Article

COVID-19 Mental Health Risks - A Critical Survey of Africa

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Abstract: COVID-19 is still being experienced worldwide, with other variants also cropping up, including Delta and Omicron, etc. Many countries are learning to cope with the mental, physical, and economic impacts of this pandemic by applying recommended health or otherwise protocols in their daily undertakings. The research critically surveyed COVID-19 mental health risks in Africa. Its objectives were to determine the extent to which COVID-19, directly and indirectly, affected the mental health of citizens and to estimate the Mental Health risk levels due to the COVID-19 Pandemic in Africa. In doing so, participants in Africa were sent a Google survey form by WhatsApp. and Seventy-two responses were received. The Depression, Anxiety and Stress Scale - 21 (DASS-21) was used to measure participants' mental health risk levels of depression, anxiety, and stress during the COVID-19 pandemic periods up to November 7, 2021. The study discovered that over 90 % of individuals had one form of mental health disorder during the pandemic. In addition, many participants experienced severe depression and anxiety resulting in mental health issues such as dysphoria, anhedonia, and inertia that assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect.

1. Introduction

The world is still grappling with the COVID-19 pandemic almost two years since its onset. According to the Worldometer (WM) statistics, as of Monday, November 8, 2021, 5075739 people have died of COVID-19, including 4706 on the same day. In addition, WM has reported a staggering 251333353 cases of COVID-19 infections, with 270,493 new cases reported on Monday, November 8, 2021. Africa had reported 220237 deaths, 24 of them occurring on Monday, November 8, 2021, and 8612365 reported cases of infection, 1022 of these appearing on Monday November 8, 2021. The daily COVID-19 incidences had significantly dropped worldwide, but new cases continue to be reported, and new outbreaks necessitate stringent containment measures. These scenarios continue to drain resources and endurance for the disease, which may lead to stress and anxiety.

Despite the decline in the general crime rate, homicides and all types of violence against women and girls had increased. This was the Shadow Pandemic growing amidst the COVID-19 crisis, and a global collective effort was needed to stop it (UN, 2021) [1]. In May 2020, during the COVID-19 pandemic, Emergency Department (ED) visits for suspected suicide attempts began to increase among adolescents aged 12–17 years, especially girls. By February 21–March 20, 2021, suspected

suicide attempt ED visits were 50.6% higher among girls aged 12–17 years than during the same period in 2019; among boys aged 12–17 years, suspected suicide attempt ED visits increased 3.7% (Yard & Radhakrishnan, 2021) [2]. This paper surveys the African case to establish the mental health impact of COVID-19 pandemic considering reports of its effects in other jurisdictions.

The various and complex factors impacting our mental health and wellbeing are often defined as either risk factors or protective factors (Mental Health Commission, 2022) [3]. Risk factors adversely impact a person's mental health. COVID-19, like other public health emergencies, may affect the health and wellbeing of individuals. These may cause problems like emotional isolation, confusion, and stigma in communities due to economic losses, closure of schools, job losses, and inadequate resources for medical response; hence it is a mental health risk factor. These were associated with significant psychopathological effects, including depression and anxiety disorders (Pfefferbaum & North, 2020) [4]. Certain groups are at an increased risk of adverse psychosocial outcomes due to COVID-19. Health workers, especially those on the frontline fighting the virus, are vulnerable to emotional stress due to their prolonged exposure to COVID-19 patients, particularly those severely ill who do not make it out alive. The health workers also worry about infecting their families and loved ones. Sometimes they must make difficult ethical decisions that border between life and death and often work for long hours with insufficient medical resources, including personal protective equipment in some settings. Other groups of people predisposed to adverse psychosocial effects include people with underlying psychiatric and medical disorders and individuals whose immune systems are compromised. Those with drug and substance abuse challenges, children and adolescents due to stressful situations in their families, including abuse, disrupted learning, and uncertainty about the future, are similarly affected. Women bear the most significant burden of a pandemic due to their caregiving role and those in peaceful humanitarian and conflict environments. The latter special groups of people are likely to have their mental health needs ignored (Pfefferbaum & North, 2020) [4]. Rumors, wrong information concerning the virus, and uncertainty about the future also cause distress among people. Therefore, there is a need to investigate the effect of these encounters with the COVID-19 disease indirectly or directly, particularly its impact on their day-to-day undertakings.

