Journal of Chitwan Medical College 2020;10(34):9-15
Available online at: www.jcmc.com.np

ORIGINAL RESEARCH ARTICLE

EMOTIONS AND COPING STRATEGIES OF HEALTH CARE WORKERS WORKING IN DIFFERENT HOSPITALS OF CHITWAN DURING COVID-19 PANDEMIC

Kalpana Sharma[1,*], Alisha Joshi[2], Sunita Poudyal[1], Kabita Khatiwada[3], Shankar Dhakal[4], Harish Chandra Neupane[5]

[1]Department of Adult Health Nursing, School of Nursing, Chitwan Medical College, Bharatpur-10, Nepal
[2]Department of Psychiatric Nursing, School of Nursing, Chitwan Medical College, Bharatpur-10, Nepal
[3]Department of Nursing, Manakamana Hospital, Bharatpur-10, Nepal
[4]Department of Orthopaedic, Manakamana Hospital, Bharatpur-10, Nepal
[5]Department of Surgery, Chitwan Medical College, Bharatpur-10, Nepal

Received: 19 Oct, 2020

Accepted: 26 Nov, 2020

Published: 16 Dec, 2020

Key words: Coping Strategies; Emotions; Health Care workers.

***Correspondence to:** Kalpana Sharma, Department of Adult Health Nursing, School of Nursing, Chitwan Medical College, Bharatpur-10, Nepal.*
Email: sharma.kalpana@cmc.edu.np

Citation

Sharma K, Joshi A, Poudyal S, Khatiwada K, Dhakal S, Neupane HS.Emotions and coping strategies of health care workers working in different hospitals of Chitwan during COVID-19 pandemic. Journal of Chitwan Medical College.2020;10(34):9-15.

Peer Reviewed

ABSTRACT

Background: Health Care Workers (HCWs) face huge emotional burden to balance the fundamental "duty to treat" with their parallel duties to family and loved ones. This study aimed to explore emotions and coping strategies of HCWs working in hospitals during COVID-19 Pandemic.

Methods: This cross-sectional survey consisted 482 randomly selected HCWs working in five government and private hospitals of Chitwan. Data were collected using self-administered structured questionnaire for emotions and Brief COPE questionnaire for coping strategies. Forms were distributed to the HCWs using Google Form. Collected data were analysed using descriptive and inferential statistics.

Results: Majorities of the HCWs were moderate to very much worried to do their job (75.3%), infecting family members/others (74.9%), lack of government steps for infection control (74.1%), getting infections from patients (67.9%), lack of treatment protocol (67.6%), inadequate specialty hospitals (64.7%) , man powers (61.4%), increasing COVID-19 cases (60.4%) as well as they avoided social gathering (72.8%). Nurses, female and HCWs with bachelors' level experienced more emotional reactions (anxiety, sadness, shock, anger and enthusiasm) compared to doctors, male and HCWs with master and above education (p=<0.05). Adoption of coping strategies was higher among nurses compared to doctors (p=<0.05). Shock and sadness were the significant predictors of problem focused coping whereas anxiety and anger were the significant predictors of emotion-focused coping.

Conclusions: Negative emotions and adoption of coping strategies are common among HCWs during this pandemic. Therefore, government and concern authorities need to organize screening program and psychological interventions for HCWs using identified predictors to enhance their mental wellbeing.

INTRODUCTION

Corona Virus Disease 2019 (COVID-19) has been declared as public health emergency worldwide on 30th January 2020 and pandemic on 11thMarch 2020.[1,2] Health Care Workers (HCWs) at the frontline are more likely to be in close contact with COVID-19 patients and are vulnerable to spread the infection to their closed ones.[3] In addition, inadequate accesses to personal protective equipment or weak infection prevention and control raise the risk among HCWs. [4] Currently, HCWs represents at least 10% of cases of COVID-19 infections globally[5]whereas 539 in Nepal till 27thAugust 2020 and is increasing steadily.[6]

HCWs are experiencing enormous mental burden due to the nature of their job, rapid spread, lethal in severe cases and no specific treatment for infection[3, 7, 8] However, persons' coping strategies keeps on changing based on the situation leading to emotional turmoil.[3,7] Hence, this study was aimed at assessing emotions and coping strategies among HCWs working in different hospitals during covid-19 pandemic.

