

Work-Related Stress Experienced by Midwives Caring for Expectant Mothers Confirmed with Covid-19 During Childbirth, Addis Ababa, Ethiopia, 2021: A Qualitative Study

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ABSTRACT

Background: Work-related stress has both physical and emotional negative effect. The healthcare environment is considered a high-risk and intensive work area case of work-related stress. The COVID-19 pandemic causes an additional burden on the health system. Midwives are one core healthcare professional in the healthcare system who face this pandemic challenge.

Purpose: This study was conducted to explore the work-related stress experienced by midwives caring for expectant mothers with COVID-19 during childbirth at Eka Kotebe General Hospital, Addis Ababa, Ethiopia.

Method: This study was performed by descriptive phenomenological research design in which purposive sampling was used to select the study area and 11 midwives who were giving care to laboring mothers confirmed with COVID-19 from 08 February to 08 March 2021 with an in-depth interview. The analysis was conducted with thematic analysis and ATLAS.ti 8 qualitative software was used for analysis.

Results: In this study data on work-related stressors were summarized into three major themes. Firstly, psychological feelings consist of negative and positive feelings of respondents towards accepting the anti-epidemic tasks. Secondly, inadequate medical supplies, administrative gaps, & nature of the epidemic. This includes concerns about disease, workload, nature of work, and lack of basic needs were the main causes of work-related stress. Finally, coping strategies like; expression of feelings, normalization, and refusal to dwell on the experiences.

Conclusion: This study showed that midwives experienced a variety of work-related stressors during the care of childbearing women with COVID-19. This would be minimized by proper work planning, and using coping strategies by workers.

Keywords: COVID-19, Work-related stress, Midwives, Childbirth, Qualitative

Abbreviation: 2019-NCoV: 2019 novel Coronavirus; COVID-19: Coronavirus Disease-19; HCoV-HKU1: Human Corona Virus Hong Kong University 1; HCoV-NL 63: Human Coronavirus Nether Land 63; HCoV-OC43: Human Coronavirus Organ Culture 43; HCWs: Healthcare Workers; MERS-CoV: Middle East Respiratory Syndrome Coronavirus; PPE: Personal Protective Equipment; SARS-CoV: Severe Acute Respiratory Syndrome Coronavirus; WRS: Work Related Stress

INTRODUCTION

There are hundreds of viruses that are part of the families of coronaviruses and only six (229E, NL63, OC43, HKU1, SARS-CoV, and MES-CoV) have however been reported to cause mild to severe human respiratory tract infections 2(SARS-COV-2) an extreme one to lead acute respiratory syndrome of 2019 (COVID-19) [1,2]. It is a mild to severe respiratory illness that is caused by Coronavirus-2 and it was first detected and reported in December 2019, from Wuhan City, China [3].

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In January 2020, WHO declared the outbreak of a new Coronavirus disease to be a Public Health Emergency of International Concern, and it was finally declared as a global pandemic on March 11, 2020 [4].

Africa is the last continent to be struck by the pandemic and its first case of COVID-19 was confirmed in Egypt on 14 February 2020 [5]. In Ethiopia, the first case was reported in March 13, 2020, and on June 8, 2020, a total of 2156 COVID-19 cases and 27 deaths were recorded [6].

This pandemic extremely compromises the healthcare system in various ways, with healthcare workers the first affected [7]. Healthcare workers (HCWs) caring for COVID-19 patients lead to increased psychological pressure and experience high rates of psychiatric morbidity, resembling the situation during the previous severe acute respiratory syndrome (SARS) and influenza epidemics [8].

Work related stress can be physical and emotional response that occur when health care workers carry out their task under stressful environment like 'scars or inadequate resource with the demands and requisites of their work [9]. The signs and symptoms of WRS may be physical like; Fatigue, headache, sleeping difficulties, heart palpitations and psychological symptoms such as depression, anxiety, irritability feeling being of overwhelmed and unable to cope and the behavioural symptoms like; disinterest, aggression, drop in work performance, problem with interpersonal relationships, mood swings/ irritability and isolation [10].

The working environment of the health system have some contributors to work related stress [11]. Work related stress is recognized as the main challenge for health workers throughout the world [12] and it is a growing problem around the world [13]. WRS in developing countries is one of the areas which have not yet been quantified due to lack of enough evidences on exposure or causality, important exposures and outcomes [14].

Midwives are one of the core professionals responding to the pandemic and work-related stress have been known to "suffer in silence" while caring for women and their families [15,16]. Difficult and stressful situations like a pandemic, and the mental and physical exhaustion that often accompanies midwives in these workplace circumstances can contribute to a lack of motivation, loss of concentration, frustration, and even illness, which negatively affects not only the midwife but also the women in their care.

The purpose of this study was, therefore, to explore work related stress experienced by midwives caring for expectant mothers with COVID-19 during child birth at Eka Kotebe General Hospital, Addis Ababa, Ethiopia.

