Experiences of Radiographers during the Covid-19 Pandemic the COVID-19 Pandemic at Two Hospitals in Harare, Zimbabwe

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Abstract
During the COVID-19 pandemic, the working patterns and professional practice of radiographers were altered significantly. The purpose of this study was to explore the experiences of radiographers during the COVID-19 pandemic at two hospitals in Harare, Zimbabwe. A qualitative phenomenological study involving radiographers in the diagnostic imaging departments of Zimbabwe's major referral hospital and a private hospital was conducted between mid-March to mid-April 2022. In-depth interviews were used as a method of data collection. The interview data was entered in Nvivo 12 (QSR International) and analysed using Giorgi's structured method of analysing phenomenological data. Four themes emerged from the data, which are adherence to strict measures, change in working patterns, feelings and emotions, and adaptation. Radiographers experienced changes in working patterns as well as the implementation of stringent infection control measures and regulations. It was revealed that radiographers needed to adapt quickly to the constantly changing new ways of working including organisation of workload. Local pandemic response strategies must be developed from standard protocols in readiness for safe practice during emergencies.

Keywords: COVID-19, adaptability, radiography practice, pandemic, personal protective equipment

Introduction
Coronavirus (COVID-19) is a communicable disease produced by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus. There have been at least 636,440,663 confirmed cases of COVID-19, including 6,606,624 deaths worldwide (WHO, 2022). Infection occurs easily, mostly by droplets, and contact is required for transmission of the virus. This is why in every health department, preventative planning and management methods for the spread of the virus to patients and department personnel are essential, and the radiology department is no exception. Many countries implemented lockdowns, restricted travel, and urged social distancing to contain the spread of this extremely contagious sickness while addressing the

symptoms of the infected, causing healthcare systems to be disrupted. The COVID-19 Prevention, Containment, and Treatment Order of Zimbabwe (2020), proclaimed a twenty-one-day lockdown, except for critical services and exempted cases and, as the pandemic spread over the world, the lockdown was extended.

The pandemic of the novel COVID-19 swept the globe, affecting the provision of radiological services and care (AJMC Staff, 2021). Radiographers are vital patient-facing healthcare professionals who are involved in the patient care giving chain in healthcare (Akudjedu *et al.*, 2020). The COVID-19 outbreak caused a significant decrease in ambulatory (outpatient) imaging volumes, and elective imaging services were temporarily suspended. Several policies in hospitals and radiology departments had to be amended, including COVID-19 testing, PPE availability, and training how to successfully handle the new scenario (Narwani, 2020). In reaction to the COVID-19 outbreak, studies and experiences show that diagnostic imaging and radiotherapy departments around the world have undergone substantial reorganisation (Devi, Smith, and Subramaniam, 2021).

The radiology department workflow was modified to limit actual presence at work, eliminating in-person case evaluation and training sessions because of the physical distancing requirements and safety precautions. Although many countries explored alternative strategies to aid with care continuity, it remains unknown what effect these initiatives had on patient care (WHO, 2020). One such attempt is the global study titled, *COVID-19 Response in Radiology,* which sought to investigate the global impact of the COVID-19 outbreak on the radiography workforce and practice (Akudjedu, 2021).

The purpose of this study was to explore the experiences of radiographers during the COVID-19 pandemic at two hospitals in Harare, Zimbabwe. The findings of this study ought to help in gaining an understanding of the pandemic's effect on radiography practice, as well as to discussing solutions and mitigating measures that address these effects.

Methods

Study design

This qualitative phenomenological study design involving radiographers in the diagnostic imaging departments of one of Zimbabwe's major referral hospital and a private hospital was conducted between mid-March to mid-April 2022. The design of this study allowed radiographers to share their experiences and thoughts about their practice during the COVID-19 pandemic.

Population and sampling

The population comprised all radiographers in both departments who were working during the COVID-19 pandemic. The researchers used a non-random convenience sampling technique to select the two imaging departments in Harare for adequate representation. The participants were also selected by convenience sampling. In this study, data saturation was reached by the twelfth interview; therefore, a sample of 12 was used for data analysis. The study included willing radiographers (both male and female) who gave consent to participate in the research, and had at least 3 years of working experience in a radiography department.

Research instrument

Personal interviews were conducted using a semi-structured interview schedule that was informed by literature (Naylor, Booth, Strudwick, 2022). The interview guide was adapted for this study. The interview guide was divided into two sections. Section A solicited the demographic information of the participants. Section B consisted of open-ended questions that explored the experiences of radiographers during the COVID-19 pandemic. Some of the questions asked included:

i) How did the experience of work during the COVID-19 pandemic affect you?

ii) What changes to your routine radiography practice do you associate with the experience?

iii) How did the experience affect your colleagues and your loved ones?

iv) What lessons were generated by the experience of work during the COVID-19 pandemic?

Data collection

The researcher administered an information letter that briefly described the research and its purpose and a consent form to help participants to make an informed decision whether to participate. Face-to-face interviews were conducted at each centre while observing the COVID-19 regulations like social distancing and wearing face masks. Researchers recorded interviews using an android application, Voice Recorder© and transcribed manually.

Data analysis

The interview data was entered into the Nvivo 12 (QSR International) for analysis. The data was analysed using Giorgi's (1975) structured method of analysing phenomenological data. Below are the five main stages that were followed step by step:

i) Put aside preconceived ideas

ii) Review the interview transcripts

iii) Group the transcripts into units (such as chunks of relevant information).

iv) Create themes based on the relevant units created

v) With the phenomenon of study, the purpose of the study and research, and question(s) in mind, present descriptions of the themes.

