

# Front Line Health Workers' COVID-19 Lived Experiences: A Case of Levy Mwanawasa Hospital in Lusaka, Zambia

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## Abstract

**Introduction:** Frontline health workers who work in COVID-19 isolation treatment centers are susceptible to developing mental health issues due to the overwhelming workload and stress associated with their job. Thus understanding their lived experiences provides insights that helps alleviate health worker burnout and improving their quality of life thereby leading to an efficient delivery of health care services during a pandemic. **Aim:** To understand the lived experiences of front line health workers during the COVID-19 pandemics at Levy Mwanawasa Teaching University Hospital. **Design and Methods:** A qualitative interpretative phenomenological study design was used. Purposive sampling method was adopted to select the 14 participants who took part in the study. The data were collected through face-to-face, audio-taped interviews using an in-depth interview guide, after which the responses were transcribed verbatim before using NVIVO to generate codes. The data were analyzed using thematic method. **Results:** The lived experiences of the participants were found to be mainly negative with few positive experiences. Their lived experiences were mainly negative emotional and psychological experiences including fear, anger, depression, frustration, anxiety and sadness. The thoughts that were identified included thoughts of surviving through the pandemic, thoughts of getting infected, and dying. The frontline health workers also experienced some personal and professional changes as they offered health services in the COVID-19 wards. The personal changes reported included; social limitations and collapse of extra income business while the professional changes included a change in the way health services were delivered, a gain in knowledge and skills and shaping of a career path. The main challenges experienced were limited resources (man power,

resuscitation equipment, drugs, personal protective equipment), limited literature on the disease and limited social interactions. **Conclusion and Recommendations:** Relevant stakeholders should come on board in order to offer support during a pandemic or a similar situation so as to better the experience of frontline health workers with particular attention directed towards the provision of adequate resources to enable them deliver their services effectively. Frontline health workers perspectives and opinions should be taken into account by the institution's administrators and policymakers when planning for and managing a pandemic.

## Keywords

COVID-19, Lived Experiences, Frontline Health Workers, Pandemic

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## 1. Introduction

According to Zhou *et al.* [1], the first case of COVID-19 was identified in Wuhan, China, in late December 2019 with symptoms ranging from mild to severe, including acute respiratory distress syndrome, septic shock, and systemic multiple organ failure syndrome. In March 2020, COVID-19 was declared a pandemic [2] with Zambia reporting its first case on the 18<sup>th</sup> March 2020 [3]. According to WHO [3], Zambia was among the 18 countries in Africa reporting an increasing trend in new cases and was among the five that accounted for 70 percent of COVID-19 cases during the month of June 2021. WHO [4] reported that Zambia's third wave culminated the highest number of deaths compared to the previous waves and the country was among the five African countries reporting high numbers of death.

According to Sims *et al.* [5], most front-line health care workers fighting the pandemic are either fending for themselves or improvising only to ensure the health and safety of each client they serve. A lack of resources, clear advice, or training may cause them to believe that their health is being neglected by their employers, putting them at risk of disease exposure [6]. Factors such as the ever-increasing number of confirmed and suspected cases, overwhelming workload, depletion of personal protection equipment, widespread media coverage, lack of specific drugs, and feelings of being inadequately supported may all, contribute to the mental burden of these health care workers [7]. Working stress, the daily influx of patients to hospitals, low hospital capacity, and the substandard ratio of front-line workers to patients have made the phenomenon of care problematic leading to various mental and psychological issues among the frontline health workers [8]. If the lived experiences of the frontline health workers are not understood, it may contribute to increased care provider burnout and risk of providers quitting the field leading to an inefficient delivery of health services during the pandemic [9]. Accordingly, it is important to examine front liners' experience with care giving especially during stressful times such as the

COVID-19 pandemic [10].

Studies on frontline health workers lived experience during the COVID-19 pandemic have been conducted in various countries. According to Yau *et al.* [11], some of the recognized factors leading to better lived experience and an effective outbreak response include testing indications for COVID-19 among residents and staff, external assistance, access to a secure supply of personal protective equipment within facilities, reinforced appropriate use of PPE through internal and external training for front-line staff, organizational culture within the facilities, communication and a coordinated response. Although it has been highlighted that this subject has been extensively examined throughout the world [11], little is known about frontline health workers lived experience during the COVID-19 pandemic in Zambia as there was no available study on the subject. Hence, this gap has been filled by the current study.

