Fear of Covid-19, Psychological Distress, and Coping Among the Frontline Healthcare Workers

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Abstract

Frontline Healthcare workers were battling at the forefront in the time of uncertain and sudden emergence of COVID-19 pandemic. While providing care for these patients, they encountered numerous obstacles, such as increased workload, organizational changes, risk exposure, and societal stigma; yet they were expected to manage these difficulties and fulfill their responsibilities for the sake of humanity. Moreover, the second wave of this pandemic took a disastrous toll to the human lives and put the country's healthcare system in grave distress. In this context, the present study aimed to assess the mediating role of psychological distress among the frontline healthcare workers' fear of COVID and coping. Fear of COVID-19 scale, DASS-21 and Coping questionnaire were used for data collection from 155 frontline healthcare workers from Sir Sunder Lal Hospital, Banaras Hindu University (Varanasi, Uttar Pradesh). Hayes PROCESS macro (Model 4) was used to assess the direct and indirect effects of fear of COVID-19 on coping, with psychological distress as the mediating variable. The results showed that psychological distress partially mediates the relationship between fear of COVID-19 and coping among frontline healthcare workers. These findings highlight the necessity of focused mental health care for the frontline healthcare professionals to reduce distress and promote better coping mechanisms in the event of current and upcoming public health crises.

Keywords: *fear of COVID-19, coping, psychological distress, frontline healthcare workers,*

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Introduction

India and its healthcare system were overtaken by the devastating second wave of COVID-19. By the mid of May 2021, more than 274,000 COVID-19 deaths and over 26.4 million confirmed cases had been reported in India (Samarasekera, 2021). Although India was among the few nations where the COVID-19 pandemic's first wave of infection was mild, the devastating second wave brought to light the lack of resources in the country's public health system (Biswas, 2021a; Biswas, 2021b).

Worldwide, medical professionals and their families were deeply alarmed by the mortality risk that accompanied the COVID-19 pandemic (Chen et al., 2020). Similarly, Preti and colleagues (2020) discovered that 11% and 73.4% of healthcare professionals across various disciplines, including medicine, nursing, and paramedical fields, exhibited PTSD symptoms. Among these, 10–40% cases experienced persistence of PTSD symptoms for one to three years. Between 27.5% and 50.7% reported having depressive episodes and associated symptoms. Furthermore, severe anxiety symptoms were reported in almost 45% cases as well as sleeplessness was documented in 34% to 36.1% cases.

Moreover, India was not exempt from COVID-19's effects or its associated medical, social, and other difficulties. When the limited resources are directed toward pandemic containment, mental health issues and treatment normally take a backseat (Roy et al., 2021). Health care workers were at the forefront of the risk of contracting the illness and disseminating the virus. Nevertheless, they were actively helping to comfort and treat COVID-19 patients, while juggling important problems on a daily basis. These problems ranged from inadequate hospital infrastructure and long workdays to a shortage of oxygen supplies, ventilator support and personal protective equipment (Kalaitzaki et al., 2020). As a result of such unusual circumstances, the frontline healthcare professionals had to work typically above their capabilities. They also faced the

increased danger of getting infected. All these factors made them more likely to experience mental health issues (Gupta & Sahoo, 2020).

Stressors elicit multifaceted reactions in people, including behavioral, sensory, emotional, cognitive, physiological, and interpersonal reactions. COVID-19 pandemic was one such crucial stressor from which the frontline healthcare workers had to cope. Even the contemporary researchers (Fluharty et al., 2021; Lorente et al., 2021) have pointed out the vitality of coping strategies for the medical professionals working under stress. Folkman and Lazarus (1980) define coping as "the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them." There are two types of coping mechanisms and Bamani (2022) has suggested that both of these are applicable to the frontline healthcare personnel. When a frontline healthcare worker tries to alter the person-environment realities that are causing the stress, he/she is using problem-focused coping.

On the other hand, when a frontline health worker tries to alter how he/she perceives the demanding circumstance or lessen a negative emotional state, he /she is resorting to emotion-focused coping. While the results regarding the association of emotion-focused coping with mental health have been less consistent (Lorente et al., 2021), problem-focused coping has been favorably associated with reduced psychological discomfort during stressful situations as well as with the indicators of well-being (Grossi, 1999; Wong et al., 2016). Additionally, Naushad et al. (2019) systematically studied the effect of disasters on healthcare workers' mental health. They indicated maladaptive coping, a lack of training, social support and communication as risk factors for the emergence of psychiatric problems among the healthcare workers.