Trustworthiness and integrity of the study

This study employed Lincoln and Guba's (1985), four criteria for developing the trustworthiness of a qualitative inquiry: credibility, dependability, confirmability, and transferability. To increase credibility, the transcribed interviews were sent to the radiographers for their reactions (member checking) (Adu, 2019). The aim was to use their feedback to improve authenticity of the data and accuracy of the findings. Space triangulation was done also to further enhance credibility of the findings (data was collected from radiographers in both the private and public sectors). Secondly, to ensure reliability of the themes, the researchers did inter-coder agreement. The difference between the codes was discussed and resolved by consensus (Creswell, 2016). Thirdly, the study endeavoured to provide a detailed description of the research setting and the sample of study participants (thick description). Fourthly, to ensure confirmability verbatim, this study presents quotes from the participants' voices in the results section. Lastly, researchers recognised that they were professionally socialised in the same environment, and hence a journal was kept about every decision made during the study (Adu, 2029).

Ethical considerations

Ethical approval for the research was granted by the Medical Research Council of Zimbabwe (MRCZ/B/2271), as did the respective centres. For involvement in the study, all respondents supplied written informed consent. Confidentiality was maintained by protecting the participants' identities. Participants were advised of the option to leave the study should the need arise. The data required proper and efficient safekeeping according to regulations of the institution. The researcher secured data storage by use of passwords to gain access to recordings and stored the transcripts in a file kept in the supervisor's lockable office. These measures ensured confidentiality at all costs.

Results

Demographics

A total of 12 practising radiographers consented to personal interviews, and indicated the number of years of work experience. Of these 12 radiographers, 6 were females and 6 were

males. Also, 5 of the radiographers worked in a private work setting, and 7 were in a public service. The working experience ranged from 4 to 14 years. Table 1 summarises the demographic information of the participants.

Table 1: Demographic information of the participants

Participant	Age (Years)	Gender		Title/Rank	Work experience (Years)	Setting	
		M	F			Public	Private
R1	28	X		Radiographer	4		X
R2	30	X		Chief Radiographer	6	X	
R3	29		X	Radiographer	5		X
R4	40	X		Radiographer	14	X	
R5	27	X		Radiographer	3	X	
R6	27		X	Radiographer	4		X
R7	32		X	Senior Radiographer	8	X	
R8	34	X		Chief Radiographer	10	X	
R9	32		X	Principal Radiographer	8		X
R10	28		X	Radiographer	4	X	
R11	33	X		Senior Radiographer	9		X
R12	29		X	Radiographer	5	X	

Experiences of radiographers

Four themes emerged from the data on experiences of radiographers (Figure 1-4)