## **2. Materials and Methods**

### **2.1. Study Design, Setting and Participants**

A qualitative phenomenological study design was used to investigate the lived experiences of frontline health workers during the COVID-19 pandemic at Levy Mwanawasa University Teaching Hospital in Lusaka, Zambia. The hospital became the first and the largest COVID-19 Isolation center in Zambia especially from the first wave to the third wave of COVID-19 pandemic as it was receiving an approximation of 70 percent of the country's COVID-19 patients with front line health workers at the site being overwhelmed by the pandemic. The study focused on doctors and nurses and utilized purposive sampling to select 14 participants. Eligible participants included those who had worked at Levy Mwanawasa hospital during the first, second, and third waves of the COVID-19 pandemic, were available at the time of the study, and were willing to participate. Exclusion criteria included those who were unwell or on leave during the study period.

### **2.2. Data Collection Procedure**

Ethical approval was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC) under reference number—3131-2022, and a certificate for researcher recognition was obtained from the National Health Research Authority (NHRA) under reference number NHRAR-R 1112/09/09/2022. Following the explaining of the participant information sheet and obtaining consent, data was collected from the frontline health workers through face to face interviews that were held in a private room at Levy Mwanawasa Hospital. Confidentiality and anonymity were upheld throughout the study, and participant were given the freedom to withdraw from the study at any time they felt like with no negative consequences. A counsellor was also present during the interviews so as to offer support due to the potential psychological and emotional impact of the study on participants. An audio recorder and observation notes were used to

collect the data while ensuring participant privacy and safety.

### **2.3. Instruments**

For the purpose of data collection, an in -depth semi structured interview guide was used. It comprised of open ended questions with participants characteristics under Section A and questions on lived experiences under Section B.

### **2.4. Data Analysis**

After the completion of interviews, each tape-recorded interview was transcribed verbatim. The transcriptions and field notes were read and re-read. The researcher also listened to the audio tapes over and over in order to create a sense of the whole data. Data was arranged and coded using NVIVO (version 10). Data was analyzed using a thematic method which involved generating and identifying patterns among themes from interview data. Codes were assigned to each meaning unit. Similar codes were grouped into categories. This immersion resulted in the exposure of common ideas and threads (categories) that were noted. Each of these coded categories was then matched to themes previously identified from the literature. Finally, main themes were developed from categories that described the manifest meaning. Proofing of the transcriptions was conducted by the research supervisors' as a way of validating the data.

## **3. Results**

Three major themes emerged from the study. The first theme exhibits the Emotional and psychological experiences of working during the COVID-19 and the Sub themes include negative emotional experiences, positive emotional experiences and psychological experiences. The second theme explores the changes in personal and professional life of frontline health workers and the sub themes were social limitation, change in delivery of health care and gain in knowledge and skills. The third theme discusses the challenges encountered by the frontline health workers during the COVID-19 pandemic and the sub themes included limited resources, limited literature about the disease and limited social interactions. The key statements from the participants led to the generation of sub themes and the sub themes were merged to generate the main themes as shown in **Table 1**.

### **3.1. Demographic Characteristics**

Face to face in-depth interviews were conducted on 14 participants of whom half were male while the other half female and all who worked at Levy Mwanawasa Hospital during the COVID-19 pandemic's 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> wave as frontline health workers. Seven nurses took part and seven doctors took part in the study. The equal number of health professionals from the two health disciplines was by coincidence while the total number of participants in the study was determined

**Table 1.** Major themes, sub-themes and key statements from the participants.

Main theme	Sub theme	Key statement
Emotional and psychological experiences of working during the COVID-19	Negative emotional experiences	<i>We were negatively hit, it was depressing... A roller coaster of emotions because there was a lot unknown about the disease then it was a very sad situation.</i>
	Positive emotional experiences	<i>There were happy moments as well when you save a patient's life somebody comes in barely been able to walk and you help the patient.</i>
	Psychological experiences	<i>Is this the end for humanity... well am I next? Am I going to get sick? Will I die?</i>
Changes in personal and professional life	Social limitation	<i>Even the little business I was doing before COVID-19 collapsed.</i>
	Change in delivery of health care	<i>We started working with masks, we started putting on PPE, so it changed everything.</i>
	Gain in knowledge and skills	<i>It exposed me to the gaps that we have in infectious disease and it allowed me to explore those gaps.</i>
Challenges encountered	Limited resources	<i>The major challenge was work overload due to under-staffing and the equipment was not matching the number of patients that we had.</i>
	Limited literature about the disease	<i>There was a lot unknown about the disease.</i>
	Limited social interactions	<i>I don't have time to visit my relatives, my siblings wouldn't come to visit me.</i>

by data saturation. All were in the age range of 25 - 40 with the mean age being 33. Sixty three percent [9] were married while 37% [5] were unmarried. All of the participants were Christians.