METHODS AND MATERIALS

Study design

An institutional descriptive phenomenological qualitative research design.

Study area and period

This study was conducted at Eka Kotebe General Hospital, Addis Ababa, Ethiopia. Addis Ababa is the capital and largest city in the country of Ethiopia. Eka Kotebe General Hospital located 10km west to Addis Ababa University, in Yeka sub city of Addis Ababa, Ethiopia. It was assigned to offer services in mental health and general medical services from its operation began in 2017 before becoming a quarantine and treatment center for COVID-19. Following the outbreak of COVID-19, the psychiatric and other general medical services hurriedly transferred in to a treatment center for COVID-19. There are 32 midwife staffs who have been giving obstetrics care during COVID-19 pandemic at this study area. The study was conducted from 08 February to 08 March 2021.

Sampling methods

The study area was selected purposively from the three government hospitals 'who are assigned to provide obstetrics care for mothers confirmed with COVID-19. The study sample was consisted of midwives who had been attending for laboring mothers diagnosed with COVID-19. Purposeful sampling method was used to select the eligible midwives who had an able to provide rich information to the research questions and willingness were included in the study.

Data collection tools and procedures

The data was collected via an individual, in-depth face to face interview technique using semi- structured open-ended questionnaires [17]. The questions have various area of topics covering demographic characteristics, midwives' psychological feeling, causes of work-related stress and coping mechanisms of midwives related to their work-related stress when caring for laboring mothers who were diagnosed with COVID-19. The interview guide prepared consists of the following questions 1) main psychological feelings due to caring of laboring mothers diagnosed with coronavirus disease 2) causes of your work-related stress when caring for laboring mothers diagnosed with COVID-19 3) Coping strategies after you faced work related stress when caring for laboring mothers who have been infected with coronavirus disease. Additionally, under each main question sub-topics of probing questions were asked. Before beginning the research interviews, the pilot interviews were done on two participants other than the actual study subject. The interview process and questions were modified in line with these pilot interviews result.

The interviews were conducted in Amharic in a quiet and private place without interruptions during participants' off-times after having appointment. The interviews were recorded by tape recorders the interviews take 38 to 70

minutes. At the same day, they were transcribed word by word and were used as the primary research data.

Method of data analysis

The analysis of the data was started simultaneously with data collection and data was inductively analyzed following the principles of thematic analysis [18]. The authors used systematic approach with the following six steps:

- Step 1: Verbatim transcription and in this step, the audio recordings of individual interviews were transcribed and translated verbatim from Amharic to English, imported in to Atlas ti 8 Qualitative data analysis software; afterwards, the consistency between the recordings and the transcripts was checked by other qualitative experts.
- Step 2: Data were coded and organized in meaningful and systematic way. After uploading the translated data into the software, data was coded line by line. Code book was developed after interviewing a few studies from participants to guide the authors made sure that coding consistency is in place throughout the data analysis process. Emerging ideas during the interview were added to the code book and similar ideas were merged to previous codes.
- Step 3: Themes were then obtained from the coded data, the researcher checked the codes for clarity and consistency by selecting a given text, several codes were combined into a single theme.
- Step 4: Reviewing themes: The authors tested themes were useful and accurate representation of the data.
- Step 5: The authors interpreted the coded data and described the themes and categories of the data. In this step, the final lists of themes were named and defined. The acquired themes and codes were examined by an expert, experienced academician apart from the main researcher, and the results were determined to overlap.
- Step 6: The authors wrote up the analysis of the data. Researcher's notes and memos were also linked to their documents to assist analysis. Coding was carried out primarily by one author and another researcher also coded some of the translated data and differences in the identified codes among the coders were resolved through discussion and coding with the author was revised and discussed to clarify the research findings. About 34 identified codes were categorized based on their similarities and then themes and subthemes were emerged. Relevant quotations of the participants' expressions have been used in the presentation of study findings.

Trustworthiness

In order to determine the accuracy and reliability of the data, the criteria of credibility, transferability, dependability, and confirmability were considered [17].

Credibility

Before starting the actual data collection, the investigators first get familiarized with the study setting and create a rapport with relevant people and attendants in the COVID-19 treatment center. Member check were used after the formation of primary codes. The investigators emailed the text interviews to the participants and asked them to determine whether or not the extracted codes were consistent with their viewpoints and experiences.

Transferability

Intertextual participant statements were quoted directly, and detailed definitions were developed between the studied context and the study itself. Audio records of participants' interview, notes taken during the interview and transcription verbatim was saved for cross checking the process and sustain consistency of the interpretations.

Dependability

Was achieved through inter-coder consistency and by sending all data collected tools, the raw data, the encodings made during the analysis phase and the drawn inferences to the researchers not involved in the research as an external audit.

Confirmability

It was ensured to maintain reflexivity and avoid investigators' own opinion from affecting the study data by precisely reviewing interview transcripts, comparing codes with the raw data, and checking the findings with the participants' views several times.

