Effects of the COVID-19 Pandemic on Health Providers' Mental Health: Experiences at Kenyatta National Hospital, Kenya

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Article

Effects of the COVID-19 Pandemic on Health Providers' Mental Health: Experiences at Kenyatta National Hospital, Kenya

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Abstract: Background: In 2020, health providers were expected to provide care to individuals with coronavirus disease 2019 (COVID-19) putting them at risk of acquiring COVID-19. The possibility of acquiring poorly understood infectious diseases while providing care may have an impact on the mental health of providers. We conducted a study to explore the effects of COVID-19 on the mental health of healthcare providers. **Methods:** Between April and August 2021, we conducted in-depth interviews with 60 health providers in the infectious disease unit (IDU) and other units in the hospital (non-IDU). Health providers completed an online self-administered survey form with demographic data (age, sex, average income, and known contact with a COVID-19 patient). We used semi-structured interview guides to understand health providers' lived experiences with stress, anxiety, depression, and their associated factors. We transcribed interviews verbatim, coded and analyzed the transcripts to derive thematic concepts related to mental health experiences. **Results:** Health providers had a median age of 37 years, [IQR 20.0-58.0], 56.7% were female, 30.0% nurses, 18.3% medical doctors, and 11.7% laboratory technologists. Health providers reported increased stress during the pandemic attributed to high demand for patient care, changes in social life, and fear of COVID-19 infection. They also reported experiences of anxiety and depression as a result of limited knowledge at the beginning of the pandemic and the perception that *'COVID-19 resulted in death'*. Testing positive for COVID-19, high exposure to COVID-19 risks, and death of patients and colleagues reportedly affected health providers' mental health. Additionally, health providers reported mental health support through debriefing meetings, peer-to-peer support, and psychological counseling with privacy and confidentiality concerns. **Conclusion:** Health providers faced mental health issues such as stress and anxiety while taking care of COVID-19 patients. An effective mental health response requires institutional practices that address context-specific challenges such as privacy and confidentiality.

Keywords: mental health**;** COVID-19; health providers; Kenyatta National Hospital

1. Introduction

In 2020, 17 million people were reported to have acquired Corona Virus disease 2019(COVID-19) caused by a server acute respiratory coronavirus 2(SARS-CoV-2) and resulting in over 600,000 deaths globally(1), In Africa, the COVID-19 pandemic was confirmed to spread in Egypt in February 2020, and in sub-Saharan Africa, Nigeria was the first in the same month (2). Kenya reported the first case in March 2020 and by May reported over 800 cases and 50 deaths(3). By 2020, initial estimates

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reported that frontline healthcare workers could account for 10–20% of all diagnoses(4). Globally, several healthcare workers contracted COVID-19 and in some instances even resulted in death(5).

In Kenya, a multitasking force National emergency response committee comprised of health, security, education, and transport coordinated COVID-19 response by selecting public and private facilities, laboratories, and isolation centers including guideline development for case management(6). Further, the government adopted several strategies to respond to the pandemic including; ban on international travels, ban on social gatherings and meetings and dawn to dusk curfews. In this regard, while the rest of the population reduced their exposure to infected individuals, health professionals worked in direct interaction with infected patients and were subject to a greater risk of infection themselves(7). Health providers are on the front line of fighting the COVID-19 pandemic response, and are exposed to hazards including; pathogen exposure, long working hours, psychological distress, fatigue, occupational burnout, and stigma that put them at risk of mental health challenges(8). Given the substantial anticipated burden of psychological disorders in the context of the COVID-19 pandemic, it is essential that the mental health response is given priority.

There were considerable calls to put in measures and management to support health providers' mental well-being and enhance resilience given the burden of anxiety and stress during the pandemic (9,10).In our country, at the beginning of the pandemic, there was no formal response plan for COVID-19 coupled with implementation barriers due to poorly resourced mental health systems(11,12). In addition, there is scanty data on how frontline health providers within our context and other low-resource setting coped with COVID-19 in their line of duty. An in-depth understanding of health providers' lived experiences gives crucial evidence that could inform mental health intervention in Kenya and other resource-limited settings.

