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Covid-19 Healthcare Providers Experiences in Kumakwane

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

The covid-19 risk was more amongst healthcare providers because of the risk factors they face daily at work. The risk was complicated by the shortage of personal protective equipment, lack of access to information, and exposure daily to Covid-19 patients / suspected cases. The experiences of the Covid-19 crisis and associated risks by healthcare providers at the A.S. Dada Kumakwane clinic are crucial to describe the roles of stakeholders and identify interventions necessary to support healthcare providers in their line of duty. This study adopted qualitative descriptive and exploratory designs to analyze factors that contributed to the experiences of Covid-19 crisis healthcare providers. It used a judgmental (purposive) sampling technique to identify, select, and collect data from thirteen (13) participants. Furthermore, the study was grounded on stress theory [1]. It was found that during Covid-19, healthcare providers experienced severe stress, increased workload, shortage of personal protective gears, and stigmatization. The concern was the fear of contracting the disease and inadequate safety measures and treatment. The following strategies: counseling, provision of risk allowance, availability of personal protective equipment, and increased workforce are necessary to reduce the stress experienced by healthcare providers.

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1. INTRODUCTION

There have been rumors across the world about the mental health burden borne by frontline healthcare workers who treated patients affected by Covid-19. Media have described frontline healthcare workers to be “on their knees” in response to the crisis, leading to forewarning of an ensuing mental health breakdown amongst the healthcare workforce [2,3]. Admittedly, Covid-19 placed extreme emotional demands on healthcare workers globally, regionally, and locally. Naturally, when there are pandemic outbreaks, the fate of healthcare providers becomes a concern. In response to Covid-19, healthcare workers are “waging war on the front line” against Covid-19 and it is not an easy task.

Studies on this topic were in developed countries, for example, in Asia, North America, Australia, and Europe where more established healthcare systems, psychologically resilient professionals [4]; trained and experienced in dealing with illness and death were working. However, the mental health and psychological wellbeing of health workers prior to the current Covid-19 pandemic was already a major healthcare issue. It showed the increasing incidence of stress, burnout, and depression by all groups of health professionals, in other countries [5].

High stress, combined with the emotional demands of the current Covid-19 crisis, have increased the risk of mental health problems among frontline healthcare workers, with early reports from other parts of the world indicating an increased rates of depression, anxiety, and post-traumatic stress disorder. [6]. In Germany, a study which examined the challenges of Covid-19 on health providers indicated an increased workload, physical exhaustion, inadequate personal equipment, inadequate information on Covid-19, fear and exposure to infected patients may have dramatic effects on their physical and mental well-being [7]. Study by [8] on Covid-19 in Africa explained that health care providers face mental stress, fear, separation from families, and stigma. Social workers must provide support services, especially where services could be by unavailability, disruptions in electronic communication, relocation, illness, mental or physical ability, or death. For instance, a social worker plays a vital role during disaster emergencies, by offering counseling and therapies to healthcare providers who might suffer mentally and emotionally. Healthcare providers in Botswana suffered from the Covid-19 storms, hence need to identify their fears and/ or risks. As such, the study explored the experiences at the A.S. Dada Kumakwane clinic of healthcare providers during the Covid-19 crisis, in Botswana.

2. STATEMENT OF THE PROBLEM

In December 2019, a highly infectious acute respiratory syndrome caused by coronavirus reported in Wuhan, China, which late March 11th, 2020, declared by the World Health Organization as a pandemic [9] due to the rapid transmission and increase in the number of cases outside China within the shortest period. The rapid increase was in Asian and European countries, including Italy, Iran, South Korea, and Japan, later in Africa [10]. Therefore, this study on the experiences of healthcare providers at the A.S Dada Kumakwane clinic during Covid-19 pandemic in Botswana, by researchers was based on the concern with the limited research in Africa at continental, regional, and local level. The research in Africa did not include information on Botswana and did not address the risk associated with healthcare provision during the Covid-19 crisis. Furthermore, these studies did not refer to a theoretical framework upon which social research should be based. Therefore, this study explored the experiences of the frontline healthcare providers combating Covid-19 and documented their coping abilities.

2.1 Literature Review

The literature review concerning the experiences of healthcare providers during the Covid-19 crisis in general and Botswana drew from global, continental, regional, and local information. Due to the Covid-19 pandemic, the health care providers are under extreme stress, increased workload, fear, stigma, and shortage of personal protective equipment.

2.2 Extreme Stress

The study in China by Liu, et al. [11] showed that healthcare providers experienced physical and emotional stress which was due to witnessing patients’ deaths from Covid-19. Furthermore, the emotional stress was due to their professional obligation to serve the patients suffering from the

Covid-19 virus. In the same study, they argue that health-care providers were nervous and lacked confidence in the provision of care to patients with Covid-19 because of fear of the risk of high transmissibility and lack of treatment. In a similar study, Bohlken et al. [12] noted that German doctors reported elevated levels of anxiety and depressive symptoms. Similarly, Xu et al. [13] attested that the psychological impact of the crisis was more on surgeons and anesthesiologists.