For the purpose of the study; the researcher made sure that the collected raw data were kept safe and confidential, locked up in a secure place and the files were password protected, and names of the participants were not written in study records and data were reported in a manner that doesn't identify or link the participants with the information.

RESULTS

The purpose of this study was to explore midwives' work-related stress experience caring of child birth for a pregnant woman diagnosed with COVID-19. In this study, five males and six females were enrolled with the mean age of 31 years old (range 24-43 years). The working experience ranged from 1 to 14 years (average=7.1 years) working as a midwife. Majority of participants had a bachelor's degree and three of them have master degree. Four midwives were married with children, one married midwife without children and the others were unmarried without children. There were 2 coordinators and 1 head midwife.

Socio demographic profiles of the midwives

Base line characteristics of the midwives caring provider for COVID-19 patients are given in **Table 1** below. During the interviews, the investigator observed that the sampled midwives were both sad and stressed due to the morbidity,

mortality and unpredictable risks of the pandemic. It was also identified that they were tired because of worsening working conditions, but they were still willing to combat the pandemic.

Table 1. Baseline characteristics of midwives who care child birth for a pregnant woman infected with COVID-19 at Eka Kotebe General Hospital, Addis Ababa, Ethiopia, 2021 (n=11).

Part. No.	Age	Gender	LE	WE	Marital status	Position
1	26	Male	First degree	5	Unmarried	Midwife
2	29	Female	First degree	7	Unmarried	Midwife
3	32	Male	First degree	5	Unmarried	Midwife
4	26	Male	First degree	1	Unmarried	Midwife
5	37	Female	First degree	8	Married WC	MC
6	28	Female	Second degree	5	Married WC	Midwife
7	28	Female	First degree	7	Unmarried	MC
8	24	Female	First degree	8	Unmarried	Midwife
9	42	Male	Second degree	14	Married WC	DH
10	43	Male	Second degree	12	Married WC	Midwife
11	33	Female	First degree	6	Married WTC	Midwife

Key: Part. No: Participant number; WC: With children; MC: Midwife coordinator; WTC: Without children; DH: Department head; LE: Level of education; WE: Working experience

Emerg Themes

Based on the data analysis, work related stress of the midwives caring child birth of pregnant mothers diagnosed with COVID-19, as well as the midwives' opinions about their psychosocial feelings, causes of work-related stress and coping strategies, were gathered into three themes:

Psychological feelings, possible work-related stressors and coping strategies with work related stress of the midwives. These themes with some sampled quotations have been illustrated by the respondents below. The themes, sub themes and codes identified for each theme are presented in **Table 2** below.

Table 2. Themes, subthemes, and codes with its description identified through interviews with midwife staff who care child birth for a pregnant woman diagnosed with COVID-19 at Eka Kotebe General Hospital, Addis Ababa, Ethiopia, 2021.

Theme	Sub-theme	Code	Description
Psychological feelings	Negative feeling	Fear	Participants' felt a sense of dread as they work at the COVID- 19 Center to care child birth.
		Anxiety	Participants' anxiety with the care of pregnant mothers who have been infected with COVID 19.
	Positive feeling	Happiness	The feeling of the respondent because of they care laboring mothers who have been infected with COVID-19.
Inadequate of man Power, medical equipment & other Resource	Effects of the epidemic	Bad feeling of clothes	The physical discomforts of personal protective equipment when the respondents wear it during working time to care COVID-19 infected laboring mothers.
		Maternal death	The death of pregnant mother is being increased due to COVID-19 infection.
		Media death report	Listening to COVID-19 death reports in the media causes stress for respondents.
		Social stigma	Discrimination of the participant on various transport services and rent house due to their work in COVID-19

