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Exploring the lived experiences of maternal healthcare providers who contracted COVID-19: a descriptive phenomenological study

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Abstract

Maternal healthcare providers are key stakeholders in safeguarding maternal and newborn health. This study employed a descriptive phenomenological design to explore the experiences of maternal healthcare providers who contracted the novel coronavirus disease, known as coronavirus disease 2019 (COVID-19), in Ghana. A purposive sample of seven maternal healthcare providers from a quasi-government hospital was engaged in face-to-face interviews. Interviews were audio-recorded, transcribed, and analysed using inductive thematic analysis. The results showed that participants experienced shock and grief related to the diagnosis of COVID-19; stigmatization and neglect by family members and colleagues; and psychological distress due to uncertainties about disease outcome, fear of dying, and infecting others. In addition, they experienced physical symptoms such as anosmia, chest pain, dyspnoea, and headache. Nevertheless, they shared positive experiences, including the opportunity to spend time with family, receiving support from family, colleagues, and superiors, and good treatment at isolation centres. Finally, the results highlighted how participants managed COVID-19 using both conventional drugs and traditional treatments; the preventive measures used; and recommendations for dealing with COVID-19. In conclusion, tailored and continuous psychosocial support for maternal healthcare providers is required to maintain their psychological well-being during future outbreaks.

Based on the study findings, it is recommended that healthcare institutions prioritize the mental well-being of maternal healthcare providers during pandemics by providing accessible and culturally sensitive psychological support services. Furthermore, public health campaigns should focus on reducing the stigma associated with COVID-19 and promoting empathy and understanding towards healthcare workers.

Keywords Maternal healthcare providers, COVID-19, Experiences, Psychological distress

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Introduction

The novel coronavirus disease, also known as coronavirus disease 2019 (COVID-19) emerged in Wuhan, China in November 2019 and was declared by the World Health Organization (WHO) as a pandemic in March 2020, as it spread rapidly to other countries across the world [1]. Although the disease burden appears to be higher in high-income countries (HICs), the impact of the pandemic is direr in low-and middle-income countries (LMICs) due to limited health systems capacity and economic inequities [2, 3]. As of 16 January 2022, Africa had an estimated 10.4 million cumulative COVID-19 cases and more than 233,000 deaths [4]. By February 2022, when this study was conducted, COVID-19 vaccines were available in Ghana, and the pandemic had transitioned from the initial outbreak phase to a more controlled state. Despite Ghana's position as one of the first African countries to roll out COVID-19 vaccines, less than 50% of the target population had received at least one dose, and only about 13% were fully vaccinated by early 2022 [5]. This low coverage was attributed to challenges such as vaccine hesitancy and inequitable vaccine distribution [6].

Despite limited available evidence suggesting that pregnant women do not face higher risks of infection and disease severity [7–9], it is imperative to preserve maternity care during the COVID-19 pandemic for the optimal health of mothers and babies. While the World Health Organization (WHO) recommends maintaining essential health services, including maternal and child health (MCH) services during the pandemic [4], the challenges faced by maternal healthcare providers have been overlooked. These challenges are worsened by the increased workload, exposure to infected patients, and inadequate access to personal protective equipment (PPE) experienced by healthcare workers (HCWs) globally, especially in LMICs [10–13]. Given this, it is important to understand the experiences of maternal healthcare providers who contracted COVID-19 for several reasons.

Maternal healthcare workers occupy a unique position within the healthcare system, as they are responsible for mothers' and newborns' health during a critical period. Their experiences during the pandemic may differ from those of other healthcare workers due to the demands of maternal care, including the need for continuous and compassionate support for mothers during pregnancy and childbirth. Furthermore, the psychological and emotional toll of working in a high-stress environment, coupled with the fear of transmitting the virus to vulnerable populations, may lead to distinct challenges.

Although previous studies have explored the experiences of clinical and nonclinical workers in healthcare settings, during the COVID-19 pandemic [12, 14–20], this research offers a unique perspective by focusing on maternal healthcare providers in the Ghanaian context. This focus is necessary as it sheds light on this group's vulnerabilities and resilience, informing culturally sensitive support systems and interventions tailored to their needs. The findings highlight the need for accessible and culturally sensitive psychological support services within healthcare institutions to address the fear, stigma, and uncertainty experienced by these providers. Furthermore, documenting the treatments utilized, including conventional and traditional practices, highlights the importance of integrating diverse healing practices into healthcare approaches.

The potential contributions of this research are both theoretical and practical. Theoretically, it will enrich the existing literature on healthcare worker experiences during pandemics by providing insights specific to maternal healthcare providers, thus filling a gap in understanding the dynamics of maternal health during health crises. Practically, the findings will inform policymakers and healthcare administrators about the specific needs of maternal healthcare workers and guide the development of targeted interventions that will enhance their well-being and improve the quality of maternal health services. By learning from the lived experiences of these frontline workers, this study provides guidance for building more resilient and responsive healthcare systems prepared to navigate future health crises effectively.