A study in Germany by Meier et al. [14,15] showed that healthcare providers face the challenge of adopting coping strategies to manage stress and anxieties. The reports showed that China and Italy, they faced a drop in healthcare personnel, not only due to Covid-19, but also due to the consequences of chronic stress, frustration, and isolation [16]. Khalid, et al. [17,18] cited in [19] elaborated that the level of stress among health workers is accentuated by the lack of personal protection equipment. They also attested that the psychological stress experienced by medical teams who cared for infected patients was like that of nurses who cared for MERS-CoV patients in Saudi Arabia. In Africa, a study by Huang, et al. [9] found that caring for patients with Covid-19 caused considerable mental stress, resulting in elevated levels of anxiety and post-traumatic stress disorders, especially among nurses.

2.3 Workload

Besides stress, health workers have reported increased workload, for example, in a study of experiences and psychosocial problems of nurses caring for patients diagnosed with Covid-19 in Turkey. Sun et al. [20] confirmed that Covid-19 outbreak increased the workload to a point where nurses could not even have toilet breaks. A study in Toronto, by Moore, et al. [21] attested that the nurses worked under increased hours and shifts. They needed more time to do their paperwork and to put on their personal protective equipment as required by the safety protocol. In the English Midlands region, UK (United Kingdom), Nyashanu & Ekpenyong [22] exploring the challenges faced by frontline workers in health and social care amid the Covid-19 pandemic revealed that the workload increased due to shortage of staff because of self-isolation. Torda [23] cited in Kim [19] in corroboration, stated that personnel who remained to hold the fort while others were in isolation, experienced an ethical dilemma of providing care against the threat to their health and safety.

2.4 Fear

Healthcare providers' fear resulted from the environment within which they were operating within, particularly those working in ICU with patients confirmed to be Covid-19 positive [24, 25]. Saleem, et al. [26] on Covid-19 in Pakistan established that the healthcare providers lived in fear of contracting and infecting their loved ones leading to committing suicide because they assumed that they were Covid-19 positive. In another study, [27] and [28] argued that in Germany and Hong Kong, there have been reports of suicides, of healthcare professionals who experienced psychological pressure [19]. In addition, [29] and [30] based on the results of their studies asserts that some healthcare providers did not hesitate to face the risks and danger posed by Covid-19 because they felt it is their responsibility to care for their patients.

In Turkey, a qualitative study on the experiences and psychosocial problems of nurses caring for patients diagnosed with Covid-19 by [31] found that healthcare providers viewed life as meaningless, especially when they suspected to have contracted Covid-19. Furthermore, in Thailand, fear among healthcare providers evoked by seeing the health professionals who were assisting a patient admitted with SARS-CoV-2 getting infected [32].

Amongst SADC (Southern African Development Community) countries, South African healthcare providers lived in fear of contracting Covid-19 and spreading it to their family members since they lacked sufficient training regarding the virus [33]. Furthermore, the fear was worsened by published reports indicating that a whopping 790 000 healthcare workers were infected with Covid-19, 600 of those infected lost their lives. Gabathuse [34] argues that in Botswana healthcare providers in Francistown were in a chronic fear of the contagious Coronavirus.

2.5 Stigma

World Health Organization [10] avers that healthcare workers risked being ostracized by their family and/or community due to stigma or fear. Whereas [31] noted that nurses avoided social environments because of the fear of stigmatization by society for transmitting the disease, hence they felt isolated and lonely.

Other studies by, [35] and [36] reported that in Taiwan and Hong Kong the outbreak of Covid-19, generated fear, avoidance of healthcare providers, and shunned by the public. Moreover, in the Democratic Republic of Congo, the healthcare providers were lonely and lost trust because they were ill-treatment by the community [37,38].

2.6 Shortage of Personal Protective Equipment (PPE)

In Zimbabwe (SADC region), the doctors sued the government after failing to provide them with protective equipment despite working as front-liners during the Covid-19 pandemic [39]. In a similar study, [40] reveals that the nurses' union in Eswatini, (Swaziland) Democratic Nurses Union (SWADNU) petitioned the Ministry of Health and the Prime minister's office respectively, demanding for personal protective equipment.

Chersich, et al. [8], study on Covid-19 in Africa, found that shortages of personal protective equipment (PPE) in high-income countries affected low-income countries as well. Occupational Medicine [41] indicated that the countries showed signs that they were inadequately prepared to protect healthcare workers from contracting the disease. For instance, hospitals reported shortages of personal protection equipment, such as masks, gloves, gowns, and hand sanitizers which were necessary for use by healthcare providers during the pandemic.