	Administrative problems		treatment center.
		Management gaps	Gaps that are being appeared under the managers who lead the hospital.
		Inappropriate decision	The decision being given by the managers doesn't consider the situation of the respondents.
		Delayed risk allowance recycling process	Risk allowance is not paid to employees on time. Non-reusable personal protective equipment are being recycled without standard.
		Lack of forum discussion	Lack of forum meeting between leadership and staff regarding their work.
	Lack of needs	Lack of PPE	No availability of personal protective equipment that used to protect from COVID-19.8
		Lack of vital sign instruments	Shortage of monitors and pulse oximetry in the labor and delivery ward.
		Lack of taking meal	Lack of eating or drinking when they want during care of COVID-19 infected pregnant mothers.
		Lack of toileting	Participant's inability to urinate or defecate during their working time.
	Nature of work	Worry for two souls	Participants' thinking beyond their ability to accept responsibility for two lives (both the maternal and child life).
		Child birth procedure	The laboring procedure is being difficult, complicated and more blood business process for respondents.
		Maternal additional demands	Laboring mothers who have been infected with COVID-19 needs more oxygen and energy.
	Work load	Exhaustion	Excessive fatigue of the respondents due to the nature of their work and the clothes they wear.
		Lack of manpower	Shortage of midwives who care for COVID-19 infected pregnant mothers.
	Nature of the virus and its concerns	Global phenomenon	Worldwide coverage of COVID-19, including Ethiopia.
		Unknown dimensions	Unclear characteristics of COVID-19 including its symptom, way of transmission.
		Ways of transmission	The virus can be transmitted though breathing and touching easily.
		Concern for self	Fear of respondents for themselves not being infected or died by the virus because of they have been working COVID-19 treatment center.
		Concerns for family	Participants' fear for their family not to be infected with the virus because of them.
		Concerns for community	Participants' anxiety for the community not to be infected because of them.
Coping strategies	Interruption	Religious practice	Doing religious activities such as praying and prostrating to reduce stress.
		Classical music	Listening to classical music to cope work related stress.
		Personal hygiene	Participants' bathing the whole body as soon as leaving from work.
	Expression of feelings	Communication	Talking on the phone or face to face in case of stress; Sharing feelings with family or friends to decrease stress.
	Normalization	Convince oneself	Participant convince themselves that they have a full responsibility to do the work; giving care for laboring mothers as a midwife.
	Refusal to dwell on the experience	Refuse to recall experiences	Participants doesn't want to remind about the work after left from it.
		Refuse to talk experiences	Not wanting to be talked about work because it can be stressful to talk about it after left work.

Theme 1: Psychological Feelings

In this study interviewed midwives frequently mentioned as they had positive feelings in and for their work and aimed to create a positive atmosphere so that the mothers could feel safe. They expressed as they love their work and have a positive view to care childbirth. This is supported with the quotes as 26 years old midwife stated:

“At this COVID 19 medical center, I delivered a pregnant mother with COVID 19 and... this is my first feeling of happiness; I am very happy to be able to fulfill my responsibilities in this time when so many people are worried”(Interview 1, 26 years).

Some other respondents also reported as they had negative emotion during this anti-epidemic tasks especially during early stage due to worldwide coverage of media report about the outbreak of the virus and for its unknown features.

Theme 2: Inadequate Manpower, Medical supplies, and other recourses

Based on this study, all participants reported about their possible causes for work related stress and they noted regarding of administrative issues/hospital factors such as lack of needs, over supervision and workload, environmental factors such as social stigma, and they also mentioned other especial causes for their stress like; nature of the virus and their concerns for themselves, their family and for community at large.

Administrative problems

It is important for employers to recognize as work-related stress as a significant health and safety issue. An organization can and should take steps to ensure that employers are not subjected to unnecessary stress. According to this study, one of the sources of midwives' work-related stress was related to the organizational problems. The working environment and the management system play an essential role in ensuring the quality of care rendered by midwives and the enhancement of the professional development of the midwives.

Participants stated that lack of support from managers and the way they have been being treated by their leaders affected their morale, and further compromised maternity care delivery system and it is a source of stress for frontline health care workers. During the interview many participants expressed a need for support from their managers in the epidemic time. One participant noted to this issue and its impact in the increased stress of the midwives: “there is a need for an administrative staff member to support the front-line health care workers but there is none”(Interview 2, 29 years).

Most of the participants also reported related to delay of their risk allowance as the important cause of stress and loss of concentration on work. They mentioned that their risk

payment is delayed up to 6 months and this causes psychological impacts for them: Other mention about the psychological stresser is the supervisor observing time of frontline healthcare workers, they mistreat and they were not understudy their personal problem.

“ Secondly, in terms of payment, we are under risk and you do not know when you will die and they don't pay us on time, they don't pay up to 5-6 months of risk payment. This reduces our focus on our work and it also affects us because of the psychological impact on our social life”(Interview 10, 43 years).

Another aspects of the administrative issues that recognized by the participants was as there is no forum discussion between administrative staffs and frontline midwives about any relevant issues in a work place but as the participant said they work only under the interests of the leaders and this causes stress for some midwives. A midwife explained, the managers feel as a good management system when they are doing their best of interest and this is challenging condition for the midwives. A 43 years old married participant pointed this: “we do not have to discuss with the relevant management about what is wrong, what are the gap for both management system and other workers at the staff forum on a regular basis, but we are working under their own interests” (Interview 10, 43 years).

Workload

In this study participants frequently mentioned as workload was one of the leading causes of work-related stress among midwives due to understaffing. This resulted in headache, exhaustion and frustration for them. A midwife explains that lack of manpower which will lead to give low quality of care.

“There are times when we serve 18 mothers with only two midwives; This thing is hard: For one thing, many mothers live on an oxygen machine, on the other hand we have a mother who is going into labor to give birth by caesarian section; There is also a mother who gives birth again with spontaneous vaginal delivery; Because of this, it is very difficult to care” (Interview 8, 24 years). She also mentioned: “Now it is very difficult because there is a shortage of manpower.. After I left from work, I felt headache and dizzy. I have a long way to go to get home from work, so I get tired of breathing.”