Therefore, this study seeks to explore the experiences of maternal healthcare providers who contracted COVID-19 in Ghana, aiming to contribute to our understanding of healthcare worker well-being during pandemics and to inform targeted interventions to support maternal health services in LMICs. While the urgency of the COVID-19 pandemic may have subsided, the findings of this study hold significant relevance for strengthening healthcare systems' preparedness for future pandemics and health emergencies, which remain an inevitable reality.

Methods

Study design

This qualitative study employed a descriptive phenomenological design to explore the experiences of maternal healthcare providers who contracted the COVID-19 infection. This design aims to explore, analyse, and describe a phenomenon while preserving its richness and scope to portray the experience [21]. Although both descriptive and interpretive phenomenological approaches are well-suited to capture the richness of subjective experiences, we selected a descriptive design because our primary aim was to present a pure description of the lived experiences of maternal healthcare providers. Descriptive phenomenology enabled us to focus on describing the participants' experiences in their own words. In contrast, an interpretive approach would

involve a deeper analysis of underlying meanings, potentially introducing additional interpretative bias. Given that our objective was to provide a clear, direct portrayal of these experiences, the descriptive approach was most appropriate.

Study setting

The study was conducted in a quasi-government hospital within Kumasi, in the Ashanti region of Ghana. A quasi-government hospital is any health facility supported by the government of Ghana with material and human resources, though it is managed privately by individuals or an organisation. The hospital has a 125-bed capacity and offers general medical services as well as specialist services to a population of over 200,000 people. It offers maternal care services including antenatal care, labour services, and postnatal care. In this study, the hospital is labelled Hospital A for anonymity and confidentiality. This hospital was selected because it offers various health services to a large and diverse group of population, including university students and local residents. Additionally, as a quasi-government facility, it presents a unique perspective by combining government support with private management, further enriching the context of the study.

Study population

All midwives working in the maternal care units (antenatal clinic, labour, and postnatal wards) of the hospital constituted the population for the study. At the selected study site, all midwives were females.

Inclusion and exclusion criteria

Maternal healthcare providers were included in the study if they had been infected with and recovered from COVID-19. We excluded maternal healthcare providers who had contracted COVID-19 but were ill during the period of the data collection.

Sampling technique and sample size

Maternal healthcare providers were purposively selected using maximum variation techniques, with emphasis on rank, years of experience, and whether participants were actively working in the unit during the initial stage of the pandemic. These criteria ensured the inclusion of participants with diverse perspectives and relevant experiences to provide insights into the phenomenon under investigation. The recruitment process was stopped after the seventh interview, as no new codes emerged after repeated analysis. Researchers began to observe similar codes repeatedly emerging during the analysis of the fifth interview and two additional interviews were conducted to confirm saturation. This model of saturation used is consistent with inductive thematic saturation as described by Saunders et al. [22]. A sample size of seven is justifiable as Polkinghorne [23] suggested that phenomenological studies ought to contain participant samples between 5 and 25.

Data collection

Data were collected in February 2022 with the aid of a semi-structured interview guide. The interview guide was developed by the authors based on the research aims and a review of the literature (see Supplementary file 1). Some examples of the questions in the interview guide were: "Can you describe your feelings when you were told of your positive status for COVID-19?", "What treatment (Pharmacological and Non-pharmacological) were you put on?", "How did your family/loved ones react to the news of you testing positive for COVID-19?" Follow-up questions and probes were used to gain insight into participants' responses.

Following administrative and ethical approvals, maternal caregivers at the various units were approached and provided with relevant information concerning the study. Maternal healthcare providers who were eligible for participation and gave written consent were engaged in individual face-to-face interviews. Interviews were conducted in English and audio recorded. The interview sessions lasted between 15 and 30 min and were conducted in a quiet private room within the hospital. Facilitation of the interviews was done by two of the authors (JKD and AKA), whereby one led the discussion and the other took notes during the session. Notes taken during interviews captured non-verbal cues of participants and observations. These notes complemented the audio recordings and were reviewed during the data analysis process to enrich contextual understanding.

Data analysis

Verbatim transcription and analysis of each interview were done before proceeding to subsequent ones. Data were analysed based on the six-step framework for thematic analysis as described by Braun and Clarke [24]. The methodological principles of openness, questioning of pre-understanding and reflective attitude, which are based on phenomenological philosophy guided the analysis of the data [25]. Sundler et al. [25] note that reflexivity (a core characteristic of Braun and Clarke's thematic analysis), is closely related to the principles of a reflective attitude and questioning one's pre-understanding [25]. The process of analysis is described below.

Two researchers (JKD and DW) independently engaged in open-ended reading of the transcripts several times to familiarise themselves with the data and then separately assigned initial codes using NVivo version 20. Inductive coding was done by identifying and assigning descriptive notes to words, sentences, and paragraphs in transcripts.

During the coding process, the researchers revisited notes on non-verbal cues to help enrich their understanding of the participants' experiences. Following the initial coding process, the researchers met to discuss the codes and generate themes. In addition, the researchers discussed their preconceptions, thoughts, feelings and assumptions about the phenomenon and how these possibly influenced their interpretation during the analysis process. The codes were examined for patterns of meanings and grouped into sub-themes and themes. These themes were further reviewed and refined. Finally, each theme and sub-theme was given a name that conveyed its meaning.