Various countries instituted a raft of public health measures. These included lockdowns, social and physical distancing, quarantining, isolating the infected cases, and putting on masks. Some measures like quarantine had been used before during the previous SARS-CoV outbreak in 2002/2003 and were largely successful in containing and terminating the outbreak. However, it is essential to note that many African countries have never experienced such lockdown measures affecting their social and economic wellbeing. Thus, there is a lack of data on mental health risks due to similar pandemics and their effects on citizens' wellbeing, a factor this research will pursue. According to the African mental Health Research Foundation (2020) COVID-19 response effort, likely mental health patients were expected to make appointments to visit their clinics for assistance or book a teleconference appointment. Considering the extent of the COVID disease and the stringent lockdown measures, the mitigation measures for mental health COVID-19 related issues seem not to be far-reaching in its penetration. Given this, the paper will also investigate how citizens have coped with these mental health risks.

1.1. General Objective

To assess the impact of the COVID-19 pandemic on the mental health of Africans.

1.2. Specific Objective

(1) To determine the extent to which COVID-19 has directly affected the mental health of citizens.

(2) To examine the extent to which COVID-19 has indirectly affected the mental health of citizens.

(3) To estimate the Mental Health risk levels due to the COVID-19 Pandemic in Africa.

1.3. Research Questions

(1) To what extent has COVID-19 has directly affected the mental health of citizens.

(2) To what extent has COVID-19 has indirectly affected the mental health of citizens.

(3) What are the Mental Health risk levels due to the COVID-19 Pandemic in Africa?

1.4. Justification of the Study

Africa has never experienced high risks levels of contagious pandemics of the standards of COVID-19. And furthermore, there is lack of documentation on the same. This paper thus not only seeks to determine effect of the COVID-19 pandemic on the mental health of citizens but will also determine its risk levels and document both findings. The paper also determines the mitigation or coping methods of citizens. This will form a reference point for similar pandemics as well as form a basis for the determination of suitable current and future mental health risk mitigating measures.

1.5. Limitations of the Study

Accessing respondents was the main limitation of the study particularly with the lockdown measures in place. This was mitigated using a google form that was circulated on the WhatsApp social media.

2. Literature Review

The psychological effects of quarantines were studied among a group of quarantined individuals in Canada. The study identified symptoms of post-traumatic stress disorder (PTSD) and depression in 28.9% and 31.2% of the respondents respectively. The study also found that longer durations of quarantine as well as exposure to SARS patients were associated with a higher prevalence of PTSD and depression (Hawryluck, et al., 2004) [5]. A qualitative study conducted in China on the impacts of health, society and economy of the SARS and H7N9 outbreaks found that the SARS outbreak impacted negatively on the people's mental health. Two interviewed participants who were doctors mentioned that the outbreak had caused a lot of emotional sadness and those being treated in the hospital could not see their families and were afraid of treatment. It was also found that people went on a drug buying spree with a focus on Banlangen (Radix isatidis) which was thought to cure the SARS virus (Qiu, Chu, Mao, & Wu, 2018) [6].

Zürcher, et al. (2020) [7] reviewed many surveys on mental health problems during virus epidemics and realized that many studies were conducted during or shortly after the peak phase of the epidemic, results were regarded as acute stress reactions that do not allow for inference of longer-lasting Mental Health Problems (MHP). This paper used the Depression, Anxiety and Stress Scale - 21 (DASS-21) by Lovibond & Lovibond (1995) [8] to measure the mental health risk levels of depression, anxiety and stress of participants during the COVID-19 pandemic during the COVID-19

pandemic periods up to 7th November 2021 thus captures results of over twelve months of the epidemic hence capable of providing inference of longer – lasting MHP.

3. Methodology

3.1. Research Design

The Depression, Anxiety and Stress Scale - 21 (DASS-21) by Lovibond & Lovibond (1995) [8] was used to measure participants' mental health risk levels of depression, anxiety, and stress during the COVID-19 pandemic periods up to 7th November 2021. DASS-21 is a set of three self-report scales designed to measure the emotional states of depression, anxiety, and stress.

The depression scale assessed dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia, and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable / over-reactive, and impatient. Scores for depression, anxiety, and stress are calculated by summing the scores for the relevant items.

3.2. Data Collection

The population of the study was the African Continent. The participants were sent a Google survey form via WhatsApp, and Seventy- two forms were received by the researcher. For in-depth qualitative studies, Griffin et al. (1991) [9] found that "20-30 in-depth interviews are necessary to uncover 90-95% of all customer needs for the product categories studied. The questions used in this study were twenty-one in-depth questions which, due to the nature of the COVID-19 pandemic, could not be administered by interviews and thus surveyed by a questionnaire. This study used seventy-two responses; thus, it is expected that over 95 % of the respondents' experiences during the pandemic were captured.