METHODS

A cross-sectional survey consisted of health workers (doctors and nurses) working in five selected hospitals i.e. Chitwan Medical College and Teaching Hospitals, College of Medical Sciences Teaching Hospital, Bharatpur hospital, Mankamana hospital, and BP Koirala Memorial Cancer Hospital (BPKMCH) of Chitwan district. There were 1569 health workers (doctors-484 and nurses-1085) working in these hospitals.

Sample size was calculated using formula: n= z^2pq/e^2. Calculated sample size was 482 with 0.5 probabilities (p), 5% allowable error (e), 95% confidence level and 25% non-response error. All the doctors and nurses working in the selected hospitals were listed and were selected through simple random sampling technique with lottery methods. Structured self-administered questionnaire for emotions was developed based on the prior literature.[8-11]In total, there were 32 items grouped in 5 emotional domains (anxiety-11, shock-3, anger-5, enthusiasm-4, sadness-9). Each item was rated on 0-3 scale (0=not at all; 1=slightly; 2=moderately; 3=very much) where higher scores indicated higher emotional responses. Brief COPE Questionnaire [12] was used to measure the coping strategies. It consisted of 28 items under 14 theoretically identified coping responses. Each item was rated on 1 to 4 score where higher scores indicated higher levels of coping. All the responses were

measured in the last 4 weeks. Pretesting of the instrument was done in Narayani Samudayak Hospital, Bharatpur among 40 HCWs and the reliability coefficient of emotional scale and Brief COPE Questionnaire were 0.87 and 0.85 respectively.

Ethical clearance was obtained from the Chitwan Medical College Institutional Review Committee (Ref: CMC-IRC/076/077-128) and administrative permission was taken from the concerned hospitals. Informed consent was obtained from the HCWs. Data were collected from 15th June 2020AD to 15th August 2020AD using Google Form.

Data were analysed in IBM SPSS version 20 for window using descriptive and inferential statistics. Data normality were tested and data were normally distributed so independent sample t test, and one way ANOVA were performed to measure the significance difference in emotions and coping strategies according to selected variables. Pearson correlation coefficient was calculated to determine the relationship among variables. Further linear regression models were constructed to find out the associated factors with emotions and coping responses using those variables which were significant at bivariate analysis. Statistical significant was set at <0.005.

RESULTS

Out of 482 HCWS, 65.7% were nurses. Mean age was 30.2 (± 8.1) years. Majorities of the HCWS (63.5%) belonged to nuclear family, living with their family members (71.4%) and married (56.0%). Only 4.3% of HCWs had history of chronic illness (Table 1).

Table 1: Baseline characteristics of the HCWS

Variables	Entire Population(n= 482)	Doctors (n=165)	Nurses (n=317)
Sex			
Female	342 (70.7)	24 (14.5)	317 (100.0)
Male	141 (29.3)	141 (85.5)	0(0)
Marital Status			
Married	270 (56.0)	136 (82.4)	134 (42.3)
Unmarried	212 (44.0)	29 (17.6)	183 (57.7)
Type of family			
Nuclear	306 (63.5)	90 (54.5)	216 (68.1)
Joint	176 (36.5)	75 (45.5)	101 (31.9)
Living with family			
Yes	344 (71.4)	114 (69.1)	230 (72.6)
No	138 (28.6)	51 (30.9)	87 (27.4)
Professional Qualification			
PCL	180 (37.3)	0(0)	180 (56.8)
Bachelor	164 (34.0))	23 (13.9)	131 (41.3)
Master	135 (28.0)	129 (78.2)	6 (1.9)
Above Master	13 (2.7)	13 (7.9)	0(0)
History of chronic diseases			
Yes	21 (4.4)	5 (3.0)	16 (5.0)
No	461 (95.6)	160 (97.0)	301 (95.0)

