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Original Article

Coping strategies used by healthcare professionals during COVID-19 pandemic in Dubai: A descriptive cross-sectional study

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Abstract

The coronavirus disease 2019 (COVID-19) pandemic has affected physical, social, and psychological well-being of all people, especially healthcare professionals (HCP), who are vulnerable to work-related stress. The aim of this study was to explore the effectiveness of coping strategies practiced by HCPs during the COVID-19 pandemic. A cross-sectional study was conducted in Mediclinic Welcare Hospital in Dubai during the pandemic between March 2020 and April 2021. The questionnaire was used to collect demographic data and validated Brief Coping Orientation to Problems Experienced (Brief-COPE) scales instrument was used to measure the coping strategies. A total 112 respondents were included in the final analysis consisting of physicians (11.6 %), nurses (60.7%), other clinical HCPs (24.1%), and non-clinical staff (7.2%). The common and effective coping strategies used by HCPs were within the problem-focused category. The female HCPs used multiple coping strategies to help them to manage their stress during COVID-19 pandemic. The nurses were more likely to report using emotional support as a coping strategy than doctors or other hospital staff members. Among 48.21% of the respondents that venting helped them release their feelings and distracted themselves through watching movies or television, reading, sleeping, or shopping. Moreover, 42.86% respondents found comfort in practicing religion and spiritual beliefs. Interestingly, the use of alcohol or other drugs was used as a coping mechanism during the pandemic, whereas emotional support and actions as well as taking other advice, were common strategies. Based on these data, healthcare institutions should consider a variety of support measures and programs for the mitigation of stress and negative emotional responses among HCPs during any future outbreaks or pandemics, such as providing access to mental health services, regular check-ins with colleagues or supervisors, peer support groups, educational resources on coping strategies, and paid time off for rest and recovery. Counseling and executive support services also could help staff to manage the mental health during future disasters.

Keywords: COVID-19, stress, COPE, coping strategy, HCW, hospital

Introduction

As of December 29, 2022, there were more than 663 million confirmed coronavirus disease 2019 (COVID-19) cases, with more than 6.6 million deaths globally [1]. The disease was declared as pandemic by the World Health Organization (WHO) on March 11, 2020 [2]. Governments worldwide imposed measures to limit its spread ranging from social distancing to strict lockdown.

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On January 16, 2020, the United Arab Emirates (UAE) reported their first confirmed COVID-19 case and the government took early steps and used the latest technology to contain the spread of the virus. Numerous measures were taken by the UAE government and private healthcare sector entities to support the UAE's population's psychological and mental health needs during the hectic and stressful time [3]. The COVID-19 pandemic greatly strained the healthcare organizations, social systems, and resources worldwide [4]. Besides stretching the capacities of intensive care units (ICUs) to accommodate critically ill patients suffering from the effects of COVID-19, the healthcare professionals (HCPs), who represented the most critical resource for saving lives and limiting the impact of the pandemic were seriously affected [5]. Although various treatments have been proposed for managing critically ill patients COVID -19, scientific evidence and staff knowledge have yet to be conclusive as to the benefits of these treatments in the early phase of the disease, increasing stress and uncertainty for medical staff [6]. The impact of the COVID-19 pandemic is not entirely related to health issues but also contains social and psychological effects. WHO estimated that between 80,000 and 180,000 HCPs could have died from COVID-19 between January 2020 to May 2021, forming part of the total of 115,500 deaths; this fact alone would be an additional stressor for any HCP [7].

The pandemic has altered the work habits and practices of HCPs. Everyday activities have changed because of the COVID-19 epidemic, creating significant obstacles in people's lives. Social distancing and working from home are two measures imposed during the COVID-19 pandemic that have led to changes in workplace. Additionally, the pandemic itself indirectly raised people's feelings of worry, fear, emotional tension, exhaustion, insomnia, unhappiness, and desperation [8]. The psychosocial and economic crisis caused by the COVID-19 pandemic created extensively negative consequences associated with the need for mental health care. Therefore, studies that address psychological support needs and interventions for health professionals are necessary both in the emerging period of the pandemic and in the post-pandemic period [9-12]. High mortality rate and rapid spread of the virus put the medical staff on the ground under enormous stress [13]. HCPs facing a life-threatening illness may develop vicarious traumatization (or secondary traumatic stress), which refers to intrusion, avoidance, and arousal resulting from indirect exposure to traumatic events experienced by traumatized patients. Previous studies have examined the stress levels of HCP's caring for patients with COVID-19 using a cross-sectional design [14-15]. These studies have identified factors that influence and increase the psychological distress of HCPs, including an increasing number of COVID-19 patients, increased workload, inadequate workforce, limited supply of personal protective equipment (PPE), the rapid spread of COVID-19, lack of specific treatment medications, and lack of supports [14-15].

Coping behaviors refers to a person's response to stressors, where previous study have shown that HCPs often engaged in coping behaviors when caring for seriously ill COVID-19 patients, such as taking additional preventive measures, actively learning about COVID-19, adjusting their mental perspective, actively engaging with the COVID-19 epidemic, seeking family support, sharing jokes with colleagues, and engaging more in humor and friendship [16]. Through these behaviors, the HCPs attempt to motivate themselves to face the pandemic positively while reducing their stress [16]. The coping strategies commonly used by employees include reading about prevention methods, disseminating information about COVID-19, and following the appropriate PPE protocols [17]. Some employees also practice listening to motivational talks to cultivate a positive perspective in dealing with the pandemic [17]. A previous study have shown that coping behaviors correlate with psychological well-being and that poor psychological well-being is usually associated with coping behaviors such as self-distraction, behavioral withdrawal, denial, and venting [18]. In addition, factors such as family support, family function, psychological status, and resilience do affect coping behavior [19]. Actions are needed to mitigate the impacts of COVID-19 on mental health by protecting and promoting the psychological well-being of HCPs during and after the outbreak [20-21].

The aim of this study was to identify the strain and coping efforts among HCPs during the COVID-19 pandemic. The data will beneficial to assist the hospital leadership in planning and allocating various types of resources that are important to the healthcare staff to ensure long-term sustainability, optimal performance, and worker well-being during times of crisis.

Methods

Study design

A cross-sectional study was conducted using online questionnaire hosted by Google forms among HCPs at Mediclinic Welcare Hospital (MWEL), Dubai, United Arab Emirates. A total 112 HCPs responded to the survey, including doctors, nurses, and other HCPs between March 2020 and April 2021. The HCPs were questioned on their experiences concerning works and personal stressors, psychological stress, and the coping strategies. The link of the online survey was distributed via email, and participation was voluntary and anonymous. A participant's information sheet and consent form were attached before the first page of the online survey. Participants were asked to read the information sheet, which detailed the study's aim and details surrounding confidentiality and voluntary participation.