This phenomenological study(13) aimed to understand health providers lived experiences during the COVID-19 pandemic. This evidence is useful for low- and middle-income countries where human resources for health are especially constrained, to develop and revise existing guidelines to support health providers.

2. Methods

2.1. Study procedures and participants

This article presents data collected between April 2021 to August 2021. We conducted in-depth interviews (IDIs) among health providers at Kenyatta National Hospital. We used stratified purposive sampling to recruit clinical care providers (doctors, clinical officers, nurses). Sampling included those working in the infectious disease unit (IDU) (n=20) and other units outside the Infectious disease unit(non-IDU) (n=40). Study participants who met the inclusion criteria were contacted via phone by the study research assistant. Healthcare providers were eligible if they; were working at Kenyatta National Hospital, either in the IDU or non-IDU unit, and were willing to provide written consent for study participation. Healthcare providers were invited to participate in the study by reading and signing an online consent form. Thereafter, an online survey was sent to those who consented to complete the demographic information. Participants who completed the online survey forms were contacted and in-depth interviews were conducted by phone or zoom.

2.2. Study setting

This study was conducted at Kenyatta National Hospital (https://knh.or.ke), Kenya's largest teaching and referral hospital situated in the capital city Nairobi. The hospital admitted a significant proportion of COVID-19 cases.

2.3. Data Collection

Participants completed a self-administered online survey form (https//docs. google forms.com) on mental health assessment and socio-demographic information that included demographic data (age, sex, average income, and known contact with a COVID-19 patient). Qualitative interviews were

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conducted by experienced qualitative researchers using a semi-structured questionnaire to understand changes in stress levels, feelings of anxiety and depression, mental health measures taken, and suggestions for improving mental health services. Interviews were conducted remotely via phone or zoom, as per the participant's preference, at their preferred date and time. Interviews were voice-recorded using a digital recorder and uploaded on a password-protected computer. Interviews were transcribed verbatim and translated where necessary. Transcripts were uploaded on google drive (drive.google.com) to share with the larger team for contextual discussions.

2.4. Data Analysis

Interview transcripts were reviewed for accuracy and completeness and later coded according to study objectives supported by Dedoose software (version 8.3.35) (sociocultural Research Consultants, LLC, Los Angeles, California, USA), a web-based application for managing, analysing and presenting our qualitative data(14). Qualitative researchers discussed discrepancies during the first stage of the coding process until a consensus was reached. Two analysts (VO and PO) read through all the transcripts and coded the interviews using an agreed-upon codebook. The data were categorized into broader themes and sub-themes to begin to make sense of health providers' lived experiences during the COVID-19 pandemic in the study design. In this manuscript, we analysed concepts of mental health experiences including experiences with stress, anxiety, depression, mental health support, and suggestions for improvement. As part of the analysis, direct quotations representative of participants' opinions was included. Our qualitative findings and reporting adhered to the COREQ guidelines(15).

3. Results

3.1. Participant demographic characteristics

Healthcare providers had a median age of 37 years, (IQR 20-58), 56% (34/60) were female. Majority were nurses and doctors 18(30.0%) and 11(18.3%) respectively. The majority of 90% (54/60) of the respondents had known COVID-19 contact. As in Table 1.

Table 1. Participant demographic characteristics.

Demographic Characteristics	Clinical Officer (N=3)	Medical Doctor (N=11)	Lab Technologist (N=7)	Nurse (N=18)	Pharmaceutical Technologist (N=5)	Other[1] (N=16)	Total (N=60)
Age							
Mean (SD)	38.0 (2.65)	35.5 (8.74)	38.7 (6.10)	41.4 (11.1)	40.0 (6.36)	35.1 (7.97)	38.1 (8.88)
Median [Min, Max]	39.0 [35.0, 40.0]	35.0 [27.0, 58.0]	38.0 [32.0, 48.0]	45.0 [20.0, 58.0]	38.0 [32.0, 47.0]	32.0 [26.0, 53.0]	37.0 [20.0, 58.0]
Sex							
Female	2 (66.7%)	8 (72.7%)	4 (57.1%)	12 (66.7%)	2 (40.0%)	6 (37.5%)	34 (56.7%)
Male	1 (33.3%)	3 (27.3%)	3 (42.9%)	6 (33.3%)	3 (60.0%)	10 (62.5%)	26 (43.3%)
Income							
≤ 50,000	0 (0%)	0 (0%)	0 (0%)	2 (11.1%)	0 (0%)	4 (25.0%)	6 (10.0%)
50,000- 200,000	3 (100%)	5 (45.5%)	7 (100%)	14 (77.8%)	5 (100%)	12 (75.0%)	46 (76.7%)
≥200,000	0 (0%)	6 (54.5%)	0 (0%)	2 (11.1%)	0 (0%)	0 (0%)	8 (13.3%)
Contact with COVID-19 positive patient							
Yes	3 (100%)	10 (90.9%)	6 (85.7%)	17 (94.4%)	5 (100%)	13 (81.3%)	54 (90.0%)
No	0 (0%)	1 (9.1%)	1 (14.3%)	1 (5.6%)	0 (0%)	3 (18.7%)	6 (10.0%)