Mean Age (SD): 30.2 (8.1) Min Age: 19 year
Max Age: 59 years

Table 2: Health care workers' emotional responses on domain 1 and domain 2

Items	Not at all (%)	Slight (%)	Moderate (%)	Very Much (%)
Domain 1:Anxiety				
Have you felt worried that you have to do your job as it is your professional and ethical duty	32 (6.6)	87(18.0)	96 (19.9)	267 (55.4)
Have you been worried about getting infection from patients in the hospital	38 (7.9)	117 (24.3)	170 (35.3)	157 (32.6)
Have you been worried about infecting family/others	19 (3.9)	102 (21.2)	118 (24.5)	243 (50.4)
Have you avoided social contact, party, meetings and gathering	27 (5.6)	104 (21.6)	153 (31.7)	196 (41.1)
Have you tried shortening your contact with the patients	114 (23.7)	153 (31.7)	157 (32.6)	58 (12.0)
Have you been worried about negligent and endangering co-workers	85 (17.6)	149 (30.9)	140 (30.9)	99 (20.5)
Have you become anxious due to lack of treatment protocol for COVID-19	47 (9.8)	109 (22.6)	132 (27.4)	194 (40.2)
Have you been worried by the talks of covid-19 on the newspapers and channel	80 (16.6)	130 (27.0)	157 (32.6)	115 (23.7)
Have you been worried about lack of manpower in your unit	62 (12.9)	124 (25.7)	163 (33.8)	133 (27.6)
Have you been worried about lack of knowledge on managing COVID-19 patients	81 (16.8)	167 (34.6)	149 (30.9)	85 (17.6)
Have you been feared that respiratory symptoms appeared on you might be due to COVID-19 infection	96 (19.9)	194 (40.2)	114 (23.7)	78 (16.2)
Domain 2: Enthusiasm				
Have you felt energetic going to work daily despite of this pandemic	71 (14.7)	128 (26.6)	188 (39.0)	95 (19.7)
Have you felt your work have been appreciated by the hospital administration	149 (30.9)	157 (32.6)	127 (26.3)	49 (10.2)
Have you expected financial compensation during the outbreak	109 (22.6)	129 (26.8)	121 (25.1)	123 (25.5)
Have you felt happy hearing recovered cases reported in news	37 (7.7)	86 (17.8)	80 (16.6)	279 (57.9)

Not at all-0, Slight-1, Moderate-2, Very Much-3

ISSN 2091-2889 (Online) ISSN 2091-2412 (Print) JCMC/ Vol 10/ No. 4/ Issue 34/ Oct- Dec, 2020

Table 3: Health care workers' emotional responses on domain 3 and domain 4

Items	Not at all (%)	Slight (%)	Moderate (%)	Very Much (%)
Have you been annoyed/disturbed because of inadequate specialty hospitals in our country	46 (9.5)	124 (25.7)	139 (28.8)	173 (35.9)
Have you felt rapid mood change due to feeling of something bad happenings	114 (23.7)	181 (37.6)	125 (25.9)	62 (12.9)
Have you had repeated negative thoughts concerning covid-19 transmission	134 (27.8)	162 (33.6)	140 (29.0)	46 (9.5)
Have you felt that you don't have energy and interest to perform any tasks	217 (45.0)	151 (31.3)	89 (18.5)	25 (5.2)
Have you felt difficulty in sleep thinking about corona virus	242 (50.2)	122 (25.3)	93 (19.3)	25 (5.2)
Have you felt like crying because of fear of covid-19	292 (60.6)	101 (21.0)	67 (13.9)	22 (4.6)
Have you had emotional and physical stress in performing any task related to job, family or self	151 (31.3)	179 (37.1)	110 (22.8)	42 (8.7)
Have you felt offended or being unable to protect others in this pademic	133 (27.6)	165 (34.2)	136 (28.2)	48 (10.0)
Have you been unable to concentrate in your work than usual	172 (35.7)	168 (34.9)	114 (23.7)	28 (5.8)
Domain 4:Anger				
Have you got conflict between your duty and your own safety	113 (23.4)	198 (41.1)	100 (20.7)	71 (14.7)
Have you felt angry to work in a ward that has higher risk of exposure to covid-19 (i.e. isolation ward/ fever clinic etc.)]	132 (27.4)	211 (43.8)	89 (18.5)	50 (10.4)
Have you had a thought of quitting your job due to covid-19	250 (51.9)	12 (24.9)	78 (16.2)	34 (7.1)
Have you been agitated wearing protective gear on a daily basis	120 (24.9)	202 41.9)	95 (19.7)	65 (13.5)
Domain 5:Shock				
Have you been furious towards people not following the standard protective measures	54 (11.2)	143 29.7)	155 (32.2)	130 (27.0)
Have you felt avoided by the people for the fear of transmitting covid-19	72 (14.9)	166 34.4)	138 (28.6)	106 (22.0)
Have you been in distress because of increase in covid-19 cases in country	54 (11.2)	137 28.4)	142 (29.5)	149 (30.9)
Have you felt upset thinking government lacks in strict steps for controlling the infections	39 (8.1)	86 (17.8)	131 (27.2)	226 (46.9)