For example, with the theme "A Bad Experience", 33 initial codes related to participants' negative experiences were developed by both researchers. The researchers reviewed the codes, merging similar ones to reduce them to 20 and finally refining them to 16. These 16 codes were grouped based on their similarities into broader categories on social isolation and stigma, physical symptoms, fear and other emotions related to the diagnosis of COVID-19. This process resulted in four sub-themes: "The Dreadful Diagnosis" (6 codes), "Unbearable Neglect" (3 codes), "The Creeping Fears" (3 codes), and "Better Dead than Alive" (4 codes), which together formed the overarching theme of "A Bad Experience" (See Fig. 1).

Reflexivity statement

As researchers with nursing and public health background and an interest in maternal healthcare providers' issues, we aimed to probe into the impact that COVID-19 infection had on maternity care workers. Our exposure to discussions on social media and other informative platforms about other frontline healthcare providers with the infection before embarking on this study and subsequent interviews may have influenced our expectations of the findings.

To ensure that these prior experiences and knowledge did not influence the study findings, we employed memo writing as a method of recognizing our assumptions and maintaining a reflective attitude throughout data collection and analysis. These memos served as a tool for documenting our thoughts, emotions, reflections, and observations, enabling us to acknowledge our biases and assumptions and how they could influence our interpretations of participants' experiences. As a team, we engaged in open discussions during data collection and analysis to examine our interpretations and ensure that we described the participants' lived experiences exactly as they shared them.

Due to our initial expectations, we were surprised to find that some participants had good experiences at isolation centres, and infection with COVID-19 allowed

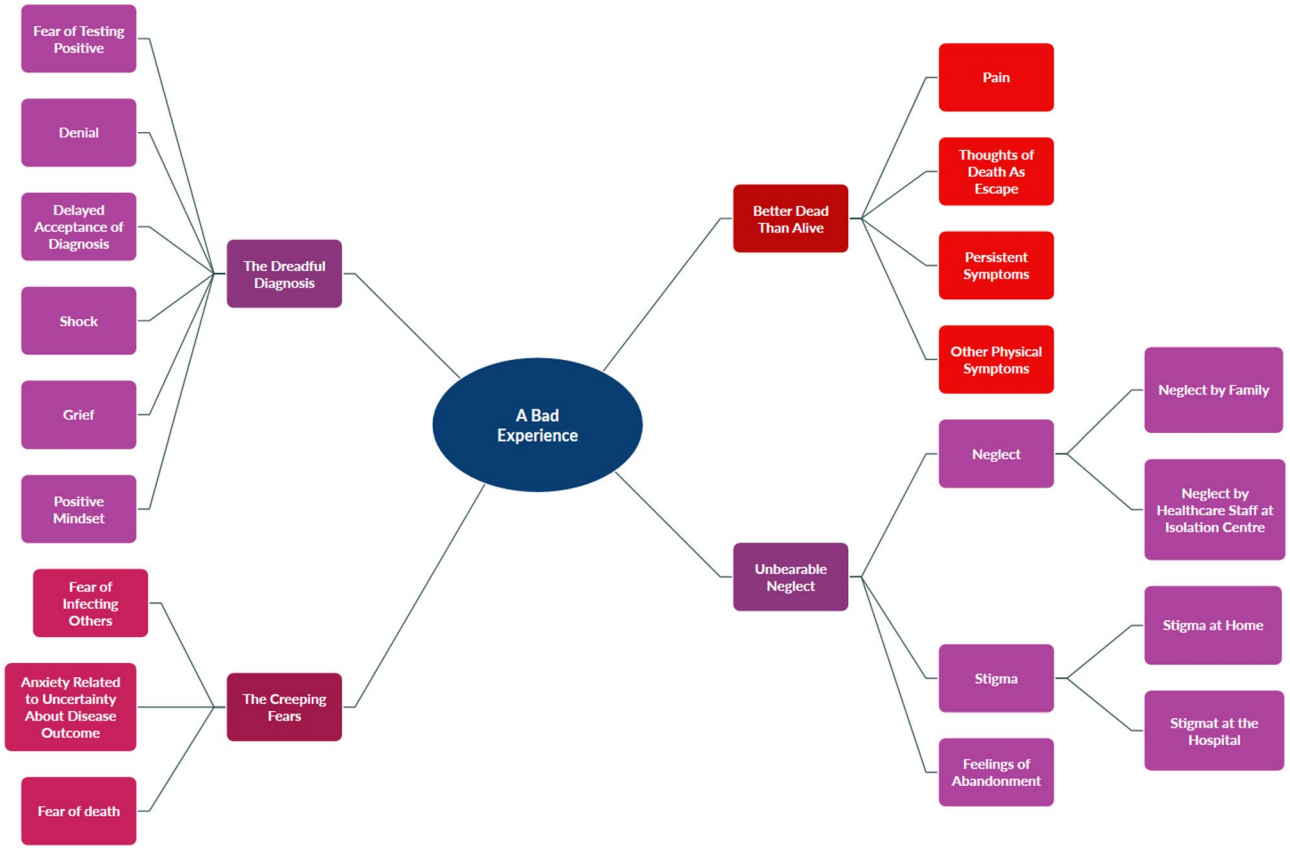

Fig. 1 Coding tree for the theme "A bad experience"

others to interact more with their families. This realization challenged our preconceived notions and helped us to remain open to participants' perspectives.