According to Botswana Covid-19 Guideline 4 [42], personal protective equipment (PPE) stocks were in short supply which; therefore, required the healthcare providers to use them rationally. It stated that if there were no surgical masks, healthcare workers were to substitute with the respiratory masks. Pappaa, et al. [7] explained that health professionals had difficulties accessing personal protective equipment (PPE).

2.7 Risk Factors Associated with Healthcare during the Covid-19 Crisis

The Covid-19 pandemic brought about awareness of the occupational health hazards associated with work at large. Other risk factors include the following: lack of personal protective equipment, exposure to infected patients, and lack of access to information. There is limited data on the risks of Covid-19 associated with crisis healthcare workers [43].

2.8 Shortage of Personal Protective Equipment

Despite shortages, this did not stop healthcare officials / nurses from providing services to Covid-19 patients and/ Covid-19 suspects. In addition, European Centre for Disease Control and Prevention [44] and [45] pointed out that there was a global shortage of masks, respirators, face shields, and gowns caused by surging demand and supply chain disruption which made the health workers vulnerable to contracting the Coronavirus. This concern was captured in the UK and USA. Fischer, [46-48] in their study in UK and USA concluded that the shortage of personal protective equipment led to healthcare providers conserving the protective gear to re-use and extending the use time. Hence, contracting infections because of compromised best hygiene practice with the use of personal protective equipment.

2.9 Lack of Access to Information

In a study in China, Xiang, et al. [49] avers that insufficient accurate scientific data on Covid-19 therefore, posed risks to healthcare providers because the transmission and treatment of the disease was not available. In addition, a review conducted by Yu, et al. [50] in China showed that limited or absence of information on infection control was a risk factor. Furthermore, contended that the absence of information on the appropriate use, correct application, and removal of personal protective equipment might put the health care providers at a high-risk of contracting the virus [50]. Furthermore, studies in Pakistan showed that inadequate knowledge on Covid-19 posed serious risk for the healthcare providers [26]. According to the United Nations Botswana [51], there is limited information on stock levels of critical health equipment and supplies including personal protective equipment, testing kits, and essential medicine.

2.10 Exposure to Infected Patients

Nguyen et al. [43] argued that health workers serving in high-risk departments, Sometimes with Covid-19 sample fluids were reported to be at the height of contracting the virus. More specially, the health workers worked in the isolation rooms

to assist the infected patients who were at an extensive risk of exposure to the virus.

3. THEORETICAL FRAMEWORK

The theoretical framework provides the background of the theorist and the major tenets of the theory. This study adopted the stress theory by Hans Selye in 1936, who is known as the father of stress theory and the stress research [52], was born in Vienna on 26 January 1907 and died in 1982. He studied at Benedictine monastery and private tutorial [53] a course in research and afterwards joined medical school of Charles University in Prague where he received his Doctor of Medicine degree. He then pursued Doctor of Philosophy in organic chemistry [54]. Within the same University of Prague, he learnt about biological stress which he named “syndrome of just being sick” During his time in medical school, he suspected that a common component causes weight loss, discomfort, fever, fatigue, edema, and inflammation in differing diseases [55]. He trained hundreds of analysts and drove worldwide research for the stress component that kept going for 30 years [56,57] was an endocrinologist who spent much of his life examining the stress reaction and found that good and sad news stimulated the general response calling negative stress distress and positive stress eustress. Selye saw stress as a genetic reaction which happened in response to any stressor [52]. This theory was chosen based on its relevance to explaining and understanding the psychological state that healthcare providers underwent due to Covid-19 pandemic.

4. TENETS OF THE THEORY

4.1 Stress as a Stimuli

According to Levine and Ursin [1] stress is a response to something which happens within the environment and makes an excessive demand upon the individual, for example, heavy workloads. In this model, stress is a stimulus, a life occasion or a bunch of circumstances which may promote normal or mental responses, which may raise the vulnerability of the person to infection (57). Furthermore, it contends that stress arises out of troubling events within the environment. Selye (58) argues that severe serious might result in death.

4.2 Stress as a Response

Stress as a response model, initially invented by Selye [58], describes stress as a physiological reaction pattern. It is a response, and he defines stress as a non-specific reaction of the body to any kind of demand connected to it. Whereas Moruzzi and Magoun [59-61] contended that the common reaction to stress stimuli is a non-specific alert reaction, eliciting a common increment in alertness and brain arousal, and particular reactions to deal with the reasons for the alert. According to [62] stressor may be anything that places a demand on the person for change or adaptation.

4.3 Stress as Transaction

Stress as a product of a transaction between a person (including multiple systems: cognitive, physiological, affective, psychological, neurological) and his or her complex environment [63]. Stress theory’s central concept is that a specific relationship between the individual and the environment is surpassing his or her assets and putting his or her wellbeing [64].

5. APPLICATION OF THE THEORY

5.1 Stress as a Stimuli

In this model stress is a stimulus, a life occasion, or a bunch of circumstances which may promote ordinary or mental responses, which may raise the vulnerability of the person to infection [57]. The findings showed that life-threatening situations, such as the Covid-19 pandemic, stir the mental response of healthcare providers to a point where they develop stress and anxiety towards the workplace [13].