Not at all-0, Slight-1, Moderate-2, Very Much-3

Majorities of HCWs were moderate to very much worried to do job as it is professional and ethical duty (75.3%), infecting family members/others (74.9%), lack of governments strict steps for infection prevention and control (74.1%), getting infections from patients (67.9%), and lack of treatment protocol (67.6%).Less than half of HCWs felt mood change (38.8%), repeated negative thoughts about transmission (38.5%), felt being unable to protect others (38.2%), and agitated to wear protective gears daily (33.2%). Besides, more than half of the HCWs showed moderate to very much enthusiasm to work by hearing recovered cases in the news (74.5%), felt energetic (58.7%) and expected financial compensation (50.6%) during this outbreak (Table 2 and Table 3).

The independent sample t-test found that anxiety (p=0.009), sadness (p=<0.001), shock (p=<0.001) and enthusiasm (p=0.009) were significantly higher among female HCWS compared to male. Likewise, nurses had significantly higher anxiety (p=0.004), enthusiasm(p=0.001), sadness (p=0.016) and shock (p=<0.001) compared to doctors. Similarly, One Way ANOVA found that there was significant difference on emotions according to level of education, and professional qualification. Further, multiple comparisons revealed that HCWS who completed Bachelor level education had significantly higher emotional reactions like anxiety, and anger compared to masters' level education. Likewise, enthusiasm, sadness and shock were higher among them compared to HCWs with PCL and master level education (Table 4).

Table 5 shows that females unmarried HCWs and nurses made significantly higher use of problem-focused and emotion focused coping to deal with COVID -19 compared to male married HCWs and doctors. Further, significant differences was observed in use of both coping strategies according to level of education where use of both coping strategies were significantly higher among HCWS with PCL education compared to bachelor and master level education.

A stepwise multiple regression analysis models (1 and 2) were constructed to measure the predictors of coping strategies where coping strategies was used as dependent variables and emotions as independent variables. In model 1, only two emotions (such as shock and sadness) were found to be the significant predictors of problem focused coping and explains 10.8% variation in the model. In model 2, anxiety and anger were found to be the significant predictors of emotion-focused coping and these two factors explain 30.2% variation in the model (Table 6).

A stepwise multiple regression analysis was performed and four model were constructed to find out the contribution of coping strategies on emotional responses. Emotional scores were used as the dependent variable, and two dimensions of coping strategies were used as independent variables (Table 7).

Table 4: Difference in emotions according to HCWs characteristics(n=482)

Variables		Anxiety		Enthusiasm		Sadness		Anger		Shock	
		M (SD)	p value	M (SD)	p value	M (SD)	p value	M (SD)	p value	M (SD)	p value
Gender	Female	20.05 (5.73)	0.009	6.76 (2.14)	0.009	8.54 (4.81)	<0.001	6.28 (3.19)	0.083	7.75 (2.73)	<0.001
	Male	18.53 (6.01)		6.12 (2.57)		6.79 (5.18)		5.78 (2.75)		6.59 (2.83)	
Marital Status	Married	19.28 (5.68)	0.165	6.40 (2.34)	0.057	7.84 (4.98)	0.344	5.98 (2.99)	0.223	7.11 (2.70)	0.008
	Unmarried	20.02 (6.06)		6.80 (2.21)		8.27 (4.98)		6.33 (3.18)		7.80 (2.90)	
Type of family	Joint	19.78 (5.36)	0.621	6.45 (2.23)	0.377	8.22 (4.91)	0.531	6.33 (3.14)	0.281	7.46 (2.82)	0.799
	Nuclear	19.50 (6.12)		6.64 (2.33)		7.91 (5.02)		6.02 (3.04)		7.39 (2.81)	
Living with family	No	19.38 (5.46)	0.592	6.62 (2.28)	0.779	8.34 (5.25)	0.377	6.21 (2.69)	0.742	7.87 (2.64)	0.023
	Yes	19.70 (6.01)		6.55 (2.30)		7.90 (4.87)		6.10 (3.22)		7.23 (2.86)	
Profession	Doctor	18.53 (5.81)	0.004	6.09 (2.44)	0.001	7.27 (5.32)	0.016	5.88 (2.82)	0.196	6.68 (2.78)	<0.001
	Nurses	20.16 (5.80)		6.82 (2.17)		8.42 (4.75)		6.26 (3.20)		7.79 (2.76)	
Level of Education	PCL	19.75 (5.98)	0.013	6.76 (2.25)	<0.001	8.45 (4.60)	0.001	6.01 (3.07)	0.034	7.70 (2.77)	<0.001
	Bachelor	20.48 (5.50)		6.96 (2.02)		8.75 (5.13)		6.64 (3.22)		7.89 (2.80)	
	Master	18.52 (5.93)		5.94 (2.50)		6.76 (5.06)		5.76 (2.87)		6.57 (2.70)	
Nurses Education	PCL	19.75 (5.98)	0.051	6.76 (2.25)	0.017	8.45 (4.60)	0.045	6.01 (3.07)	0.006	7.70 (2.78)	0.051
	BN/B.Sc.	20.91 (5.33)		7.03 (2.03)		8.61 (4.94)		6.77 (3.31)		8.03 (2.67)	
	MN	16.16 (8.42)		4.50 (1.87)		3.66 (2.87)		3.16 (1.94)		5.33 (3.32)	
Doctors Education	MBBS	18.00 (5.88)	0.856	6.60 (1.94)	0.003	9.60 (6.11)	0.052	5.95 (2.63)	0.747	7.13 (3.40)	0.720
	MD/MS	18.58 (5.87)		5.79 (2.36)		7.01 (5.24)		5.93 (2.95)		6.63 (2.77)	
	DM/MCH	19.07(5.46)		8.07 (3.09)		5.69 (3.27)		5.30 (1.79)		6.53 (1.33)	

