Fear of COVID-19, Perceived Stress and Burnout in Healthcare Professionals: The Mediating Role of Emotion-Focused Coping

Rubab Razzaq[1*], Raumish Masud Khan[2], Tehreem Sajid[1]

Abstract

Healthcare professionals are at higher risk of burnout during COVID-19 because of their role as a frontline warrior. So, the goal of this study is to search the link between fear of COVID-19 (FOC), perceived stress, coping mechanisms as well as burnout in healthcare professionals. Adopting a cross-sectional research design, this study recruited 120 healthcare professionals purposively from government and private hospitals during COVID-19. All the recruited participants recorded their responses after signing an informed consent in a survey booklet consisting of demographics and standardized assessment tools such as Familial Infection scale (FCFIS), Coping Orientation to Problems Experienced Inventory, Perceived Stress scale, and Copenhagen Burnout inventory (CBI). Findings demonstrated a significant positive association between FOC, styles of coping, perceived stress and burnout in the sample. Regression analysis found that burnout was significantly positively predicted by FOC and emotion focused coping style. However, the association between FOC and burnout was mediated by emotion focused coping. The outcomes of this study suggest the advancement of healthy coping strategies to reduce the stress and chances of burnout in the recruited sample. The outcomes of this study indicate the advancement of healthy coping strategies in order to reduce perceived stress and chances of burnout in the recruited sample.

Keywords. Burnout, Coping Strategies, Fear of COVID-19, Healthcare and Mental Health Practitioners, Perceived Stress

[1]MS Scholar, Department of Psychology, Kinnaird College for Women, Lahore, Pakistan.
[2]Assistant Professor, Department of Psychology, Kinnaird College for Women, Lahore, Pakistan.

*Corresponding Author Email:
rubabrazzaq1047@gmil.com

Introduction

The initial outburst of COVID-19 in China suffered the whole world in 2019. Due to mutating nature of COVID-19 and an increased surge in rate of infection across world, this infection in 2020 was labelled as global pandemic (WHO, 2021). Besides employing different techniques to propose an effective vaccine for COVID-19 (Li et al., 2021), research highlighted challenges such as lack of willingness in implementation of COVID-19 vaccination packages (Kukreti et al., 2021). The mutating nature of COVID-19 decreased the efficacy of COVID-19 vaccination (Jungreis et al., 2021). Since healthcare professionals are actively engaged in testing, care and management of COVID-19 infected patients, which enhance their likelihood of poor psychological health (Thombs et al., 2020). The adverse outcomes of engaging with COVID-19 patients comprises of mental health problems and fear of infecting oneself and others from the infection (Stanton et al., 2020).

Fear resulting from uncertainty about the transmission of corona virus, lack of effective vaccines, immunity of patient and the mutating nature of the infection was defined as Fear of COVID-19 (FOC) (Llibre-Guerra et al., 2020). Propagating false information through various social

media platforms and high rates of mortality contributes to FOC (Barua et al., 2020). Prevention measures to reduce risk of corona virus infection such as wearing masks and washing hands (Newby et al., 2020), contributes to poor mental health (Heiat et al., 2021), discrimination and social stigmatization (Xu et al., 2021). People with low level of FOC were engage in social interactions, hosting parties and risky behaviors (Scheid et al., 2020). The terrified nature of FOC make individuals to fear of losing their loved ones and themselves (Moghanibashi-Mansourieh,2020), contributing to high level of psychological distress and death anxiety (Menzies & Menzies, 2020). According to Hobfoll (1989), humans are too much complex in coping their psychosocial problems, therefore conservation of resources theory (COR) explains the development and coping of stress based on one's resources. The major assumption of COR theory suggests that the increased loss of one's resources after experiencing a stressor leads to a chain of losses if an individual is not able to resolve the stress effectively and have diminished or no opportunity to gain reward (Hobfoll et al., 1990). COR theory proposes the objective existence of the stressful events and individual needs to spend their resources to overcome problems. Individuals with diminished resources are more likely to fail while coping their problem which consequently leads to their psychosocial burden. In the context of global pandemic such as COVID-19, people tend to adopt a variety of coping mechanisms; therefore, the current study attempts to investigate the mechanisms explaining the relationship between FOC and burnout in Pakistani frontline healthcare providers.