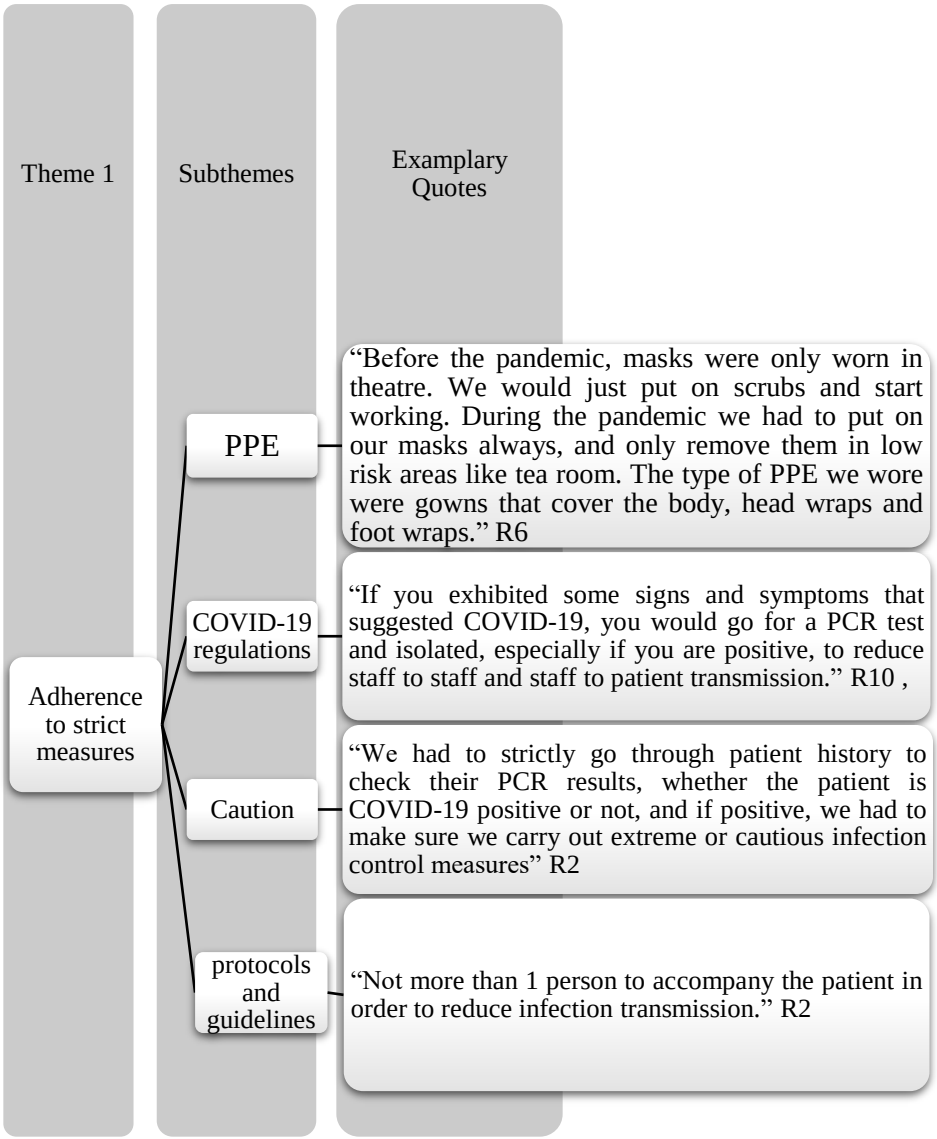

Figure 1: The first theme and corresponding subthemes and examples of quotes from participants

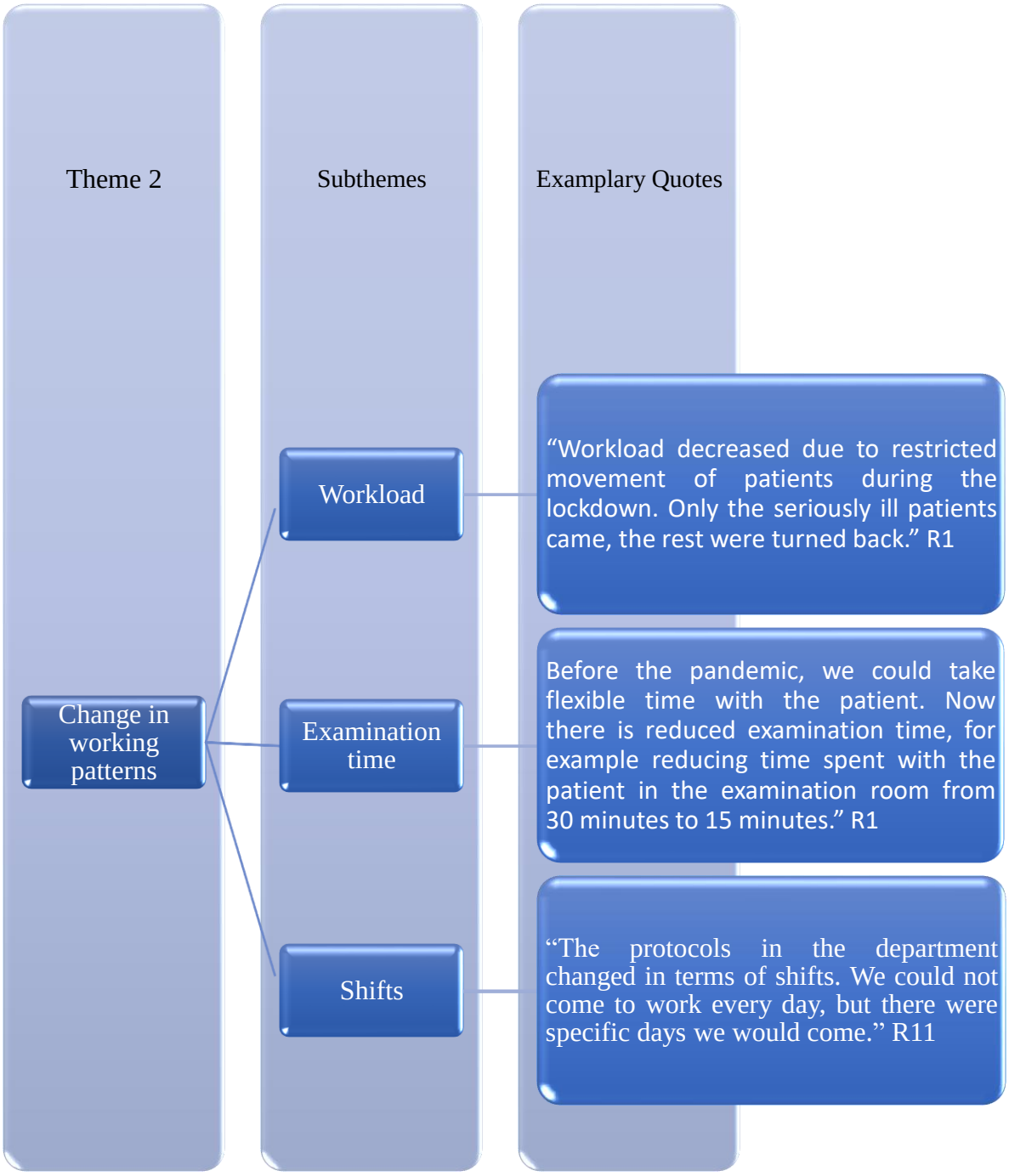

Figure 2: The second theme and corresponding subthemes and examples of quotes from participants