Lack of needs

The results of this study have revealed that midwives struggling with the COVID-19 outbreak with the lack of psychosocial support and adequate resource supplies. All participants mentioned that there was lack of PPE, self-care, shortage of manpower and time management problems in their organization and these are the highest determinants for stress which has been expressed by participants. PPE like; Microgard gowns, N95 masks, face shields, goggles, and

boots, is likely effective in protecting health care providers from COVID-19. Shortage of PPE causing many midwives a feeling of lack of environmental protection and safety measures. All the participants remembered scarcities these logistic as a main source of work-related stress. And affect working effectiveness. For example; As a 42 years old married male participant reflected this: "For me, there is still a shortage of PPE, which I would like to address as a cause of work-related stress related to maternity services. . . there is a shortage of protective clothing such as microgards, they are being reused out of use and I do not believe they are safe and as a result I am afraid of getting infected"(Interview 9, 42 years).

To over come the shortage recycling was don and most participants also reported, as they have heightened tension about recycling methods of protective materials. Above half of the participants expressed that the way of recycling methods of microgard gowns, N95 masks, head covers and other face shields are out of standard. These participants described having serious concerns about non-reusable materials, they should not be used again but they are being used without standards to be used. According to these participants' speaking, these protective clothes are old and torn so they cannot protect against the virus. Two participants quoted these: "... materials are re-used without standard how they use...in our setup but later re-used without their standards to be used. We are concerned about how it is being re-used; It is especially difficult to use a mask reused, which means that the other mask can reach me. These things cause stress, it makes me feel like I am being exposed to the disease"(Interview 6, 7, 28 years).

As another midwife pointed out about lack of vital sign instruments, she emphasized that they couldn't monitor their patients' vital sign timely due to lack of the necessary equipment to measure: "...The other main cause of anxiety is especially shortage of vital sign measurement devices such as monitor and pulse oxy meter and some of the available one is damaged and non-functional. This affects timely complation of our work because we often give medication and take vital signs on time but there is a shortage of equipment and it has its own psychological distress on our suffering"(Interview 8, 24 years).

On the other hand, lack of self-care is the most frequently mentioned by the respondents as it was the most important sources of work-related stress. Basically, failing to give psychological and dissatisfied basic needs such as eating and drinking and toileting when we want, leads to a sense tiredness and other health complications and furtherly cause stress. Most participants reported as they become "hungry and thirsty, unable to defecate and urinate" during working time and this was the most important source of work-related stress for the midwives. A 42 years old respondent stated that: "...Another thing I would like to mention is that the time we spend working is very long and it is very stressful,

we are very anxious, we cannot use it when we are hungry and thirsty, and we are very anxious because we cannot defecate when we want to defecate or urinate"(Interview 9, 42 years).

Nature of the virus and its' concerns

Under this theme, three sub-themes were emerged like; nature of the virus, concern for self, and concern for the society.

Nature of COVID-19

Data analysis showed that many scopes of the disease were unknown. The disease has currently no treatment, and it has a different nature compared with other similar infectious diseases. Furthermore, protocols and guidelines for its management are incomplete at time. It is a new emerging disease that has a high transmitting rate, and mortality rate. The participants have stated that pandemic feature of the virus, high spreading and mortality rate and yet no specific treatment, the disease affects many people from all social and age groups were causes of work-related stress. Participant noted that as they had fear and become stressed because of these unknown reasons. One participant referred to this issue and its impact in the increased stress of him: "For me, the work related stress associated with this work is a global effect of the disease, especially since it has entered our country and is killing many people, and because of its way of transmission, for example, by air born and contact with the body" (Interview 3, 32 years).

The other participants' concern was related to the transmission ways of COVID-19. They suggested that the virus spreads mianly between people who are in close contact with each other. It can also spread easily by droplets cantianing the virus and come directly in to contact with eye, nose or mouth. More over unknown characteristics of the COVID-19, and they were afraid to take responsibility for their work. One participant quoted this: "... I was terrified of the transmission due to contact, breathing, by touching our eye, nose or mouth and the unknown daimonion of the disease "(Interview 5, 37 years).

Further opinions into these concerns were provided because it is not known how long the virus can stay on their scrub clothes. They said, as they put their clothes in the sun for long hours, thinking it might be died by the sun. "we were very scared and worried about how long the virus would stay in the clothes after we left work; Because there is no accurate information about the virusBy assumption, we put it in the sun, thinking that the sun might kill it, and we were very worried about how long it would last " (Interview 11, 33 years).

Concern For self, for family and for community

When the information analyzed reasons work related stress on midwives', fear for their own/their relatives' safety. The participants expressed their fear and anxiety about being

infected and a chance of potential carrier and this causes a chance of infecting their families and other part of the community. A 37 years old married participant noted this: "I am very scared of having contact with infected mothers because I fear my self and I may have contact with many people around me, for example from family I may have the disease but I may be asymptomatic; I am very scared because I can hurt others by being close to a friend and the community at different times "(Interview 5, 37 years).

