithms, for health workers when deciding on best interventions.
- d. **Establishment of a Data Management Tool:** This has been continuously used since 2020 to generate data on the psychological impacts of COVID-19 and interventions deployed in the nation.
- e. **Establishment of a Psychological Care Team:** The National Public Health Emergency Operation Centre established this team and recruited 27 psychologists and 36 nurses across the country. The Centre further conducted the

WHO-sponsored training tagged “**mental health and psychosocial support during the pandemic**” for the newly employed staff, 1500 psychological care specialists, health workers of other specializations, 300 social workers, 120 investigators, and 30 journalists.

- f. **Creation of Public Awareness and Enlightenment:** The empowered journalists who participated in the WHO’s sponsored training on mental health and psychosocial support during the pandemic created and translated mental health communication into simple and compelling posters, picture boxes, and leaflets for public awareness and enlightenment campaigns on mental health support, including those living in remote areas.
- g. **Launch of a toll-free helpline for psychological care:** This was an initiative of the Cameroonian government in partnership with WHO and the Red Cross.
- h. **Funding support** to a local NGO to provide psychosocial support to victims of physical violence perpetrated by armed groups in the southwest part of Cameroon.
- i. Provision of remote medical and psychological support to vulnerable communities, including older people and those with comorbidities: This was provided in partnership with the German Agency for International Cooperation and iDocta Africa
- j. The UN Population Fund and Uni-Psy et Bien-Être have also set up psychological support for pregnant and breastfeeding women including their families, as well as caregivers.
- k. Engagement of key stakeholders in the reduction of the mental health impact of COVID-19 among different populations

The strategies adopted in Uganda include:

- i. **Home Visits:** Kola, Kohrt, Hanlon, Naslund, Sikander, Balaji and Patel [53] reported that home visits for patients with severe mental illness were ongoing in Uganda amid the pandemic.
- ii. **Family Group Intervention:** This entails the involvement and training of parents to support community health workers in the delivery of “Family Group Intervention” to children with disruptive behaviors during the pandemic. The training intervention strengthens the capacities of family members, caregivers, and children. It also provided opportunities for them to communicate in safe settings with other families who have shared experiences.

Question 5: what are the basic psychosocial counseling principles for COVID-19 positive patients and other significant persons?

The psychosocial counseling principles for understanding and addressing the mental health needs of individuals who are awaiting results of COVID-19 tests confirmed COVID-19 individuals, health care workers working in COVID isolation hospitals and their family members from a nonjudgmental and empathic attitude include:

- a. **Psycho-education on Safety, health, and hygiene:** This should be objectively and truthfully explained to patients and their caregivers. It should include information about the disease and epidemic situation, time for recovery, quarantine stay facilities, and available treatment process.
- b. **Anticipatory Anxieties and Coping skill enhancement:** The psychotherapists will need to encourage patients to develop a sense of Calmness by reducing immediate distress and motivating them to rehearse their minds and practice effective coping mechanisms and stress inoculation techniques such as exercising, virtual socializing, performing pleasurable activities, actively seeking emotional support, positive reframing of the situation, using humor and practicing religious prayers.
- c. **Stabilization and Hope Building:** Stabilization and hope building will help vulnerable populations to overcome an intense fear of dying, feeling of helplessness, anxiety, and fear. It will also improve their health-seeking behavior. Individuals exhibiting such concerns need to consult a psychotherapist who will assist in validating their fear of dying, feeling of helplessness, anxiety, and fear. The therapist will also assist in normalizing their worries, and further assist in developing healthy strategies for addressing the problem and generating a sense of realistic hope.
- d. **Addressing Adjustment issues, Self-and collective efficacy:** To deal with the emergent psychological problems of people involved in the COVID-19 epidemic, a crisis intervention model that impacts self-efficacy is necessary [54].
- e. **Recovery and Connectedness:** To reduce the psychological impact of being isolated, the psychotherapists will encourage the patients to strengthen their physical health, create new routines, virtually connect to their loved ones, limit information consumption on COVID-19 online, accept the uncertainty of the situation by focusing on what is within their control and doing as best as they can to handle the situation

Psychotherapeutic approaches that could be deployed for COVID-19 affected persons are approaches in response to disasters, including psychological debriefing, psychological first aid, cognitive-behavioral approaches, crisis intervention, screening and triage models, problem-solving interventions, rumor control, and conflict mitigation [55].