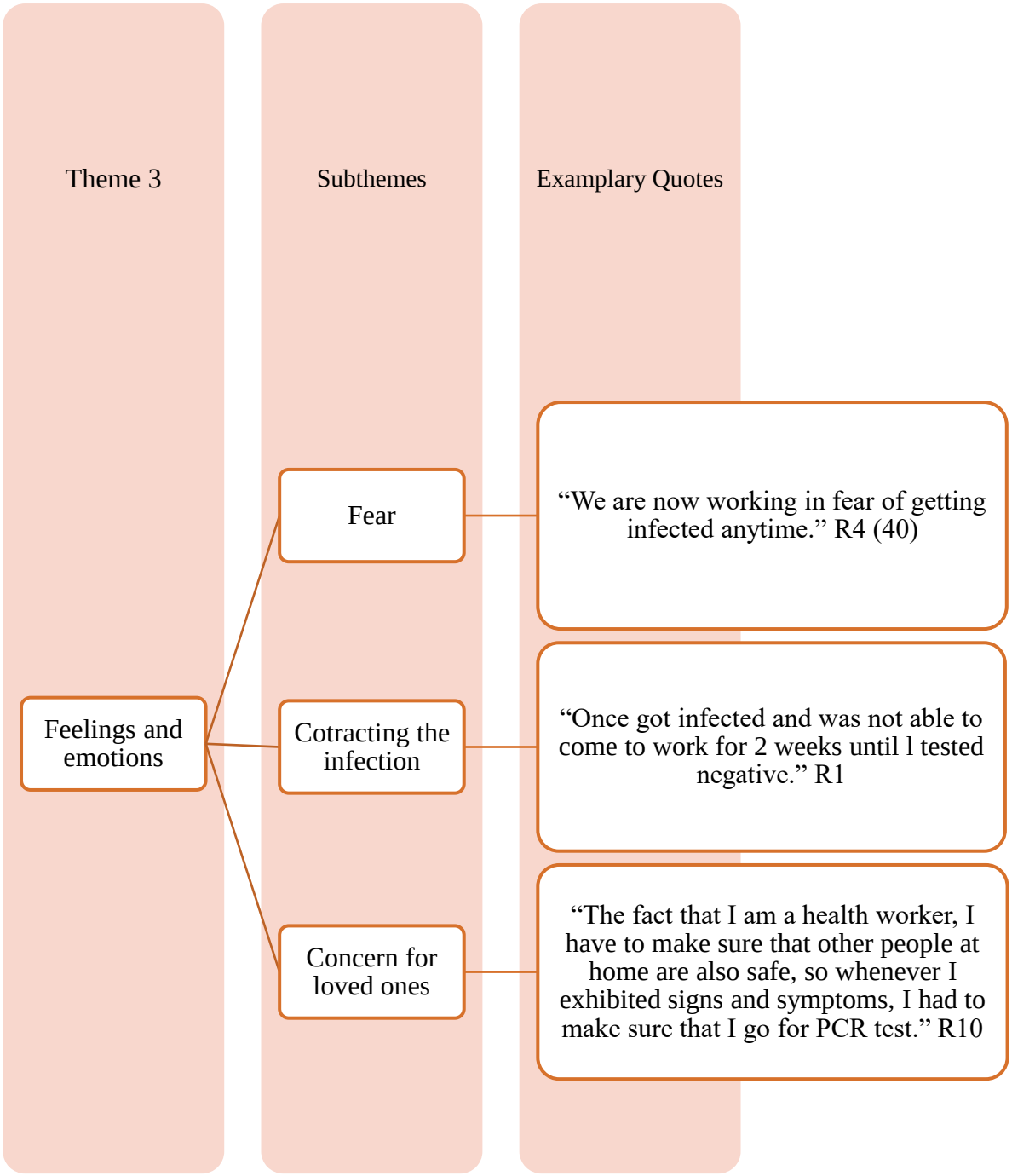

Figure 3: The third theme and corresponding subthemes and examples of quotes from participants