Effects of the outbreak

All participants reported that the quality of patient care was negatively affected, and ethical dilemmas emerged due to worsening working conditions and changing routines during the outbreak. Regarding of physical discomfort of the cloth, wearing protective clothes causes an unpleasant feeling which has to be experienced by the midwives during their work as a cause of stress. They say as they find it difficult to breathe because of its suffocation, and they faced a difficulty especially when they attend labor due to it covers their vision. In addition to these, they stated as they experienced restricts in mobility, unable to eating, and drinking, unable to defecate and urinate, being hot and sweating as well as being unknown to others and it can also affect midwives' mood and lead to extreme fatigue. The exhaustion they produced even generated a feeling of dizziness and feelings of weakness in most midwives.

The participants also noted that wearing protective equipment generated a great deal of discomfort and unable to do activities freely: A 43 years old participant explained the following: "The clothes themselves are uncomfortable and stressful...For example, when we do an episiotomy suturing procedure, we have a hard time because our vision is covered; ..."(Interview 10, 43 years). The same participant continued : "...a mother told me that she was very worried about us because she doesn't know who is treating her, and that their anxiety in itself made us less effective in our work and causes stress for us."

The participants mentioned that the death of patients, worldwide and locally especially of maternal mortality after or before child birth and other death reported by the media, was another source of work-related stress for them and this study also showed that the midwives were subjected to psychological distress especially due to COVID-19 infected mothers' death. In this regard, one of the participants said: "...Another thing I would like to mention to you is that maternal mortality has increased due to the aggravation of the disease rather by post partum hemorrhage or other labour complications ; They come in with one or two liters of oxygen and soon they get worse and die in the ICU" (Interview 11, 33 years).

The other 42 years old participant stated about the media report that causes stress for him because of many deaths were reported in each country: "Most of the time, I stopped

listening to these international media because I was very worried about the number of deaths in each country at the time, especially when COVID-19 came. Because they add additional stress as they said died so much people in this country and so much died in that country"(Interview 9, 42 years).

In addition, data analysis indicated that one of the causes leading to work related stress in midwives was being stigmatized by the community especially in transportation and rent house and this leads to fearful, helpless, tense, sad and anxious under the influence of the pandemic process on the midwives. One participant mentioned:"I cane say one of the cause of this work-related stress in particular, there is a social stigma in rental housing and transportation ; This bothers you so much that you say I am not a human being. They especially know that I work in the COVID 19 treatment center and they don't want to see me and I am very scared to join them because if they get infected, they will think directly of me and I am worried about this stigma" (Interview 4,26 years).

A 42 years old male participant also added:"When we get out of here, the stigma or exclusion in the community starts with all the taxis; From this we can see that sometimes even the bajajis' drivers said that these are COVID-19 centers workers, so they leave us alone, especially around the beginning"(Interview 9, 42 years).

Nature of work (Caring a child bearing women)

Pregnancy can be an anxious time for many women, and the pandemic has magnified that. As many participants mentioned, child birth procedure for COVID-19 infected pregnant mother is very difficult because of as they responsible for both souls and the laboring mother can't wear protective measures and the procedure needs more physical contact; this leads to, fear and anxiety which causes stress. As a 28 years old male participant explains that childbirth procedure is a very difficult task in itself because of the responsibility of both the mother and the fetus: "Attending labour is difficult in itself because it is the responsibility of two souls." She also continued: ", when I attend labor by wearing protective clothes and equipment, I feel more tired, hot, and humid, and I feel uncomfortable and irritated more easily" (Interview 6, 28 years).

Considering additional demands of the laboring mother, like oxygen and energy, so this makes the mother not to wear face mask and this leads to fear of infection for midwives and causes stress during care of child birth:"....Because the mother in labor is anxious and more exhausted , she can take off her mask, and we can hardly say what to do, because she is in labor and uses more energy, because of this she loses a lot of air; As a result, we fear the disease "(Interview 5,37 years).

Theme 3: Coping strategies

To handle work related stress and its impacts, participants reported using or various strategies. All midwives (n = 11) activated psychological defense mechanisms, such as interruption, normalization, expression of feelings, refusal to dwell on the experience, etc.

Interruption work related stress

The midwives included with this study used strategies, by doing religious practice, take rest and listening to music, to overcome the negative effects of the pandemic. In the interview, a 26 years old male participant pointed: "The mechanism I use to deal with this stress is primarily to listen to the words of the Creator, and I also reduce work-related stress by watching football." He continued: "I just want to have fun; listening to music can make me less anxious. Talk to a friend about something other than COVID-19;... resting and also praying will reduce my stress..." (Interview 1, 26 years).

Some of the midwives also expressed that they stopped listening of media report about death due to COVID-19 because they become stressed when they attend it. One participant noted this: (Interview 9, 42 years).