Study measures

Data was collected using a validated and structured questionnaire, including demographic data and the Brief Coping Orientation to Problems Experienced (Brief-COPE) questionnaire. Demographic data collected included age group, gender, profession, unit (work area), and ethnicity. The Brief-COPE questionnaire is an abridged version of the COPE questionnaire. It measures how individuals deal with adversity, such as natural disasters, significant injury, and cancer diagnosis. The Brief-COPE questionnaire focuses on how people use different coping mechanisms, effective and ineffective, to cope with stressful life events.

The scores can determine how someone respond to a severe event and are categorized on the following three subscales: (1) Problem-focused coping (planning, active coping, and instrumental support); (2) Emotion-focused coping (acceptance, emotional support, religion, positive reframing, and humor); and (3) Avoidance coping (self-distraction, venting, self-blame, behavioral disengagement, denial, and substance use).

Brief-COPE consists of 28 items that measure 14 factors of two items each factor, corresponding to a scale ranging from 1 (never) to 4 (very frequent). The result was obtained by adding the item scores for each subscale; the higher the score, the greater the use of a given coping strategy. The Brief-COPE questionnaire was utilized as it is a shortened version of the original 60-item COPE scale to ensure high participation rates and minimize interference with professional duties. The Brief-COPE inventory is a validated tool that has been widely used for measuring coping strategies [22].

Data analysis

Completed questionnaires were extracted from Google Forms onto an Excel spreadsheet. The data were analyzed using IBM SPSS Version 22.0. Quantitative analysis was used, including the mean, standard deviation (SD), and percentage. Data were expressed as mean and standard deviation (SD) for continuous variables and as numbers and percentages for categorical variables. The $p<0.05$ was considered significant for all statistical analyses. Frequencies and percentages were calculated for all nominal variables. Mean coping strategies were compared for gender and profession.

Results

Demographic characteristics

The first part of the questionnaire consisted of six demographic questions to understand better our respondents for this study (**Table 1**). A total of participants (n=112) responded to the questionnaire. The mean age of the medical staff was 41.25 years old, with a standard deviation of 8.7 years old. This suggests that most staff members were in their late thirties to early forties. Of the 112 medical staff members, 81.3% were female and 18.7% – male. This indicates that the medical field was still predominantly female. Most medical staff were nurses (60.7%) followed by other clinical staff (24.1%), and lastly doctors (11.6%). Only 3.6% were non-clinical staff, including administrative roles. Most medical staff were Asian, accounting for 83% of the total. Arab staff

members made up 13.4%, and Westerners – only 2.7%. This suggests that the healthcare industry in this location was culturally diverse but with a strong Asian representation. In conclusion, the data provides insight into the demographics of medical staff in this location, revealing a female-dominated workforce with a majority of Asian ethnic backgrounds, mainly comprising nurses and other clinical staff.

Table 1. Demographic characteristics of the medical staff recruited in this study (n=112)

Characteristic	n (%)
Age (years old), mean (standard deviation)	41.25 (8.7)
Gender	
Female	91(81.3%)
Male	21 (18.7%)
Profession	
Nurse	68 (60.7%)
Doctor	13 (11.6%)
Other clinical	27 (24.1%)
Admin staff	4 (3.6%)
Non-clinical Staff	4 (3.6%)
Ethnicity	
Arab	15 (13.4%)
Asian	93 (83%)
Westerner	3 (2.7%)

Perceived stress and coping strategies

The second part of the Brief-COPE questionnaire analysis showed good internal consistency for all three coping categories: 'problem-focused', 'emotion-focused', and 'avoidance' (**Table 2**). The table provides data on coping strategies, their average scores, and clinical percentiles. The average score for problem-focused coping is 2.98, suggesting that individuals used this coping mechanism moderately. The clinical percentile of 66 indicates that this coping strategy was commonly used among clinical populations. The average score for emotion-focused coping is 2.44, indicating that individuals tended to use this coping mechanism to a lesser extent. The clinical percentile of 33 suggests that this coping strategy was less commonly used in clinical populations than that of problem-focused coping. The average score for avoidant coping is 1.84, indicating that individuals used this coping mechanism to a lesser extent with the clinical percentile of 25.

Table 2. The avaerage score for each coping categories of Brief-COPE questionnaire (n=112)

Coping categories	Average score	Clinical percentile
Problem-focused coping	2.98	66
Emotional-focused coping	2.44	33
Avoidant coping	1.84	25

The problem-focused coping mechanisms and their average scores and clinical percentiles are presented in **Table 3**. The average scores for each domain are as follows: 'Active Coping' (3.2 or individuals use this coping mechanism moderately); 'Use of Informational Support' (2.64 or moderate); 'Positive Reframing' (3.06 or moderate); and 'Planning' (3.0 or moderate). The data suggest that both clinical and general populations commonly used problem-focused coping mechanisms such as active coping and planning with clinical percentiles of 50 and 48, respectively. While still moderately used, informational support and positive reframing, both having clinical percentiles of 42, were more commonly used among clinical populations.

Table 3. The average score of problem focused coping - (Items 2, 7, 10, 12, 14, 17, 23, 25)

Problem focused coping	Average score	Clinical percentile
Active coping (items 2 and 7)	3.2	50
Use of informational support (items 10 and 23)	2.64	42
Positive reframing (items 12 and 17)	3.06	42
Planning (items 14 and 25)	3.0	48

Data on emotionally focused coping mechanisms and their average scores and clinical percentiles are presented in **Table 4**. The individual scores on different subscales of coping strategies are as follows: 'Emotional support' (2.67), 'Venting' (2.16), 'Humor' (1.78), 'Acceptance' (3.33), 'Self-blame' (1.5), and 'Religion' (3.18). The clinical percentile indicates how the individual's scores compare to those of individuals in a clinical sample. The data suggest that emotional support and venting coping mechanisms are more commonly used among clinical populations, while humor is less frequently used. Both clinical and general populations commonly use acceptance and religious coping mechanisms. The use of self-blame coping mechanisms is less frequent among the general population.

Data on avoidant coping mechanisms and their average scores and clinical percentiles are presented in **Table 5**. The individual scores on different subscales of coping strategies are as follows: 'Self-distraction' (2.66), 'Substance use' (1.09), 'Denial' (1.77), and 'Behavioral disengagement' (1.84). The clinical percentile indicates how the individual's scores compare to those of individuals in a clinical sample. The data suggests that individuals used avoidant coping mechanisms to a lesser extent, with self-distraction being the most commonly used mechanism. Substance use was less commonly used among individuals, while denial and behavioral disengagement were used equally among clinical and general populations.