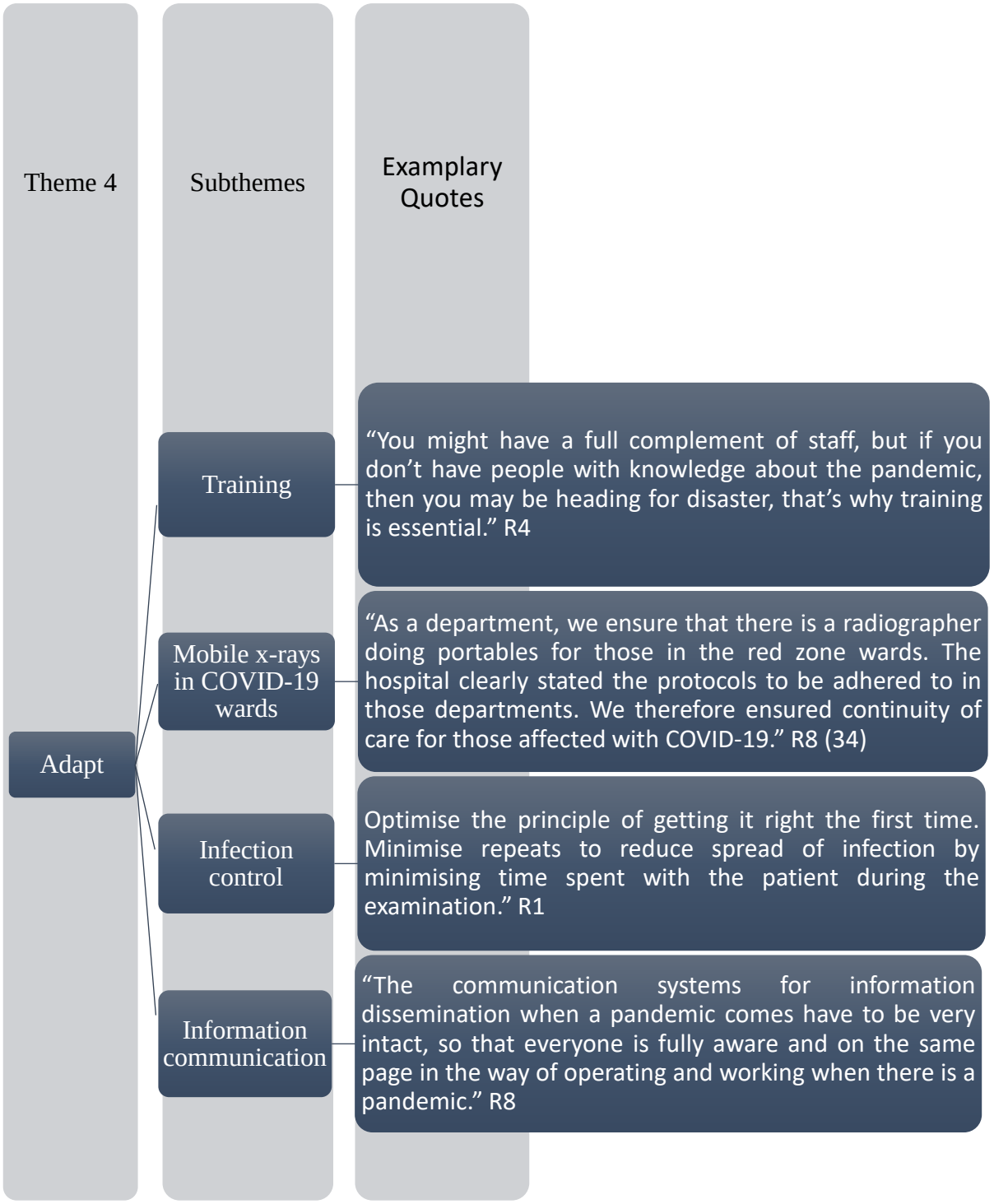

Figure 4: Fourth theme and corresponding subthemes and examples of quotes from participants

Changes in clinical radiography practice

To identify any changes in clinical radiography practice brought by the COVID-19 pandemic, *adherence to strict measures* emerged as a theme. It has four subthemes, which are *personal protective equipment (PPE), COVID-19 regulations, caution,* and *protocols and guidelines*.

Some participants described a change from the basic to stricter measures because of the COVID-19 pandemic, as shown by the following quotation:

> "Before the pandemic, we adhered to the basic infection control we do in a standard radiology department but with the coming in of the COVID-19 infection, we had to adhere to strict measures." R7

Some participants described a change in the use of PPE from the beginning of the COVID-19 pandemic, as exemplified by both radiographers and patients wearing face masks during the examination. Participants acknowledged that supplies of PPE had improved, as shown by the following quotations:

> "Before the pandemic masks were only worn in theatre. We would just put on scrubs and start working. During the pandemic we had to put on our masks always, and only remove them in low-risk areas like tea rooms. The type of PPE we wore were gowns that cover the body, head wraps and foot wraps." R6

> "Before the pandemic, gloves were not worn for every patient, but only in cases where exposure to patient's fluids is possible. During the pandemic, l would wear gloves before touching anything in the x-ray room." R1

> "We emphasised that patients should were face masks, to minimise cross infection." R8

Participants expressed that the COVID-19 pandemic caused the infection control department to be more aware of the importance of infection control in the radiology department, as shown by the following quotation:

> "Because of COVID-19 other departments also saw the importance of infection control for us. That's why we would also receive PPE. Before the pandemic, we would just look out for ourselves, go to the CSSD, take a scrub and put it on. Now there are gowns that come particularly for our department and if they are finished, they are replenished." R4

Participants explained that there was the introduction of COVID-19 regulations to be adhered to in the department, and hospital at large. These included testing of both patients and radiographers, isolation, vaccination and hand hygiene, as shown by the following quotations:

> "If you exhibited some signs and symptoms that pointed towards COVID-19, you would go transmission." R10

> "For the patient to even enter the hospital, they had to undergo a vetting process." R8

> "We were advised to get vaccinated against COVID-19" R5

> "We received hand sanitizers. We had to strictly adhere to hand hygiene, that is sanitising or hand washing after every patient." R12

Participants mentioned that the COVID-19 pandemic required them to be cautious in their work, as shown by the following quotations:

> "We were told to be a bit cautious with the patients. Patients should be tested first before examination." R11

> "We had to strictly go through patient history to check their PCR results, whether the patient is COVID-19 positive or not, and if positive, we had to make sure we carry out cautious infection control measures" R2

Participants described protocols and guidelines changing in the department, as shown by the following quotation:

> "COVID-19 pandemic has given me the chance to change protocols that were redundant." R3

Infection control protocols improved as shown by the following quotations:

> "Infection control measures were improved." R11

> "The room should be cleaned after every patient." R1

> "Before the pandemic, only cleaners would clean the floors. Now there are structured times the department gets fumigated." R6

Patient care protocols also changed as shown by the following quotations.

> "Not more than 1 person to accompany the patient in order to reduce infection transmission." R2

> "Patient should not stay in the department for long." R9

> "Damp dusting and changing linen after every patient." R4

Extent and nature of the changes

To determine the extent and nature of these changes in clinical radiography practice during the Covid-19 pandemic, there are two emerging themes, namely *changes in working patterns*, and *feelings and emotions*. The first theme has three subthemes, *namely workload, shifts*, and *examination time*. The second theme has three subthemes, namely *fear, contracting the infection*, and *concern for loved ones*.