[1]Health records officer, clinical psychologist, social workers, nutritionist.

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3.2. Qualitative Findings

Health providers reported changes in stress levels, especially at the beginning of the pandemic caused by the nature of their working environment and conditions, changes in social life, and fears of COVID-19 infection. Respondents also described their experiences with high levels of anxiety and depression during the COVID-19 pandemic related to; little knowledge of COVID-19, testing positive for COVID-19, and exposure, to risks and death of patients/colleagues. Health providers also reported experiencing low or no changes in stress levels due to available mental health support from psychological counseling, debriefing sessions and peer support albeit concerns of privacy and confidentiality and ad-hoc support that varied across departments. Interviews took an average of 30-40 minutes. The themes and illustrative quotes are described in the following section;

3.3. Changes in Stress levels related to the working environment

Healthcare providers reported an increase in stress levels due to working in a high-risk environment associated with fear of COVID-19 infection, high demand for patient care, and increased risk of contracting COVID-19. Health providers reported that departmental shifts (providers being moved to different departments within the IDU and non-IDU areas) and workload caused stress. Health providers reported that adapting to changes, including wearing personal protective equipment, maintaining COVID-19 guidelines, and working within strict timelines was a major challenge at the beginning of the pandemic.

> *"Yeah, it is more stressful because there is a lot of pressure at work especially you get that big people[government officials]have their patients in the ward, they keep on pushing and making sure that they get services not within the timelines that are set in the guidelines they want to get their results within an hour or even 30 minutes...So sometimes there is so much stress because there is too much pressure from the ministry and from within the hospital. You feel like you want to resign from work. The motivation of working is not there".* **[Female, Laboratory technologist, IDU]**

Changes brought about by COVID-19 in the hospital also limited patient care, especially among the non-IDU staff. Providers mentioned that it was their role to take care of patients and whenever they had situations that compromised the quality of patient care, they felt affected. For instance, the introduction of mandatory pre-surgery COVID-19 tests before admission into theatre led to delays in procedures since not all patients could afford the tests, causing delayed surgeries. Additionally, non-prioritizing elective theatre cases that left patients restless also affected the provider's mental health.

> *"So, the mental anguish, I think, has been there. So, there has been an element from a patient perspective, delay in care…acute cases, denial of care delay in elective services to just overcrowding, limited staff, to the staffing in terms of the burnouts, being just extremely on the edge because of the COVID itself and then… it exposed the healthcare workers, to the mental anguish of being suspicious of having contracted the disease and finally having to confirm that you got the COVID-19. So, it's been a roller coaster".* **[Male, Medical doctor, non-IDU]**

Consequently, health providers added that being moved to other departments like the IDU caused fears and stigma, as the areas were perceived as 'very high risk' and contributed to increased stress levels. Health providers added that being treated differently by their colleagues who had been close to them before the pandemic, contributed to stress.

> *"I had a feeling that I was being sent there to die since I didn't have information and that fear and now you are sent to IDU where positive patients are and there was stigma around. We were working at night and we went to take tea there at night and when we left there, the colleagues boiled our cups. So, you see that kind of treatment just because someone is dealing with COVID, they want to treat differently. So, there was that stress, we were being stressed because of being treated differently".* **[Male, Laboratory technologist, IDU]**

Further, the perception of being COVID-19 positive that was associated with their areas of work such as the IDU areas, also contributed to stress. Healthcare providers expressed that their colleagues

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perceived them as COVID-19-infected. This perception, led to stigma because none wanted to interact with them.