### 3.2. Theme 1: Emotional and Psychological Experiences of Working during the COVID-19 Pandemic

#### *Emotional experiences*

Participants in this study expressed encountering different thoughts and emotions while working in the COVID pandemic. Many expressed that it was a roller coaster of emotions in that they experienced both joyous and varying negative moments. They mentioned that the negative moments encompassed emotions of sadness, fear of getting infected or dying, anxiety, frustration, and depression as shown in the statements below.

*P3, DOCTOR: "Those were very sad moments for me personally and my colleagues, it was a very sad situation because the number of people that were dying was very high."*

*P7, NURSE: "I wrapped more bodies in COVID19 than I had wrapped in my nursing experience, on a daily basis especially when we had the third wave I was wrapping close to 9 bodies and that's just in one shift, if its night shift we could even wrap more than 11 bodies in a day. It was bad. The worst of it all"*

*P10, DOCTOR: “Not knowing which of our colleague was going to die because we lost some people, we were under pressure due to those uncertainties and there was so much fear.”*

A few joyous moments mentioned were when a patient was discharged, when their requests were given attention by management as well as when various stakeholders came on board to give them support in order to help them overcome the burden of the pandemic. This is evident from the participants' statements below.

*P13, NURSE: “Their times that we would have some good experiences where the patients I was nursing would get discharged and then after two weeks they come back for review and they decide to pass through the ward ‘sister I am here to say thank you’ and then we would call our colleagues to say Mr... is back and his actually come to say hi, we would feel good.”*

*P14, NURSE: “Levy as a new institution they even went as far as preparing meals for those of us that worked on the COVID ward... Now that was them going out of their way to say thank you well done for what you have done, it made us happy.”*

#### **Psychological experiences**

Participants in this study expressed that they had survival thoughts, thoughts about getting infected and dying running in their mind as they worked.

*P14, NURSE: “I would start thinking Is this the end for humanity? Is this it? When other colleagues started getting sick, I started asking myself questions to say well am I next? Am I going to get sick? And things of such nature.”*

*P10, DOCTOR: “I think the main thought was just about survival and survival skills. Survival was the main thought that was in my mind.”*

### **3.3. Theme 2: Personal and Professional Changes Due to the Pandemic**

Findings revealed that while working in the pandemic at Levy Mwanawasa Hospital, frontline health workers experienced some changes in their personal and professional lives as compared to the prior COVID times. The personal changes mentioned were social limitations, collapse of extra income sources and altered personal confidence. A nurse reported his limitation in carrying out personal activities outside the levy premises, as shown in the participants' statements below.

#### **Social limitation**

*P2, NURSE: “We were locked up within Levy premises in the centers and we were not allowed to go home and that was a challenge because we had a lot of personal things to do but we couldn't do because of the situation, so we were locked up in here 14 days in 14 days out thus on a personal level it was a negative.”*

*P1, DOCTOR: “The social interactions such as family gatherings getting consent and so many restrictions while mostly in the African setup there few things that bring us together, with times of COVID it was difficult to travel. It really affected the social aspects of a human being.”*

### ***Gain in Knowledge and skills***

While working during the pandemic, participants reported gaining new knowledge on COVID-19 disease and how to wear personal protective equipment as many did not have prior knowledge or experience of such before working in the times of COVID-19. This is contained in the statements by participants below.

*P13, NURSE: “We were not only treating them for COVID they also had other underlying conditions which really diversified my experience even just my career was improved in one way or the other.”*

*P4, DOCTOR: “It exposed me to the gaps that we have in infectious disease and it allowed me to explore those gaps and thus I started my masters in infectious disease because of the gaps that I had seen in our health sector.”*

### ***Change in delivery of health care services***

Many noted that the delivery of health services was different during the times of COVID.

*P1, DOCTOR: “Times for COVID we had to mask up almost everywhere and at all times and during the time of COVID-19 the masks made work difficult as people relate well when you can see the facial expressions so it made even interactions between patients and people because everyone was masked up. And also it was hard to even recognize people.”*

*P6, NURSE: “Professionally it was different, the COVID-19 pandemic brought so many changes in the health care delivery, so we started working with masks, we started putting on PPE, so it changed everything”*

## **3.4. Theme 3: Challenges Encountered While Working**

### ***Limited resources***

Participants in this study revealed that they encountered a challenge with resources which included staff, equipment, drugs, and capacity to contain the increasing number of COVID-19 patients, as shown in their statements below.