Moreover, according to Hogg et al. (2015) [10], the central limit theorem can be used for approximating specific probabilities concerning the mean X or the sum Y of a random sample. That is if X is approximately N (μ, σ^2/n), and Y is approximately N ($n\mu$, $n\sigma^2$), when n is "sufficiently large," where μ and σ^2 are, respectively, the mean and the variance of the underlying distribution from which the sample arose. Generally, these approximations will be good if n is greater than 25 or 30. This study used the sums of similar responses and their percentages as probabilities to make inferences. Since the African population is large enough to tend to be normal, the sample of seventy-two which was randomly picked is representative of the population and good enough to draw inferences conclusions.

3.3. Ethical Issues

No participant was coerced into participating in the survey since in responding one was expected to willingly access the response form on line and freely respond to the survey questions.

3.4. Data Analysis

DASS matrix by Lovibond & Lovibond (1995) [8] is modified to reflect a Likert scale of five. Depression, Anxiety and Stress Scale are summed for each individual participant, doubled and weighed against the scale to determine the different mental health levels of participants.

4. Results and Discussion

The results of Mental health risks surveyed in Africa were determined and presented as follows: Sample Questionnaire:

Table 1. Table of the sample questionnaire.

S/N & Code	Survey Question	Scores				
1(s)	I found it hard to wind down	0/1	2	3	4	5
2(a)	I was aware of dryness of my mouth	0/1	2	3	4	5
3(d)	I couldn't seem to experience any positive feeling at all	0/1	2	3	4	5
4(a)	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	0/1	2	3	4	5
5(d)	I found it difficult to work up the initiative to do things	0/1	2	3	4	5
6(a)	I tended to over-react to situations	0/1	2	3	4	5
7(a)	I experienced trembling (e.g., in the hands)	0/1	2	3	4	5

The DAS score card matrix was adjusted by proportional comparison to reflect the five tier Likert scale as follows:

Table 2. DASS five tier score card matrix.

Degree	Depression	Anxiety	Stress
Normal	0-15	0-12	0-23
Mild	16-22	13 -15	24-30
Moderate	23-33	16-23	31-42
Severe	33-45	24-32	43-55
Extremely Severe	46+	33+	56+

Table 3. An extract of results of the survey for DAS mental health risk levels.

5. How frequent do you leave your house	Scores	6. To what extend did you find it hard to wind down	Scores	7. To what extend were you aware of dryness of the mouth	Scores
c) Less frequent	3	Moderate	3	Smallest	1
d) Least frequently	2	Moderate	3	Moderate	3
d) Least frequently	2	Smallest	1	nil	0
d) Least frequently	2	Small	2	Smallest	1
a) Very frequent	5	Moderate	3	Smallest	1
c) Less frequent	3	Great	4	Great	4

4.1. Determination of Depression Anxiety and Stress (DAS) Risk Levels

4.1.1. Determination of Risk of Depression

Table 4. A table of depression risk levels of respondents in volume and percentages.

Risk Levels	Normal	Mild	Moderate	Severe	Extremely Severe
Volume	14	16	15	22	5
Percentage	19.4	22.2	20.8	30.5	6.94

Table 5. A table of risk of getting depressed due to the COVID-19 pandemic.

Risk of Getting Anxious	Those Affected	Those not Affected
Percentages	80.6	19.4

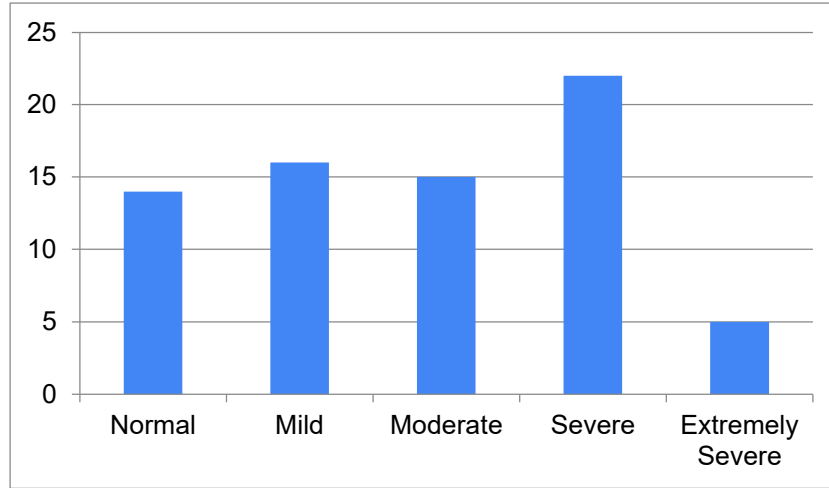Depression risk levels were represented graphically as follows:

Figure 1. A graph showing the risk levels of getting depressed due to the COVID-19 pandemic.

