

Coping strategies of Indian health workers during the second wave of COVID-19



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ABSTRACT

Frontline healthcare professionals worldwide have played a pivotal role in the management of the COVID-19 pandemic since 2020. They have endured significant psychological distress and physical strain. In order to evaluate the coping mechanisms employed by healthcare workers during the second wave of COVID-19 in the Indian state of Rajasthan, a cross-sectional study was conducted at a district hospital operated by the Rajasthan government between August 2022 and October 2022. The study included 759 healthcare workers, encompassing doctors, nurses, paramedical staff, and administration staff. The participants were selected using a simple random sampling method and were provided with self-administered questionnaires to report their coping strategies, utilizing the Brief-COPE scale. Of the total participants, 270 (36%) were doctors, 325 (43%) were nurses, 146 (20%) were paramedical staff, and 18 (3%) were administration staff. Moreover, the study consisted of 375 (49%) male participants and 384 (51%) female participants. The participants identified three types of coping strategies: problem-focused, emotion-focused, and meaning-focused. Notably, problem-focused coping was the most frequently adopted strategy, chosen by 9% of the participants. Additionally, factors such as sex, marital status, job designation, shift type, shift duration, and level of experience demonstrated statistically significant associations with emotion-focused and problem-focused coping ($p < 0.05$). The majority of participants reported employing problem-focused coping strategies frequently. Previous studies have also indicated that healthcare workers attempted to reorganize their services, utilized personal protective equipment, implemented effective sanitization methods, and adhered to patient safety protocols. Consequently, this study supports existing literature regarding the impact of the crisis on the well-being of healthcare workers and the coping mechanisms employed by this population.

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1. Introduction

During challenging circumstances, it is imperative to exhibit effective performance and emotional regulation. The outbreak of the coronavirus disease-2019 (COVID-19) serves as an exemplary crisis that elicits a multitude of emotions including anxiety, fear, and loneliness, among others. Nevertheless, amidst this crisis, the response to the pandemic can facilitate individuals in coping with

the situation in a constructive manner. Notably, healthcare workers (HCWs) on the frontlines worldwide have played a pivotal role in managing the pandemic since 2020. Nonetheless, the profound impact of the pandemic on their overall well-being has significantly altered their health status.

HCWs assigned to isolation units, emergency units, and intensive care units (ICUs) are more susceptible to developing adverse psychological disorders in comparison to their counterparts working in non-emergency units, largely due to their heightened exposure to infected patients (Wong et al., 2005). Additionally, medical professionals who are unmarried have exhibited a greater vulnerability to psychiatric disorders than their married counterparts, including both professionals and nurses. Recent systematic analysis focusing on the influence of the disaster on HCWs' mental health has revealed that inadequate social support,

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communication, maladaptive coping strategies, and insufficient training are risk factors associated with the development of psychiatric problems (Huang et al., 2020).

Coping is defined as “constantly changing cognitive, and behavioral efforts to handle specific external, and/or internal requirements assessed as taxing or exceeding the person's resources” (Main et al., 2011). Individuals deal with stress in unique and varied ways; some may prefer to communicate emotions openly, whereas some may actively rethink the source of the distress and its occurrence so that it seems less stressful (Duhachek, 2005). Psychologists have categorized coping strategies into two, namely, emotion-focused and problem-focused. Individuals generally prefer avoidant coping to minimize emotional stress instead of coping with it. Problem-focused coping involves ways to deal with a problematic event or situation.

The availability and accessibility of resources at the workplace are critical to cope with a stressful situation. All “physical, infrastructural, and human capital entities” are referred to as resources. Unfortunately, the challenges associated with resource availability have multiplied during the COVID-19 pandemic. HCWs have reported various resource availability, allocation, and adequacy issues. Pandemics have been shown to increase the occurrence of PTSD symptoms as well as disorientation, loneliness, boredom, and rage during and after quarantine according to recent research in psychological sciences (Golechha et al., 2022). During the pandemic, hospital employees have been subjected to immense psychological suffering as well as physical stress. Hence, this study aimed to assess the coping strategies of HCWs during the second wave of COVID-19 in Rajasthan.

1.1. Hypothesis testing

H₀₁: There is no association of demographic characteristics of healthcare workers with coping strategies adopted.

H_{a1}: There is an association of demographic characteristics of healthcare workers with coping strategies adopted.