Rigour

In this study, trustworthiness was ensured by applying the principles of credibility, dependability, transferability, and confirmability. To establish credibility, the researchers engaged in teamwork during data collection and analysis, and respondents' review of their transcripts and preliminary findings was done in the present study. The detailed description of the research methods and findings also contributed to the dependability of the study. Additionally, transferability was established by providing a dense description of the demographic and geographic boundaries of the population in this study. According to Guba and Lincoln [26], confirmability occurs once credibility, transferability, and dependability have been established.

Ethical considerations

Before the conduct of the study, administrative approval was obtained from the management of the hospital. Also, ethical approval was obtained from the Committee on Human Research, Publication and Ethics (CHRPE) of the School of Medical Sciences (KNUST)/ Komfo Anokye Teaching Hospital, Kumasi-Ghana (CHRPE/AP/356/20). Ethical principles such as informed consent, confidentiality, autonomy, beneficence, non-maleficence, justice, and voluntary participation were adhered to throughout the study.

Results

In all, seven (7) midwives within the age range of thirty-two (32) to forty (40) years were interviewed. All of them had attained tertiary education. Four (4) of the participating midwives had the rank of Senior Midwifery Officer; two had the rank of Chief Midwifery Officer, and one had the rank of Midwifery Officer. Their professional working years ranged from four (4) to twenty (20) years (Table 1).

Table 1 Demographics of study participants ($n=7$)

Participants' characteristics	Number
Gender	
Female	7
Age (Years)	
31–40	7
Religion	
Christianity	7
Level of education	
Tertiary	7
Rank	
Senior Midwifery Officer	4
Chief midwifery officer	2
Midwifery officer	1
Professional working years	
1–10 years	2
12–20 years	5

Themes

Inductive thematic analysis of the data resulted in three (3) major themes and ten (10) subthemes that described the experiences of maternal healthcare providers who contracted COVID-19 (Table 2). The major themes were a nice experience, a bad experience and the combat against COVID-19.

A nice experience

Although participants reported several negative experiences after contracting COVID-19, they also reported that they had some good times. This theme describes the positive experiences of participants after contracting COVID-19.

Family bonding amidst COVID-19 challenges

Participants recounted that contracting COVID-19 gave them an opportunity to spend time with their families and educate their families on the disease.

> *My husband is also a very busy person but he had to take some time off so we could all stay home. For the kids, we didn't allow them to go to school in the first week. During that time, we took the opportunity to educate them about COVID-19 and the importance of wearing the mask. We were sad but it was fun though. (C Mid 3)*

A shoulder to lean on

This theme describes the various forms of support participants received from their families and colleagues. Participants reported that their families provided them with emotional and spiritual support. They also recounted how they were motivated by other colleagues who had also contracted the virus.

> *I will say I was very lucky. The people around me showed me love... My dad was not around but I informed him, and he kept on praying for me. My father encouraged me a lot and assured me that I was going to get better. (C Mid 7)*

> *No, I didn't feel victimized. Because we were three workers who contracted the virus, we motivated ourselves and laughed through it. So, there were no hard feelings. (C Mid 3)*

> *I was going through a lot but none of my colleagues took the time to call and check on me with the exception of our director and the hospital matron who*

Table 2 Sample quotes from interviews organized by themes

Main theme Sub-theme	Participant's quote
A nice experience	
Family Bonding amidst COVID-19 challenges	*My husband is also a very busy person but he had to take some time off so we could all stay home. For the kids, we didn't allow them to go to school in the first week. During that time, we took the opportunity to educate them about COVID-19 and the importance of wearing the mask. We were sad but it was fun though.* (C Mid 3)
A shoulder to lean on	*I will say I was very lucky. The people around me showed me love... My dad was not around but I informed him, and he kept on praying for me. My father encouraged me a lot and assured me that I was going to get better.* (C Mid 7)
Quality care at isolation centres	*At the isolation centre, apart from the medication, the treatment was excellent. They gave us a menu and all we did was to type the food we would like to eat through SMS. Then they bring your food together with fruits as well as medication... So, I will say the care was good.* (C Mid 1)
A bad experience	
The dreadful diagnosis	*I had a sleepless night, so I went for the test the next day and the results came in within 24hrs and it said I tested positive for COVID-19. Right from there, I cried throughout, and I was not allowed to go home.* (C Mid 1)
Unbearable neglect	*At a point. Even the staff at the hospital, when a staff hears that another staff had COVID-19 disease, they won't come close to you. This was because COVID-19 was killing a lot of people in Europe and that was the reason why they didn't want to get closer. So that will make you feel a bit down which gradually pushes you to the arena of stigmatization.* (C Mid 5)
The creeping fears.	*...But it wasn't easy hearing from the news about the number of people that had died from COVID-19 at the Isolation Centre. I kept asking myself whether I was also going to die. Some had severe symptoms but survived whereas others had mild symptoms but died. So that was my only fear.* (C Mid 6)
Better dead than alive	*I would have been okay if I had died because, after childbirth, I haven't experienced any pain of that sort than the one COVID-19 gave me. I think the Covid-19 pains are next to labour pains. I experienced severe headaches and backaches.* (C Mid 7)
The combat against COVID-19	
The novel unscripted treatments	*Yes, you know COVID-19 disease came with a lot of lay perspectives. There was even one that said that once you are infected with COVID-19; one guy said that he saw in his dream that such a person can flip through his/her bible to look out for a strand of hair. And when that is found, it should be put in water and once the person drinks it, he/she will be healed, and people actually testified that it worked for them.* (C Mid 5)
Stopping the spread	*I make sure that I frequently sanitize the door handles, desktops, kitchen, tables etc. We usually clean them with soap and water, but we also sanitize them once in a while to prevent getting infected.* (C Mid 7)
Accepting the unwelcome stranger	*So, I just want everyone to know that COVID-19 is real, and they should be more cautious. I think adhering to basic prevention protocols such as wearing a nose mask, using hand sanitizers, and avoiding talking directly into people's faces can go a long way to help.* (C Mid 6)