Expression of feelings

Experience sharing with families and friends were other participants' strategies to cope with work related stress. It has been reported that midwives have received psychosocial support from the social environment and their families during this pandemic and that they have expressed their emotions and thoughts direct communication or telephone call with families or friends and do spiritual activities. One participant said: "...I often talk to my sister when I'm stressed; I have a very close relationship with her; I find it easier to talk to my sister when I am feeling down; I find comfort in my family, I remember my Creator/ God, I go out with my friends and have fun" (Interview 2, 29 years).

Normalization

Participants also stabilized/ calm themselves by accepting their work as it is the necessity of the profession, convince themselves as it is interesting to help pregnant mothers as they can and by doing religious activities. A 26 male participant stated: "As a health professional, I convince myself that I need to help mothers; I convince myself that I must fulfill my responsibilities in a way that the health system allows" (Interview 1, 26 years).

Refusal to dwell on the experience

This study has also found that the midwives used strategies by refusing to focus on their experiences, to avoid of hearing their experiences about working conditions and to express their feelings other than their work about COVID because this news put unnecessary pressure like depression, tension and further cause stress on them. A 28 years old female

participant stated: "Remembering the same things over and over again every day will make you feel depressed. It was a time of stress and tension. At that time, when we leave work, we have nothing to relax, so we will discuss the patient again: Everyone was talking about their own experiences at work that in itself creates stress; When will this disease disappear? When will we get rid of this? At that moment, we wondered if there was an end to it" (Interview 6, 28 years).

DISCUSSION

The aim of this study was to explore the work-related stress experienced by midwives caring for expectant mothers with COVID-19 during child birth at Eka Kotebe General Hospital, Addis Ababa, Ethiopia.

In this study 11 midwives were assessed about work-related stress experiences while they are caring a childbearing woman who are infected with COVID-19 were investigated and analyzed using qualitative method, and identifies to three main themes. The first main theme is "psychological feelings of the midwives when working in a pandemic" emphasizes the negative and positive feeling. The second main theme "inadequate manpower and other supplies" summarizes the causes of midwives' work-related stress during child birth of pregnant mothers with COVID-19. The third theme was "coping strategies or Mechanisms" when they face work related stress in their work. In this study, anxiety and fear of the frontline midwives in the labor ward with COVID infected pregnant mother have been frequently stated as the negative emotional feelings due to the relatively closed working environment with COVID cases. Additionally, this high stress working environment has created excessive tension, depression, worry about themselves and their family members among midwives, especially those on the front line. If these negative emotions are not addressed and resolved in a timely managed, they will have a substantial impact on individuals, hospitals, families, and society.

Psychological feeling

In this study, midwives experienced anxiety and fear due to COVID-19 patients' death especially maternal death; In line with the findings of the current study, other studies done in Turkey among nurses, have shown that health workers may become anxious due to observing dying patients [19]. This may be due to both studies conducted during this pandemic outbreak. It can be reduced by giving training for the management of death anxiety should include psychology of bereavement, societal viewpoints on death, symptom management, communication skills, as well as supportive interventions.

In this study, showed that midwives caring for COVID-19 midwives in Ethiopia were negatively affected by the pandemic, both in psychological and social terms. The midwives sampled in this study were mostly encountered stigmatized by the communities due to their work in

COVID-19 treatment center and this leads to anxiety, stress, fear, guilty, helpless, lonely and tense. This study is in line with study done in Turkey where most nurses were stigmatized by the society due to work in COVID-19 treatment center [19].

As this study result shows, lack of support from management, work load, effects of the epidemic, uncertainty about the virus and their concerns for other, and nature their work were major sources which leads to compromised maternity care causes work-related stress for midwives. During the interviews many participants expressed a need for support from their managers. These findings agree with previous studies report that the managerial style that is adopted in a maternity ward can have an important effect on the morale of the midwives and may lead midwives to experience stress [20]. Additionally, certain specific findings in this study are; controlling and monitoring systems of hospital administrators, lack of staff forum discussion and delayed of risk allowance have been found as a cause of work-related stress for midwives. The possible reasons might be due to the national economical differences and studies done for this pandemic situation in Ethiopia. Regarding of workload, Inadequate staffing due to unsupportive management which will for work-related stress and could be the reason for midwives to give poor quality of maternity care services which is consistent with a qualitative study done in Spain [21]. These similarities might be due to both studies used the same participant (midwives), and were conducted during this epidemic period that needs more health care workers.

Based on this study, in adequate medical supplies during pandemic, as midwives expressed causes of work-related stress, additional work demands, the lack of adequate supplies of protective equipment. This finding also in line with the study done in Spain [21]. Moreover, from this study findings, the most frequently stated as causes of work-related stress for midwives were lack of self-care like; unable eating, drinking and unable to defecate and urinate during working time due to long duration of working hours and unable to care themselves while they wearied microgard gowns.