2. Materials and methods

2.1. Study design and population

A cross-sectional, observational study was conducted in the Rajasthan government's district hospital in India during August–October 2022. The sample comprised HCWs working in the district hospital and included doctors, nurses, paramedical staff, and administration staff. The sample size for the study was calculated using Cochran's formula:

$$n = \frac{z^2 p(1-p)}{d^2} \quad (1)$$

At 95% confidence interval, 5% acceptable margin of error, and 20%, 28%, and 15% as estimated proportions of the problem for doctors, nurses, and paramedical staff, respectively. All the administrative staff working in the hospital were included. A total sample of 838 was obtained, of which the sample size for doctors was 270, that of nurses was 338, that paramedical staff was 214, and that of administration staff was 20.

2.2. Inclusion and exclusion criteria

All doctors, nurses, paramedical staff, and administrative staff working in the hospital were included in the study. Other nonmedical personnel (such as security guards, receptionists, etc.) employed in the medical college hospital were excluded. All those who could not be approached after three attempts were also excluded.

2.3. Sampling method

The participants were selected via a simple random sampling method in which every participant was assigned a unique number. A list of participants was created, from which the participants were selected randomly.

2.4. Data collection instrument

A self-administered questionnaire was used to collect demographic information about the participants, such as their age, sex, education, marital status, work experience, type of shift, working hours, living status, type of accommodation, and distance of green spaces. The respondents' coping styles were examined using the Brief-COPE Inventory. It is a condensed version of Carver's COPE scale (Carver et al., 1989). The inventory is used to study three types of coping strategies, namely, emotion-focused, problem-focused, and meaning-focused, on the Likert scale. The coping styles were measured using statements with a four-point scale (1=I haven't been doing this at all, 2=I have been doing this a little bit, 3=I have been doing this moderately, and 4=I have been doing this a lot). The data collection tool was employed in the languages of both English and Hindi.

The psychometric parameters of the Brief-COPE questionnaire were established with 37% of the total variance in a recent study in 2021 that verified the psychometric qualities of the Brief-COPE assessment to ensure use among nursing staff in the UAE (Abdul Rahman et al., 2021). The Brief-COPE in the Tamil language among Indian HIV/AIDS patients yielded a five-factor (17-item) model that accounted for 41.5% of the overall variance (Mohanraj et al., 2015). Carver et al. (1989) reported and established the validity and reliability of the Brief-COPE scale in the original scale, and Cronbach's alpha is 0.57–0.90 (Janghel and Shrivastav, 2017).

2.5. Data analysis

The collected data were presented through descriptive statistics using the Epi-info software version 7. The statistical association of the commonly adopted coping strategies with various demographic characteristics of the participants was tested using the Chi-square test and Fisher exact test, where appropriate. P value < 0.05 was considered to indicate the statistical significance of the variables.

3. Results

3.1. Demographic characteristics

Totally, 759 HCWs participated in this study, of which 270 (36%) were doctors, 325 (43%) were nurses, 146 (20%) were paramedical staff, and 18 (3%) were administration staff. There were 375 (49%) men and 384 (51%) women. Furthermore, 28 (4%) participants were aged 20–24 years, 584 (77%) were aged 25–44 years, and 147 (20%) were aged 45–64 years. The mean age was 35 years and 38 years for women and men, respectively. Moreover, 286 (35%) participants had a graduate degree, 268 (38%) participants had a diploma or polytechnic degree, and 197 (26%) participants had a postgraduate degree. The majority of the participants (n=562, 74%) were married, 179 (23%) were bachelors, 13 (2%) were widows, and 4 (0.5%) were divorced. In addition, 450 (59%) participants had up to 5 years of experience in the hospital, 157 (21%) had up to 10 years of experience, and 152 (20%) had more than 10 years of work experience. Maximum participants (n=476, 62%) had daytime shifts, with up to 6 hours of work per day.

3.2. Coping strategies

The participants reported three types of coping strategies, as mentioned in Table 1.

Fig. 1 represents the different types of problem-focused coping strategies adopted by the participants, in which 254 participants got advice or help from other people, such as their peers, senior doctors, family members, and friends, about the situation as part of the problem-focused coping strategy for most of the days. Fig. 2 represents the different types of emotion-focused coping strategies adopted by the participants, in which 293 got emotional support from others for most of the days. Fig. 3 represents the meaning-focused coping strategies, in which 80 participants told themselves that it wasn't real for most of the days.

The p values obtained from the Chi-square test and Kruskal–Wallis H test showed a significant association between demographic characteristics

and coping strategies adopted by the participants. Sex, marital status, designation, shift type, shift time, and experience level were statistically associated with emotion-focused and problem-focused coping (p < 0.05). Only sex, shift type and shift time were statistically associated with meaning-focused coping (p < 0.05).