According to Levine and Ursin [1] stress happens within the environment and makes demands upon the individual (for example, workload). The findings showed that Covid-19 outbreak increased the workload of nurses [20]. It increased demand and expectations for the healthcare professionals complicated by an increased workload and shortage of staff [22]. Holmes and Rahe [57] contend that stress is due to troubling events within the environment. Research has shown that the healthcare providers lived in fear of contracting and infecting their loved ones with the coronavirus [26].

5.2 Stress as a Response

Selye [58] states that stress is a response and a non-specific reaction of the body to any kind of demand connected to it. The studies have shown that healthcare providers experienced fatigue because of attending an increasing number of Covid-19 patients with an insufficient number of healthcare providers [20]. Moruzzi and Magoun, [59-61], contend that the common reaction to stress stimuli is a non-specific alert reaction, eliciting a common increment in alertness and brain arousal, and particular reactions to deal with the reasons for the alert. The healthcare providers experienced physical and emotional stress due to working as front liners to assist Covid-19 patients even though the virus is known to be contagious in nature. The physical and emotional stress of the healthcare workers increased in the brain arousal to deal with the reason for the alarm or alert.

According to [62] stressor may be anything that places a demand on the person for change or adaptation. The healthcare providers had to change the way they relate with their family members. Others had to minimize going to their home village because of fear of stigmatization by society for transmitting the disease, hence feeling isolated and lonely [31].

5.3 Stress as Transaction

Stress theory's center concept is that a specific relationship between the individual and the environment is surpassing his or her assets and putting in danger his or her wellbeing [64]. The shortage of protective gear while required to provide services to the Covid-19 patients and suspects is risky. The equipment does not meet the safety requirement needs of the health care providers and it does not ensure protection from contracting the virus Covid-19 patients [16]. The theory helped the researcher to know that people and their environment are in constant interaction, and this interaction may result in a response typically referred to as stress. The researchers also learnt that stress results from an individual's inability to cope with situations. Stress theory enabled the researcher to know that the more stressful the environment, the more an individual's quality of life deteriorates.

6. LIMITATION OF THE THEORY

The theory overlooks other bodily systems; its focus is on the endocrine system and over physiological reactions. According to [65], stress theory is too imprecise and emphasizes too much on inaccuracies of cognitions. The theory fails to show the prevalence of healthcare providers affected by the Covid-19 pandemic. Besides these limitations, the theory has provided useful, hence adopted study opted to use this theory.

7. RESEARCH METHODOLOGY

Babbie [66] defines research methodology as a science of conducting research. It addressed two main principal questions on information gathering or created and analyzed [67]. This study was exploratory and descriptive by nature. There are three research designs namely, exploratory, descriptive, and explanatory. According to [68] research design involves when and how often to collect the data as well as how much control the researcher will have over the research factors, while to Babbie [69] is a plan that involves a set of decisions regarding what topic is to be studied among which population with which research methods for what purpose; and [70] points out that research design is a plan to conduct research.

8. METHODOLOGY

This study adopted a qualitative research method to understand the experiences of Covid-19 crisis healthcare providers at A.S Dada Kumakwane clinic which involved their feelings and thoughts regarding the research topic. According to [71] a qualitative method helped researchers to collect samples, data and find solutions to the problem since the explanations were based on collected facts, measurement, and observation. The qualitative method helped the researcher to collect data and provide solutions on the challenges faced by Covid-19 crisis healthcare providers.

9. DATA COLLECTION PROCEDURES

The data-gathering technique for this study included face-to-face interviews. Therefore, is the process of gathering information to enable the researcher to evaluate hypotheses, get answers for his\her research questions, and evaluate outcomes to reduce the likelihood of errors consistent with the results [72].

9.1 Observation

This is a method whereby the researcher attempts to understand participants by studying

their account and actions in their natural setting and it is known as a participatory method as the researcher is part and puzzle of the study [73]. Marshall and Rossman [74] define observation as description of activities or events and behaviors in a social setting selected for the study. As such, observational coding sheets recorded the behavior of the healthcare providers and the differences from each healthcare provider [75]. The researcher observed the verbal and non-verbal expression of each health care provider [76].

9.2 Face to Face Interview

Face to face interviews were in the natural setting of healthcare providers, which was A.S Dada Kumakwane clinic. The researchers used an interview guide to obtain information from participants which comprised all the healthcare providers of A.S Dada Kumakwane clinic. The interview explored the risk factors associated with healthcare provision during the Covid-19 crisis and described the roles of different stakeholders assisting the healthcare providers during the Covid-19 pandemic.

Face-to-face interviews minimized non-response and maximized the quality of the data collection [77]. The researcher began by explaining the study to the participants so that they participants are familiar with the subject from the onset. Face-to-face interviews made it easier to clarify regarding certain questions that could confuse the participants and motivate them to take the research seriously [78].