Some participants reported a reduction in workload as shown by the following quotations:

> "Workload decreased due to restricted movement of patients during the lockdown. Only the seriously ill patients were accepted on screening, the rest were turned back." R1

> "Workload was minimal as patients were scared to come because of the outbreak." R12

> "Number of patients seen per day reduced due to strict admission of patients into the hospital." R8

However, a few participants stated that workload increased as shown by the following quotations:

> "Workload increased due to increase in chest x-rays to monitor COVID-19 in infected patients." R2

> "Patient throughput increased, and there is understaffing as we are getting a lot of patients." R3

Some participants also noted the reduced number of working days, as shown by the following quotations:

> "The protocols in the department changed in terms of shifts. We could not come to work every day, but on a rotational basis." R11

> "Number of working days changed to coming fewer days." R5

Participants described a reduction in examination time as shown by the following quotations:

> Before the pandemic, we could take flexible time with the patient. Now there is reduced examination time, for example reducing time spent with the patient in the examination room from 30 minutes to 15 minutes." R1

> "Reduce patient practitioner contact time." R3

> "Time spent with the patient in the examination room was limited, for example trying to perform a chest x-ray in 5 minutes." R11

Many participants expressed a variety of feelings, including fear, anxiety, and stress. Some of the worry was linked to the concern of catching the virus or spreading it to other people.

> "We are now working in fear of getting infected anytime." R4

> "We are now working in fear and have to be more careful and vigilant about infection control." R2

Some participants reported that they had been infected, as shown by the following quotations:

> "Once got infected and was not able to come to work for 2 weeks until l tested negative." R1

> "At times we are getting infected and not coming to work for more than 3 weeks consecutively." R7

Participants felt that safeguarding themselves and others was necessary.

> "The fact that I am a health worker, I have to make sure that other people at home are also safe, so whenever I exhibited signs and symptoms, I had to make sure that I go for a PCR test." R10

> "Personally, how I took infection control before the pandemic was just not at this level. Sometimes I wouldn't wash my hands after an examination, its common, here, especially with the numbers here. Now being conscientious about COVID-19, I now knew what was at stake, so l had to try to make sure that l am safe myself, and also on a secondary level, to avoid infecting others." R6

Most participants mentioned a rise in work-related stress, as shown by the following quotations:

> "There was an increase in work-related stress as we feared catching the disease." R7

> "What l would consider as a major stressor is being exposed to a COVID-19 positive patient." R5

> "The major stressor was death of a colleague" R2

Alternative strategies

To identify the alternative strategies that were used to mitigate the effects of the COVID-19 pandemic on clinical radiography practice in order to promote continuity of care, the emerging theme was *adaptation*. The theme has four subthemes, which are *training*, *mobile X-rays in COVID-19 wards*, *infection control*, and *information communication*. Participants discussed how their departments had adapted to new working practices to promote continuity of care during the pandemic. Mobile X-rays were carried out to allow continuity of care for COVID-19-positive patients in isolation, as shown by the following quotations:

> "As a department, we ensure that there is a radiographer doing portables for those in the red zone wards. The hospital clearly stated protocols to be adhered to in those departments. We, therefore, ensured continuity of care for those affected with COVID-19." R8

> "Mobile x-rays were done in the red zones with adherence to hospital COVID-19 protocols." R5

Some of the participants had training on different aspects concerning COVID-19, as shown by the following quotations:

> "We had short courses on infection control." R2
>
> "We underwent training to help us identify the signs and symptoms of covid-19 and be able to interpret some of the findings on x-ray." R7
>
> "There was specific training for those who were doing portables in red zones, and in their selection, they took the most experienced people so that if they know the information, it is easier to disseminate to juniors." R10

However, some participants did not have any training and highly recommended it in preparation for future pandemics.

> "You might have a full complement of staff, but if you don't have people with knowledge about the pandemic, then you may be heading for disaster, that's why training is essential." R4
>
> "Training on how to deal with infected patients could have reduced the work-related stress." R1

Departments took steps to help workers manage their workload as shown by the following quotations:

> "Observing breaks like tea time and lunch time helped me cope." R5
>
> "Use of booking system to manage large numbers of patients." R3

Participants emphasised the importance of infection control in the COVID-19 pandemic, as shown by the following quotation:

> "I cannot emphasise more on infection control, and radiation protection, especially in ward radiography." R10
>
> "Infection control is a serious part of radiography." R12

They described infection control in the context of technique, protocols and guidelines, and advocated it to newly qualified radiographers, as shown by the following testimonies.