Moreover, frontline healthcare professionals at COVID-19 isolation facilities around the world suffered from psychological health problems such as burnout, anxiety, depression, and fear (Cabarkapa et al., 2020; Windarwati et al., 2020; Munawar & Choudhry, 2021; Özçevik Subaşi et al., 2021). Furthermore, compared to healthcare personnel in other departments, those employed in emergency rooms, critical care units, and isolation wards have been shown to have a higher prevalence of negative mental health issues. This is likely due to the fact that their jobs are more demanding, and they are in close contact with infected patients (Naushad et al., 2019). On a similar line, research revealed that nurses and married professionals were less likely to experience mental health issues than doctors and single professionals (Chan & Huak, 2004). According to previous research, healthcare workers' worries of getting infected, being quarantined, and fear of dying need to be considered as the most important factors to consider during the COVID-19 pandemic (Ahmed et al., 2020; Kumar et al., 2020).

Overall, pandemic had a significant impact on doctors' physical and mental health and pushed them to the edge of their clinical abilities (Goddard & Patel, 2021). Thus, it is crucial to investigate the fear of COVID-19, psychological distress, and coping among frontline healthcare workers, particularly in the Indian context.

Rationale:

Prior studies have emphasized a heightened prevalence of fear and distress among the healthcare workforce (Alnazly et al., 2021; Gündoğmuş et al., 2021; Liu et al., 2020; Ngoc et al., 2022; Tasnim et al., 2021; Xing et al., 2021), while others have explored about the coping of the healthcare staff during this pandemic (Ali & Kumar, 2023; Croghan et al., 2021; Li et al., 2022; Munawar & Choudhry, 2021; Singh et al., 2021; Smallwood et al., 2021; Teixeira et al., 2020). The psychological mechanisms behind frontline healthcare workers' responses to pandemic-related stressors remain largely unknown, despite the fact that a great deal of research has been done during the COVID-19 pandemic. Hence, there is a need for a holistic approach that takes into account the dynamic interplay between fear, psychological distress, and coping. Specifically, while fear of COVID-19 linked to issues related to mental health among healthcare workers (Chen et al., 2020), less is known about how this fear translates into behavioral and emotional coping responses. Moreover, the potential mediating role of psychological distress—which includes stress, anxiety, and depression symptoms—has also been mainly disregarded in this context. Thus, this study aims to examine how psychological

distress mediates the association between frontline healthcare professionals' fear of COVID and coping, particularly in the Indian setting.

Objectives:

- To examine the relationship between fear of COVID-19 and coping behaviour among frontline health workers during the second wave of COVID-19 pandemic.
- To examine the relationship between fear of COVID-19 and psychological distress among frontline health workers during the second wave of COVID-19 pandemic.
- To examine the relationship between psychological distress and coping behaviour among frontline health workers during the second wave of COVID-19 pandemic.
- To examine the mediating role of psychological distress in the relationship between fear of COVID-19 and coping behaviour among frontline health workers during the second wave of COVID-19 pandemic.

METHODOLOGY

Sample

One hundred fifty-five frontline healthcare workers who managed patients infected with COVID-19 during the second wave of the COVID pandemic, either directly or indirectly, constituted the study's sample. The participants, with the age range of 18-52 years, were selected from Sir Sunder Lal Hospital, Banaras Hindu University, using the purposive sampling method. They included medical doctors, nursing staff, and others. To be eligible for the study, a person must be at the forefront in caring the COVID-19 patients and should be present at the hospital.

Measures

Fear of COVID-19 Scale (FCV 19S)

Developed by Ahorsu et al. (2020), Fear of COVID-19 Scale, is a unidimensional scale with seven items. All ages and genders had similar overall scores on the FCV 19S, indicating that it is a useful psychometric tool for evaluating people's fears about COVID-19. With a five-item Likert-type scale, from 1 (meaning "strongly disagree") to 5 (meaning "strongly agree"), the participants indicate how much they agree with the statements. The total score can range from 7 to 35. The more a person scores, the more they fear coronavirus-19. Its Cronbach's alpha value of 0.82 suggests that it has strong internal consistency (Ahorsu et al., 2020).