9.3 Data Collection Period

This study was cross- sectional, and according to Cherry [79] it is the studying of participants at one specific point in time and gives information about what is happening in the current population and in the past population.

9.4 Sampling

Sampling refers to selection of participants in the target group as close as possible to the characteristics of the entire population so that they represent individuals in the sample [80]. Sampling helped the researchers to draw conclusions based on the sample. The study was qualitative, and a non-probability sampling method was relevant. According to [81], non-probability sampling is applicable when the elements in the population are unknown.

9.4.1 Study site

The research was at the A.S Dada Kumakwane clinic situated at Kumakwane Village in Kweneng District in Botswana. This was a new clinic officially opened in June 2019. The location was perfect for the study as it had a population with diverse demographic features that the researchers needed to explore. It was easy for the researcher to access the participants.

9.4.2 Units of analysis

Unit of analysis refers to the entity analyzed under a study [82]. It deals with what or whom the researcher aims to observe, describe, and explain [83,84]. For this study, the unit of analysis was all the healthcare providers at the A.S Dada Kumakwane clinic.

9.4.3 Study population

Study population refers to all the aggregates of elements that a sample comes from [85]. The study population was from the healthcare providers at the A.S Dada Kumakwane clinic.

9.4.3.1 Inclusion\ exclusion criteria

The study included the following:

- Healthcare providers who gave consent and were willing to participate in the study.
- Healthcare providers of A.S Dada Kumakwane clinic only.

The study excluded the following participants.

- Healthcare providers who are not working at A.S. Dada Kumakwane clinic.
- Health care providers who were not willing to participate in the study and those who did not give their consent.

9.4.4 Sampling techniques

This study used a non-probability sampling procedure to select the population of interest since the researcher did not have an actual list of unity of study. The selection was based on the researchers' judgment. Even though there are distinct types of non-probability sampling techniques, this study adopted the purposive sampling. According to [86] purposive or judgmental sampling is a non-probability sampling that depends on the judgment of the researcher. Furthermore, purposive sampling

requires the researchers to have knowledge about the purpose of their studies so that they can carefully choose and approach appropriate participants. The researchers were familiar with the clinic.

9.4.5 Sample size

Sample size is the number of the participants to be involved in a study [87]. The sample for this study was thirteen (13) healthcare providers at the clinic during the Covid-19 crisis.

9.5 Data Analysis Plan

Data analysis refers to applying statistical or logical techniques to describe, illustrate and evaluate the data collected and to make sense of that data [88]. Whereas [89] states that data analysis brings order, structure, and meaning to the collected raw data. Witham and Powers [90], contends that a data analysis plan is a road map to how one is going to organize and analyze the study data. The data is analyzed by qualitative data analysis techniques invented by Miles and Huberman in 1994. According to [91] qualitative data analysis has three phases namely, data reduction, data display and drawing conclusion/verification. These enabled data organization to explore and identify emerging themes using a code sheet divided into columns indicating the case number and the question asked. This phase led to an organized way of assembling information to reach conclusion and action. The last phase involved the presentation of results based on the research problems and theory. It involved noting regularities between explanations and patterns of the phenomenon.

9.6 Pilot Study

A pilot study to assess whether the instruments will answer the questions, collect appropriate, and generate accurate information for the study, was fundamental [92]. Only three (3) healthcare providers at the A.S. Dada Kumakwane clinic participated in the pilot study to pretest the protocols and to see if the questions were accurate. This enabled the researchers to revise the protocol before proceeding with the data collection. For this research, the pilot study was on 25 - 26 November 2020.

10. RESULTS

The study documented the experiences of healthcare providers during the Covid-19 crisis at the A.S Dada Kumakwane Clinic. The primary data presented as direct quotes are meant to emphasize the voice of participants to support the narratives.

10.1 Demographic Profile of Participants

There were 13 (thirteen) participants in this study on the Covid-19 healthcare providers serving at the A.S. Dada Kumakwane clinic. Tables summarize the demographic characteristics.

Table 1. Demographic characteristics of Covid-19 healthcare providers by gender

Working setting	Sex	
	Female	Male
Clinic	7	6
Subtotal	7	6
Total	13	

Table 1 shows that healthcare providers at the A.S Dada Kumakwane clinic were majority of women (n=7, 54% while 6 were men 46%).

Table 2 shows that there are thirteen healthcare providers in Kumakwane, of which the majority hold a diploma in health professions (n=6, 54%), 4 a certificate, 2 a bachelor and only 1, has a master's degree.