4.1.2. Determination of Risk Levels of Anxiety

Table 6. A table of anxiety risk levels of respondents in volume and percentages.

Risk Levels	Normal	Mild	Moderate	Severe	Extremely Severe
Volume	9	15	8	20	20
Percentage	12.5	11.11	20.83	27.7	27.7

Table 7. A table of risk of getting Anxious due to the COVID-19 pandemic.

Risk of Getting Anxious	Those Affected	Those not Affected
Percentages	87.5	12.5

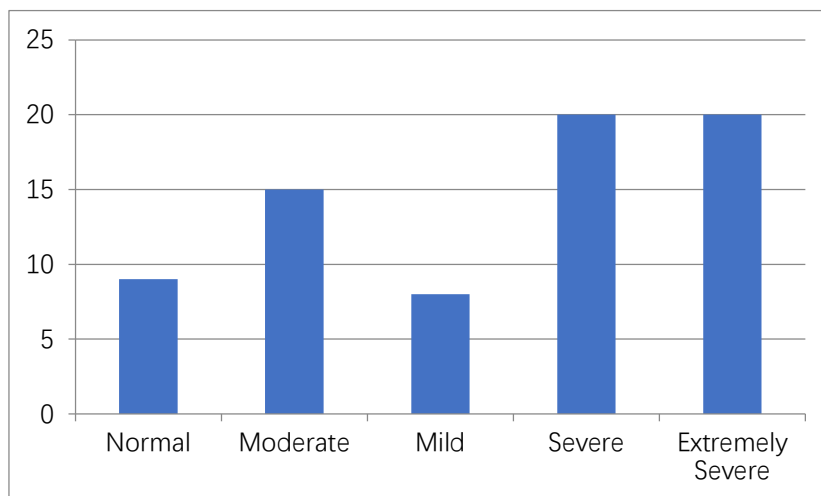Anxiety risk levels were represented graphically as follows:

Figure 2. A graph showing the risk levels of getting anxious due to the COVID-19 pandemic.

4.1.3. Determination of Risk of Stress

Table 8. A table of stress risk levels of respondents in volume and percentages.

Risk Levels	Normal	Mild	Moderate	Severe	Extremely Severe
Volume	28	21	14	9	0
Percentage	38.88	21.16	19.44	12.5	0

Table 9. A table of risk of getting stressed due to the COVID-19 pandemic.

Risk of Getting Stressed	Those Affected	Those not Affected
Percentages	61.62	38.38

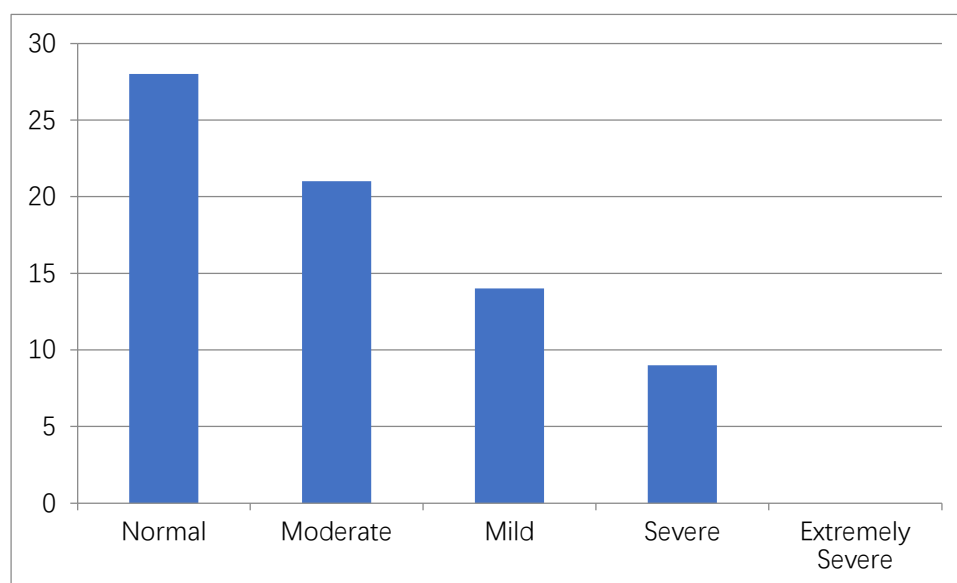Stress risk levels were represented graphically as follows:

Figure 3. A graph showing the risk levels of getting stressed due to the COVID-19 pandemic.