In the present study, the midwives reported to have fear of the virus for oneself, family and for peoples around them. They also have anxiety of being separated from their children and parents and were worried about the possibility of transmitting the disease to their family members. This was consistent with similar previous study was done in Iran among nurses [22]. However, the rapid spread of COVID-19, its treatment being unclear and many peoples becoming infected and dying in many countries (including Ethiopia) may have triggered these reactions. Therefore, supportive interventions may be helpful like; informing the individual and society about the pandemic process, providing adequate material to meet the basic needs of frontline healthcare

workers and activating social networks through individuals can communicate with their family and friends.

Considering effects of the epidemic, during the pandemic in Ethiopia, work-related stress for midwives are bad feeling of clothes, people's death due to COVID-19, and social stigma.

Many midwives experienced some discomfort while wearing PPE for a long time and discomforts including sweat, hotness, and difficulty in breathing, and difficult to perform their tasks, especially during child birth procedures. Similar discomfort including sweat, headache, and difficulty in breathing, and palpitation were reported in Jordanian qualitative study [23]. But in the present study, midwives frequently noted about discomfort of PPE especially microgard gowns which is difficult to give care for laboring mothers and these covers prevents the midwives from face to face and eye contact with laboring mothers as well, and this can even lead to more exhaustion as well as their hunger and thirst. Other study also indicated, bad feeling of clothes was one of the difficulties and causes stress for health care workers [24].

In the case of respondents' nature of child bearing mother care, these research findings suggest that the childbirth care provided to a woman with COVID-19 infection was different from a "normal" birth. As a pandemic evolves, healthcare professionals can find themselves unable to realistically provide the standard and level of care that they are otherwise used to providing. Most negative feelings were expressed by midwives, such as fear and exhaustion due to labor procedure especially with COVID-19 infected mothers, and uncertainty about the infants' medical condition. This is mainly due to a high probability getting infection due to close contact with laboring mothers without mask. This category of the findings was relatively new which the study found and none of the previous studies paid attention as nature of the midwives' work is a source of work-related stress.

Coping strategies

This study has determined that the midwives used coping strategies to combat their work-related stress due to the COVID-19 pandemic and as subtheme of, Interruption, expression of feelings, normalization and refusal to dwell on the experiences. Similar to the findings of this study, was previously reported that the nurses having cared for patients during the COVID-19 pandemic to cop the negative effects of the pandemic [25]. These findings also supported by other study conducted in Turkey [19].

This study has also found that the midwives used strategies to refuse to focus on their experiences, to avoid and to express their feelings. Which is similarly, it has been reported that nurses have received psychosocial support from the social environment and their families during the COVID-19 process and that they have expressed their

emotions and thoughts regarding the outbreak mostly with telephone call [25].

The currently sampled midwives used strategies, such as sports and listening to music, to deal with the negative effects of the pandemic were supported by Sun et al. study which stated that nurses used breathing exercises and listened to music to cope their stress [25]. Determining midwives' coping strategies, strengthening the effective ones, and applying appropriate intervention methods for the ineffective ones are important methods of preventing possible mental problems.

CONCLUSION

This study provided in depth understandings of the causes of work-related stressor and strategies among midwives while caring a childbirth mother who are infected by COVID-19 through a phenomenological approach. Based on this research findings, most midwives experienced negative emotions/feelings like; fear, anxiety, depression, loneliness, discomfort, exhaustion and irritability; these feelings were prominent especially during early days.' work -related stress during this pandemic was related to shortage of manpower, self-care problems, delay of risk allowance, shortage of medical equipment& supplies, bad feelings of clothes, long working hours, patient's death, uncertainty about the disease. However, midwife was use various Self-coping styles to work effectively and prevent psychological disturbance to themselves their family and to the community too.

IMPLICATIONS

The implications of this study include the requirements of hospital managers to provide medical equipment, to give answer about self-care problems and to correct over use of midwives who have direct contact with COVID-19 patients. Workloads and shortage of manpower need to have adequate periods of rest and recuperation ordered should be needed to relieve fatigue and frustrations of the midwives.

In the case of psychological feelings of midwives like; fear, anxiety, depression, irritability, discomfort and fatigue; the hospital managers including supervision officers and other stake holders are needed to motivate midwives in charge by acknowledging the sacrifices which made frontline midwives, providing mental health supports and early communications with their possible stressors and with their possible solutions in a work place during this pandemic or encourage ethical forums which allow workers to discuss any difficulty and focusing on the significance of the work.

Midwives have a professional obligation to save maternal and child lives. Then government is encouraged to provide strict rules and regulations to stop the transmission of COVID-19, and it is also necessary that community members become educated about COVID-19 which will prevent misinformation that can create stigma and

discrimination of the frontline health workers. Mental wellbeing follow-up of the midwives will be basic for the early detection and treatment of rising mental health problem and to ensure staff feel upheld by their organization.

LIMITATIONS

The limitation of this study is, since it is qualitative study and focused only on midwives and midwife managers generalizability to other health professional is limited.

This study may get additional ideas if it was triangulated by focus group discussion but because of COVID-19 infection it was not realized.

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