Clinical, counseling, psychotherapeutic and rehabilitation options for special and vulnerable populations, such as pediatric patients, pregnant women, mothers, older people, PLWDs, and other marginalized groups with suspected or confirmed cases, as well as reporting and grief counseling of COVID-19-related death. However, there is also no known coordinated and multidisciplinary continuum of clinical, counseling, and psychotherapy COVID-19 care pathways for symptomatic and asymptomatic patients and their families in the African States. Hence, there was a need for this study that attempts to run a scoping analysis of existing literature on the psychosocial and health implications of COVID-19 Comorbidity-Related Complications for vulnerable persons in developing societies.

4. Conclusion

The short- and long-term mental health implications of the COVID-19 pandemic are far-reaching for clinicians and the significant persons or survivors, especially among those at risk of new or exacerbated psychological illness and those facing barriers to accessing care.

Although the global community is in the vaccination phase against COVID-19, however, many people are refusing to be vaccinated due to fear or uncertainty, and the need for vaccinated people to continue taking existing precautions to mitigate the outbreak. Thereby compounding the psychological and mental health distress of the pandemic. It may also result in an increase in alcohol consumption, drug dependency and abuse, deaths due to suicide, and despair. It is, therefore, important for policymakers to continue to discuss further actions to alleviate the burdens of the COVID-19 pandemic.

5. Recommendations

Globally, the mental health status of vulnerable persons and clinicians has become more acute during the COVID-19 pandemic, while the targets for effective leadership and governance for mental health, provision of mental health services in community-based settings, mental health promotion and prevention, and strengthening of information systems, are far from being attained.

The following are recommendations on organizational measures, policies, and systemic changes needed to address the challenges of prevention, treatment, and education of Africans going forwards on their mental health:

- a. Preventive and treatment interventions for mental health symptoms;
- b. **Innovative Intervention for Mental Health:** These should be novel and universal interventions that are mechanistically based on experimental and social sciences for issues, such as loneliness;
- c. Arts-based and Life-skills Therapeutic Interventions and Recreational activities, such as outdoor exercises.
- d. **Mental Health Bill:** This is a policy measure currently needed in Nigeria and other African Nations. The Mental Health Bill will promote and protect the rights of persons with mental health conditions and persons with intellectual, psychosocial, or cognitive disabilities. It will also make provisions for the enhancement and regulation of Mental Health Services.
- e. Need for the prevention of mental disorders and prioritization of mental health as a public health concern;
- f. Need for the attainment of universal access to mental care;
- g. Increase in mental health funding through direct budgetary allocation and integration of mental health into primary care;

- h. There is an increasing need to accelerate the scale-up of investment in mental health and to scale up the quality of mental health services that are aligned with COVID-19 pandemic-related needs.
- i. African nations need a documented mental health policy to tackle the menace in the country noting that the prevalence is one in four individuals. The policy should be formulated to cover a long period of about 5–10 years. It should be an initiative of the government and, the higher the level of government involvement, the higher its chances of success. The policy document will provide a framework and also give priority to the treatment. It will help to develop mental health services in a coordinated and systematic manner. It will help to identify key stakeholders and allow different stakeholders to reach an agreement. People with mental health disorders need equity and should not be discriminated against on the basis of their mental illnesses.
- j. Mental health services should be integrated into other health care services at all levels instead of stand-alone facilities.
- k. There is an urgent need for local governments to invest more in Primary Healthcare Centres (PHCs) as the entry point of other health care systems.
- l. There is also the need to fund young psychiatry practitioners' interest in research geared toward the development and advancement of mental health delivery in Nigeria.

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Author details

Oluwatoyin Olatundun Ilesanmi^{1*}, Faith Ibitoyosi Ilesanmi², Raouf Hajji³
and Garba Moussa⁴

1 Centre for Gender and Development Studies, Ado-Ekiti, Ekiti State, Nigeria


2 Centre for Gender, Health, and Social Rehabilitation, Ile-Ife, Nigeria

3 Medicine Faculty of Sousse, Internal Medicine Department, Sidi Bouzid
Hospital, University of Sousse, Regueb, Tunisia

4 International Consultant Open-Classroom, Paris, France

*Address all correspondence to: toytunduni@gmail.com

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