Table 4. Emotional focused coping - (Items 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28)

Emotional-focused Coping	Average score	Clinical percentile
Emotional support (items 5 and 15)	2.67	40
Venting (items 9 and 21)	2.16	63
Humor (items 18 and 28)	1.78	50
Acceptance (items 20 and 24)	3.33	50
Self-blame (items 13 and 26)	1.5	63
Religion (items 22 and 27)	3.18	52

Table 5. Avoidant coping - (items 1, 3, 4, 6, 8, 11, 16, 19)

Emotional-focused coping	Average score	Clinical percentile
Self-distraction (items 1 and 19)	2.66	41
Substance use (items 4 and 11)	1.09	50
Denial (items 3 and 8)	1.77	48
Behavioral disengagement (items 6 and 16)	1.84	50

Coping strategies used by healthcare professionals during COVID-19 pandemic according to gender

The study was targeted to offer an understanding of the coping strategies used by HCPs during the COVID-19 outbreak to reduce stress. The author separated the results by gender (Male and Female) shown in **Table 6** to identify any significant differences between how men and women use particular coping strategies. Higher scores were observed in female staff than in their male counterparts for Question 9 (2.29±1.01 versus 1.52±0.75; p=0.015), Question 19 (2.90±0.91 versus 2.24±0.94; p=0.029), and Question 22 (3.23±0.86 versus 2.67±1.20; p=0.031).

It can be noted that, in general, woman used multiple coping strategies to help them manage their stress during COVID-19, much more so than their male counterparts. The commonly reported coping strategy was looking for something good in what is happening and high levels of engagement in praying or meditating as a coping strategy. The least commonly reported coping strategy was using alcohol or other drugs to make them feel better (93.75%). In addition, for Question 26, which asks about blaming oneself for things that happened, the majority of participants (64.29%) reported that they have not been doing this at all, while only a small number of participants (1.79%) reported that they have been doing this a lot. However, it should be noted that the sample size for males was relatively small (n=21) compared to females (n=91), which may limit the statistical power to detect meaningful differences and may limit the capability to generalize the results to the larger population.

Table 6. Coping Strategies used by healthcare professionals to reduce stress during COVID-19 pandemic according to gender (n=112)

Question	Condition/ response	Group, n (%)		Total n (%)	$\chi 2$	p
		Female	Male			
1. I've been turning to work or other activities to take my mind off things.	Never	11 (12.1)	4 (19.0)	15 (13.3)	7.39	0.06
	Not frequent	25 (27.5)	11 (52.4)	36 (32.1)		
	Frequent	38 (41.7)	5 (23.8)	43 (38.3)		
	Very frequent	17 (18.7)	1 (4.8)	18 (16.1)		
	Mean±SD	2.67±0.9	2.14±0.7	2.57±0.9		
2. I've been concentrating my efforts on doing something about the situation I'm in.	Never	7 (7.7)	2 (9.5)	9 (8.1)	6.42	0.093
	Not frequent	8 (8.7)	6 (28.5)	14 (12.5)		
	Frequent	34 (37.3)	6 (28.5)	40 (35.7)		
	Very frequent	42 (46.1)	7 (33.3)	49 (43.7)		
	Mean±SD	3.22±0.90	2.86±1.01	3.15±0.93		
3. I've been saying to myself "this isn't real"	Never	38 (41.7)	12 (57.1)	50 (44.6)	2.06	0.560
	Not frequent	29 (31.9)	6 (28.6)	35 (31.2)		
	Frequent	18 (19.8)	2 (9.5)	20 (17.9)		
	Very frequent	6 (6.6)	1 (4.8)	7 (6.2)		
	Mean±SD	1.91±0.94	1.62±0.86	1.86±0.93		
4. I've been using alcohol or other drugs to make myself feel better	Never	87 (95.6)	18 (85.7)	105 (93.7)	3.16	0.367
	Not frequent	2 (2.2)	2 (9.5)	4 (3.5)		
	Frequent	0	0	0		
	Very frequent	2 (2.2)	1 (4.7)	3 (2.6)		
	Mean±SD	1.09±0.46	1.24±0.70	1.12±0.52		
5. I've been getting emotional support from others.	Never	12 (13.2)	5 (23.8)	17 (15.9)	5.81	0.121
	Not frequent	27 (29.7)	8 (38.1)	35 (31.2)		
	Frequent	34 (37.3)	8 (38.1)	42 (37.5)		
	Very frequent	18 (19.8)	0	18 (16.1)		
	Mean±SD	2.64±0.95	2.14±0.79	2.54±0.94		
6. I've been giving up trying to deal with it.	Never	47 (51.6)	10 (47.6)	57 (50.9)	2.43	0.487
	Not frequent	21 (23.1)	8 (38.1)	29 (25.9)		
	Frequent	16 (17.6)	2 (9.5)	18 (16.1)		
	Very frequent	7 (7.7)	1 (4.8)	8 (7.1)		
	Mean±SD	1.81±0.99	1.71±0.84	1.79±0.56		
7. I've been taking action to try to make the situation better.	Never	8 (8.8)	4 (19.0)	12 (10.7)	4.15	0.245
	Not frequent	10 (10.9)	0	10 (8.9)		
	Frequent	22 (24.1)	6 (28.5)	28 (25)		
	Very frequent	51 (56.0)	11 (52.3)	62 (55.3)		
	Mean±SD	3.27±0.98	3.14±1.15	3.25±1.00		
8. I've been refusing to believe that it has happened.	Never	42 (46.1)	13 (61.9)	55 (49.1)	2.27	0.518
	Not frequent	32 (35.1)	4 (19.0)	36 (32.1)		
	Frequent	12 (13.1)	3 (14.2)	15 (13.3)		
	Very frequent	5 (5.4)	1 (4.7)	6 (5.3)		
	Mean±SD	1.78±0.88	1.62±0.92	1.75±0.88		
9. I've been saying things to let my unpleasant feelings escape.	Never	25 (27.4)	13 (61.9)	38 (33.9)	10.4 4	0.015 *
	Not frequent	27 (29.6)	5 (23.8)	32 (28.5)		
	Frequent	27 (29.6)	3 (14.2)	30 (26.7)		
	Very frequent	12 (13.1)	0	12 (10.7)		
	Mean±SD	2.29±1.01	1.52±0.75	2.14±1.01		
10. I've been getting help and advice from other people.	Never	10 (10.9)	2 (9.5)	12 (10.7)	3.91	0.271
	Not frequent	28 (30.7)	11 (52.3)	39 (34.8)		
	Frequent	39 (42.8)	5 (23.8)	44 (39.2)		
	Very frequent	14 (15.3)	3 (14.2)	17 (15.1)		
	Mean±SD	2.63±0.88	2.43±0.87	2.59±0.88		
11. I've been using alcohol or other drugs to help me get through it.	Never	87 (95.6)	19 (90.4)	106 (94.6)	1.76	0.621
	Not frequent	3 (3.3)	2 (9.5)	5 (4.4)		
	Frequent	0	0	0		
	Very frequent	1 (1.1)	0	1 (0.8)		
	Mean±SD	1.07±0.36	1.09±0.30	1.07±0.35		
12. I've been trying to see it in a different light, to make it seem more positive.	Never	8 (8.7)	3 (14.2)	11 (9.8)	2.71	0.439
	Not frequent	14 (15.3)	4 (19.0)	18 (16.0)		
	Frequent	35 (38.4)	10 (47.6)	45 (40.1)		
	Very frequent	34 (37.3)	4 (19.0)	38 (33.9)		
	Mean±SD	3.04±0.94	2.71±0.96	2.98±0.95		
13. I've been criticizing myself.	Never	56 (61.5)	14 (66.6)	70 (62.5)	1.52	0.676
	Not frequent	25 (27.4)	4 (19.0)	29 (25.8)		
	Frequent	8 (8.7)	3 (14.2)	11 (9.8)		
	Very frequent	2 (2.2)	0	2 (1.7)		
	Mean±SD	1.52±0.75	1.48±0.75	1.51±0.75		