Table 5: Differences in coping strategies during COVID-19 pandemic according to health care workers characteristics (n=482)

Variables		Problem Focused		Emotion Focused	
		M (SD)	p	M (SD)	p
Gender	Female	15.98 (3.53)	<0.001	45.64 (8.78)	<0.001
	Male	13.15 (3.60)		39.76 (9.97)	
Marital Status	Married	14.62 (3.79)	<0.001	42.97 (9.81)	0.013
	Unmarried	15.85 (3.65)		45.13 (9.01)	
Type of family	Joint	15.18 (3.80)	0.923	43.89 (9.50)	0.954
	Nuclear	15.14 (3.77)		43.94 (9.54)	
Living with family	No	14.67 (3.63)	0.074	43.92 (9.96)	0.997
	Yes	15.35 (3.82)		43.92 (9.35)	
Profession	Doctor	13.39 (3.52)	<0.001	40.22 (10.3)	<0.001
	Nurses	16.07 (3.57)		45.85 (8.54)	
Education Level	PCL	16.39 (3.33)	<0.001	46.72 (7.95)	<0.001
	Bachelor	15.42 (3.82)		44.74 (9.53)	
	Master	13.39 (3.59)		39.66 (9.82)	
Nurses Education	PCL	16.39 (3.33)	0.177	46.72 (7.95)	0.100
	BN/B.Sc. Nsg	15.71 (3.89)		44.80 (9.21)	
	MN	14.83 (2.85)		42.83 (8.51)	
Doctors Education	MBBS	13.78 (2.93)	0.114	44.43 (11.38)	0.041
	MD/MS	13.51 (3.52)		39.89 (9.94)	
	DM/MCH	11.46 (4.19)		35.92 (8.70)	

In model 1, problem focus coping and emotion focused coping are the significant predictors of anxiety which explain 5.9% variation in the model. Similarly, in model 2, emotion-focused coping was found to be significant predictors of sadness which explains 29.9% variation in the model. Likewise, emotion focused coping explains 9.7% of the variation in the anger model 3 (R^2= 0.097, F=26.824, p=<0.001). In model 4, problem-focused coping and emotion-focused coping were included in the regression equation of shock and found to be significant predictors of shock which explain 11.6% variation in the model (Table 7).

Table 6: Regression analysis for coping strategies towards COVID-19 as a function of emotions

Independent Variables	Dependent Variable: Problem Focused Coping Model 1			Dependent Variable : Emotion Focus Coping Model 2		
	β	t	p value	β	t	p value
Anxiety	0.079	1.51	0.131	0.525	10.981	<0.001
Sadness	0.165	3.056	0.002	-0.020	-0.387	0.699
Anger	-0.022	-0.387	0.699	0.114	2.407	0.016
Shock	0.194	3.621	<0.001	-0.044	-0.954	0.341

Model 1: Adjusted R^2= 0.108, F=15.613, p=<0.001Model 2: Adjusted R^2= 0.302, F=53.039, p=<0.001 Standardized β

Table 7: Regression analysis for emotions towards COVID-19 as a function of coping