The strategies used behaviorally and cognitively to manage stress, external and internal demands of stress, ranging from emotion focused to problem focused mechanisms are termed as coping strategies (Gustems-Carnicer et al., 2019;

Lazarus,1993). Transactional stress model posits that stress results from the interaction between coping mechanisms and appraisal (Lazarus, 1990). Individuals evaluate importance or relevance of situations to their needs as whether they are threatening or challenging for themselves. The situation is appraised as threat or harmful if one lacks the ability to overcome the stressor (Lazarus, 1990). While in the secondary appraisal process of stress, individuals weigh their coping capabilities through selecting an effective coping style while evaluating its success, potential effects and application to overcome stress. The dynamic interaction between environment and the individual and the initiation of coping strategies stimulates the continuous reappraisal of the situation (Lazarus, 1990). Adaptive coping strategies are crucial for the team dynamics, productivity, health and well-being of both organizations and an individual (Zhao et al., 2020). There is a prominent role of coping mechanism in the stress of healthcare professionals (Huang et al., 2021). Problem focused coping helps in reduction of stress and boosting of available coping resources while emotion focused coping reduces the negative and detrimental effects of psychological stress (Boujut et al., 2017). Problem focused coping was linked to mental wellbeing while emotion focused coping was related to poor mental health (Mariani et al., 2020). Previous studies documented that both emotion focused and problem focused coping were positively and negatively related to burnout respectively (Muriithi et al., 2021).

The individual's experience or response to a stimulus, threat or event in different circumstances is defined as perceived stress (Wongpakaran et al., 2014). Stress posits negative effects on psychologically vulnerable individuals and on general populations (Mulugeta et al., 2021). The elevated level of psychological distress during COVID-19 (Yan et al., 2021), negatively affect healthcare professionals in particular than general population (Mahmud et al., 2021). Fear of infecting

oneself from COVID-19 and infecting family members, loved ones or colleagues were the prominent cause of perceived stress in healthcare professionals (Leng et al., 2021). However, self-related health was negatively contributing to psychological distress (Leng et al., 2021). FOC and perceived stress were negatively linked to quality of sleep, happiness and life satisfaction (Dymecka et al., 2022). According to an Ethiopian study, the perceived stress was high prevalent in healthcare professionals during COVID-19 (Chekole et al., 2020).

The psychological syndrome characterized by emotional exhaustion, cynicism and lack of personal accomplishments is defined as burnout (Koutsimani et al., 2019). Poor work quality, workload, stressful environment, social isolation and increased work pressure are the prominent risk factors of burnout (Murali et al., 2017). Majority of studies in December 2019, were focused on burnout in healthcare professionals due to their frontline warrior role in COVID-19 pandemic. During pandemic, different domains of life such as social, personal, psychological and professional were compromised aggravating stress, fear and burnout (Brooks et al., 2020). The combined effect of social distancing, lockdowns, and stress while coping with COVID-19 amplified the chances of burnout in healthcare professionals. However, factors such as fear and anxiety, decreased social interactions, anxiety related to COVID-19, restricted surroundings and socially limited environment cause burnout (Koutsimani et al., 2019). Therefore, the aim of this study was to investigate the association between fear of COVID-19, perceived stress, coping styles and burnout in healthcare professionals in Pakistani context.

Method
Participants
This study recruits 120 healthcare providers such as nurses, doctors, psychiatrists and clinical psychologists purposively, utilizing cross sectional research design. The inclusion criteria for participants to participate in this study was healthcare providers providing healthcare services during COVID-19 in private and government healthcare institutes, while the exclusion criteria comprised of healthcare service providers through online mode.

Assessment Measures
Demographics
This cross-sectional study consists of survey pamphlets which include informed consent form, demographics and standardized assessment tools.

The Fear of Covid-19 Familial Infection Scale (FCFI)
FCFI is a 6 items tool measuring fear of being infected and fear of infecting others, requires participants to record their responses on 5-items rating scale (Mayer et al., 2021). The minimum score possible for each question is 1 and the maximum is 5. A total score could be calculated by adding up each item score. The score of FCFI ranges from 5-30. Higher score reveals high fear of COVID-19. The two factors of FCFI have a reliability index of .79 to .75. The Cronbach's reliability index of FCFI reported in this study is .77.