Question	Condition/ response	Group, n (%)		Total n (%)	$\chi 2$	p
		Female	Male			
14. I've been trying to come up with a strategy about what to do.	Never	8 (8.7)	1 (4.7)	9 (8.0)	1.15	0.763
	Not frequent	15 (16.4)	2 (9.5)	17 (15.1)		
	Frequent	38 (41.7)	10 (47.6)	48 (42.8)		
	Very frequent	30 (32.9)	8 (38.1)	38 (33.9)		
	Mean±SD	2.99±0.92	3.19±0.81	3.03±0.90		
15. I've been getting comfort and understanding from someone.	Never	9 (9.8)	0	9 (8.0)	5.74	0.125
	Not frequent	19 (20.8)	9 (42.8)	28 (25.0)		
	Frequent	42 (46.1)	8 (38.1)	50 (44.6)		
	Very frequent	21 (23.0)	4 (19.0)	25 (22.3)		
	Mean±SD	2.82±0.90	2.76±0.77	2.81±0.87		
16. I've been giving up the attempt to cope.	Never	43 (47.2)	12 (57.1)	55 (49.1)	1.43	0.697
	Not frequent	21 (23.0)	5 (23.8)	26 (23.2)		
	Frequent	15 (16.4)	3 (14.2)	18 (16.0)		
	Very frequent	12 (13.1)	1 (4.7)	13 (11.6)		
	Mean±SD	1.96±1.08	1.67±0.91	1.90±1.06		
17. I've been looking for something good in what is happening.	Never	4 (4.4)	2 (9.5)	6 (5.3)	3.43	0.329
	Not frequent	10 (10.9)	4 (19.0)	14 (12.5)		
	Frequent	39 (42.8)	5 (23.8)	44 (39.2)		
	Very frequent	38 (41.7)	10 (47.6)	48 (42.8)		
	Mean±SD	3.22±0.81	3.10±1.04	3.20±0.86		
18. I've been making jokes about it.	Never	36 (39.5)	8 (38.1)	44 (39.2)	0.26	0.967
	Not frequent	30 (32.9)	8 (38.1)	38 (33.9)		
	Frequent	19 (20.8)	4 (19.0)	23 (20.5)		
	Very frequent	6 (6.5)	1 (4.7)	7 (6.2)		
	Mean±SD	1.94±0.94	1.90±0.89	1.94±0.92		
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	Never	8 (8.7)	5 (23.8)	13 (11.6)	9.04	0.029 *
	Not frequent	18 (19.7)	8 (38.1)	26 (23.2)		
	Frequent	40 (43.9)	6 (28.5)	46 (41.0)		
	Very frequent	25 (27.4)	2 (9.5)	27 (24.1)		
	Mean±SD	2.90±0.91	2.24±0.94	2.78±0.95		
20. I've been accepting the reality of the fact that it has happened.	Never	3 (3.3)	0	3 (2.6)	2.72	0.436
	Not frequent	11 (12.0)	1 (4.7)	12 (10.7)		
	Frequent	36 (39.5)	7 (33.3)	43 (38.3)		
	Very frequent	41 (45.0)	13 (61.9)	54 (48.2)		
	Mean±SD	3.26±0.80	3.57±0.60	3.32±0.77		
21. I've been expressing my negative feelings.	Never	21 (23.0)	8 (38.1)	29 (25.8)	4.01	0.26
	Not frequent	30 (32.9)	8 (38.1)	38 (33.9)		
	Frequent	32 (35.1)	3 (14.2)	35 (31.2)		
	Very frequent	8 (8.7)	2 (9.5)	10 (8.9)		
	Mean±SD	2.30±0.92	1.95±0.97	2.23±0.94		
22. I've been trying to find comfort in my religion or spiritual beliefs.	Never	5 (5.4)	5 (23.8)	10 (8.9)	8.86	0.031*
	Not frequent	10 (10.9)	4 (19.0)	14 (12.5)		
	Frequent	35 (38.4)	5 (23.8)	40 (35.7)		
	Very frequent	41 (45.0)	7 (33.3)	48 (42.8)		
	Mean±SD	3.23±0.86	2.67±1.20	3.12±0.95		
23. I've been trying to get advice or help from other people about what to do.	Never	7 (7.6)	1 (4.7)	8 (7.1)	2.32	0.507
	Not frequent	26 (28.5)	9 (42.8)	35 (31.2)	9	
	Frequent	40 (43.9)	9 (42.8)	49 (43.7)		
	Very frequent	18 (19.7)	2 (9.5)	20 (17.8)		
	Mean±SD	2.76±0.86	2.57±0.75	2.72±0.84		
24. I've been learning to live with it.	Never	1 (1.1)	1 (4.7)	2 (1.7)	4.26	0.234
	Not frequent	12 (13.1)	0	12 (10.)		
	Frequent	33 (36.2)	8 (38.1)	41 (36.6)		
	Very frequent	45 (49.4)	12 (57.1)	57 (50.8)		
	Mean±SD	3.34±0.75	3.48±0.75	3.37±0.75		
25. I've been thinking hard about what steps to take.	Never	4 (4.4)	2 (9.5)	6 (5.3)	1.21	0.749
	Not frequent	24 (26.3)	4 (19.0)	28 (25.0)		
	Frequent	38 (41.7)	9 (42.8)	47 (41.9)		
	Very frequent	25 (27.4)	6 (28.5)	31 (27.6)		
	Mean±SD	2.92±0.85	2.90±0.94	2.92±0.86		
26. I've been blaming myself for things that happened.	Never	56 (61.5)	16 (76.1)	72 (64.2)	5.58	0.133
	Not frequent	24 (26.3)	1 (4.7)	25 (22.3)		
	Frequent	10 (10.)	3 (14.2)	13 (11.6)		
	Very frequent	1 (1.1)	1 (4.7)	2 (1.7)		
	Mean±SD	1.52±0.74	1.48±0.93	1.51±0.77		