Coping Questionnaire

Formulated by Hamby and colleagues (2015), this scale assesses cognitive, emotional, and behavioral methods employed in dealing with the difficulties. It comprises of 13 items which are answered on a 4-point Likert scale, with 4 denoting “mostly true about me” to 1 denoting “not true about me.” Adapted from Holahan and Moos's (1987) popular Coping Strategies Scale, items 2, 3, and 4 concentrate on cognitive and emotional approaches. However, the remaining cognitive and emotional items were original, which were adapted from the framework for assessing coping in response to stalking developed by Spitzberg and Cupach (2008). Moreover, to accommodate a community sample, some of whom have low reading and educational skills, the modified items were reworded to emphasize general coping tendencies rather than a reaction to a particular circumstance. The pilot and primary samples have internal consistencies (coefficient alphas) of 0.88 and 0.91, respectively.

DASS-21

The Depression, Anxiety, and Stress Scale (DASS-21) is a 21-item instrument which was developed by Lovibond and Lovibond (1995) evaluate psychological distress across three dimensions: depression, anxiety, and stress. Respondents rate each item according to their experience of symptoms during the preceding week. Each item is scored from 0, representing “did not apply to me,” to 3, representing “applied to me very much or most of the time.” Since DASS-21 is a condensed version of the DASS-42, the final score of each domain is multiplied by two. Higher scores for the depression domain fall between 10 and 28, whereas normal values fall between 0 and 9. Normal scores in the anxiety domain fall between 0 and 7, whereas pathological values fall between 8 and 20. Additionally, normal scores in the stress domain

fall between 0 and 14, whereas pathological scores fall between 15 and 34. Coker (2018) reported the Cronbach's alpha values for the stress, anxiety, and depression subscales were 0.78, 0.89, and 0.81, respectively. Furthermore, the sum of the scores on each of the three sub-scales determines the DASS-21's overall score, which ranges from 0 to 63. High scores on the DASS-21 signify a higher degree of overall psychological distress (Soria-Reyes et al., 2024). Hence, this scale has been used in the present study to assess the psychological distress of the participants.

Procedure

A cross-sectional study was conducted in Sir Sunder Lal Hospital, Banaras Hindu University, which had a dedicated COVID-19 treatment facility. Questionnaires were distributed to the frontline healthcare workers who gave their consent to participate in this study. They were explained the purpose of the study, right to withdraw, and were also assured that confidentiality of their responses would be maintained. Also, appropriate social distancing measures were taken as the data was gathered during the second wave of COVID-19.

RESULT

Participant's demographic characteristics

Table 1 summarizes the participants' demographic characteristics. The mean age of the participants in the study was 29.06 years with standard deviation of 5.821.

Table 1. Demographic characteristics of the frontline healthcare workers. (*N*=155).

Variable	Category	N	(%)
Gender	Male	113	72.9
	Female	42	27.1
Residence	Urban	120	77.4
	Rural	27	17.4
	Semi-Urban	08	5.2
Occupation	Doctors	69	44.5
	Nurses	50	32.3
	Others	36	23.2
Salary	10000-30000	27	17.4
	31000-50000	14	9.0
	51000-70000	83	53.5
	71000-90000	29	18.7
	91000-100010	02	1.3
Education	Postgraduation	48	31.0
	Graduation	90	58.1
	Intermediate	14	9.0
	High school and below	03	1.9

Descriptive Statistics and Correlations

In the present study, data was analyzed using descriptive and correlational analysis. The summary of descriptive analysis and correlational analyses has been presented in Table 2 and Table 3 respectively.

Table 2. Descriptive Statistics of Fear of COVID, Psychological Distress, and Coping

Variables	*n*	*M*	*SD*
1. Fear of COVID	15	15.9	6.803
2. Psychological distress	15	20.5	25.03
3. Coping	15	35.7	8.674

Note: M=Mean, SD=Standard Deviation,

Table 3. Correlation of Fear of COVID, Psychological Distress, and Coping

Variables	1	2	3
Fear of COVID	—		
Psychological distress	.394**	—	
Coping	-.455**	-.534**	—

Note: ***p* < .01*

The results as shown in Table 3 illustrate that fear of COVID has a significant positive correlation with psychological distress (r=.394, p<.01), while a significant negative correlation with coping (r=-.455, p<.01). Similarly, psychological distress shows a significant negative correlation with coping (r=-.543, p<.01).