used to check on me and also visit me at the isolation centre... All I'll say is that my experience with my colleagues was bad but that of my superiors was fantastic. (C Mid 1)

Quality care at isolation centres

Participants described the care they received at the isolation centre as excellent and exceeding their expectations. They reported that they received medical care, and regular meals and engaged in recreational activities.

We were treated very well at the isolation centre. We didn't even expect that treatment...We had television for diversional therapy, feeding was very punctual because they usually came to ask us the menu for the next day so there were variety for breakfast, lunch and supper and fruits were also added. They added vitamin C to our breakfast and doctors also came around to check on us... Aside the television, we were allowed to come outside to play soccer and other games. (C Mid 2)

At the isolation centre, apart from the medication, the treatment was excellent. They gave us a menu and all we did was to type the food we would like to eat through SMS. Then they bring your food together with fruits as well as medication... So, I will say the care was good. (C Mid 1)

A bad experience

The reports given by participants indicated that COVID-19 negatively affected various aspects of their life including social interactions as well as psychological and

physical health. This represented the second major theme: "a bad experience".

The dreadful diagnosis

The news of contracting COVID-19 elicited different reactions from participants including shock, denial and grief which was expressed by crying.

> *So, the third day after the results came in, I was called to the matron's office for a discussion. I went there and she told me that I had tested positive. I was much wowed…and requested for them to re-run the test because I didn't believe I had COVID-19. There was nothing that showed that I had the disease because there were no signs and symptoms… (C Mid 5).*

> *I went out to meet him (medical director of the hospital) and he told me the results came out positive. In fact, it was very difficult for me, and everything turned black for me. He then told me to go to the isolation centre because of my grandma and the children. I was crying when I was packing my stuff and getting ready for the ambulance to come pick me up. (C Mid 2)*

> *I had a sleepless night, so I went for the test the next day and the results came in within 24 h and it said I tested positive for COVID-19. Right from there, I cried throughout, and I was not allowed to go home. (C Mid 1)*

However, some participants accepted the diagnosis after initial denial. They believed that the outcome of the disease was dependent on the individual's mental attitude and hence, they were confident that they would recover if they adhered to a medication regimen and practised self-quarantine.

> *I didn't want to accept what I saw earlier…I felt it wasn't real. I also felt I may not have done it well. I later said to myself that the test kit wouldn't have showed positive if I carried out the test wrongly so the fact that it came out positive meant I have indeed contracted the disease. (C Mid 4)*

> *I think with COVID-19 disease, it was all about how one tunes himself/herself psychologically. That determines whether the individual is going to heal from the disease or not…As I said, psychologically, I accepted the fact that I had the disease. As a health personnel, although I saw people dying from the disease, I psyched myself that I was going to be fine once I take my medications, rest and quarantine myself. So, I was fine in that aspect. (C Mid 5)*

Unbearable neglect

Stigmatization and neglect by family members, colleagues and other members of society were some of the challenges highlighted by participants. Participants recounted that they felt depressed and frustrated as some family members limited their interactions with them because they had contracted COVID-19. Other participants faced stigma at the workplace as their colleagues refused to get in contact with them. Also, they described the emotional pain they went through at the isolation centre because they were rejected and denied care by their fellow HCWs when they needed it most.

> *At a point. Even the staff at the hospital, when a staff hears that another staff had COVID-19 disease, they won't come close to you. This was because COVID-19 was killing a lot of people in Europe and that was the reason why they didn't want to get closer. So that will make you feel a bit down which gradually pushes you to the arena of stigmatization. (C Mid 5)*

> *When I call any of the caretakers at the isolation centre for attention, they refused to attend to me because we were to communicate with them on phone. Yet when I communicated with them, they told me they had finished with their rounds for the day so they can't come back. I felt much rejected. Looking back at how hardworking and dedicated I am professionally, and now going through this pain and being neglected by other health workers like me was very heart-breaking. (C Mid 1)*

> *Yes, it got to a point that he (my husband) blamed me for infecting the children with the disease because I was a health worker. I wept and felt so bad when he said that. He (husband) minimized talking to me and was seen always spraying the doorknobs as and when he enters…So, this affected me emotionally because I felt the person who was supposed to care for me was not doing it. I felt sad, depressed and frustrated. (C Mid 7)*

The creeping fears

Fear was a common emotion associated with COVID-19 because participants feared losing their lives and were also concerned about spreading the infection to family members.