> *"Another thing is that the other colleagues in the main hospital still view us as people who have COVID, when they see us go to the main hospital that stigmatization part of it is still here. So, it's really taking a toll on us. There is an increased level of mental stress compared to pre-COVID".* **[Male, Nurse, IDU]**

Importantly, some health providers reported reduced stress levels and attributed it to reduced workload brought about by COVID-19 measures that controlled overcrowding. Those who mentioned no change in stress levels described that they were coping with the new situation and felt they were not affected because of their coping mechanisms. Additionally, providers who cited low-stress levels reported high-stress levels prior to the COVID-19 pandemic.

> *"Before COVID my levels were like 8. Right now, my levels are like two, because there were so many patients. I checked all the patients, I checked all the files, work was a lot, work was tasking, but now life is good, how many patients do I have? I have 13 patients; I have 4 patients in the pediatric ICU and 9 patients in the burn unit. Honestly, my stress levels have reduced to two at most".* **[Female, Nutritionist, IDU]**

3.4. Experiences of Depression and Anxiety

Health providers reported experiencing anxiety, being extremely sad, or extremely worried. Depression was reported by a few as it was perceived as a severe form of stress. Anxiety experiences were majorly at the beginning of the pandemic; when there was little knowledge and guidance on COVID-19 management and the perception that *'COVID-19 is death'*. The existing misinformation about COVID-19 among providers and the community such as *'COVID -19 causing reduced life span'* also caused anxiety.

> *"I was extremely worried about contracting COVID and the information out there was that when you contract COVID, you die. Some people saying 'You will get sterilized' and others were saying, your lifespan will reduce, if you recover, your lifespan will reduce, you see those misconceptions, it will reduce by ten years; so, I was worried".* **[Male, Laboratory technologist, IDU]**

Anxiety was also characterized by fear of contracting the virus and fear of the unknown. *'What happens when they get infected and what happens to their family and friends'*.

> *"Anxiety comes in terms of, what does tomorrow hold? What happens if I get COVID-19? What will happen to my children? What will happen to my spouse? What will my neighbor say if I tested positive and then my children are interacting with their children and then they will say it is you who is the source, the primary source of this COVID thing".* **[Male, Clinical officer, non-IDU]**

Health providers mentioned symptoms such as 'lack of sleep', 'not feeling like talking to people', 'lack of appetite', 'eating a lot', and 'not feeling like going to work' while describing their experiences with anxiety and stress. As described by a medical doctor in non-IDU and a pharmaceutical technologist in the IDU areas;

> *"I know I have had problems sleeping, lately I have had a lot of insomnia. So, for the last year, I have been taking a lot of sleep medication just to sleep. I find myself so tired when I wake up. I used to be an 8 o'clock person to work. Nowadays I think I am at work at 9 and 9:30. I feel lethargic and tired, how do I say it…no morale very, very... low morale".* **[Female, Medical doctor, non-IDU]**

> *"You know there is a time when you don't feel like talking to people, you don't have an appetite…yeah those are the feelings that I have had in the past".* **[Male, Pharmaceutical technologist, IDU]**

Anxiety and depression symptoms were also experienced as a result of high exposure to COVID-19 risk, testing positive for COVID-19, and inadequate supply of personal protective equipment's (PPEs) and hospital resources. For instance, the absence of oxygen in the IDU and inadequate supply of PPEs affected health providers' mental health, as described by a respondent that 'there were panic attacks.'

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"A lot there is so much demand for patient care there and also just anxious especially when we don't have…sometimes we don't have the right PPE and we still want patient care to be taken care of… So, we carry a lot of fatigue and anxiety when we are doing calls, especially with the crisis of not having PPEs sometimes or with the oxygen outrages". **[Female, Nurse, IDU]**

3.5. Death of Patients and Colleagues as a cause of Anxiety and Depression

Death caused anxiety and depression among health providers who reported that it was traumatizing for them to watch patients and their colleagues die from the COVID-19 virus. One respondent also mentioned that her colleague died by suicide and that took a toll on her mental health.