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Mediational analysis

In order to establish whether the relationship between fear of COVID and coping is mediated by psychological distress, Hayes's (2018) PROCESS macro (model 4) is used

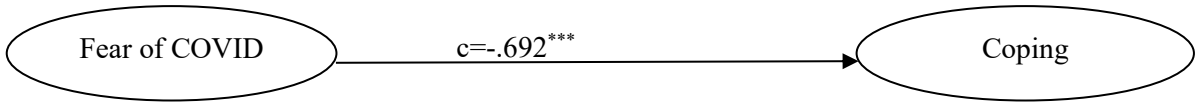

Fig. 1. Total effect of fear of COVID on coping.

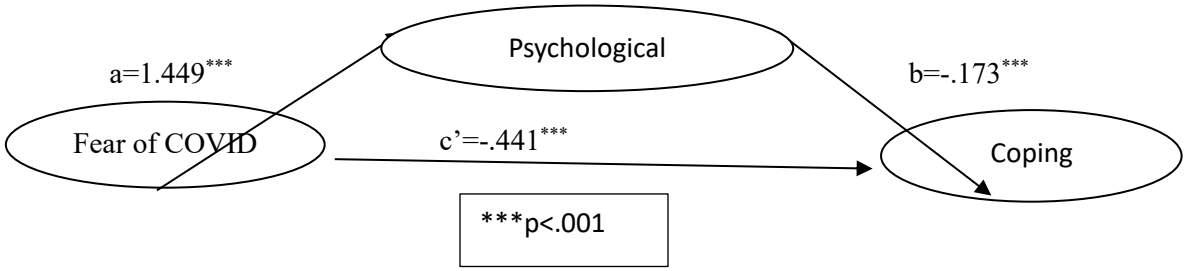

Fig. 2. Mediating role of psychological distress in the relationship between fear of COVID and coping.

The results of mediation analysis revealed a significant indirect effect of impact of fear of COVID on coping (b=-.251, t= 3.535). Furthermore, the direct effect of fear of COVID on coping in presence of the mediator was also found significant (b=-.441, p<.001). Hence, psychological distress partially mediated the relationship between fear of COVID and coping, as shown in the mediation analysis summary Table 4.

Table 4. Mediation analysis summary

Relationship	**Total effect**	**Direct effect**	**Indirect effect**	**Confidence Interval**		**t-statistics**	**Conclusion**
				Lower Bound	**Upper Bound**		
Fear of COVID> Psychological distress>Coping	-.692 (.000)	-.441 (.000)	-.251	-.398	-.120	3.535	Partial mediation

DISCUSSION

The current study's findings show a significant positive association between frontline healthcare workers' fear of COVID-19 and their psychological distress. It is generally established that infectious illness outbreaks affect both the general public and healthcare professionals psychologically. One well-known example would be the acute stress responses among healthcare workers observed during the severe acute respiratory syndrome (SARS) outbreak in 2003 (Tam et al., 2004; Grace et al., 2005). Hence, this finding supports the earlier research, suggesting that frontline healthcare workers who experienced more fear of COVID-19 had higher psychological distress (Collantoni et al., 2021;

Labrague & de Los Santos, 2021; Lu et al., 2021; Subhas et al., 2021).

It has been evident that health care workers, such as paramedics, ambulance personnel, and other healthcare workers, are at a heightened risk of being exposed to infectious disease outbreaks and thus experience extreme levels of stress, emotional influence and trauma, and symptoms of anxiety and depression (McAlonan et al., 2007). It is expected as the chance of exposure increases the anxiety and dread of infection. Moreover, they could be afraid about infecting their significant others. It has been demonstrated that most healthcare personnel have tensions and dissonance when trying to reconcile their professional responsibilities, compassion, and personal dread for both themselves and others (Tiong & Koh, 2013), causing psychological distress among them.

Additionally, both fear of COVID-19 and psychological distress have been found to be significantly and negatively associated with coping. It is evident form prior research that different coping strategies impact mental health differently (Lazarus and Folkman, 1984). The context of a pandemic may trigger the manifestation of maladaptive coping mechanisms, including avoidance and escapism (Melodia et al., 2020). Even during the challenging situations such as pandemic, engagement in adaptive coping strategies, such as physical exercise (Faulkner et al., 2020), seeking social support, a problem-solving orientation, and a transcendent perspective (Graziani et al., 2023), could contribute to enhance general mental health during the pandemic.