…But it wasn't easy hearing from the news about the number of people that had died from COVID-19 at the Isolation Centre. I kept asking myself whether I was also going to die. Some had severe symptoms but survived whereas others had mild symptoms but died. So that was my only fear. (C Mid 6)

I had a baby who was just a month old and my mother, who happens to be very old too was staying with me because I had delivered. So that got me very scared because I was thinking of how I was going to handle my baby to prevent him from getting infected. I was equally scared for my mother, my other kids and my husband as well. (C Mid 4)

Also, participants experienced psychological distress due to uncertainties about the disease outcome. They had a lot of negative thoughts and lost weight because they were anxious about the outcome of the disease and how it would affect their family.

Psychologically, it wasn't easy. I was always thinking of what a possible outcome could be. There were a lot of 'what if" thoughts of which the negatives were more than the positive outcomes [both laugh]. (C Mid 4)

I lost weight physically because I was restless, and I did a lot of thinking. Thoughts such as "Am I going to die" ran through my head and asked myself who was going to take care of my children when I'm gone, I was worried for myself and my family. Psychologically it was tough. (C Mid 3)

Better dead than alive

The signs, symptoms and post-infection complications experienced by participants are described by the above theme. This included anosmia, fever, cough, headache, chest pain, and arthralgia among others. Participants reported that they experienced unbearable pain that made them feel death was a better option.

With the first experience, I had only chest pains. For the second phase, I experienced feverishness, dyspnoea, loss of smell and taste, sneezing, running nose, coughing, chest pains (I experienced it in the first phase, but it got severe in the second phase) and my body temperature increased. (C Mid 2)

Two days after I tested positive, I started experiencing shortness of breath, I couldn't smell anything (loss of smell). After I got to the hospital, I started experiencing unexplainable headache, sweating, and feeling cold at some point, so they started treating me for malaria. Then I started feeling severe joint pains. I thought I was going to die that night at the isolation centre because I couldn't get out of bed.

I would have been okay if I had died because, after childbirth, I haven't experienced any pain of that sort than the one COVID-19 gave me. I think the Covid-19 pains are next to labour pains. I experienced severe headaches and backaches. (C Mid 7)

They also reported that some of the symptoms, such as the loss of smell, were still persistent after the resolution of the disease.

They have assured me that it (loss of smell) will go with time, so I am waiting for that time because it's making me very uncomfortable. I have my taste back but it's a no for the smell. (C Mid 7)

The combat against COVID-19

This theme represents the interventions implemented to manage and prevent the spread of COVID-19 as well as recommendations given by participants on dealing with COVID-19.

The novel unscripted treatments

Participants reported that they used traditional treatment methods in addition to the medications (Azithromycin, Paracetamol, etc.) and vitamin supplements (Vitamin C) provided at the isolation centres or the health facilities they worked in. These included: steam inhalation with or without herbs (moringa, neem tree leaves), ginger, and a mixture of ground ginger and cloves. Some participants reported that these were more effective as compared to the conventional treatment.

I was on pharmacological treatment. It was the Vitamins C and Azithromycin which happened to be the general treatment for people infected with COVID-19 at the time. I think that's the broad-spectrum antibiotic we are still using now. Also, I once did steam inhalation with neem tree mixed with moringa. I did it just once because I couldn't stand the heat. (C Mid 5)

There were other non-pharmacological treatments like inhaling the neem tree with 'prekese' (Aida fruit) and sometimes I grind cloves with ginger I took it in the morning, afternoon and evening and I inhaled hot ointments too. I will say those ones helped me more than the Orthodox medicines because I lost my voice along the line and after inhaling the ointment, it came back (C Mid 3).

Also, alternative treatment methods among the general population, which were mainly based on spiritual or religious beliefs, were reported.

> *Yes, you know COVID-19 disease came with a lot of lay perspectives. There was even one that said that once you are infected with COVID-19; one guy said that he saw in his dream that such a person can flip through his/her bible to look out for a strand of hair. And when that is found, it should be put in water and once the person drinks it, he/she will be healed, and people actually testified that it worked for them. (C Mid 5)*

Stopping the spread

The various preventive measures used by participants to reduce the spread of COVID-19 in their homes are represented by this theme.

> *I make sure that I frequently sanitize the door handles, desktops, kitchen, tables etc. We usually clean them with soap and water, but we also sanitize them once in a while to prevent getting infected. (C Mid 7)*

> *I always wore masks in the house, and I always made sure they (my family) washed their hands with soap after anything they did. When I get back home from work, I take off my clothes and bath before going close to my family. I give them vitamin C and zinc all the time. (C Mid 2)*

Accepting the unwelcome stranger

Participants highlighted the need to educate clients to clear misconceptions about COVID-19 and they also appealed to other HCWs to avoid stigmatization. They highlighted that COVID-19 is real and hence, the preventive measures should be adhered to.