Independent Variables	Dependent Variables							
	Anxiety Model 1		Sadness Model 2		Anger Model 3		Shock Model 4	
	β	p	β	p	β	p	β	p
Problem focused	0.162	0.003	-0.058	0.210	0.042	0.428	0.172	0.001
Emotion focused	0.120	0.009	0.580	0.001	0.292	0.001	0.218	<0.001

Model1: Adjusted R^2= 0.059 Fstatistic=16.094(p=<0.001)Standardized β Model 2: Adjusted R^2= 0.299 Fstatistic=103.45 (p=<0.001)

Model 3: Adjusted R^2= 0.097 F statistic=26.824 (p=<0.001) Model 4: Adjusted R^2= 0.116 F statistic=32.595(p=<0.001)

DISCUSSION

Present study revealed that infecting family members and others, getting infections from patients, lack of treatment protocol, specialty hospitals and man powers, social distancing and isolation were the major emotional concern to HCWs during this pandemic and these findings are consistent with the various literatures where HCWs showed greatest concerns regarding viral transmission to their family/others.[13,14,15] These reactions might be because of novelty of virus, lack of treatment and specific protocols prevailing in the current pandemic. Therefore, health care institutions and Government of Nepal need to consider the strict measures and protocols to control the chain of infection. Other studies also revealed that lack of treatment for covid-19 caused increase in emotional responses among HCWs to work during the pandemic.[14,15,16] However, inconsistent finding reported by study in China where medical staffs were less concern regarding lack of treatment for COVID-19.[13] The possible reason in the variation of the views might be because of the time and severity of cases in the concerned country. Half of HCWs of this study were shocked being avoided by others for the fear of transmitting infections and similar results were observed in other studies.[17,18] Thus, there is a need for public education campaigns concerning COVID-19 and its preventive measures.

In this study, female HCWs had significantly higher anxiety (p= 0.009), sadness (p < 0.001), shock (p<0.001) and enthusiasm (p= 0.009) compared to male HCWs and this is in line with other studies where women showed severe anxiety, depression, distress and fear.[3,19-21] Similarly, studies pointed out that women had significantly higher anxiety, hopelessness[22], sadness [23,24] and enthusiasm[15] compared to male HCWs. This might be due to the facts that women are considered to be fragile, emotionally attached, sensitive and they perceive events more negatively and uncontrollable compared to the men.

This study found that nurses felt more emotions such as anxiety (p=0.004), sadness (p=0.016) and shock (p<0.001) than the doctors which is consistent with other studies in which nurses felt significantly higher anxiety, nervousness and fear compared to doctors.[3,7,13,21,25] The might be attributed to the fact that they spend more time with patients, see them with pain and dying during COVID-19 outbreak and fear in nurses intensifying the perception of danger on COVID-19.[7] Our finding presents the existence of enthusiasm (p=0.01) which appeared more among nurses compared to doctors. Research evidence confirmed that nurses showed positive attitude, encouragement, and collective power, calm and rational behaviour despite of challenges in the fight against the disease.[9,18] Further, Kakunje concluded that positive emotions play an important role in the recovery and adjustment of psychological trauma.[26]

In this study, positive reframing, planning, emotional support, self-distraction, and religion were frequently used by health workers and use of these measures were significantly higher among nurses compared to doctors and these findings is supported by studies from other part of the world in which nurses commonly used religion,[27-28] planning,[29] social support[30] as coping measure. The variation in use of coping strategies across the countries might be due to the inconsistent severity and HCWs perceptions towards COVID-19 outbreak.

Similar with other study done in China, this study found the positive relationship between problem-focused coping and

emotion-focused coping (p<0.001) of HCWs.[3] Further, it was found that female made more use of problem-focused coping and emotion focused coping than the male to deal with COVID -19 and this is supported by studies done in China[3]and Romania.[7]It might be attributed to the fact that modern woman unlike her counterpart is challenged by the career and familial goals leading to excessive use of coping for stability in face of the enormous difficulties.

In our study, shock and sadness were found to be significant predictors of problem focused coping whereas, anxiety and anger were the significant predictors of emotion-focused coping. Various studies reported that the high-users of emotion-focused coping have higher levels of depression and anxiety.[31,32] Likewise, the findings during the SARS outbreak concluded that problem-solving coping strategies reduced sadness.[33]However, other study reported that it contributed to increase anxiety levels.[34]The conflicting results might be because of one's appraisal of the situation especially during the time of pandemic.