4. Discussion

This study reported little or no use of meaning-focused coping strategies to cope with COVID-19-related issues by maximum number of participants (88%), whereas emotion-focused and problem-focused coping strategies were used by a few participants (59%, and 54% respectively). A similar cross-sectional study conducted with healthcare workers in New York during the COVID-19 pandemic reported increased levels of physical activity as their coping strategy and the maximum number of participants reported a sense of purpose since the pandemic (Shechter et al., 2020).

On the other side, the HCWs altogether adopted meaning-focused and emotion-focused coping behavior since the COVID-19 pandemic which is contrary to the present study. Similarly, HCWs working in COVID-19 areas of India reported maladaptive and adaptive coping strategies during COVID-19 such as denial and substance use (Singh et al., 2021). Altogether, the results of the present study are in line with those HCWs from various countries of the world including India who reported family support and positive thinking as their most preferred coping strategy (Htay et al., 2021).

4.1. Emotion-focused coping

Individuals may regulate their emotions under challenging conditions. Emotional imbalance is characterized by an unprecedented number of emotions, anxieties, and suppressed feelings. Stanisławski (2019) explained eight different coping styles with the help of the coping circumplex model and highlighted the relationship between emotion regulation and coping. A study conducted with healthcare workers in Bangalore also reported that emotion-focused coping was the most adopted of the several coping techniques to deal with the COVID-19 threat (George et al., 2020).

However, the participants in this study reported moderate use (n=248) of emotion-focused coping, which was statistically associated with their sex. Indulging in hobbies and spending family time is the most cited method of emotional regulation (George et al., 2020), but is contrary to the results of this study in which only a few participants regulated their emotions in this way (n=74).

Table 1: Summary of coping strategies reported by the participants

Coping style	Used a little bit		Used moderately		Used frequently	
Emotion-Focused	449	59%	248	33%	0	0%
Problem-Focused	409	54%	280	37%	68	9%
Meaning-Focused	668	88%	89	12%	0	0%