Further, the results of mediation analysis revealed that fear of COVID-19 can impact coping of the frontline healthcare workers directly as well as indirectly through psychological distress as the mediator. The mediating role of psychological distress explains that as fear of COVID-19 increases, psychological distress also increases, this distress in turn influences how frontline healthcare staff attempt to cope. These results align with the Lazarus & Folkman's (1984) theory of stress and coping, which claim that emotional states have a major impact on cognitive evaluation and coping strategy choice.

Nonetheless, the rapid spread of the disease, the high number of cases and deaths, the lack of trust in the health system and available interventions, ignorance, and misinformation made it difficult to deal with the COVID-19 pandemic. Additionally, increased working hours caused exhaustion among the healthcare workers. Not only this, in an effort to lower the danger of infection, many healthcare professionals choose to live far from their family (Wu et al., 2020). Also, social distancing measures had to be followed, especially for those who interacted with symptomatic patients. These premises suggest that healthcare workers found it difficult to seek out social support, which might result in increased levels of distress and avoidance coping (Babore et al., 2020). This can explain how fear of COVID-19 and psychological distress can impact the frontline healthcare workers' coping behaviour.

Folkman's appraisal theory (2010), pointed out that the people can employ adaptive or maladaptive coping strategies based on their evaluation of stressors. If the situation is perceived as threat, then people might resort to maladaptive coping mechanisms, which further generates negative emotions like fear, anxiety and worry. Contrary to this, if the situation is considered as challenging, then it might facilitate positive emotions such as motivation, encouraging proactive behaviour among the individuals. With reference to COVID-19 pandemic, frontline healthcare staff felt powerless and was unprepared for the anguish of losing numerous patients at once. Moreover, they were held accountable for the unavoidable and tragic circumstance by their healthcare education and experience (Chhablani & Choudhari, 2022) which posed a feeling of extreme pressure and threat. All this contributed to elevated levels of fear and distress among them. Since fear is directly linked to morbidity and mortality as well as transmission rate and medium (rapidly and invisibly), it can culminate into other psychosocial issues such as stigmatization, loss, and prejudice (Pappas et al., 2009). In frontline situations, the fear not only increases stress and anxiety but also makes healthcare personnel more emotionally vulnerable. Thus, they may not react with clarity and reason due to elevated levels of

fear, which can affect their ability to cope (Ahorsu et al., 2020).

Therefore, it is essential to empower them with psychological tools which could enable them to deal with stress and use adaptive coping in face of any other public health crises.

IMPLICATIONS

The present study enriches the available literature by establishing psychological distress as a key psychological mechanism that links fear to coping. These findings enhance our understanding of how emotional responses to a health crisis influence coping behaviors of the healthcare workers who were fighting with the crisis at the forefront particularly, during the second wave of the pandemic which posed a serious challenge on the capacity of the health system. Furthermore, the findings underscore the need for mental health interventions for addressing the fear and distress as well as promoting flexible coping among the frontline healthcare professionals, particularly in periods of increased perceived threat, like pandemics. Therefore, to ensure that frontline healthcare personnel are psychologically prepared to meet the demands imposed on them, proactive mental health planning may act as a buffer during future health emergencies.

LIMITATIONS

The study uses self-reported measures to evaluate fear of COVID, psychological distress and coping of the participants, which could create bias and inaccuracy if participants' answers are not entirely honest or accurate. Additionally, this study focuses on the frontline healthcare workers of only one hospital which limits its ability to generalize the results as well as to draw any causal relationships. Thus, future studies are needed to examine whether comparable mediation effects are present in healthcare workers from various hospitals across various cities in India.

CONCLUSION

This study investigated how psychological distress mediated the association between frontline healthcare professionals' coping mechanisms and their fear of COVID-19. The results highlight psychological consequences of working in high-risk healthcare settings during a major world health emergency. In particular, the findings show that fear of COVID-19 affects coping mechanisms through increased psychological discomfort in addition to directly influencing them. This highlights how crucial psychological distress is in linking emotional fear responses to either adaptive or maladaptive coping mechanisms. Therefore, this study emphasizes the critical need for mental health interventions that hat help frontline healthcare professionals cope better and experience less anxiety and distress.

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