The Brief Cope
Brief Cope inventory, 28 items tool having 14 sub scales was used to measure coping strategies of participants (Carver, 1997). The 14 subscales are self-distraction (items 1& 19), active coping (items 2 & 7), denial (items 3 & 8), substance use (items 4 & 11), use of emotional support (items 5 & 15), use of instrumental support (items 10 & 23), behavioral disengagement (items 6 & 16), venting (items 9 & 21), positive reframing (items 12 & 17), planning (items 14 & 25), humor (items 18 & 28), acceptance (items 20 & 24), religion (items 22& 27) and self-blame (items 13 & 26). The two-factor structure of Brief Cope inventory is problem focused coping and emotion focused coping. Higher scores on each factor indicate the excessive use of that specific coping style. The reliability indices of Brief Cope, PFC and EFC are .81, .79 and .75 respectively. The internal

consistency values of Brief Cope, PFC and EFC in this study are .79, .77 and .76 respectively.

The Perceived Stress Scale (PSS-10)

The level of perceived stress in the recruited healthcare workers was assessed through perceived stress scale (Cohens & Williamson, 1988), having a reliability value of .71 to .91. Perceived stress scale is a 10-item assessment tool having a 4-point Likert response format. PSS-10 items are further distributed into 6 positive questions and 4 negative questions. After reverse scoring the negative items, the responses are summed up to create a total score. Scores ranging from 0-13 indicates low stress. Similarly, scores ranging from 14-26 shows moderate stress while scores 27-40 demonstrates high stress. Higher scores indicate increased perceived stress. The reliability index of PSS-10 in this study is reported as 0.85.

The Copenhagen Burnout Inventory (CBI)

CBI is a 19 items tool classified into personal burnout (6 items), work burnout (7 items) and personal burnout (6 items) administered in this study to measure burnout (Kristensen et al., 2005). The scores for items within each dimension are averaged to produce a score for personal, work-related and client-related burnout. The overall burnout score is calculated by averaging the subscales scores, resulting in a total score ranging from 0-100. High scores on this scale indicate more likelihood of burnout. The scale's reliability index is .84 to .85. In this study, the internal consistency value of CBI was 0.83.

Procedure

After granting approval from Institutional Review Board and Ethics Committee of Kinnaird College for Women, Lahore, this study recruited healthcare and mental health practitioners from private and government hospitals during COVID-19. Following the ethical approval of administration of assessment tools from their respective authors, a survey booklet consisting of informed consent, demographics and main assessment tools was proposed to collect data from participants. After signing an informed consent, all participants were given sufficient time of 20-25 minutes to record their responses in survey booklet. Each survey booklet was cross-checked for any missing information. Research ethics such as informed consent, anonymity of responses, and minimization of potential harms, confidentiality and privacy of participant's information along with their right of withdrawal participation from study were considered. After recording their responses, all participants were debriefed about their participation.

Statistical Analysis

SPSS version 26 was used to run descriptive statistics, Pearson product moment correlation and regression analysis. Similarly, Hayes Macro Process version 4.0 was utilized to carry out mediation analysis model 4.

Results
Table 1
Demographic Characteristics of the Sample (N=120)

Variables	M(SD)	f(%)
Age (years)	31.75(3.87)	
Professional Experience (years)	5.82(3.71)	
Gender		
Male		36(30)
Female		84(70)
Occupation		
Physicians		30(25)
Nurses		30(25)
Psychiatrists		30(25)
Clinical psychologists		30(25)
Relationship status		
Single		42(35)
Married		78(65)
Nature of Job		
Government		89(74.2)
Private		31(25.8)

Table 1 indicates sociodemographic characteristics of the recruited participants.