10.2 Challenges Experienced by the Covid-19 Healthcare Providers

The study explored the experiences of the Covid-19 healthcare providers in A.S Dada Kumakwane clinic, to ascertain how they played a vital role during the Covid-19 pandemic. Therefore, the findings arranged thematically derived from the research objectives which were to describe challenges experienced by healthcare providers during the Covid-19 crisis. The following sub themes emerged: extreme stress, workload, fear, and stigma and discussed in detail below:

10.2.1 Extreme stress

The participants identified severe stress as problematic. Covid-19 healthcare providers

Table 2. Demographic characteristics of Covid-19 healthcare providers by educational level

Working setting	Levels of education			
	Certificate	Diploma	Degree	Masters
Clinic	4	6	2	1
Sub total	4	6	2	1
Total	13			

(n=7, 54%) strongly expressed that the stress resulted from dealing with non-cooperative Covid-19 patients. They furthermore shared that the severe stress was also due to the uncertainty of the future as people are dying, especially health workers in other countries which put them at the peak of contracting the untreatable virus. There was consensus amongst participants that the situation increased mental pressure and stress, because of trauma and not coping. Moreover, one participant stated that having to work as a front-liner is like a death sentence since the virus is contagious by nature and the condition at work makes them more vulnerable.

Other participants (n=5, 38%) indicated that they have developed anxiety and trauma, mainly because they are unhappy with their job thus becoming reluctant when it comes to helping the community during this perilous time. Summing up these concerns, one participant made these remarks:

> *"I feel like sentenced to death because of the virus's contagious nature and as for us front liners we are much exposed. I have developed stress and anxiety towards the workplace, mainly because the condition is untreatable"*

10.2.2 Workload

Healthcare providers during this pandemic have experienced significantly more workload compared to any other time. Many of the participants (n=10, 77%) explained that they experienced heavy workload pressure.

The healthcare providers also mentioned that people nowadays live in constant fear of contracting the virus. Thus, they constantly worry that they must work long hours in a Covid-19 setting. The participants reported that the workload increased because of a shortage of staff. They work by force in shifts to avoid overcrowding in the work environment, which means the available staff members must work extra hours. For example, pick a person suspected of having Covid-19, at his or her home. Then transported to Thamaga for the test and it was time-consuming and extra work. Every person having flu-like symptoms must call the clinic and that means they must follow up with the customer.

They further expressed that this has caused them a problem of balancing their work life with their personal lives. The immense burden of Covid-19 disease and the increase in the flow of patients has caused healthcare providers to experience burn out. The burnout resulted from the fact that everyone seeks medical attention thus exposing the healthcare providers to high demand for long hours of service. One participant said:

> *"According to the A.S Dada Kumakwane clinic daily report we have seen, it shows that the number of patients has increased by almost half."*

10.2.3 Fear

Fear expressed by healthcare providers as anxiety during the emergency time. It was a significant challenge for Covid-19 healthcare providers. Few participants (n=4, 31%) indicated that they had chronic fear of infection by the contagious coronavirus. They further indicated that they meet with patients daily, others who are unaware of their Covid-19 statuses, and the agonizing part is that they do not conduct Covid-19 testing in the clinic. In reaction to the issue of fear, one participant said:

> *"We were scared to the extent that we even feared going to our home villages because we did not want to transmit the virus to our family members."*

Another participant expressed that:

> *"I started to show Covid-19 symptoms like, though I was not infected but only because fear got the better of me."*

The fear propelled by the reports that the healthcare providers were dying in large

numbers in other countries negatively affected health care providers. Another participant said:

> *"I developed fear as I already know that this virus has killed a lot of people especially in our neighboring country South Africa."*

10.2.4 Stigma

Stigma is a factor that contributes to challenges experienced by healthcare workers. Of the participants (n=7, 54%), were also aware that having to work as front liners contributed to their stigmatization which is something they never expected would apply against them. Another participant said:

> *"When they see us, they see Covid-19 especially when they know that you are a health worker. During family gatherings, churches, and people everywhere, they see us as Covid-19, and they will be saying `` le mmone Covid-19 ke eo (here comes Covid-19)".*

The above reaction indicates that the stigmatization of healthcare providers as Covid-19 by members of the community was a challenge. The participants felt that their battles have increased since they have Covid-19 to fight and the negative labeling from the community because the virus has turned the community against them. They stated that the community is impatient and expects them to perform miracles; community members cannot see that there has been a drastic change in A. S Dada Kumakwane clinic since the outbreak of Covid-19.

10.3 Risk Factors Associated with Healthcare Provision during the Covid-19 Crisis

The participants explained the perceived major risk factors associated with Covid-19 and they explicated the issues as, shortage of personal protective equipment, lack of access to Covid-19 information and exposure to infected patients.