"Of course, I am not mentally stable, that is what I can say, because having mental health illness doesn't have to be symptomatic but of course that worries me…we have lost close colleagues out of it so it has affected my usual stability because now I'm living in fear. If I lose my colleagues I go into panic. If I lose my seniors I go into a panic, so I have been quite unstable for this period that we have been having COVID". **[Female, Clinical officer, IDU]**

3.6. Changes in Social life as a mental health issue.

Changes in social life brought about by the new COVID-19 restrictions such as social distancing and cessation of movement presented major challenges. Health providers reported that the inability to travel or meet family and friends affected their mental health due to a lack of social support. Face-to-face communication was reported to be key and telephone conversation insufficient. Other social interaction impediments were between the junior staff that relied on the senior staff for consultation yet their interaction was limited. They reported that many senior health providers worked remotely as per the country's guidelines related to advanced age and preexisting illness. The social support system was perceived as 'nearly zero' due to these restrictions.

"Before we used to mix freely amongst ourselves, we used to share but now you find that if that social life is not there, you cannot sit with colleagues to give a story, to talk about your weekend experience and stuff like that… you may have something that you need to tell someone, not on phone but one on one so you are like now am going to sit with her and I don't know where she was… let me just keep to myself and it is still eating you inside". **[Female, Nurse, non-IDU]**

Among other health providers, financial constraints caused stress. The fact that the economy was shut down, cash flow was reduced coupled with reduced extra sources of income, and salary cuts for some providers. It was reported that the fact that several people lost their jobs during the pandemic and family and friends were dependent on people who continued to work, affected mental health.

"Being broke can give you hypertension if you try it. Depression and hypertension because as I told you we used to work in locum, so that was very stressful we have that financial aspect so despite the tax reduction that the government gave us, there is nothing much we can do in terms of effect. Secondly, now the risk that you have because of work, for work that you are not being paid for. So, to me, it was quite stressful". **[Female, Medical doctor, non-IDU]**

3.7. Experiences with Mental health Support

Nearly half of the health providers reported to have either received mental health support from the hospital or being offered mental health services at the hospital. Those working in the infectious disease unit reported that psychological counselors were stationed at the IDU to support staff and patients. Other departments outside the IDU reported having department-specific mental health support, indicating that some departments incorporated psychological support while others did not.

Mental health support offered included: face-to-face counseling, debriefing sessions among colleagues, peer counseling, toll-free numbers to contact when in need, and mental health webinars.

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"Okay in our section we have counselors with us, and when we are discussing especially on COVID experiences they help take care of stress, so if you feel you need them, they are readily available". **[Female, Laboratory technologist, IDU]**

Further, other health providers reported to have received mental health support from colleagues, family and friends, religious groups, and private counselors outside the hospital environment.

"So, I am getting support from my colleagues and also my family members, they also pray for me and the church members, they always communicate to me… Yeah, those are the people who have given me the strength to move on". **[Female, Nurse, non-IDU]**

Health providers reported not having received mental health support described being offered and not taking up the support due to perceived 'well-being', mentioning that they were not at a point where they required the support. Another view expressed was the lack of knowledge about any mental health support available, which differed per department since some departments offered support while others did not.

"In Kenyatta, they don't have any support, my dear, what support do they have? They don't have any support. Actually, the colleague that I told you about has been battling mental health for close to 15 years. The support offered was after making a plea to the chairman, a very nice gentleman. But for us, at Kenyatta, no one is interested in your mental health. In fact, as a resident, I have to pay consultation fees, and for everything else, I have to join the queue". **[Female, Medical doctor, non-IDU]**

3.8. Adequacy of mental health support

Almost all health providers reported inadequacy of the mental health services provided. The inadequacy was due to the nature of the support offered. It was mentioned that the support offered was on ad hoc basis and not an open forum for everyone. As they reported that people rarely want to talk about things that disturb them mentally and therefore 'as-needed support' was not suitable for everyone. Providers also mentioned that mental health support was available at the beginning of the pandemic but over time there was laxity which caused inadequacies.