*P1, DOCTOR “In terms of deficiency we had a shortage of man power because of the phobia most health workers would shun away to work from COVID centers and those that have worked from the COVID center due to the experience did not want to return there because the mortality was so high and therefore don't want to get back to work in the COVID center.”*

*P6, NURSE: “We had a shortage of PPE, so when you are given one you have to use it all throughout the shift so that's one of the problems and then there was shortage of oxygen, there was a point in time when there was no oxygen at the facility.”*

*P4, DOCTOR: “We dint have enough drugs and enough oxygen to be able to effectively manage COVID, we did not have enough hospital beds and enough hospital equipment to use to manage these patients cause the number of patients was very high.”*

### ***Limited literature on the disease***

Participants revealed that there was a challenge of limited literature on the

disease as no one really had the correct information regarding the disease especially in the initial phases of the pandemic. Some expressed that they felt as if they were at battle with an invisible enemy. This is revealed in the statements below.

*P14, NURSE: "In the first wave, there was a lot that was unknown, I was scared, terrified and I dint know much about the disease... there was limited literature on the disease, everything was learn as you go."*

*P13, NURSE: "We were actually not so familiar with the pandemic because it was just new, just came in, we all had our fears."*

#### **Limited social interactions**

Participants in this study have revealed that they experienced limited social interactions during the COVID-19 pandemic as they were expected to spend most of their times at the COVID-19 facility.

*P5, NURSE: "First time I came for work I stayed about here at levy about two months, so the only time that I could get through to family members was like through the phone but yeah I really needed that physical connection with the people that I love most."*

*P11, Doctor: "I don't have time to visit my relatives, my siblings wouldn't come to visit me and of course at the workplace we were stressed up."*

## **4. Discussion of Findings**

This study was conducted on 14 participants which consisted of doctors [7] and nurses [7] who worked at Levy Mwanawasa Hospital during the COVID-19 pandemic's 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> wave. An equal number males and females participated. All were in the age range of 25 - 40 with the mean age being 33. All of the participants were Christians.

### **4.1. Emotional and Psychological Experiences of Working during the Pandemic**

There have been many important findings with regards to the frontline health workers working in a stressful context and time. They reported their lived experience to be mainly negative with only little positive moments. They mainly reported emotional and psychological experiences such as sadness, anger, anxiety, frustration, fear, thoughts of dying and survival thoughts as their lived experience during the pandemic. They also encountered happy moments which were very few as compared to the negatives experiences and this was when the patients that they were caring for recovered from the disease. Numerous studies also found that the lived experiences of front line health workers working during the COVID-19 pandemic to be unpleasant feelings such as anxiety, worry, and helplessness [12] [13] [14]. In line with this, Labrague and de Los Santos [15] found that fear was also exacerbated by a lack of sufficient training and understanding in emergency catastrophe rescue of COVID-19. It was also found that frontline healthcare workers were at risk of physical and mental consequences such as Post Traumatic Stress Disorder as a direct result of caring for patients



with COVID-19 [16]. The psychological traumatic impact of COVID-19 in frontline and non-frontline HCWs is a major concern, as practically all of the included research have revealed [17] [18]. Emotional and psychological difficulties around the world among frontline health workers have also been highlighted by Newman *et al.* [19] who further explains that the frontline health workers are in great need of support rather than assigning them with further tasks. On the other hand, Ha *et al.* [20] found that front line health workers had lower rates of depression, anxiety and stress relative to other contexts. The difference may be attributed to the training the participants of the study received prior to starting work on the COVID wards as well as received the psychological counselling they received while providing care to the patients whereas the participants in this study did not receive any of the mentioned services. The investigations of Lai *et al.* [6] and Li *et al.* [21] found a difference in psychological symptoms prevalence between frontline and non-frontline health care workers with frontline health workers expressing little or no psychological symptoms. However, this disparity may be explained by the two studies' differences in the constructs and the heterogeneity of the samples they enrolled in comparison to the sample of this study. In another study, frontline medical workers in China reported higher levels of job satisfaction and a better experience working during the pandemic than earlier similar assessments among medical staff [22]. Based on the findings of the aforementioned study, inference can be made that that job satisfaction is linked to a better lived experience. If organizational elements are incorporated in the study data collection tool, it can provide an accurate picture of frontline health professionals' lived experiences, as good organizational aspects such as job support appeared to boost satisfaction and lived experience.

The little positive experience was characterized by happiness when frontline health workers witnessed patient recovery, or when management and society showed them appreciation for their efforts. Similar to these findings is that of Okediran [23] in which frontline health workers derived pleasure on patients' recovery. Mohindra [24] further highlighted that higher social recognition perception was linked to fewer psychological effects.

Conversely, Rey [25] revealed that frontline health workers had an overall negative psychological impact from working during a pandemic in Spain with no happy moments. In addition, the societal recognition perception was found to be moderate. The difference in findings with this study may be attributed to the difference in the time the studies were conducted, where the latter study took place in the early phases of the pandemic with little known about the disease. In this regard, longitudinal research with larger sample sizes would help occupational health during crisis situations by investigating the temporal evolution of workers' psychological impact of the pandemic.