> *So, the little advice I will give to my colleagues is that although COVID-19 is a deadly disease, we shouldn't stigmatize our clients but rather we should encourage them to take their medications. We also have to educate our clients to correct the lay perspectives on contracting COVID-19 disease as an attack from a spiritual being. (C Mid 5)*

> *So, I just want everyone to know that COVID-19 is real, and they should be more cautious. I think adhering to basic prevention protocols such as wearing a nose mask, using hand sanitizers, and avoiding talking directly into people's faces can go a long way to help. (C Mid 6)*

Discussion

The findings from this study described the lived experiences of maternal healthcare providers who contracted COVID-19 in their line of duty. Three major themes emerged: a nice experience, a bad experience, and the combat against COVID-19.

Participants highlighted the physical impact of COVID-19 on their health by sharing some of the signs and symptoms they experienced. The signs and symptoms mentioned by participants included fever, cough, anosmia, dyspnoea, headache, arthralgia, and chest pain. Some participants felt that being dead was a better option because of the severity of the pain they experienced. The signs and symptoms experienced by participants in the current study are similar to those reported in the literature on COVID-19 [27, 28]. Persistence of some signs and symptoms post-infection has been reported in the literature, and some of these include dyspnoea, chest pain, cough, and fatigue [29–32]. In this study, participants reported that they still had challenges with perceiving smell after recovery.

Also, the news about the diagnosis of COVID-19 was met with different emotions including surprise, denial, and grief. Some participants found it difficult to accept that they had tested positive for COVID-19 because they were asymptomatic. Studies in Zimbabwe [14] and China [15] have documented similar reactions from HCWs who tested positive for COVID-19. COVID-19 is perceived as deadly; as such, a positive test result is frightening and a difficult truth to live with. HCWs who contract COVID-19 must be provided with adequate psychological and emotional support to enable them to cope with such news.

Furthermore, fear and anxiety were among the common psycho-emotional experiences of participants in this study. Maternal healthcare providers expressed fear of dying and feared infecting their family members. Similar findings were reported among HCWs infected with COVID-19 in Zimbabwe [14]. Fear and anxiety related to COVID-19 among HCWs are common psycho-emotional challenges that have been reported in various studies [14, 33, 34]. HCWs are usually scared of getting infected or infecting other people around them. The news of people dying from COVID-19, coupled with the experience of witnessing the disease process in COVID-19 patients as HCWs, may worsen fear in HCWs who get infected with COVID-19. Moreover, participants experienced psychological distress because they were uncertain about the prognosis of the disease. This finding is consistent with other studies conducted in the Philippines, China [15], and Zimbabwe [14] among HCWs. Such negative emotions may persist even after recovery, especially when HCWs return to the workplace [16]. In the qualitative

report by Zhang et al. [35], HCWs who returned to work after recovery expressed feelings of fear, vulnerability, anxiety, and depression due to the uncertainty of the consequences of COVID-19, such as unknown complications, pathogenicity, and recurrence. These findings reinforce the need for targeted psychological interventions to improve resilience in maternal healthcare providers and promote post-traumatic growth. This is relevant because these experiences may have long-term effects on the psychological well-being of maternal healthcare providers and affect work performance.

Moreover, maternal healthcare providers in this study reported some negative emotions such as frustration, depression, and sadness due to external stigma and neglect, mainly from family and co-workers at their facilities and the isolation centre. In addition to experiencing external stigma from colleagues, a study among HCWs who returned to work after recovering from COVID-19 reported that participants also experienced internalized stigma- they restricted interactions with their colleagues because they felt they were still contagious [16]. Such experiences may lead to psychological distress and long-lasting negative effects on the mental health of maternal healthcare providers. This may also harm interpersonal relationships, resulting in poor collaboration at the workplace. Stigma and discrimination related to COVID-19 may be common due to its perceived fatality as well as misconceptions and myths about the disease. Public education focused on providing accurate information on COVID-19, as well as the negative effects of stigma, must be intensified. Adom et al. [36] recommended that public education is most effective when respected community group leaders and celebrities are involved in the dissemination of information to communities. Hospital management must also make efforts to provide education to both clinical and non-clinical staff and preserve the privacy and confidentiality of infected HCWs.

Despite the negative psycho-emotional experiences of participants, they highlighted that support from family, colleagues who had also contracted COVID-19, and superiors at work, as well as their efforts to psychologically adjust to the condition, enabled them to cope with COVID-19. In this study, participants received diverse forms of support, including emotional, spiritual, and moral support from their family members, colleagues who had also contracted COVID-19, and superiors at work. Similar findings were reported in studies among nurses infected with COVID-19 in Lagos State, Nigeria [37] and Wuhan, China [15]. Participants in the studies mentioned above reported that the support and encouragement they received from their family, friends, and colleagues increased their confidence in recovering from the infection [15, 37]. In contrast to the previously mentioned studies, participants in this study did not receive support from non-infected colleagues; they were encouraged by other colleagues who had also contracted COVID-19. Social support has been identified as a valuable asset in protecting against the negative psychological impacts of COVID-19 and improving well-being [38, 39]. A quasi-experimental study among COVID-19 patients showed that social support and acceptance and commitment therapy (ACT) can be beneficial in preserving mental health and subjective well-being. The authors of this study advocate that support from colleagues and superiors should be continued and provided whenever HCWs report ill. This can be beneficial in improving self-efficacy as well as professional efficacy. Additionally, participants in this study developed a positive disposition towards COVID-19 and its management despite the seemingly fatal nature of the disease due to numerous deaths that had been reported. This observance of optimism may be influenced by adequate knowledge of the COVID-19 infection among health professionals.