Table 2
Correlation between FOC, Perceived Stress, PFC, EFC and Burnout (N=120)

Variables	M	SD	1	2	3	4	5
1.Fear of COVID-19	21.10	3.61	_	.18*	.15	.47**	.64**
2.Perceived stress	23.48	6.57		_	.14**	.19**	.17
3.PFC	17.01	2.03			_	.43**	.10
4.EFC	48.32	6.84				_	.44**
5. Burnout	182.70	25.23					_

*$p<0.05$, **$p<0.01$
Note. PFC= Problem Focused Coping, EFC= Emotion Focused Coping

Table 2 indicates the result of Pearson product moment correlation. Correlation analysis indicates significant positive link between FOC, perceived stress, EFC and burnout. Similarly, both PFC and EFC were significant positive correlates of perceived stress. Likewise, EFC was significantly positively connected with burnout. Findings suggests that healthcare professionals are at higher likelihood of burnout because of fear of COVID-19, perceived stress and their chosen style of coping such as emotion focused coping.

Table 3

Multiple Linear regression Analysis between FOC, PFC, EFC, Perceived Stress, and Burnout (N=120)

	Burnout					
Variables	***B***	***SE***		***B***	***t***	***p***
Fear of COVID-19	4.41	.52		.38***	4.61	.001
Problem focused coping	-2.32	.56		-.05	-1.13	.33
Emotion focused coping	.82	.33		.34**	1.42	.003
Perceived Stress	.23	.28		.02	.44	.62
R²			.44			
F (df)			23.44 (14,115)			
P			0.000			

Outcome= Burnout
**p<0.01, ***p<0.001

Multiple linear regression analysis indicates that both fear of COVID-19 and emotion focused coping were significantly positively predicting burnout in healthcare professionals. While problem focused coping and perceived stress in healthcare professionals were not significantly predicting burnout.

Figure 1

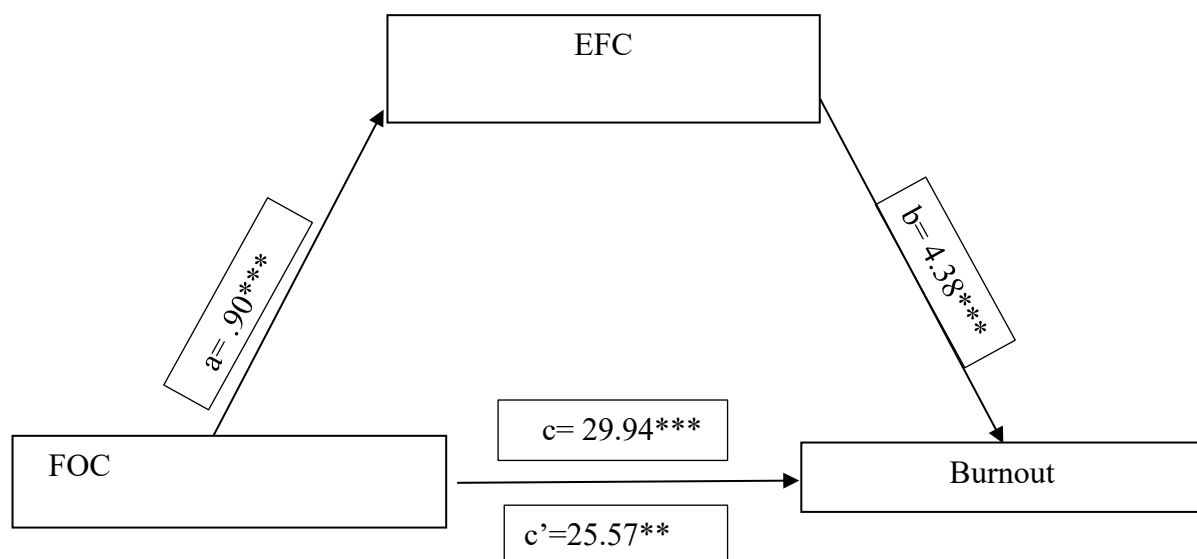*Mediation Model of Fear of COVID-19, Emotion-Focused Coping and Burnout*

Table 4
Mediation analysis of FOC, EFC and Burnout (N= 120)

		Consequent						
		M(EFC)				Y(Burnout)		
Antecedent		**B**	**SE**	**P**		**β**	**SE**	**P**
FOC (X)	*A*	.90	.15	.000***	c'	25.57	3.60	.01**
EFC (M)					*B*	4.38	1.90	.02*
Constant	*i*	29.27	3.27	.000***	*I*	130.93	87.86	.01*
R^2= .22				R^2= .44				
F (1,118) =34.79, *p*=.000***					F (2,117) =46.05, p=.000***			

***p<.001, **p>.01
Note. FOC= fear of COVID-19, EFC= Emotion-focused coping, SE= standard error

Mediation analysis demonstrates significant direct effects of FOC on EFC (β= .90, SE= .15, *p*<.001) and of EFC on burnout (β= 4.38, SE= 1.90, *p*<.05). Similarly, the FOC total effect on burnout was also significant (β= 29.94, SE= 4.35, *p*<.001). Results also reveal significant c' path (β= 25.57, SE= 3.60, *p*<.01) and reduced effects of FOC on burnout while controlling EFC (Table 4).