## 4.2. Personal and Psychological Changes

Front line health workers' personal and professional lives saw a lot of changes during the pandemic. Working with Personal Protective Equipment posed a new

experience which did not only bring about physical discomfort but also changed the way in which health care services were being delivered. One important finding which could not be overlooked was the obligation to refrain from using the restroom while wearing PPE as doing so would compromise the potency of the suit. These stressful moments demanded for social connections as form of support. However, the pandemic took a toll on the frontline health workers friends and family relationships and similar findings have been reported all over the world [26] [27] [28] [29]. Billings *et al.* [30] discovered in their systematic assessment that healthcare staff were frequently unable to offer the amount of care they felt professionally and morally obligated to provide while dressed in PPE. Delivering care while dressed in PPE proved difficult for health care workers and the process of donning PPE made care delivery slower and physical examinations less accurate [31]. On the other hand, Kamabu *et al.* [32] revealed that during the first wave in Africa, the majority of frontline health workers had a positive attitude (89%) and practice (90.3%) toward the use of PPE, with participants from Algeria, Ghana, and Congo scoring the highest. This positive attitude may be attributable to the countries' previous experience with deadly infectious diseases such as Ebola which exposed their frontline health workers to working with PPE. Zambia was experiencing such a deadly infectious disease for the first time. In the aforementioned study, correlations between attitude and practice of COVID-19 infection measures revealed that good knowledge of COVID-19 infection and prevention measures influenced frontline health workers attitude and practice of COVID-19 preventative measures. This highlights the importance of properly training all frontline health workers managing COVID-19 patients about the disease for better patient health care outcomes, as well as providing all necessary personal protective equipment to ensure that health workers do not become infected with the virus when handling patients.

As the pandemic progressed, front line health workers admitted to gaining new knowledge and skills due to their exposure to the disease. For some front line health workers, working in the COVID-19 facilities exposed gaps that exist in the health system. Previous research also found that health workers who had worked on the front lines of disaster relief had dramatically enhanced their professional identity and performance when compared to those who had no experience [33] [34]. Staff who obtain new information and abilities will be better prepared for future work, especially if they work in a pandemic situation again [30]. However, Goddard *et al.* [35] described that an emergency incident or unusual workplace surroundings may have an impact on nurses' professional identities. Galvin [36] revealed that many front liner health care workers had left the industry due to the harsh working conditions during the pandemic which added to the already rising staff shortage highlighted by Ghawandra [37].

The aforementioned studies were conducted in the early phases of the pandemic and thus frontline health workers did not notice any professional advancement while working during the pandemic. Therefore, long-term investigations are needed to determine the long-term impact of the COVID-19 pandemic

on frontline health workers personal and professional lives. Additionally, working circumstances must be examined early during any pandemic to ensure the provision of an environment that fosters the development of both knowledge and skills among frontline health professionals.

### 4.3. Challenges of Working during the COVID-19 Pandemic

The main problem that front line health workers encountered during the pandemic was inadequate resources such as man power, equipment, hospital capacity, and drugs, coupled with limited literature about the disease and social limitations. These are the struggles that they encountered that contributed to the large negative experience of working during the pandemic as it was something that had never been encountered in the past and thus limited their provision of care to patients as well as their self protection from the disease. The relative scarcity of hospital resources is a global issue that might influence health practitioners' activities and represent a significant barrier to the subsequent treatment provided to their patients [38]. Winkelmann *et al.* [39] found that all European countries designated COVID-19 units, increased hospital and intensive care unit capacity, mobilized additional and existing health workforce in order to meet the increased demand for care and better the experiences of frontline health workers. It is probable that differences in sample size and geography all played a part in causing these disparities. However, based on the findings discussed above, it is difficult to make an absolute comparison. In terms of research location, some geographical areas are economically stable, allowing them to meet the needs and challenges of frontline health professionals. This necessitates that Zambian policymakers and researchers focus on the development and implementation of a well coordinated COVID19 response and management plan which will better the experiences of those working at the frontline.

## 5. Conclusion

This study has shown that the lived experiences of the frontline health workers were mainly negative with a few positive experiences. The emotional and psychological experiences such as fear, anger, frustration, depression, worry, and thoughts of survival became the order of the day among frontline health workers and were exacerbated by challenges that they faced such as inadequate resources, social limitations, and limited literature on the disease. The study has also shown that working at the frontline during a pandemic can also be beneficial in that it can bring about some positive personal and professional growth. This calls for various stakeholders to come on board and offer the adequate support that is required by the frontline health workers in response to the challenges and their needs so as to better their experiences of working in a traumatizing situation. The current study findings can be utilized by health profession educators, hospital administration at Levy Mwanawasa Hospital and policy makers to devise plans that can better the lived experiences of the frontline workers working in any pandemic.