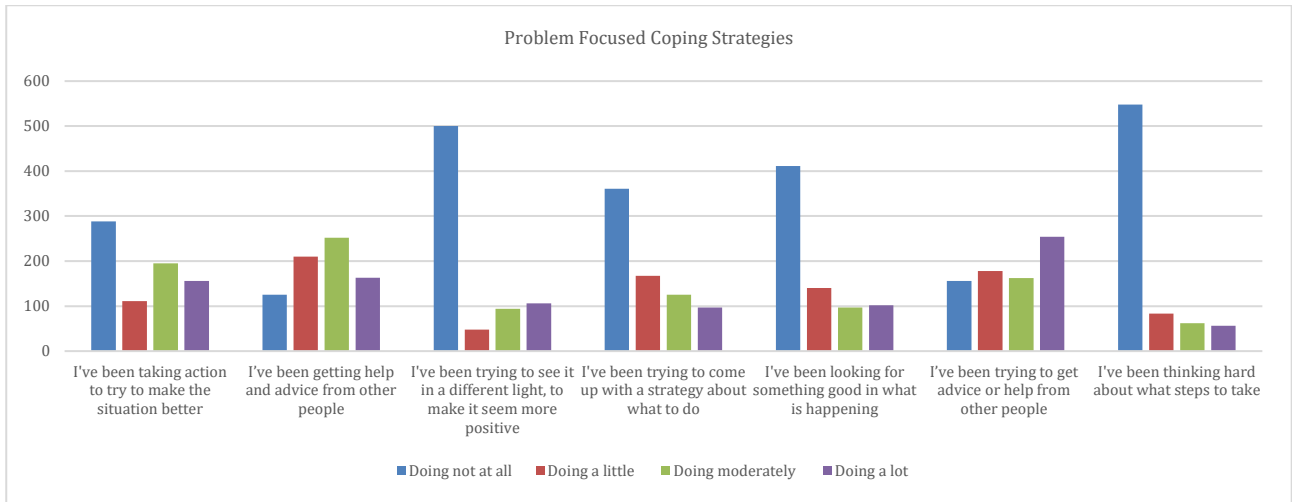


Fig. 1: Problem-focused strategies reported by the participants

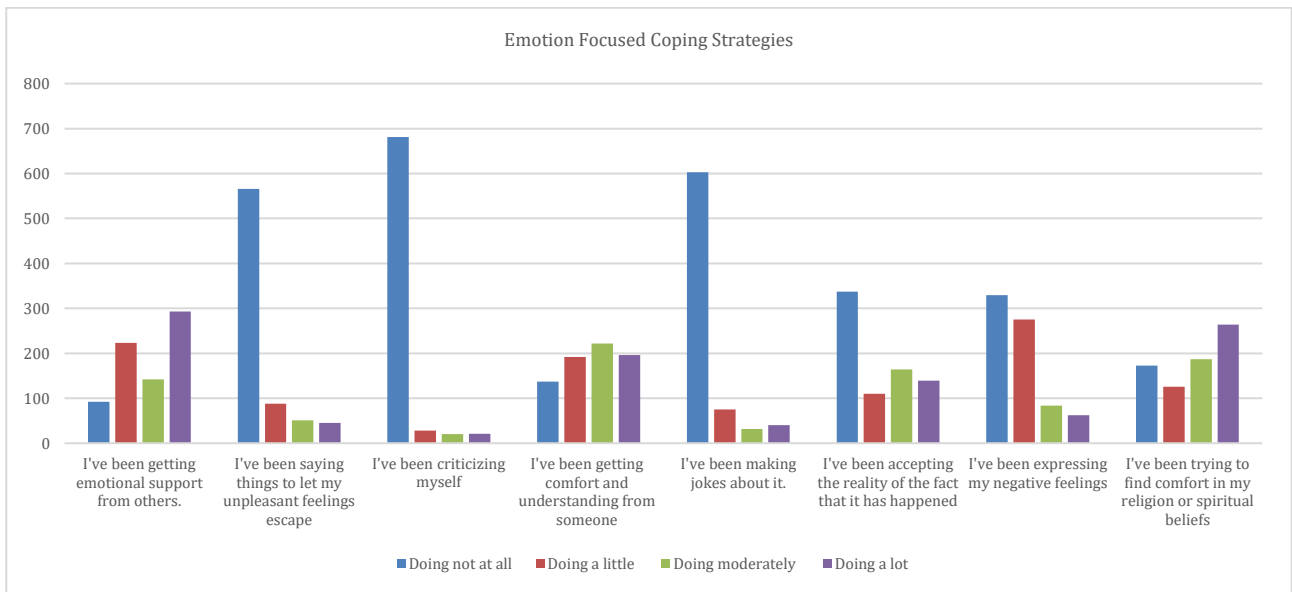


Fig. 2: Emotion-focused strategies reported by the participants

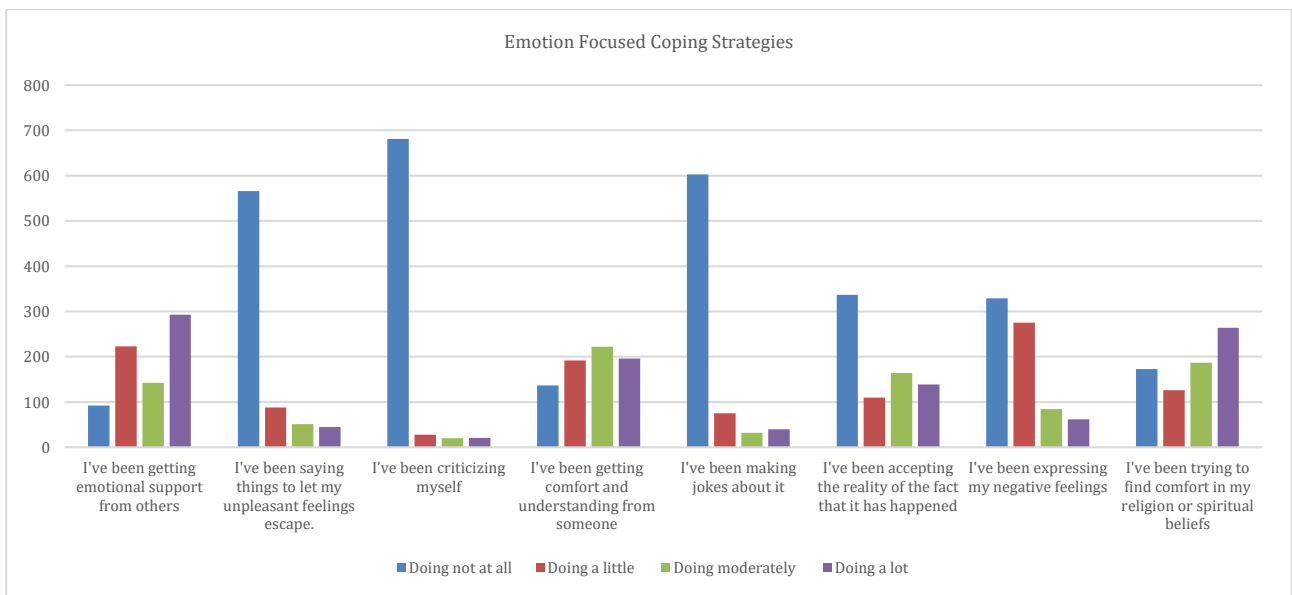


Fig. 3: Meaning-focused strategies reported by the participants

Peer support is viewed as a source of encouragement and connection that delivers various positive emotions during times of difficulty and has

been found to significantly reduce stress levels (Ahuja, 2022; Kanagaraj et al., 2020; Mathias et al., 2020). Nevertheless, these findings are contrary to

the present study in which emotion-focused strategy was not found to be associated with peer support or having good relationships at work. Praying together, working together, reminding each other about infection control, listening to each other, and comforting each other are a few ways of peer support that have been reported in similar studies (George et al., 2020). These results are in line with the present study, with many participants (n=293) stating that they received peer support for most of the days.

4.2. Problem-focused coping

During the pandemic, healthcare personnel was engaged by their desire to help the impoverished with a commitment to maintaining critical services (George et al., 2020). As part of problem-focused coping, HCWs in Bangalore attempted to realign their services, use personal protective equipment, practice effective cleaning methods, and follow patient safety measures during the pandemic (Fenn et al., 2021; George et al., 2020), which were statistically associated with designation and experience level. The participants in this study reported little use of problem-focused coping (n=409), and only 68 participants reported using this coping strategy for most of the days. Washing hands regularly, following social distancing, and avoiding public places, and public transport was most reported by the general population above 18 years of age as their coping strategy to deal with COVID-19 (Suhail et al., 2021). On the contrary, HCWs reported the use of personal protective equipment (PPE) and disinfection methods to deal with COVID-19 in the present study. During the pandemic, the HCWs, majorly nurses were posted in COVID-19 care wards and ICU wards during their duty hours and had to completely deal with COVID-19-infected patients (Moradi et al., 2021). Such working conditions might not provide an opportunity to maintain social distance or avoid public contact. Therefore, disinfecting the hospital sites and wearing PPE were the only possible and effective preventive measures for those working in high-risk conditions; however, these measures were used less frequently by the participants in this study.