10.3.1 Shortage of personal protective equipment

The Covid-19 pandemic has necessitated the use of enhanced personal protective equipment in healthcare workers to minimize their exposure to infections in clinical settings. A major concern was the shortage of personal protective equipment which contributed to the higher risk of contracting Covid-19. Many of the participants (n= 9, 69%) expressed concern about inadequate Covid-19 personal protective equipment. They all felt stuck with the normal PPE's used way back before Covid-19 outbreak. Few participants (n=2, 15%) said

> *"We are disappointed with the government whereby we are expected to put on the personal protective equipment only when assisting patients with Covid-19 or Covid-19 suspects, but we do not have Covid-19 testing equipment."*

Another participant said:

> "*We should be given protective clothing that we put on every day because we conduct Covid-19 tests, so we do not know who might be having the virus."*

Moreover, they indicated that they lacked training to conduct Covid-19 tests. However, other participants (n=2, 15%) noted that the quality of available health equipment was questionable and insufficient for every worker in the clinic.

10.3.2 Lack of access to Covid-19 information

In relation to the issue of Covid-19 information reaching Covid-19 health front-liners, participants (n=11, 85%) reported that there are posters and savingram distributed to the clinic with demonstrations on how they should take care of themselves. The participants explained that the Ministry of Health distributed information through social media in pamphlets, televisions, radio, and posters. They also stated that healthcare providers lacked the training to sanitize, put on masks, and dress the protective clothing. However, participants (n=2, 15%) said:

> "*Sometimes we had to look for information for ourselves to keep up with news and to know new developments on the virus in other countries because there was no readily available information on the virus."*

10.3.3 Exposure to infected patients

The participants were concerned with the exposure to the infected patients during Covid-19 pandemic, most participants (n=13, 100%) reported that they are highly exposed to the virus. Mostly because they meet different people daily, more than a hundred in their facility, during consultations, home visits (home based care),

and when they offer their services. They cannot know who is positive and who is not amongst the people. Further, it explained that other patients are mentally troubled, aggressive, and arrogant, that's where health workers have physical interaction, making them at high-risk of infection. For example, one participant shared her experience of working with a schizophrenia patient who later Covid-19 positive. The participant said:

> *"We had a schizophrenic patient in the clinic who later was positive, we were holding him since he was aggressive and the sad part is that even though we reported the case we were still not considered as close contacts, only the family was assessed."*

Another participant said:

> "*The probability of coming into direct, indirect or near contact with a person infected with SARS-CoV-2 is high among us health workers because sometimes we deal with patients who are aggressive and with different mental disorders."*

Furthermore, participants expressed that working in the clinic and undertaking referrals exposed them to infection because the nurses accompany patients in the ambulance, which makes them vulnerable. This expressed differently by participants as follows:

> *"Covid-19 is not written on people so it is difficult to know who is infected. We are in the frontline of the Covid-19 response which puts us at the peak of infection as we oversee assisting those tested positive".*

11. DISCUSSION

The discussion is based on the analysis of the primary data, the literature review, and the theoretical framework. This enabled the researcher to isolate complementary and diverse views, themes, and concepts in the study. Further, it established that Healthcare providers experienced challenges at the advent of Covid-19 pandemic, for instance; severe stress, increased workload, fear, stigma, and shortage of personal protective equipment.

11.1 Extreme Stress

The researchers discovered that healthcare service providers faced challenges in Botswana as in other countries globally. The severe stress resulted from dealing with uncooperative patients, due to uncertainty about the future, increased deaths, especially of health workers in other countries, and an increased risk of contracting the virus.

It was discovered that the findings confirmed the results of the study by Liu, et al. [92] who established that the emotional stress of health workers was due to their obligation to treat patients suffering from Covid-19. The results were consistent with stress theory, which states that a stressor is something that pressures a person to adjust or adapt [62]. Healthcare providers were concerned about their future, threatened by the coronavirus, particularly given that other health workers suffered and died from the disease.

It observed that the Covid-19 pandemic has negatively affected the mental response of healthcare providers. Healthcare providers were not coping with the challenges posed by Covid-19. ss theory explains that stress results from a trigger, a life event, or a set of circumstances that can cause an increase in ordinary or mental responses, which increases a person's susceptibility to infection [57].

11.2 Workload

The healthcare providers during the Covid-19 overworked because of the shortage in the workforce; and they had to work in shifts to prevent overcrowding in the offices and work longer hours. Moreover, more healthcare providers needed to mitigate the increasing number of patients and related challenges. The literature shows that working long hours leads to fatigue and pressure [20]. On the other hand, [22] in the English Midlands region, UK, showed that the workload of healthcare providers increased for similar reasons, resulting in shift work. The healthcare providers also complained of severe stress and fatigue due to lack of rest.

11.3 Fear

The results indicated that owing to the infectious nature of the coronavirus, fear persisted because of attending to multiple patients, unaware of their Covid-19 status, and unable to conduct Covid-19 tests in the clinic. The fear was complicated by the news from the media. It is true that healthcare workers in other countries, particularly in Asia and Italy, died in large numbers. Lam and

Hung [29] reported that nurses who worked closely with infected Covid-19 patients were afraid and anxious that they might get infected and in return infect their families. The findings were also consistent with a study in Thailand, which reported that healthcare providers who assisted a patient admitted with fever and having SARS-CoV-2 got infected [93]. The fear of contracting Covid-19 complicated service provision by the healthcare providers and reduced their tenacity at work. It also aroused in them anxiety and other mental health related challenges each time they had to go to work.