Question	Condition/ response	Group, n (%)		Total n (%)	$\chi 2$	p
		Female	Male			
27. I've been praying or meditating.	Never	3 (3.3)	2 (9.5)	5 (4.4)	3.39	0.335
	Not frequent	12 (13.1)	5 (23.8)	17 (15.1)		
	Frequent	25 (27.4)	5 (23.8)	30 (26.7)		
	Very frequent	51 (56.0)	9 (42.8)	60 (53.5)		
	Mean±SD	3.36±0.84	3.00±1.05	3.29±0.89		
28. I've been making fun of the situation.	Never	58 (63.7)	8 (38.1)	66 (58.9)	5.16	0.160
	Not frequent	17 (18.6)	6 (28.5)	23 (20.5)		
	Frequent	13 (14.2)	5 (23.8)	18 (16.0)		
	Very frequent	3 (3.3)	2 (9.5)	5 (4.4)		
	Mean±SD	1.57±0.86	2.05±1.02	1.66±0.91		

Score: never=1; not frequent=2; frequent=3; very frequent=4

Coping strategies used by healthcare professionals during COVID-19 pandemic according to a professional group

The author furthermore segregated the study results by professional group to provide insights into the coping strategies used by the different professional groups (**Table 7**). The chi-squared $\chi 2$ test disclosed eight differences in answers from the 28 statistically significant questions. Even though neither nurses nor Doctors claimed to have been using alcohol or other drugs to feel better, 9.68 % of other hospital staff stated that they had been doing this a lot (Mean 1.29 ±SD 0.90) (Question 4). All categories of staff felt that they had been getting emotional support from others; however, nurses were more likely to report using this coping strategy than doctors or other hospital staff members (Mean 2.76:±SD 0.88). There was a significant difference in using this coping strategy among the groups (Question 5). 67 % of other professionals stated that they had been taking action to try to make the situation better, with scores (3.55±0.81). Nurses and other hospital staff report taking action more often than doctors, with a mean response of 3.18 and 3.55, respectively, compared to 2.92 for doctors (Question 7). Asking about saying things to let unpleasant feelings escape, there is a trend toward significance between the groups ($\chi 2 = 7.529$, $p = 0.056$). Doctor's report using this coping strategy less often than nurses and other hospital staff, with a mean response of 2.08 compared to 2.26 and 1.90, respectively (Question 9). The nursing team showed higher scores (2.69±0.81) regarding getting help and advice from other people compared to the doctor and other hospital staff groups (Question 10). The other hospital staff group showed a higher response score (3.45± 0.62) with a strategy about what to do; there were significant differences between the groups. Nurses and other hospital staff reported higher scores than doctors on this item (Question 14). The other hospital staff group also showed a higher response score in the question "I have been looking for something good in what is happening" (3.32±0.75). Nurses and other hospital staff reported higher scores than doctors on this item (Question 17). The survey showed that the nursing group showed more outstanding scores on the diversion strategy described in the question, "I have been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping" (91±0.93) (Question 19). The nurse group scored higher for trying to find comfort in religion or spiritual beliefs. (3.25± 0.89) (Question 22).

As a general annotation, there were some differences in the use of coping strategies among the different groups of hospital staff members. In addition, there were more nurses than any other category of staff, which is expected, as nurses are the biggest group of HCPs. Strategies such as taking action to improve the situation, trying to see things in a different light, and being more positive scored high by all groups but significantly by the other hospital staff. Other hospital staff members were likelier to report using alcohol or other drugs to make themselves feel better than doctors or nurses. All groups scored high in praying and meditating; however, nurses outscored the other two groups considerably (mean 3.37;±SD 0.86). There are also significant differences between groups in the use of some coping strategies, with doctors reporting less use of the strategy of criticizing themselves, while Nurses reported higher use of the strategy of praying or meditating. Using alcohol or other drugs to cope, the results show that this strategy is not commonly used among the participants. Nurses and other hospital staff tend to take action and seek help from others more often than doctors. All groups report a low frequency of refusing to believe the situation has happened and trying to see it in a more positive light. The data suggest

that nurses and other hospital staff may use more active coping strategies (*e.g.*, trying to devise a strategy or looking for something good) than doctors during the COVID-19 pandemic. However, there were no significant differences between the groups on the item regarding self-criticism, and the trends towards significance for giving up the attempt to cope and making jokes about it should be interpreted with caution.

Table 7. Coping Strategies used by healthcare professionals to reduce stress during COVID-19 pandemic according to profession