"So, the patients, the psychological support has been resourceful but for the healthcare workers, I don't know where it fits, I can't say because if you ask me, 'Do you need a counselor?' I will tell you maybe I don't need a counselor". **[Male, Nutritionist, IDU]**

The fact that mental health support was not consistent across departments also caused inadequacies as there was no standard provision of mental health services for instances health providers reported availability of mental health support while their colleagues reported lack of support. Time spent per counseling session was reported to be little as there were few counselors yet high demand for the counseling services. Other concerns reported by a few providers was that colleagues offering mental health services were themselves 'broken' and mentally overwhelmed and so could not fully maximize their potential while offering services.

"Probably not, and especially departments or units where there is no psychological support, let me put myself in a department which doesn't have the psychological support, the discussions that we normally have, so you could find that people could go into complete depression, others could not even be able to report to work. So, I would say the measures were not adequate. Yeah". **[Male, Laboratory technologist, non-IDU]**

Privacy and confidentiality of mental health services were also a concern. Health providers felt they were not comfortable talking to their colleagues and preferred talking to providers outside the hospital environment. This challenge limited the uptake of mental health services in the hospital.

"Offered I think yes, but taken up I think no. Yeah, if they have you can always go but ah! [sigh] I always do not go, let me handle myself in my way…how do you go to people who know you? Okay as much as they are supporting us, we are still colleagues…I cannot come to you and then meet you

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in the corridor the following day, I will be uncomfortable. So, as much as it has been offered, taking it up is just a challenge." **[Female, Social worker, non-IDU]**

A health provider clarified that mental health challenge was due to the perception of one's environment and therefore it was important to take care of one's social needs that would translate to mental well-being, by stating that:

"Mental health comes from our perception of the environment we live in. So, let us address the basics before we go to mental health. There are scientific theoretical models for example the social determinants of mental health, so if you take care of someone's physiological needs, like security, food, to have good medical care those are things that will take care of the mental health status. Let us address the basics, and then you will end up addressing the mental health conditions like anxiety, depression, fears, and unhealthy behaviors of health care providers". **[Male, Nurse, non-IDU].**

3.9. Recommendations for mental health services

Health providers reported the need to improve mental health services that were not only specific to the COVID-19 pandemic period but for their general well-being, given the nature of their job. The following recommendations were made to improve mental health support; sensitization of staff on the importance of mental well-being by conducting mental health outreaches, utilization of proactive mental health screening tools to all providers to timely address symptoms and not relying on a need basis, the need to partner with counseling facilities outside hospital environment to enhance privacy and confidentiality, develop mental health support team at each unit in the hospital, need to learn better ways of approaching people on mental health issues due to 'perceived stigma on mental health' and designing innovative strategies to improve mental health care seeking behaviors. A health provider working in the non-IDU areas highlighted the need to have a counseling unit in the hospital.

"Okay within our set up even with or without COVID, there should be a way of debriefing our issues, we should have a psychotherapy kind of a thing, a counseling in our unit, not necessarily doors but they could be coming in weekly, for some kind of group therapy…okay some conditions are very traumatizing, like you may get a very helpless situation where you can't help the patient and with that, you carry it in your heart for several days even years, it increases your fear in life, you put it like "what if it was me?", We may have a debriefing once in a while but we don't have such kinds of initiatives in our department. We don't". **[Female, Clinical officer, non-IDU]**

4. Discussion

This study used qualitative analysis to explicate mental health experiences among health providers during the COVID-19 pandemic at the Kenyatta National Hospital, a key national COVID-19 management center. We found out that health providers experienced stress and anxiety especially at the beginning of the pandemic, as well as depression. Healthcare providers reported demand for patient care in a high-risk environment coupled with very limited knowledge and guidance on management of COVID-19 as a reason for anxiety. Additionally, healthcare providers reported fear of COVID-19 infection, and uncertainty about outcome of infection. The changes brought about by COVID-19 measures such as cessation of movement due to curfews, physical distancing, attendant economic hardships and death of their colleagues contributed to stress. Mental health support provided was reported to be inadequate as it was on a need basis and there were concerns about breach to privacy and confidentiality provoking fear of stigmatization.