The use of complementary and alternative medicine (CAM) in the prevention and management of COVID-19 has been documented in literature [40–43]. Among the common CAM products used are herbal preparations, dietary therapy, vitamin supplements, and prayer [40–42]. A recent anonymous electronic survey in Ghana found that vitamin supplements, spiritual healing/prayer, mineral supplements, botanical/herbal medicines, and diet therapy were the main types of CAM used to prevent/ treat COVID-19 [42]. The current study found that participants used CAM such as steam inhalation with or without herbal treatments, inhalation of ointments and preparations of ground ginger, or a mixture of cloves and ginger. Some participants reported that the use of these methods was more effective as compared to conventional drugs. The authors of this study advocate that research into the clinical efficacy of these products in the prevention and treatment of COVID-19 should be done. Another CAM method that was highlighted by participants in this study was a treatment method based on spiritual/religious beliefs. It was believed that COVID-19 could be treated by drinking water in which a strand of hair found in the Bible has been immersed, and several people had testified to its efficacy. Participants perceived that the use of such methods was influenced by the belief that COVID-19 is an attack from a spiritual being and recommended that education is required to clear such misconceptions. We agree with participants and recommend that public education on the cause, transmission, and disease process of COVID-19 be intensified to clear such myths and misconceptions.

Implications for policymakers, health institution managers, and future research

While the study's findings are context-specific, they provide transferable insights into the experiences of maternal

healthcare providers and offer valuable lessons for similar settings. As a descriptive phenomenological study, the primary goal was to understand lived experiences, rather than generalize findings.

Maternal healthcare providers who got infected with COVID-19 faced a lot of physical and psycho-emotional challenges, which may have negative impacts on their psychological well-being and work performance. Given this, it is important for policymakers and health institution managers to actively plan to provide mental health support for HCWs who get infected with COVID-19 or during a pandemic. Mental health support programs should be integrated into the activities of health institutions to promote resilience among HCWs during public health emergencies as well as maintain their psychological well-being. The study also provides valuable information that can guide in preparing for pandemics and how to transition in the delivery of health services to ensure quality is not compromised, and the health of healthcare providers is also prioritized.

Also, participants in this study reported that the use of traditional treatment methods, including steam inhalation, herbs, and other natural products, was beneficial in treating some COVID-19 symptoms. We, therefore, advocate for the conduct of research to validate the clinical efficacy of these methods in the prevention/ treatment of COVID-19 infection.

Limitations of the study

The study was conducted in only one health facility in Ghana, and the sample size was relatively small. Due to this, the experiences of maternal healthcare providers who got infected with COVID-19 in Ghana may not be fully explored. Also, due to the time lapse between the data collection period and when the pandemic was first reported in the country, participants may not have recollected all experiences, and some may have been underreported. Furthermore, all participants were females since all midwives at the selected study site were women. This could be a limitation since male midwives could have different experiences. In Ghana, midwifery is predominantly a female profession. Although male midwives have been trained since 2013 [44], they remain uncommon in practice. They are not universally accepted by expectant mothers due to reasons such as shyness and cultural and religious beliefs [45]. Despite these limitations, this study still provides valuable information that can inform the development of effective interventions to support maternal healthcare providers in Ghana and Sub-Saharan Africa. Future research should be conducted at multiple sites and include male maternal care providers.

Conclusion

This study provides insights into the physical and psycho-emotional challenges faced by maternal healthcare providers who were infected with COVID-19. Despite the various challenges faced by maternal healthcare, the use of psychological adjustment and support from family, colleagues, and superiors at work was beneficial in aiding them to cope with COVID-19 infection. We recommend that social support (from family, the community in which HCWs reside, work colleagues, and superiors) should be provided to HCWs who get infected with COVID-19, and such forms of support should be continuously provided for all HCWs who report ill. Additionally, there is a need for the provision of tailored and continuous mental health support to improve resilience and maintain the psychological well-being of maternal healthcare providers during the COVID-19 pandemic and future public health emergencies.

Supplementary Information

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Supplementary Material 1.

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Authors' contributions

VB, AKA, JKD, AYL, and ROA conceived the study and secured funding. JKD and AKA handled participant recruitment and data collection. DW and JKD performed the data analysis, and DW drafted the manuscript. All authors critically reviewed the manuscript, approved the final version, and agree to be accountable for its contents.

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Data availability

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki (https://www.wma.net/policies-post/wma-declaration-of-helsinki/). The study was reviewed and approved by the Committee on Human Research, Publication and Ethics (CHRPE) of the School of Medical Sciences, Kwame Nkrumah University of Science and Technology (KNUST), with the approval number: CHRPE/AP/356/20. All participants provided informed consent before participating in the study.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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