Question	Condition/ response	Group, n (%)			Total n (%)	$\chi 2$	p
		Doctors (13)	Nurses (68)	Others (31)			
1. I've been turning to work or other activities to take my mind off things.	Never	2 (15.3)	9 (13.2)	4 (12.9)	15 (13.3)	5.45	0.141
	Not frequent	5 (38.4)	19 (27.9)	12 (38.7)	36 (32.1)		
	Frequent	2 (15.3)	30 (44.1)	11 (35.4)	43 (38.3)		
	Very frequent	4 (30.7)	10 (14.7)	4 (12.9)	18 (16.0)		
	Mean±SD	2.61±1.12	2.60±0.90	2.48±0.89	2.57±0.917		
2. I've been concentrating my efforts on doing something about the situation I'm in.	Never	1 (7.6)	6 (8.8)	2 (6.4)	9 (8.04)	4.13	0.247
	Not frequent	2 (15.3)	7 (10.2)	5 (16.1)	14 (12.50)		
	Frequent	5 (38.4)	28 (41.1)	7 (22.5)	40 (35.71)		
	Very frequent	5 (38.4)	27 (39.7)	17 (54.8)	49 (43.75)		
	Mean±SD	3.08±0.95	3.12±0.92	3.26±0.96	3.15±0.93		
3. I've been saying to myself "this isn't real".	Never	7 (53.8)	30 (44.1)	13 (41.9)	50 (44.64)	3.81	0.282
	Not frequent	3 (23.0)	21 (30.8)	11 (35.4)	35 (31.25)		
	Frequent	1 (7.6)	13 (19.1)	6 (19.3)	20 (17.86)		
	Very frequent	2 (15.3)	4 (5.8)	1 (3.2)	7 (6.25)		
	Mean±SD	1.85±1.14	1.87±0.93	1.84±0.86	1.86±0.93		
4. I've been using alcohol or other drugs to make myself feel better.	Never	12 (92.3)	65 (95.5)	28 (90.3)	105 (93.75)	9.76	0.02 *
	Not frequent	1 (7.6)	3 (4.4)	0	4 (3.57)		
	Frequent	0	0	0	0		
	Very frequent	0	0	3 (9.6)	3 (2.68)		
	Mean±SD	1.08±0.28	1.04±0.21	1.29±0.90	1.12±0.51		
5. I've been getting emotional support from others.	Never	5 (38.4)	6 (8.8)	6 (19.3)	17 (15.18)	16.79	0.001 *
	Not frequent	4 (30.7)	18 (26.4)	13 (41.9)	35 (31.25)		
	Frequent	1 (7.6)	30 (44.1)	11 (35.4)	42 (37.50)		
	Very frequent	3 (23.0)	14 (20.5)	1 (3.2)	18 (16.07)		
	Mean±SD	2.15±1.21	2.76±0.88	2.23±0.80	2.54±0.94		
6. I've been giving up trying to deal with it.	Never	8 (61.5)	33 (48.)	16 (51.6)	57 (50.98)	3.61	0.306
	Not frequent	2 (15.3)	18 (26.4)	9 (29.0)	29 (25.89)		
	Frequent	1 (7.6)	13 (19.1)	4 (12.)	18 (16.07)		
	Very frequent	2 (15.3)	4 (5.8)	2 (6.4)	8 (7.14)		
	Mean±SD	1.77±1.17	1.82±0.94	1.74±0.93	1.79±0.96		
7. I've been taking action to try to make the situation better.	Never	3 (23.0)	7 (10.2)	2 (6.4)	12 (10.71)	7.86	0.049 *
	Not frequent	1 (7.6)	9 (13.2)	0	10 (8.93)		
	Frequent	3 (23.0)	17 (25.0)	8 (25.8)	28 (25.00)		
	Very frequent	6 (46.1)	35 (51.4)	21 (67.7)	62 (55.36)		
	Mean±SD	2.92±1.26	3.18±1.02	3.55±0.81	3.25±1.00		
8. I've been refusing to believe that it has happened.	Never	8 (61.5)	32 (47.0)	15 (48.3)	55 (49.1)	4.99	0.172
	Not frequent	2 (15.3)	23 (33.8)	11 (35.4)	36 (32.1)		
	Frequent	1 (7.6)	10 (14.7)	4 (12.)	15 (13.3)		
	Very frequent	2 (15.3)	3 (4.4)	1 (3.2)	6 (5.3)		
	Mean±SD	1.77±1.17	1.76±0.87	1.71±0.82	1.75±0.88		
9. I've been saying things to let my unpleasant feelings escape.	Never	6 (46.1)	18 (26.4)	14 (45.1)	38 (33.9)	7.52	0.056
	Not frequent	1 (7.6)	22 (32.3)	9 (29.0)	32 (28.57)		
	Frequent	5 (38.4)	20 (29.4)	5 (16.1)	30 (26.79)		
	Very frequent	1 (7.6)	8 (11.7)	3 (9.6)	12 (10.71)		
	Mean±SD	2.08±1.11	2.26±0.99	1.90±1.01	2.14±1.01		
10. I've been getting help and advice from other people.	Never	4 (30.7)	5 (7.3)	3 (9.6)	12 (10.71)	10.51	0.015 *
	Not frequent	4 (30.7)	21 (30.8)	14 (45.1)	39 (34.82)		
	Frequent	4 (30.7)	32 (47.0)	8 (25.8)	44 (39.29)		
	Very frequent	1 (7.6)	10 (14.7)	6 (19.3)	17 (15.18)		
	Mean±SD	2.15±0.99	2.69±0.81	2.54±0.92	2.59±0.87		
11. I've been using alcohol or other drugs to help me get through it.	Never	12 (92.3)	64 (94.1)	30 (96.7)	106 (94.64)	4.63	0.201
	Not frequent	1 (7.6)	4 (5.)	0	5 (4.46)		
	Frequent	0	0	0	0		
	Very frequent	0	0	1 (3.2)	1 (0.89)		
	Mean±SD	1.08±0.28	1.06±0.24	1.10±0.54	1.07±0.35		
12. I've been trying to see it in a different light, to	Never	3 (23.0)	6 (8.8)	2 (6.4)	11 (9.82)	4.86	0.181
	Not frequent	2 (15.3)	13 (19.1)	3 (9.)	18 (16.07)		
	Frequent	4 (30.7)	26 (38.2)	15 (48.3)	45 (40.18)		