## 6. Study Limitations

The sensitive nature of the topic made it difficult to find participants easily because most frontline health workers did not want to revisit their experiences as it triggered them and brought back all the unpleasant memories. Nevertheless, a conducive environment was created by creating good rapport and assuring them of confidentiality thereafter informed consent was obtained from the participants. A counsellor was also present during the interview so as to offer support due to the potential psychological and emotional impact of the study on participants.

Resources could not allow the study to be conducted on a large scale and therefore, the site was conveniently selected. Furthermore, a sample size of 14 participants may not be sufficient to generalize findings to the wider population. This means that the results may not be representative of the larger population of Zambia. Future research should include multiple COVID centers from both the private and public sectors, rural and urban areas of Zambia in-order to compare the lived experiences experienced by the frontline health workers. Future studies should also consider employing a larger sample size in order to ensure generalization to a wider population.

This study was limited to nurses and doctors, but to fully understand the lived experiences of the frontline health workers it would be interesting for future research to include other professionals in the health sector.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- [1] Zhou, Y., Zhou, Y., Song, Y., Ren, L., Ng, C.H., Xiang, Y.T. and Tang, Y. (2021) Tackling the Mental Health Burden of Frontline Healthcare Staff in the COVID-19 Pandemic: China's Experiences. *Psychological Medicine*, **51**, 1955-1956. <https://doi.org/10.1017/S0033291720001622>
- [2] Simulundu, E., Mupeta, F., Chanda-Kapata, P., *et al.* (2021) First COVID-19 Case in Zambia—Comparative Phylogenomic Analyses of SARS-CoV-2 Detected in African Countries. *International Journal of Infectious Diseases*, **102**, 455-459.

- <https://doi.org/10.1016/j.jiid.2020.09.1480>
- [3] World Health Organization (2020) WHO Timeline—COVID-19. <https://www.who.int/news/item/27-04-2020-who-timeline---covid-19>
- [4] World Health Organization (2020) WHO Donates COVID-19 Supplies to Strengthen the Health System's Response to the Pandemic. <https://reliefweb.int/report/zambia/who-donates-covid-19-supplies-strengthen-health-system-s-response-pandemic>
- [5] Sims, H., Alvarez, C., Grant, K., *et al.* (2022) Frontline Healthcare Workers Experiences and Challenges with In-Person and Remote Work during the COVID-19 Pandemic: A Qualitative Study. *Frontiers in Public Health*, **10**, Article ID: 983414. <https://www.frontiersin.org/articles/10.3389/fpubh.2022.983414/full>
- [6] Williamson, V., Murphy, D. and Greenberg, N. (2020) COVID-19 and Experiences of Moral Injury in Front-Line Key Workers. *Occupational Medicine*, **70**, 317-319. <https://doi.org/10.1093/occmed/kqaa052>
- [7] Lai, J., Ma, S., Wang, Y., *et al.* (2020) Factors Associated with Mental Health Outcomes among Health Care Workers Exposed to Coronavirus Disease 2019. *JAMA Network Open*, **3**, e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>
- [8] Carrieri, D., Briscoe, S., Jackson, M., *et al.* (2018) 'Care under Pressure': A Realist Review of Interventions to Tackle Doctors' Mental Ill-Health and Its Impacts on the Clinical Workforce and Patient Care. *BMJ Open*, **8**, e021273. <https://doi.org/10.1136/bmjopen-2017-021273>
- [9] Magil, E., Seagel, Z. and Pike, K.M. (2020) The Mental Health of Frontline Health Care Providers during Pandemics: A Rapid Review of the Literature. <https://ps.psychiatryonline.org/doi/full/10.1176/appi.ps.202000274>
- [10] Schwartz, J. and Yen, C.C. (2021) Protecting Health Care Workers during the COVID-19 Coronavirus Outbreak—Lessons from Taiwan's SARS Response. *Clinical Infectious Diseases*, **71**, 858-860.
- [11] Yau, B., Vijh, R., Prairie, J., *et al.* (2021) Lived Experiences of Frontline Workers and Leaders during COVID-19 Outbreaks in Long-Term Care: A Qualitative Study. *American Journal of Infection Control*, **49**, 978-984. <https://www.sciencedirect.com/science/article/pii/S0196655321001383> <https://doi.org/10.1016/j.ajic.2021.03.006>
- [12] Liu, Y.E., Zhai, Z.C., Han, Y.H., *et al.* (2020) Experiences of Front-Line Nurses Combating Coronavirus Disease-2019 in China: A Qualitative Analysis. *Public Health Nursing*, **37**, 757-763. <https://doi.org/10.1111/phn.12768>
- [13] Kang, L., Ma, S., Chen, M., *et al.* (2020) Impact on Mental Health and Perceptions of Psychological Care among Medical and Nursing Staff in Wuhan during the 2019 Novel Coronavirus Disease Outbreak: A Cross-Sectional Study. *Brain, Behavior, and Immunity*, **87**, 11-17. <https://doi.org/10.1016/j.bbi.2020.03.028>
- [14] Xiang, Y., Yang, Y., Li, W., *et al.* (2020) Timely Mental Health Care for the 2019 Novel Coronavirus Outbreak Is Urgently Needed. *The Lancet Psychiatry*, **7**, 228-229. [https://doi.org/10.1016/S2215-0366\(20\)30046-8](https://doi.org/10.1016/S2215-0366(20)30046-8) [https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366\(20\)30046-8/fulltext](https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(20)30046-8/fulltext)
- [15] Labrague, L.J. and De los Santos, J.A.A. (2020) COVID-19 Anxiety among Front-Line Nurses: Predictive Role of Organisational Support, Personal Resilience and Social Support. *Journal of Nursing Management*, **28**, 1653-1661. <https://doi.org/10.1111/jonm.13121>
- [16] Shaukat, N., Ali, D.M. and Razzak, J. (2020) Physical and Mental Health Impacts of