Health providers reported stress and anxiety due to changes in their working environment. In 2020,health providers globally exhibited high levels of anxiety and depression (16–18). Additionally, WHO reported 25% increase in the prevalence of anxiety and depression due to COVID-19 (19). Several studies have also shown changes in levels of stress, anxiety, and depressive symptoms during the pandemic (20,21). However, very few studies describe these concerns qualitatively. In our study, health providers mentioned misinformation such as COVID-19 causing "*reduced life span"* or *"being sterile"* as some existing misinformation that affected their mental health. In addition, the high demand for patient care, working in a high-risk environment, and caring for COVID-19 patients

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affected health providers' mental health. On the contrary, a study in China found low-stress levels among health providers caring for COVID-19 patients portraying professional devotion and altruism (22) which were different in our setting. In addition, the COVID-19 pandemic put additional demands on an already stretched healthcare system in Kenya with reports on shortage of personal protective equipment and testing kits coupled with strained human resources (23), which also contributed to the increased stress levels among health providers in our setting.

Changes in social life and the death of colleagues and patients were significant mental health issues. The WHO reported changes with the COVID-19 outbreak such as physical distancing and cessation of movement that impacted people's social interactions (24). Health providers mentioned that they relied on their seniors for guidance and consultation but due to COVID-19 restrictions, they were unable to get support. Many senior health providers worked remotely as per the country's guidelines related to advanced age and preexisting illness. In addition, interactions with friends and families were limited yet some relied on them for psychological support. Similarly, interpersonal, intrapersonal, and organizational factors of COVID-19 have been shown to have an impact on health providers' mental well-being (25). We also found that high levels of morbidity and mortality among colleagues and patients affected health providers. Further, a study conducted in the US highlighted the need for health providers to put in individual preparation for deaths for their health grieving and the need for the health system to support workers in their anticipatory and realized grief (26). In our study, none of the health providers reported grief management, hence the high number of deaths causing panic and stress as health providers mentioned *"feeling they were next"*. Therefore, there is an urgent need for strategies for grief management in the health care system to support health providers' mental health.

Experiences with mental health support and recommendations were also key measures to dealing with the COVID-19 pandemic. In our study, health providers reported psychological support through debriefing sessions, counselors, peer support, and toll-free numbers. These strategies supported health workers to handle their anxiety and stress levels. Comparably, a systematic review showed evidence of these interventions during the pandemic outbreak that is in agreement with our findings (27). Consequently, some providers mentioned reduced stress and anxiety levels due to reduced workload brought about by the pandemic or the support strategies that were put in place. However, providers reported concerns and challenges with the existing support mechanisms such as support being on an 'ad-hoc basis', and privacy and confidentiality concerns. In this context of COVID-19, a study in Indonesia illustrated coping mechanisms among health workers that reduced stress levels such as having a positive attitude, adequate knowledge, and family support (28). In our setting, health providers had challenges with misinformation and inadequate social support that describe mental health issues. In addition, lessons learned in Kenya during HIV and Ebola pandemics could be key in developing strategies to support health providers' mental health such as the availability of counselors, managed risk 'allowances' and compensation, and dispelling misinformation(29). Further, health providers gave important recommendations that would improve the mental health in their context while dealing with pandemic outbreaks. These recommendations underscore participatory interventions that could support mental well-being among providers.

This study had an important strength. Principally, the use of qualitative approaches offered a detailed picture in understanding mental health lived experiences among health providers working directly or indirectly with COVID-19 patients during the pandemic and ultimately how stress and anxiety levels changed. The primary limitations of this study include the potential for social desirability bias, and given the nature of this qualitative study, our results are not generalizable rather we provide insights on lived experiences during the COVID-19 pandemic. In addition, these findings only describe experiences within the Kenyan health care system context which may differ with experiences outside our health system environment.

5. Conclusion

In summary, qualitative findings with health providers demonstrated critical experiences with COVID-19 pandemic and essential suggestions for improving mental health services. Framed within

the context of the pandemic, health professionals have to deal with high-stress levels and anxiety, stigma, and changes in their working environment. Interventions to improve mental health response in our resource-constrained setting requires institutional practices that address context-specific challenges such as time spent during counseling session, privacy and confidentiality, and consistent provision of mental health support.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Individual participant data that underlie the results reported in this article, after deidentification, are available following publication and under appropriate data-sharing agreements. Data are available for researchers who provide a methodologically sound proposal.

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