Table 5
Indirect effects of FOC on Burnout via EFC (N=120)

Variables	B	SE	LL	UL
EFC	3.96	2.04	.28	8.39

Note. EFC= Emotion-focused coping

Table 5 make known significant indirect effects of FOC on burnout (β= 3.96, SE= 2.04, LL= .28, UL= 8.39).

Discussion
The primary focus of this study was to find the correlates of FOC, perceived stress, coping strategies and burnout. Correlation analysis demonstrates a significant link between FOC and perceived stress, strengthening the existing literature (Yang et al., 2022). Transmissible diseases like COVID-19 advance inborn fear which fluctuates in several populations residing in diverse terrestrial zones (Heiat et al., 2021). People and social media platforms play a prominent role in heightening the level of such innate fears (Olsson & Phelps, 2007). Beside increased vigilance to COVID-19 related information sharing social media platforms (Mongkhon et al., 2021), quarantining COVID-19 patients from general population exacerbates FOC (Singh et al., 2020). FOC activates cortisol releasing brain areas compounding the effects of lessened finance and uncertain future contributes to stress in healthcare professionals (Ruengorn et al., 2021).

Findings indicate a significant positive association between FOC and EFC, supporting the previous study (Kovacs et al., 2022). EFC regulates negative affects resulted from stressful situations through strategies such as journalling, writing, acceptance of stress and its adverse impact, applying mindful strategies and receiving psychological and social supports. There is an increase probability of using EFC in

healthcare professionals when their resources at hand are incapable of reacting actively to a stress or avoiding the stressful life events but are obliged to adopt the situations and stay healthy according to the rules proposed by the state during COVID-19 pandemic. Furthermore, social media platforms reinforce such rules of protecting oneself from infection of COVID-19 propagate the fear of COVID-19 (Brivio et al., 2020).

Results indicate FOC as a significant positive correlate of burnout; align with findings of previous study (Yildirim & Ashraf, 2024). The link between FOC and burnout is specifically explained by the fact that during COVID-19 pandemic specific fears in healthcare professionals develop due to unavailability of treatment and lack of resources vital for managing such infections. Such fears induces structurally in people due to protection measures proposed by state such as smart or complete lockdowns, decreases in interaction with people, self-quarantines, social distancing and availability of low social support which exacerbate the fears and apprehensions negatively effecting the resources of healthcare professionals to tackle such challenges (Kassam, 2019). Such structural propagation of fear might explain the link between FOC and burnout.

Results reported a significant positive relationship between EFC and PFC. According to stress and coping framework, stress is the result of imbalances between stressor's demands and available coping resources (Lazarus, 1993). Healthcare professionals have varied stressors due to an increase in alteration of social conditions associated with COVID-19, cause them to perceive differently the same situation. Healthcare professionals may have not adequate resources to change their surrounding but will be able to change the interpretation and perception of stressor decreasing the risk of perceiving stress. The opportunity of adopting coping mechanisms and perceiving a stressor as a challenging circumstance decreases the risk

of developing negative thoughts (Rayle et al., 2005). However, the adverse effects of COVID-19 on people change their perception and interpretation of pandemic differently in terms of their coping strategies resulting in increased distress.

EFC is a significant positive correlate of burnout, strengthening the existing literature (Mariani et al, 2020). EFC manage psychological distress without addressing its root causes. Healthcare professionals utilizing emotion focused coping strategies are at increased risk of avoidance, suppression and detachment of their emotions while dealing with COVID-19 infected people. These coping strategies are a temporary reliever to the negative impact of stress while ignoring the elimination of a root cause of stress. Such coping tools subsequently cause emotional exhaustion, depersonalization and an inadequate sense of personal accomplishments. Such inadequate problem-solving skills and avoiding work related challenges cause increased job dissatisfaction, hopelessness, detachment from patients and work resulting in the experiences of burnout.