11.4 Stigma

Healthcare providers do not only struggle with fear and severe stress but with stigma associated with Covid-19. The study established that community members labeled them Covid-19. As such, health workers had to contend with the ill treatment by the community and service provision at the same time. Service provision in a high-risk setting is difficult enough but dealing with stigma and rejection complicates everything. Bagcchi [34,94] reported that the outbreak of Covid-19, led to fear in communities, avoidance, and shunning of healthcare providers because they viewed as the sources of the coronavirus infection. Furthermore, when visited for healthcare services, communities assumed healthcare providers had come to perform the grueling Covid-19 tests leading to reluctance community to seek medical assistance.

11.5 Shortage of Personal Protective Equipment (PPE)

The lack of personal protective equipment influenced participants to express dissatisfaction with the government. They felt the government failed to provide protective clothes but expected high performance, despite the threat to their lives. The literature shows that the lack of protective clothing led to self-contamination or transmission of infectious agents and affected the morale of healthcare workers. Chingono [37] argues that in Zimbabwe, doctors sued the Zimbabwe government for failing to provide frontline workers with protective equipment for the Covid-19 pandemic. The study concurs with the views of the [16] and [7] who asserted that countries were insufficiently prepared to manage coronavirus infection. For instance, hospitals reported a shortage of personal protection equipment in the form of masks, gloves, gowns, and hand sanitizers which were necessary for healthcare provision.

Botswana Covid-19 Guidelines 4 [42] confirmed that Botswana had limited stocks of personal protective equipment [PPE], therefore healthcare providers had to rationally use what they had. For instance, if there was no surgical mask, healthcare workers were to substitute with respiratory masks. The stress theory shows that there is a relationship between an individual and the environment appraised as endangering life as in the case of Covid-19 by healthcare providers.

11.6 Risk Factors Associated with Healthcare Provision during the Covid-19 Crisis

11.6.1 Lack of information

Information on Covid-19 is readily available in the Botswana clinics and the media. The information packaged in posters and savingram accompanied by pictorial demonstrations was available to the public. The Ministry of Health distributed information to various clinics and shared it through social media, televisions, and radio in the form of pamphlets and posters. The information assists with the reduction of anxiety amongst practitioners, hence reduction in fear and stress. Xiang, et al. [49] observed that there is insufficient scientific data on Covid-19 therefore, posing risks for the healthcare providers because the transmission and treatment of the disease is not available. On the other hand, [50] reported that the absence of information on infection control for use by healthcare providers is a risk factor. United Nations Botswana [48] stated that there is limited information on stock levels of critical health equipment and supplies including personal protective equipment, testing kits and essential medicine.

11.6.2 Exposure to infected patients

The results showed that most healthcare providers exposed to the virus in the clinic was during consultations and home visits (home-based care). Nguyen et al. [43] contends that health workers find themselves having to work in high-risk departments and assisting the infected patients and therefore, an extensive risk to the coronavirus.

11.7 Theoretical Basis

The results confirm the presence of stress because the Covid-19 pandemic raised the anxiety response of healthcare providers. It increased mental pressure, heightened fear in healthcare providers, and they were emotionally traumatized. Wheaton, [95] showed that stress is an adaptive response to environmental, social, or internal demands (known as stressors) that produce physiological or emotional arousal in individuals during a crisis. Cohen, [94] noted that stress, therefore, resulted when there is a depletion in an individual's physical resources. For example, the shortage of PPE's which expose them to the risk of contracting the Coronavirus and generating worry each time they must serve or do their job. Due to its contagious and deadly nature, it elicits fear and anxiety particularly for healthcare providers who deal with Covid-19 and/or suspected patients. It was discovered that although they are professionally bound to serve, they were fearful for their lives and uncertain about the future.

12. CONCLUSION

Healthcare providers exposed to occupational hazards within their workplaces and in particular, infectious diseases such as coronavirus, suffer severe stress. The study assessed the experiences of healthcare providers at the A.S. Dada Kumakwane clinic during the Covid-19 crisis. The findings revealed that the Covid-19 pandemic increased the mental pressure and severe stress for healthcare providers at the clinic and emotional trauma. Stress is a contributing factor to physical illnesses, and emotional, and behavioral problems. It further revealed that health workers at the clinic suffered from a chronic fear of contracting the contagious virus. As a result, the following strategies are necessary to address the healthcare providers' concerns faced during the Covid-19 pandemic, that is, counseling, reduced hours of shift work, provision of personal protective equipment, and continuous follow-up with workers. Finally, to mitigate against the negative mental health impact and provide support for the long-term well-being of the healthcare workforce across the country.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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