> "Optimise the principle of getting it right the first time. Minimize repeats to reduce spread of infection by minimizing time spent with the patient during the examination." R1
>
> "Be careful, wear masks and gowns, sanitise after every patient, minimize contact and time with infected patient." R2
>
> "You have to adhere to all rules and protocols on COVID-19 infection control." R7

Participants went on further to suggest infection control measures that could be implemented to ensure the department was better prepared for current or future pandemics. Most of the participants suggested stocking PPE, as shown by the following quotations:

> "After knowing the nature of the pandemic, we also need to know the physical needs be it PPE, or other devices that can be used in the department, since we also work with accessories in radiography. The department should be intellectually prepared in terms of stocks and equipment." R7

> "Stock PPE to avoid shortages. Continuous restocking should be done to minimize cross infection." R2

> "PPE should be made routine. You never know when the pandemic is back so always stay safe." R5

Other infection control measures were suggested as shown by the following quotations:

> "There should be an infection control supervisor in the department who oversees implementation of infection control." R2

> "The department should have a capacity of disinfecting examination rooms after every suspicious case." R8

> "There should be dedicated COVID-19 centres that deal with these cases where people are specifically trained for this." R4

> "Need for adequate universal screening of COVID-19 for everyone that enters the hospital to avoid infected people spreading infection in the department." R9

Participants described the importance of information communication and knowledge in a pandemic, as shown by the following quotations:

> "The communication systems for information dissemination when a pandemic comes have to be intact, so that everyone is fully aware of the standard of operating and working when there is a pandemic." R8

> "The department should keep records of any statistics on the pandemic." R3

> "Know what COVID-19 is, so you don't have to worry much but to just observe all the regulations." R6

Participants recognised the need to be versatile and advised undergraduate students, as shown by the following quotation:

> "COVID-19 is just a disease that came out in an aggressive manner and it changed perceptions and affected performance of some, who became sceptical. If you have that way of thinking, it can affect you in terms of gaining new experience. Be people who adapt to changes brought by pandemics or natural disasters, and not be rigid people. Be versatile and able to adjust to any changes that come." R2

Discussion

This study explored the experiences of radiographers during the COVID-19 pandemic at two hospitals in Harare, Zimbabwe. Ideally, clinical radiography practice involves in-person interaction and physical contact with the patient, for example, during patient positioning and lifting. However, the emergence of the COVID-19 pandemic caused the introduction of several health policies and practices, for example, observing physical social distancing, which discouraged close interaction and physical contact with patients. These COVID-19-imposed measures caused unprecedented changes to clinical radiography practice, effects of which were investigated in this research. The findings of this research ought to help healthcare leaders in the radiography field understand what went well in the COVID-19 response at a local level, identify what could have been done better, and mitigate systemic weaknesses so that all critical components of the system are better prepared for the future, not just for medical emergencies, but for any type of disaster that may impact healthcare systems.

Participants admitted that the supply of PPE improved since the start of the pandemic. A scoping assessment of research on the level of health system readiness, impacts, and reactions to COVID-19 in Africa showed that tools to manage COVID-19, including PPE, were insufficient or non-existent (Bajaria & Abdul, 2020; Desalegn *et al.*, 2021; Semaan *et al.*, 2020). The findings in this current study could be due to donations of PPE by non-governmental organisations in Zimbabwe (Maiden, 2020; Steward Bank, 2020; Tome, 2021). Participants described that the COVID-19 pandemic caused the infection control department to be more aware of the importance of infection control in the radiology department and; consequently, they were provided with PPE. Diagnostic radiographers were not formerly thought to be frontline personnel, especially in terms of getting and using PPE, and the pandemic rendered professional recognition (Lewis & Mulla, 2021; Naylor *et al.*, 2022). Fleischner Society's worldwide consensus statement highlighted that, in the management of COVID-19 patients, the radiographer is an important member of the frontline response staff (Rubin *et al.*, 2020).

Participants explained that COVID-19 regulations were introduced, and were supposed to be adhered to in the department, including testing of both patients and radiographers, isolation, vaccination, and hand hygiene. These were in response to WHO recommendations of hand cleaning, social distancing, wearing face masks, and covering the mouth and nose when coughing or sneezing to minimise virus transference (WHO, 2020). These were also in response to a task force formed by the African Centres for Disease Control and Prevention with

six major practice areas: laboratory diagnosis, surveillance, including screening at points of entry, infection prevention, and control, clinical treatment of patients with severe COVID-19, risk communication, and supply chain management (Mankoula, 2020; Paintsil, 2020). However, there was dissatisfaction regarding screening, as participants in this research suggested adequate universal screening for everyone that enters the hospital. Similarly, other research revealed that there was no regular staff screening at the gate and that testing and results were delayed (British Institute of Radiology, 2020; Lewis & Mulla, 2021).

Some participants in this study reported a reduction in workload due to restricted movement of patients during the lockdown, fear of contracting the infection at hospitals, and strict admission criteria for patients into the hospital. The reduction in imaging referrals at the start of the lockdown impacted the operations of diagnostic imaging departments (Cavallo & Forman, 2020; Lewis & Mulla, 2021). A few participants however described an increase in workload due to a larger number of chest x-rays done to monitor COVID-19 patients. With rising COVID-19 cases in Zimbabwe (Figure 1), the number of chest x-rays done increased, as it was used in monitoring COVID-19 patients. Similarly, studies done on the experiences of radiographers in Ireland and Queensland, reported an increase in workload, particularly chest x-rays and CT, as COVID-19 patients increased (Foley & Creedon, 2020; Eastgate *et al.*, 2020).

During the pandemic, fear of getting infected and transferring it to members of the family was a significant source of anxiety among healthcare professionals (Lewis & Mulla, 2021; Mahajan & Sharma, 202; Nyashanu *et al.*, 2020; Ruiz et al., 2021). Similarly, participants in this study expressed diverse feelings, including fear, anxiety, and stress. Most participants mentioned an increase in work related-stress, with the apprehension of becoming infected, exposure to a COVID-19-positive patient, and death of a colleague as major stressors. This is similar to findings from other studies which found that alterations in clinical practice during the pandemic linked to occupational stress (Akudjedu, 2020; Akudjedu *et al.*, 2021). To see co-workers become ill, and some die, has a negative impact on radiographers' mental well-being (Lewis & Mulla, 2021).