We found that the coping strategies of HCWs had significant predictive effects on emotional responses in which problem focused and emotion focused coping are the significant predictors of anxiety and shock whereas emotion focused coping has significant predictive effects on sadness and anger. In harmony with these findings, other studies showed significant predictive effect of problem focused coping on anxiety and sadness.[3,7] Similarly Yeung (2007) reported that the greater use of emotion-focused coping reduced anger and sadness for all age groups and greater use of problem-focused coping reduced sadness for older adults. [12] In addition, a study from Nepal revealed that the nursing students who used emotion-focused coping have higher levels of depression and anxiety.[35]

Enthusiasm of most HCWs after starting the anti-epidemic tasks is rarely mentioned in other studies and we have included thinking it might have been related to health professionals' gradual adaptation, acceptance, positive response, and personal growth. In addition, it highlights the need of mental health services, especially to those with pre-existing mental illness and who may be affected by the COVID-19 pandemic. Besides, this study has some limitations. First, it is a cross-sectional survey which could not explore the causal conclusions. Second, most participants were from Chitwan district, limiting the generalization of findings to less affected regions. Third, psychological assessment was done based on self-report tools. Despite of this, study findings highlights the need of safe working conditions, screening program and psychological interventions for HCWs while offering financial subsidies and rewards by health care authorities and institutions.

CONCLUSION

HCWs working in different government and private hospitals experience positive and negative emotions during COVID-19 pandemic and these emotions are higher among nurses compared to the doctors. Besides, nurses are more frequently using the coping measures to adjust with their working situations. Hence, health institutions and local government need to organize mental health programs for the health workers during this pandemic considering the identified factors to enhance positive attitude and mental wellbeing.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

REFERENCES:

1. World Health Organization. Clinical management of severe acute respiratory infection when Novel coronavirus (nCoV) infection is suspected: Interim guidance.2020 Jan 11.
2. Sohrabi C, Alsafi Z, O'Neill N, Khan M, Kerwan A, Al-Jabir A, Iosifidis C, et al. World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). Int J Surg. 2020; 76:71-6. [DOI]
3. Huang L, Lei W, Xu F, Liu H, Yu L. Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: A comparative study. PLOS ONE. 2020 Aug 7;15(8):e0237303. [DOI]
4. Powell-Jackson T, King JJ, Makungu C, Spieker N, Woodd S, Risha P, et al. Infection prevention and control compliance in Tanzanian outpatient facilities: a cross-sectional study with implications for the control of COVID-19. Lancet Glob Health. 2020; 8(6): e780–e789. [DOI]
5. World Health Organization (WHO). 2020August 28.
6. Ministry of Health and Population (MOHP). Unpublished Report. 2020 Aug 28
7. Man MA, Toma C, Motoc NS, et al. Disease Perception and Coping with Emotional Distress During COVID-19 Pandemic: A Survey Among Medical Staff. Int J Environ Res Public Health. 2020;17(13):E4899. [DOI]
8. Balasubramanian A, Paleri V, Bennett R, Paleri V. Impact of COVID-19 on the mental health of surgeons and coping strategies. Head Neck. 2020 : 10.1002/hed.26291.[DOI]
9. Khalid I, Khalid TJ, Qabajah MR, Barnard AG, Qushmaq IA. Healthcare workersemotions, perceived stressors and coping strategies during MERS-CoV outbreak. Clin Med Res. 2016;1303:1-22. [DOI]
10. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. ASIAN JPsychiatr. 2020 Apr 8:102083. [DOI]
11. Yeung DY, Fung HH. Age differences in coping and emotional responses toward SARS: A longitudinal study of Hong Kong Chinese. Aging and Mental Health. 2007 Sep 1;11(5):579-87. [DOI]
12. Carver CS. You want to measure coping but your protocol'too long: Consider the brief cope. Int. J. Behav. Med. 1997 Mar 1;4(1):92. [DOI]
13. Cai H, Tu B, Ma J, Chen L, Fu L, Jiang Y, Zhuang Q. Psychological Impact and Coping Strategies of Frontline Medical Staff in Hunan Between January and March 2020 During the Outbreak of Coronavirus Disease 2019 (COVID-19) in Hubei, China. Medical science monitor. Med. Sci. Monit. 2020 April 15;26:e924171-1. [DOI]
14. Mohindra R, Ravaki R, Suri V, Bhalla A, Singh SM. Issues relevant to mental health promotion in frontline health care providers managing quarantined/isolated COVID19 patients. Asian J. Psychiatry. 2020;51:102084. [DOI]
15. Sun N, Wei L, Shi S, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control. 2020; 48: 592-8. [DOI]
16. Sterling MR, Tseng E, Poon A, et al. Experiences of Home Health Care