Question	Condition/ response	Group, n (%)			Total n (%)	$\chi 2$	p
		Doctors (13)	Nurses (68)	Others (31)			
make it seem more positive.	Very frequent	4 (30.7)	23 (33.8)	11 (35.4)	38 (33.93)		
	Mean±SD	2.69±1.18	2.97±0.95	3.13±0.85	2.98±0.95		
13. I've been criticizing myself.	Never	8 (61.5)	44 (64.7)	18 (58.0)	70 (62.50)	2.75	0.430
	Not frequent	3 (23.0)	17 (25.0)	9 (29.0)	29 (25.89)		
	Frequent	2 (15.3)	5 (7.3)	4 (12.9)	11 (9.82)		
	Very frequent	0	2 (2.94)	0	2 (1.79)		
	Mean±SD	1.54±0.78	1.48±0.76	1.55±0.72	1.50±0.75		
14. I've been trying to come up with a strategy about what to do.	Never	3 (23.0)	6 (8.8)	0	9 (8.04)	13.24	0.004 *
	Not frequent	3 (23.0)	12 (17.6)	2 (6.4)	17 (15.18)		
	Frequent	5 (38.4)	30 (44.1)	13 (41.9)	48 (42.86)		
	Very frequent	2 (15.3)	20 (29.4)	16 (51.6)	38 (33.93)		
	Mean±SD	2.46±1.05	2.94±0.91	3.45±0.62	3.03±0.90		
15. I've been getting comfort and understanding from someone.	Never	1 (7.6)	7 (10.2)	1 (3.2)	9 (8.04)	4.46	0.215
	Not frequent	2 (15.3)	15 (22.0)	11 (35.4)	28 (25.00)		
	Frequent	7 (53.8)	29 (42.6)	14 (45.1)	50 (44.64)		
	Very frequent	3 (23.0)	17 (25.0)	5 (16.1)	25 (22.32)		
	Mean±SD	2.92±0.86	2.82±0.93	2.74±0.77	2.81±0.87		
16. I've been giving up the attempt to cope.	Never	9 (69.2)	32 (47.0)	14 (45.)	55 (49.11)	6.91	0.075
	Not frequent	2 (15.3)	14 (20.5)	10 (32.2)	26 (23.21)		
	Frequent	1 (7.6)	11 (16.1)	6 (19.3)	18 (17.07)		
	Very frequent	1 (7.6)	11 (16.1)	1 (3.2)	13 (11.61)		
	Mean±SD	1.54±0.97	2.01±1.14	1.81±0.87	1.90±1.06		
17. I've been looking for something good in what is happening.	Never	3 (23.0)	3 (4.4)	0	6 (5.36)	11.69	0.008 *
	Not frequent	1 (7.6)	8 (11.7)	5 (16.1)	14 (12.5)		
	Frequent	6 (46.1)	27 (39.7)	11 (35.4)	44 (39.29)		
	Very frequent	3 (23.0)	30 (44.1)	15 (48.3)	48 (42.86)		
	Mean±SD	2.69±1.11	3.23±0.83	3.32±0.75	3.20±0.86		
18. I've been making jokes about it.	Never	6 (46.1)	28 (41.1)	10 (32.2)	44 (39.29)	6.90	0.075
	Not frequent	4 (30.7)	20 (29.4)	14 (45.1)	38 (33.93)		
	Frequent	3 (23.0)	13 (19.1)	7 (22.5)	23 (20.54)		
	Very frequent	0	7 (10.2)	0	7 (6.25)		
	Mean±SD	1.77±0.83	1.98±1.01	1.90±0.75	1.94±0.92		
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	Never	4 (30.7)	5 (7.3)	4 (12.9)	13 (11.61)	10.86	0.012 *
	Not frequent	1 (7.6)	17 (25.0)	8 (25.8)	26 (23.21)		
	Frequent	6 (46.1)	25 (36.7)	15 (48.3)	46 (41.07)		
	Very frequent	2 (15.3)	21 (30.8)	4 (12.9)	27 (24.11)		
	Mean±SD	2.46±1.13	2.91±0.93	2.61±0.88	2.78±0.95		
20. I've been accepting the reality of the fact that it has happened.	Never	1 (7.6)	2 (2.9)	0	3 (2.68)	3.11	0.375
	Not frequent	1 (7.6)	8 (11.7)	3 (9.6)	12 (10.71)		
	Frequent	6 (46.1)	26 (38.2)	11 (35.4)	43 (38.29)		
	Very frequent	5 (38.4)	32 (47.0)	17 (54.8)	54 (48.21)		
	Mean±SD	3.15±0.90	3.29±0.79	3.45±0.67	3.32±0.77		
21. I've been expressing my negative feelings.	Never	4 (30.7)	15 (22.0)	10 (32.2)	29 (25.89)	3.39	0.334
	Not frequent	4 (30.7)	22 (32.3)	12 (38.7)	38 (33.93)		
	Frequent	4 (30.7)	25 (36.7)	6 (19.3)	35 (31.25)		
	Very frequent	1 (7.6)	6 (8.8)	3 (9.6)	10 (8.93)		
	Mean±SD	2.15±0.99	2.32±0.92	2.06±0.96	2.23±0.94		
22. I've been trying to find comfort in my religion or spiritual beliefs.	Never	0	5 (7.)	5 (16.1)	10 (8.93)	9.77	0.02 *
	Not frequent	4 (30.7)	5 (7.3)	5 (16.1)	14 (12.50)		
	Frequent	5 (38.4)	26 (38.2)	9 (29.0)	40 (35.71)		
	Very frequent	4 (30.7)	32 (47.0)	12 (38.7)	48 (42.86)		
	Mean±SD	3.0±0.82	3.25±0.89	2.90±1.10	3.12±0.95		
23. I've been trying to get advice or help from other people about what to do.	Never	3 (23.0)	4 (5.8)	1 (3.2)	8 (7.14)	6.62	0.084
	Not frequent	4 (30.7)	22 (32.3)	9 (29.0)	35 (31.25)		
	Frequent	4 (30.7)	29 (42.6)	16 (51.6)	49 (43.75)		
	Very frequent	2 (15.3)	13 (19.1)	5 (16.1)	20 (17.86)		
	Mean±SD	2.38±1.04	2.75±0.83	2.81±0.75	2.72±0.84		
24. I've been learning to live with it.	Never	0	1 (1.47)	1 (3.23)	2 (1.79)	1.63	0.65
	Not frequent	2 (15.3)	8 (11.7)	2 (6.4)	12 (10.71)		
	Frequent	5 (38.4)	24 (35.2)	12 (38.7)	41 (36.61)		
	Very frequent	6 (46.1)	35 (51.4)	16 (51.6)	57 (50.89)		
	Mean±SD	3.31±0.75	3.37±0.75	3.39±0.76	3.67±0.75		