The adaptability of departments was highlighted in this study as recognised by others (Akudjedu, 2022). Other departments have implemented new modes of working in response to the increasing burden, such as modifying staff rosters to include rest intervals (Lewis & Mulla, 2021; Naylor *et al.*, 2022). Similarly, participants in this study described that observing breaks and the incorporation of rotational shifts helped them cope with the workload. In other studies,

participants described how departments increased the number of people working night shifts as a way to manage the workload (Naylor *et al.*, 2022; Ooi, Lee & Chee, 2020). However, participants in this research did not report on increase of staff working night shifts, but elaborated on use of booking system to manage the workload. This could be due to countrywide scarcity of radiographers in Zimbabwe (Maboreke *et al.*, 2019; Nyamukondiwa & Chinhoyi, 2016), making it impossible for the departments to raise the number of staff working night shifts as developed countries did. Instead, the departments would manage the workload by managing the number of patients that visited the department by using a booking system, as a way of supporting staff to manage the workload.

Participants described understaffing as they were getting a lot of patients. This could be because, in addition to being short-staffed, some of the radiographers were getting isolated for a minimum of two weeks prior to contracting the infection as reported by some participants. This was meant to observe the COVID-19 regulations. Loss of healthcare workers from illness and quarantine severely strained hospital operations (Alvin, 2020; Billings, 2021). This is because infection control necessitates the isolation of symptomatic workers as well as social distancing from asymptomatic carriers in order to prevent transmission from asymptomatic carriers (WHO, 2022).

While some of the participants described that they had trained to address different aspects of the COVID-19 pandemic, some did not have any training at all. At the time of the pandemic, reports from various contexts showed that there was no or minimal training in radiology and radiotherapy departments on COVID-19 infection prevention and control, and patient management measures (Akpaniwo *et al.*, 2020; Akudjedu *et al.*, 2020; Foley *et al.*, 2020). In part, the quick and unanticipated evolution of the global pandemic contributed to the lack of training (Akudjedu *et al.*, 2020; Cavallo & Forman, 2020; Hasford *et al.*, 2020). COVID-19 was a unique coronavirus strain, thus it took time for scientists to figure out how it spread and prescribe universal pandemic procedures to prevent it (Ruiz *et al.*, 2021). Fear and worry among radiography personnel from various contexts are associated with a lack of information on proper infection control methods during the outbreak (Elshami *et al.*, 2021; Foley *et al.*, 2020; Ruiz *et al.*, 2020). Similar to this, participants in this study explained that training could have reduced work related stress. Once WHO and associated health authorities were explicit in their guidance, fast and effective communication and distribution concerning the procedure for infection control and emergency reaction protocol were important for restoring power to the healthcare professional (Akudjedu, 2021). In this study, participants suggested that

information communication systems ought to be prepared for current or future pandemics. Not only is clear communication necessary to inform healthcare professionals about new procedures, but it is also necessary to ensure understanding and, as a result, proper implementation (Foley & Creedon, 2020).

Strengths and weaknesses

In this research, qualitative research allowed participants to freely reflect on their experiences without limitations, which is particularly important as it embraces the notion that everyone has a unique voice, therefore this research gives in-depth information. The focus of this research was to delve into the details of participants' experiences and how they interpreted them. As a result, the findings are inextricably bound to this specific setting, limiting their applicability. The experiences recounted, however, may be shared by others in the profession.

Recommendations

In consideration of the pandemic's lessons, it is necessary to change existing protocols and/or develop new ones. All radiology departments should explore methods for future pandemic reaction or other types of crisis occurrences. Standard protocols should be employed to develop localised pandemic reaction strategies in order to promote safe practice in crises. Simulated pandemic case scenarios in regard to infection prevention and control, effective communication and information sharing strategies during emergency situations, and other issues pertaining to effective management and/or adjustment of diagnostic imaging protocols should all be part of ongoing professional development. It is critical to provide intervention mechanisms at both the system and organisational level to enhance radiographer wellness and worker resilience, as well as to resolve mental health concerns. At departmental level, a reliable distribution network must be in place for resource procurement, including adequate PPE as well as other clinical commodities. More research is needed to determine the effect of the COVID-19 pandemic on clinical radiography practice in Zimbabwe as a whole. Furthermore, because the dynamics of a group can often make people bolder in expressing their thoughts, focus group discussions bring to the surface issues that might not have been identified otherwise, and can be carried out as they provide an in-depth understanding of the participants.

Conclusion

Chest radiography and chest CT scans were used extensively in the diagnosis and treatment of patients. Radiographers have to quickly adapt to ever-changing new modes of operation, including workload management. There have been modifications in working practices, as well as the establishment of strict infection control procedures and regulations. Fear of getting

infected or spreading it on to members of the family triggered a rollercoaster of powerful emotions during the pandemic. This research emphasised the importance of region-specific guidelines or recommendations in the context of global pandemics, especially in low-resource settings, for safe and easy implementation. In the event of future pandemics, radiology departments must recognize the importance of protecting all workers, including radiographers, in order to ensure safety of patients. This includes providing sufficient training, adequate PPE, and strengthening institutional arrangements for the management of occupational stress and anxiety.

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