- COVID-19 on Healthcare Workers: A Scoping Review. *International Journal of Emergency Medicine*, **13**, Article No. 40.  
<https://doi.org/10.1186/s12245-020-00299-5>
- [17] Xiao, H., Zhang, Y., Kong, D., Li, S.Y. and Yang, N.X. (2020), The Effects of Social Support on Sleep Quality of Medical Staff Treating Patients with Coronavirus Disease 2019 (COVID-19) in January and February 2020 in China. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research*, **26**, e923549-e923541. <https://doi.org/10.12659/MSM.923549>
- [18] Newman, K.L., Jeve, Y. and Majumder, P. (2022) Experiences and Emotional Strain of NHS Frontline Workers during the Peak of the COVID-19 Pandemic. *International Journal of Social Psychiatry*, **68**, 783-790.  
<https://doi.org/10.1177/00207640211006153>
- [19] Zhang, X., Sheng, Q., Wang, X. and Cai, C. (2021) The Experience of Frontline Nurses four Months after COVID-19 Rescue Task in China: A Qualitative Study. *Archives of Psychiatric Nursing*, **35**, 358-363.  
<https://doi.org/10.1016/j.apnu.2021.05.007>
- [20] Ha, B.T.T., Ngoc Quang, L., Mirzoev, T., Tai, N.T., Thai, P.Q. and Dinh, P.C. (2020) Combating the COVID-19 Epidemic: Experiences from Vietnam. *International Journal of Environmental Research and Public Health*, **17**, Article 3125.  
<https://doi.org/10.3390/ijerph17093125>
- [21] Li, Z., Ge, J., Yang, M., Feng, J., et al. (2020) Vicarious Traumatization in the General Public, Members, and Non-Members of Medical Teams Aiding in COVID-19 Control. *Brain, Behavior, and Immunity*, **88**, 916-919.  
<https://doi.org/10.1016/j.bbi.2020.03.007>
- [22] Yu, X., Zhao, Y., Li, Y., Hu, C., Xu, H., Zhao, X. and Huang, J. (2020) Factors Associated with Job Satisfaction of Frontline Medical Staff Fighting against COVID-19: A Cross-Sectional Study in China. *Frontiers in Public Health*, **8**, Article 558872.  
<https://doi.org/10.3389/fpubh.2020.00426>
- [23] Okediran, J.O., Ilesanmi, O.S., Fetuga, A.A., et al. (2020) The Experiences of Healthcare Workers during the COVID-19 Crisis in Lagos, Nigeria: A Qualitative Study. *Germes*, **10**, 356-366. <https://doi.org/10.18683/germes.2020.1228>
- [24] Mohindra, R., Ravaki, R., Suri, V., Bhalla, A. and Singh, S.M. (2020) Issues Relevant to Mental Health Promotion in Frontline Health Care Providers Managing Quarantined/Isolated COVID19 Patients. *Asian Journal of Psychiatry*, **51**, Article ID: 102084.  
<https://doi.org/10.1016/j.ajp.2020.102084>
- [25] Rey R., Garrido-Hernansaiz, H. and Bueno-Guerra, N. (2020) Working in the Times of COVID-19. Psychological Impact of the Pandemic in Frontline Workers in Spain. *International Journal of Environmental Research and Public Health*, **17**, Article 8149. <https://doi.org/10.3390/ijerph17218149>
- [26] Smallwood, N., Karimi, L., Bismark, M., et al. (2021) High Levels of Psychosocial Distress among Australian Frontline Healthcare Workers during the COVID-19 Pandemic: A Cross-Sectional Survey. *General Psychiatry*, **34**, e100577.  
<https://doi.org/10.1136/gpsych-2021-100577>
- [27] Atay, S. and Cura, Ş.Ü. (2020) Problems Encountered by Nurses Due to the Use of Personal Protective Equipment during the Coronavirus Pandemic: Results of a Survey. *Wound Management & Prevention*, **66**, 12-16.  
<https://doi.org/10.25270/wmp.2020.10.1216>
- [28] Bruyneel, A., Gallani, M.C., Tack, J., d'Hondt, A., Canipel, S., Franck, S., Reper, P. and Pirson, M. (2020) Impact of COVID-19 on Nursing Time in Intensive Care