This study suggests that both FOC and emotion focused coping are significant predictors of burnout in healthcare professionals. Factors such as presymptomatic, asymptomatic, symptomatic carries and uncontrollable transmission of COVID-19 through respiratory droplets exacerbate the FOC (Wiersinga et al., 2020). Furthermore, emotion focused coping such as avoidance, rumination contributes to FOC because of its inability to actively address the stressor. Working in COVID-19 wards is considered a significant challenge for health care professionals due to unknown cases of COVID-19 and varying transmission modes of corona virus. Such factors amplifies their chances of contracting COVID-19 augmenting the associated COVID-19 fear, job dissatisfaction and increased distress which consequently negatively impacting the delivery of

healthcare services and high rate of professional turnover (Rajabimajd et al., 2021). Furthermore, such factors also contributes to poor mental health and increased burnout in healthcare professionals (Zare et al., 2021).

EFC is significantly mediating the association between FOC and burnout. This study provides a novel insight about the explanation of relationship between FOC and burnout. Finding revealed that emotion focused coping strategies of healthcare professionals while managing their responses to uncertain situations and increased level of stress due to COVID-19 cause them to burnout from their professional roles. The utilization of EFC to decrease the negative feelings linked with COVID-19 infection and its transmission to others while interacting with others develop emotional exhaustion and a sense of low self-efficacy contributes to healthcare professional's burnout.

Strengths and Limitations

This study explored a relationship between FOC, coping mechanisms, perceived stress and burnout. Furthermore, this study found that FOC and emotion focused coping predicts burnout in healthcare professionals along with the mediating effects of EFC between FOC and burnout. The primary limitations of this study include cross-sectional research design, family history of COVID-19 infection, and response biases of the recruited participants. Cross-sectional research design is not intended to investigate casual effects between variables. Since family history of COVID-19 infection contributes in the stress of healthcare professionals, therefore not taking into account the family history of the recruited participants limits the study findings.

Suggestions

Studies in future may incorporate various coping strategies while investigating the association between stress and burnout and to highlight that what type of adaptive coping styles decrease burnout (Wallace et al., 2010). Furthermore, different healthcare professionals may have different stressors pertinent to their professions, therefore researchers in future may recruit different healthcare professionals to investigate the cause and interventions to reduce burnout (Montero-Marin et al., 2014). Research studies in future may investigate the influence of adaptive coping mechanisms after inculcating them in various healthcare professionals to reduce the likelihood of burnout without developing the symptoms of burnout (Demerouti, 2015). Researchers in future may investigate other positive psychological resources to reduce stress such as social support and flexible time schedules.

Implications

This study suggests the correct spreading of information related to COVID-19 and effective preventing procedures to prevent oneself from infection of COVID-19. There is a need of education campaigns in all health sectors regarding the coping of stress associated with pandemic and accurate information regarding spreading of COVID-19 to decrease the elevated level of stress. Healthcare professionals must be screened for psychological distress as early as possible to reduce fear and ensuring of providing high quality healthcare services.

Conclusions

The current study indicates FOC, coping strategies, and perceived stress as a significant correlate of burnout while FOC and EFC as a significant positive predictor of burnout. Furthermore, emotion focused coping was mediating the link between FOC and occupational burnout. This study suggests the installation of adaptive coping mechanisms in healthcare professionals in order to decrease the likelihood of occupational burnout during pandemics. Healthy coping strategies will result in the delivery of high-quality healthcare services along with protecting the psychological health of healthcare professionals while exposing to stressors at their workplaces.

Ethics Statement
All the ethical standards of APA were met. Informed consent was taken in written form from all the respondents to participate in this study.

Contribution of Authors
Rubab Razzaq: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft
Raumish Masud Khan: Methodology, Writing - Reviewing & Editing, Supervision
Tehreem Sajid: Methodology, Writing - Reviewing & Editing

Conflict of Interest
There is no conflict of interest declared by the authors.

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Data Availability Statement
The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [R.R.] upon the reasonable request.

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