Question	Condition/ response	Group, n (%)			Total n (%)	$\chi 2$	p
		Doctors (13)	Nurses (68)	Others (31)			
25. I've been thinking hard about what steps to take.	Never	1 (7.6)	4 (5.8)	1 (3.2)	6 (5.3)	3.88	0.27
	Not frequent	2 (15.3)	20 (29.4)	6 (19.3)	28 (25.00)		
	Frequent	5 (38.4)	29 (42.6)	13 (41.9)	47 (41.96)		
	Very frequent	5 (38.4)	15 (22.0)	11 (35.4)	31 (27.68)		
	Mean±SD	3.08±0.95	2.81±0.85	3.10±0.83	2.92±0.86		
26. I've been blaming myself for things that happened.	Never	12 (92.3)	41 (60.2)	19 (61.2)	72 (64.29)	6.07	0.108
	Not frequent	0	0	7 (22.5)	25 (22.32)		
	Frequent	1 (7.6)	8 (11.7)	4 (12.9)	13 (11.61)		
	Very frequent	0	1 (1.4)	1 (3.2)	2 (1.79)		
	Mean±SD	1.15±0.55	1.54±0.76	1.58±0.85	1.51±0.77		
27. I've been praying or meditating.	Never	0	3 (4.4)	2 (6.4)	5 (4.46)	5.79	0.122
	Not frequent	4 (30.7)	8 (11.7)	5 (16.1)	17 (15.18)		
	Frequent	5 (38.4)	18 (26.4)	7 (22.5)	30 (26.79)		
	Very frequent	4 (30.7)	39 (57.3)	17 (54.8)	60 (53.57)		
	Mean±SD	3.0±0.82	3.37±0.86	3.26±0.96	3.30±0.89		
28. I've been making fun of the situation.	Never	7 (53.8)	46 (67.6)	13 (41.9)	66 (58.93)	6.30	0.098
	Not frequent	3 (23.0)	11 (16.1)	9 (29.0)	23 (20.54)		
	Frequent	2 (15.3)	9 (13.2)	7 (22.5)	18 (16.07)		
	Very frequent	1 (7.6)	2 (2.9)	2 (6.4)	5 (4.46)		
	Mean±SD	1.77±1.01	1.51±0.84	1.93±0.96	1.66±0.90		

Score: never=1; not frequent=2; frequent=3; very frequent=4

Discussion

This study provided a unique opportunity to examine the coping strategies of healthcare staff during the COVID-19 pandemic at Mediclinic Welcare Hospital in the United Arab Emirates over a period and included both the Delta and Omicron waves. It is well known that infectious disease outbreaks disturb the emotions of HCPs, increase their psychological distress, and weaken their coping behaviors. Herein, the Brief-COPE questionnaire analysis found good internal consistency for all three coping categories: 'Problem-focused', 'Emotion-focused', and 'Avoidance'. The data shows that individuals in clinical populations tended to use problem-focused coping mechanisms more frequently than emotion-focused or avoidant coping mechanisms. The average score for problem-focused coping suggests that it was used to a moderate extent, while the average score for emotion-focused and avoidant coping mechanisms suggests that they are used to a lesser extent. These findings enlighten healthcare professions that problem-focused coping strategies are more effective for people experiencing stress in clinical populations.

Problem-focused coping mechanisms such as active coping and planning were commonly used among clinical and general populations. The use of informational support and positive reframing coping mechanisms was more common among clinical populations. Emotional support and venting coping mechanisms were more commonly used among clinical populations, while humor was less frequently used. Both clinical and general populations commonly used acceptance and religious coping mechanisms. Self-blame coping mechanisms were used less frequently among the general population. Individuals tended to use avoidant coping mechanisms to a lesser extent, with self-distraction being the most common mechanism. Substance use was less commonly used among individuals, while denial and behavioral disengagement were used equally among clinical and general populations.

These findings suggest that interventions aimed at reducing self-distraction coping mechanisms could be beneficial in promoting more effective coping strategies. Additionally, substance use coping mechanisms could be a red flag for clinical populations and warrant closer attention. Interventions emphasizing problem-focused coping mechanisms for both clinical and general populations could promote effective coping strategies.

Moreover, the study aimed to understand the coping strategies used by HCPs during the COVID-19 outbreak to reduce stress. The study found that female staff used multiple coping strategies more than their male counterparts, with the most commonly reported coping strategies being looking for something good in what was happening and high levels of engagement in praying or meditating. The least commonly reported coping strategy was using alcohol or other drugs to make them feel better. The study also found that nurses were more likely to report using emotional support as a coping strategy than doctors or other hospital staff members. Nurses and

other hospital staff also reported higher scores for trying to improve the situation and looking for something good in what is happening.

The result of the present study highlights the importance of using multiple coping strategies to manage stress during the COVID-19 outbreak, including seeking emotional support, taking action, and finding positive aspects in the situation. Healthcare providers must prioritize their mental health and well-being to continue providing effective care during the pandemic. These results are consistent with previously published studies conducted in the early stages of the COVID-19 pandemic [23].

During pandemics, HCPs may experience increased workloads, long hours, exposure to infectious diseases, ethical dilemmas, and uncertainty, resulting in stress and negative emotional responses. These experiences can have long-lasting effects on HCPs mental health and well-being. Therefore, healthcare institutions must implement support measures and programs addressing HCPs unique needs during pandemics. Support measures and programs can include, but are not limited to, providing HCPs with access to mental health services, regular check-ins with colleagues or supervisors, peer support groups, educational resources on coping strategies, and paid time off for rest and recovery. These measures and programs should be tailored to meet the needs of the specific healthcare institution and the HCP's they serve.

Even as the number of COVID-19 infections decreases and restrictions are relaxed, the pandemic's negative impact on mental health may persist. There is sufficient evidence that adaptive coping strategies are associated with lower rates of anxiety and post-traumatic stress disorder. Nevertheless, considering the possibility of future outbreaks, safeguarding HCPs with the tools to deal with them would be of the most significant importance. Building resilience and promoting successful coping strategies could be important goals for stakeholders in developing efficient and effective prevention and intervention programs to protect those at risk and promote their post-traumatic improvement [24-26].

This study has some limitations; aside from being a cross-sectional study in which it is difficult to establish a causal relationship between variables, the study included a relatively small sample size considering the study design, which involved a single institution rather than a single institution multi-center study. Therefore, the generalizability of our results may be limited.

Conclusions

Health professionals working on the front lines of the fight against COVID-19 have experienced many psychological problems, such as stress, anxiety, and depression. These psychological problems should be addressed as they lead to lower work performance, treatment adherence, and job satisfaction. The results also show that coping strategies must be implemented and used to improve the psychological and social well-being of medical personnel facing the pandemic. Continued recognition of medical staff by hospital leadership and government, provision of infection control policies, personal protective equipment, and use of more productive and effective coping strategies should be recognized as factors that encourage medical staff to work during future pandemics.

Our results provide data on the coping strategies practiced by HCPs during the COVID-19 pandemic, which may serve as a basis for future studies to design appropriate interventions and training programs to reduce stress and promote well-being. In addition, further studies are needed to identify other demographic variables, such as years of experience and salary range, and to determine a broad representation of the situation.

Ethics approval

This research undertaken at Mediclinic Welcare Hospital, Dubai, was provided ethical approval through Mediclinic Research and Ethics Committee (MCME.CR.239.MWEL.202) as well as from Dubai Scientific and Research Ethics Committee (DSREC), Dubai Health Authority (DHA) (DSREC-05/2022_03).

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Conflict of interest

All the authors declare that they have no conflict of interests.

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Underlying data

All data underlying the results are available from the corresponding author upon reasonable request.

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