- Units in Belgium. *Intensive and Critical Care Nursing*, **62**, Article ID: 102967. <https://doi.org/10.1016/j.iccn.2020.102967>
- [29] Ong, J.J.Y., Bharatendu, C., Goh, Y., Tang, J.Z.Y., Sooi, K.W.X., Tan, Y.L., Tan, B.Y.Q., Teoh, H.L., Ong, S.T., Allen, D.M. and Sharma, V.K. (2020) Headaches Associated with Personal Protective Equipment—A Cross-Sectional Study among Frontline Healthcare Workers during COVID-19. *Headache: The Journal of Head and Face Pain*, **60**, 864-877. <https://doi.org/10.1111/head.13811>
- [30] Billings, J., Ching, B.C.F., Gkofa, V., Greene, T. and Bloomfield, M. (2021) Experiences of Frontline Healthcare Workers and Their Views about Support during COVID-19 and Previous Pandemics: A Systematic Review and Qualitative Meta-Synthesis. *BMC Health Services Research*, **21**, Article No. 923. <https://doi.org/10.1186/s12913-021-06917-z>
- [31] Hoernke, K., Djellouli, N., Andrews, L., *et al.* (2021) Frontline Healthcare Workers' Experiences with Personal Protective Equipment during the COVID-19 Pandemic in the UK: A Rapid Qualitative Appraisal. *BMJ Open*, **11**, e046199. <https://doi.org/10.1136/bmjopen-2020-046199>
- [32] Kamabu, L.K., Lekuya, H.M., Iranya, R.N., *et al.* (2022) Determinants of Knowledge, Attitudes, and Practices of Frontline Health Workers during the First Wave of COVID-19 in Africa: A Multicenter Online Cross-Sectional Study. *Infection and Drug Resistance*, **15**, 4595-4610. <https://doi.org/10.2147/IDR.S372952>
- [33] Sun, N., Wei, L., Shi, S., Jiao, D., Song, R., Ma, L., Wang, H., Wang, C., Wang, Z., You, Y. and Liu, S. (2020) A Qualitative Study on the Psychological Experience of Caregivers of COVID-19 Patients. *American Journal of Infection Control*, **48**, 592-598. <https://doi.org/10.1016/j.ajic.2020.03.018>
- [34] Sheng, Q., Zhang, X., Wang, X. and Cai, C. (2020) The Influence of Experiences of Involvement in the COVID-19 Rescue Task on the Professional Identity among Chinese Nurses: A Qualitative Study. *Journal of Nursing Management*, **28**, 1662-1669. <https://doi.org/10.1111/jonm.13122>
- [35] Goddard, D., De Vries, K., McIntosh, T. and Theodosius, C. (2019) Prison Nurses' Professional Identity. *Journal of Forensic Nursing*, **15**, 163-171. <https://doi.org/10.1097/JFN.0000000000000239>
- [36] Galvin, G. (2021) Nearly 1 in 5 Health Care Workers Have Quit Their Jobs during the Pandemic. <https://pro.morningconsult.com/articles/health-care-workers-series-part-2-workforce>
- [37] Ghawadra, S.F., Abdullah, K.L., Choo, W.Y., *et al.* (2019) Mindfulness-Based Stress Reduction for Psychological Distress among Nurses: A Systematic Review. *Journal of Clinical Nursing*, **28**, 3747-3758. <https://doi.org/10.1111/jocn.14987>
- [38] Sen, C.K. (2021) Human Wound and Its Burden: Updated 2020 Compendium of Estimates. *Advances in Wound Care*, **10**, 281-292. <https://doi.org/10.1089/wound.2021.0026>
- [39] Winkelmann, J., Webb, E., Williams, G.A., *et al.* (2022) European Countries' Responses in Ensuring Sufficient Physical Infrastructure and Workforce Capacity during the First COVID-19 Wave. *Health Policy*, **126**, 362-372. <https://doi.org/10.1016/j.healthpol.2021.06.015>