4.3. Meaning-focused coping

Spirituality, goal setting, value adherence, and social service are a few ways to deal with the pandemic. Religious coping has been recognized as the most popular way for people to cope with their unpleasant experiences as reported by Nigerians and Indians during COVID-19 (Fatima et al., 2022). Also, statistical associations with sex, experience level, designation, and shift type were obtained, which is in line with the present study. Spirituality has been mentioned as an important coping strategy and so were reciting morning prayers, and attending weekly spiritual events by Italians during COVID-19 (Molteni et al., 2021). A similar coping behavior was

reported by Indians (Fenn et al., 2021). The participants of this study reported little to moderate use of spirituality (n=668). The participants focused on their moral values, such as serving the community and social service, in the current study (n=106) for most of the days. These findings contradict those of other groups from more developed economies, such as China, where people have reported using maladaptive coping methods (Main et al., 2011) and avoidant coping strategies (Wang et al., 2021) to tackle stress during previous outbreaks rather than emotion-centered coping strategies. People have been known to engage in religious activities at times of crisis, which was also observed during the COVID-19 pandemic (Fatima et al., 2022).

This study is the first of its kind conducted among the HCWs of Rajasthan's district hospital, who coped with faced various issues and challenges during the second wave of COVID-19. However, the sample size may not provide generalized results that can be applied to all HCWs across regions.

5. Conclusions

The present study aimed to investigate the frequency of coping strategy utilization among healthcare workers (HCWs) during times of crisis. The results indicate that a large proportion of the participants did not report frequent use of coping strategies. Nonetheless, these findings align with existing literature on the impact of crises on the well-being of HCWs and the coping strategies they employ. To gain a deeper understanding of the independent factors associated with the coping strategies adopted by HCWs, future research employing factor analysis and structural equation modeling techniques is recommended.

Compliance with ethical standards

Ethical consideration

The study was approved by the institutional review board and ethics committee of the district hospital. The participants provided their written consent for voluntary participation.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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