4.2. Other Personal Surveyed Experiences During the COVID-19 Pandemic

- Fear, Pressure, randomly tested for the virus because due to contact with those infected, job loss, relocation due to loss of livelihood, the most difficult experience, never had any difficulty, overwhelming loss of life, Mild and severe symptoms of COVID-19 infections.

4.3. Coping Strategies

- Studying online.
- Working online.
- Working from home.
- Follow recommended protocol for prevention from infection and containment.

5. Conclusions

Many times, Africa lacks data for reference and relies on foreign or imported data to discern a lot of forecasted events and happenings. The same occurred during the onset of the pandemic since many African countries didn't have a lot of past data or research on airborne diseases, particularly viral ones. These studies' results will create a database for future reference in case of similar happenings.

The study's results indicate that over 80% of persons were depressed during the COVID-19 pandemic, over 87% suffered anxiety disorders, and over 61 % were stressed. Over 90% of participants had one form of mental health disorder during the COVID-19 pandemic period investigated. Many experienced severe depression and anxiety resulting in mental health issues such as dysphoria, anhedonia, inertia assesses, autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. These are mental health disorders that require attention. With the stigma associated with mental health issues, there is a high chance that many of these mental health disorders have been left unattended. This article recommends further research be undertaken on mitigating measures. Furthermore, a lot of effort and resources by entities need to be dedicated to address the mental health issues determined in this study, including but not limited to outreach, establishment, and dissemination of relevant mitigating methods as well as diagnosis and treatment for severe cases.

Conflicts of Interest: The authors declare no conflict of interest.

References

[1] UN. (2021). UN Women raises awareness of the shadow pandemic of violence against women during COVID-19. New York: UN Women.

[2] Yard, E., & Radhakrishnan, L. (2021, June 18). Morbidity and Mortality Weekly Report. Emergency Department Visits for Suspected Suicide Attempts Among Persons Aged 12–25 Years Before and During the COVID-19 Pandemic — United States, January 2019–May 202, p. 1.

[3] Commission, MHI. (2022). About mental health issues. Western Australia: https://www.mhc.wa.gov.au/your-health-and-wellbeing/about-mental-health-issues/.

[4] Pfefferbaum, B., & North, C. (2020). Mental Health and the Covid-19 Pandemic. The New England Journal of Medicine, 510-512. DOI: https://doi.org/10.1056/NEJMp2008017.

[5] Hawryluck, R., Gold, L., Robinson, W., Pogorski, S., Galea, S., & Styra., S. (2004, July). SARS control and psychological effects of quarantine. Centers for Disease Control and Prevention, pp. 1206-1212. DOI: https://doi.org/10.3201/eid1007.030703.

[6] Qiu, W., Chu, C., Mao, A., & Wu, J. (2018). The Impacts on Health, Society, and Economy of SARS and H7N9 Outbreaks in China: A Case Comparison Study. Journal of Environmental and Public Health. DOI: https://doi.org/10.1155/2018/2710185.

[7] Zürcher, S., Kerksieck, P., Adamus, C., Burr, C., Lehmann, A., Huber, F., & Richter, D. (2020). Prevalence of Mental Health Problems During Virus Epidemics in the General Public, Health Care Workers and Survivors: A Rapid Review of the Evidence. Frontiers in Public Health. DOI: https://doi.org/10.3389/fpubh.2020.560389.

[8] Lovibond, S., & Lovibond, P. (1995). Manual for the Depression Anxiety & Stress Scales. Sydney: Psychology Foundation. ISBN: 733414230.

[9] Griffin, A., and Hauser, J.R., 1993. The voice of the customer. Marketing science, 12(1), pp.1-27. DOI: https://doi.org/10.1287/mksc.12.1.1.

[10] Hogg, R. V., Tanis, E. A., & Zimmerman, D. (2015). Probability and Statistical Inference. New Jersey: Pearson Education. ISBN 978-0-321-92327-1.