Workers in New York City During the Coronavirus Disease 2019 Pandemic: A Qualitative Analysis. JAMA Intern Med.2020 Aug;4:e203930. [DOI]

17. Taylor S. The psychology of pandemics: Preparing for the next global outbreak of infectious disease. Cambridge Scholars Publishing; 2019 Oct 7.
18. World Health Organization. A guide to preventing and addressing social stigma associated with COVID-19. 2020. 2020 Feb 24. 19.
19. Fu W, Wang C, Zou L, Guo Y, Lu Z, Yan S, et al. Psychological health, sleep quality, and coping styles to stress facing the COVID-19 in Wuhan, China. Transl Psychiatry. 2020 07 9;10(1):225. [DOI]
20. Droit-Volet S, Gil S, Martinelli N, Andant N, Clinchamps M, Parreira L, et al. Time and Covid-19 stress in the lockdown situation: Time free, «Dying» of boredom and sadness. PLOS ONE. 2020;15(8):e0236465. [DOI]
21. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. JAMA Netw Open. 2020 March 2;3(3):e203976.[DOI]
22. Hacimusalar Y, Kahve AC, Yasar AB, Aydin MS. Anxiety and hopelessness levels in COVID-19 pandemic: A comparative study of healthcare professionals and other community sample in Turkey. J Psychiatr Res. 2020;10;129:181-8. [DOI]
23. Liu Q, Luo D, Haase JE, Guo Q, Wang XQ, Liu S, et al. The experiences of health-care providers during the COVID-19 crisis in China: A qualitative study. Lancet Glob Health. 2020 June;8(6):e790-e798. [DOI]
24. Pappa S, Ntella V, Giannakas T, Giannakoulis VG, Papoutsi E, Katsaounou P. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis. Brain Behav Immun. 2020 Aug;88:901-7. [DOI]
25. Spoorthy MS, Pratapa SK, Mahant S. Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review. Asian J Psychiatr. 2020 Jun;51:102119. [DOI]
26. Kakunje A, Mithur R, Kishor M. Emotional well-being, mental health awareness, and p revention of suicide: Covid-19 pandemic and digital psychiatry. Arch Med Health Sci. 2020 Jan 1;8(1):147. [DOI]
27. Munawar K, Choudhry FR. Exploring stress coping strategies of frontline emergency health workers dealing Covid-19 in Pakistan: A qualitative inquiry. Am. J. Infec. Control. 2020 Jul 7. [DOI]
28. Ekedahl MA, Wengström Y. Caritas, spirituality and religiosity in nurses' coping. Eur J Cancer Care (Engl). 2010 Jul;19(4):530-7. [DOI]
29. Li J, Lambert VA. Workplace stressors, coping, demographics and job satisfaction in Chinese intensive care nurses. NursCrit Care. 2008 Jan-Feb;13(1):12-24. [DOI]
30. Si MY, Su XY, Jiang Y, Wang WJ, Gu XF, Ma L, et al. Psychological impact of COVID-19 on medical care workers in China. Infect Dis Poverty. 2020 Aug 12;9(1):113. [DOI]
31. Roohafza HR, Afshar H, Keshteli AH, Mohammadi N, Feizi A, Taslimi M, et al. What's the role of perceived social support and coping styles in depression and anxiety. J Res Med Sci. 2014 Oct;19(10):944-9. [PMID]
32. Samson P. Stress, anxiety, and depression: Role of campus connectedness, social support, and coping among nepalese nursing students. 2018. Walden Dissertations and Doctoral Studies. 5939. [LINK]
33. Yeung DY, Fung HH. Age differences in coping and emotional responses toward SARS: A longitudinal study of Hong Kong Chinese. Aging Ment Health. 2007 Sep;11(5):579-87. [DOI]
34. Cheng C, Cheung MW. Psychological responses to outbreak of severe acute respiratory syndrome: A prospective, multiple time-point study. J Pers. 2005; 73:261-85. [DOI]
35. Samson P. Role of Coping in Stress, Anxiety, Depression among Nursing Students of Purbanchal University in Kathmandu. J Nepal Health Res Counc. 2019 Dec 13;17(3):325-30.[DOI]