



Mediating role of emotion disclosure between emotion regulation and apprehension in healthcare professionals during COVID-19

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ABSTRACT

OBJECTIVES: To identify the mediating role of emotional disclosure between emotion regulation and apprehension in health care professionals during Coronavirus Disease 2019 (Covid-19).

METHODS: This correlational study, spanning three months, involved seventy-six healthcare workers. These individuals, encompassing both paid and unpaid personnel serving in healthcare facilities, were selected through purposive sampling. They operated in various health-care settings across public and private sectors in Lahore, Pakistan, and had the potential for direct or indirect exposure to patients or their infectious secretions and materials. Three self-reported measures emotion regulation questionnaire, psychosocial reaction scale and emotional self-disclosure scale were used along with one demographic sheet to collect data. Descriptive statistics, correlation method and mediation analysis were used to test the hypothesis.

RESULTS: Out of 76 participants, 41 (54%) were males. Mean age of participants was 29.68 ± 8.14 years. Majority ($n=58/76; 76\%$) of participants were doctors; 26 (34%) had prior exposure to Covid virus. Correlation analysis revealed that cognitive reappraisal is positively associated with positive emotional disclosure ($r=.35; p<.001$), and expressive suppression is positively associated with negative emotional disclosure ($r=.23; p<.05$) and apprehension ($r=.43; p<.001$) in healthcare workers. Furthermore, negatively emotional disclosure is positively associated with apprehension. Mediation analysis showed that negative emotional disclosure partially mediates the association between expressive suppression and apprehension ($\beta=0.33, SE=0.11, p<.001$).

CONCLUSION: Findings suggest healthcare workers to be at greater risk of developing mental health conditions and they need to practice adaptive emotion regulation strategies such as acceptance, reappraisal and problem solving especially during emergency situations like Covid.

KEYWORDS: Healthcare Workers (MeSH); Healthcare Personnel (MeSH); Emotion Regulation (MeSH); Emotion Disclosure (MeSH); Emotions (MeSH); Emotion regulation questionnaire (Non-MeSH); Psychosocial reaction scale (Non-MeSH); Emotional self-disclosure scale (Non-MeSH); Negotiating (MeSH); COVID-19 (MeSH).

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being isolated, having family or friends septic with SARS, significantly having fear, post-traumatic stress and higher risk for emotional disturbances during infectious outbreaks.⁴ This is accompanying with psychological stress and anxiety among the general population, and more specifically, among HCPs.⁵

Literature also suggested increasing and alarming rate of mental health problems like depression and anxiety in healthcare workers during COVID-19 with the prevalence rate of 24.83% to 69.5%.^{6,7} Considering the consequences of anxiety, there is need to identify the factor, playing an important role in its manifestation. Emotion regulation and emotional disclosure are the most prominent risk factors. Emotion regulation is referred as a process in which individuals are influenced with the emotions they have, when they have them, and lastly how they experience and express these emotions.⁸ Effective emotion regulation is essential to endure health, foster resilience, enable well-being, and prevent burnout or compassion fatigue. The emotional regulating strategies, particularly for negative emotions, tend to be robustly associated with several psychopathologies, such as anxiety or depression.⁹

Psychological emotion regulation strategies foster the resilience which help individuals to cope with stressful experiences of COVID-19 challenges and protect them from various internal and external stressors.¹⁰ If the health

INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) is pathogenic and an exceedingly transmittable infection caused by acute respiratory syndrome coronavirus 2 (SARS-CoV-2), firstly reported in late December 2019. It caused global pandemic leading to a dramatic loss of human life worldwide. Worldwide, healthcare professionals

(HCPs) are currently going through foremost challenges because of global spread of COVID-19.² Although, they are aware with incessant variation and advances, but the COVID-19 situation made them vulnerable for various challenges, which many have certainly not experienced before,³ including greater threat of developing psychological, working in SARS units,

Table I: Frequencies and percentages of sociodemographic characteristics of the participants

Variables		Frequency (n=76)	Percentage
Gender	Male	41	54
	Female	35	46
Age in years	20-26	35	46
	27-46	41	54
Profession	Doctor	58	76
	Nurse	10	13
	Other	8	11
Setting	Emergency	24	32
	Outpatient	23	30
	Department / Ward	29	38
Job Experience (years)	0-3	41	54
	4-22	33	43
Working Sector	Government	52	68
	Private	24	32
Marital Status	Married	38	50
	Unmarried	38	50
Family System	Nuclear	38	50
	Joint	38	50
Prior exposure to Covid-19 virus	Yes	26	34
	No	50	66

Table II: Inter-correlations among expressive suppression, negative emotional disclosure and apprehension in healthcare workers (n=76)

Variables	M	SD	Cognitive Reappraisal	Expressive Suppression	Positive Emotional Disclosure	Negative Emotional Disclosure	Apprehension
Cognitive Reappraisal	24.32	9.34	-	.64***	.35***	.16	.22*
Expressive Suppression	15.36	5.39	-	-	.11	.23*	.43***
Positive Emotional Disclosure	18.19	4.72	-	-	-	.08	.02
Negative Emotional Disclosure	13.46	4.25	-	-	-	-	.52***
Apprehension	13.46	6.15	-	-	-	-	-

Note: M=Mean, SD=Standard Deviation, *p< 0.05, **p< 0.01, ***p< 0.001

care professionals regulate their emotions in healthy way, it positively affect their psychological well-being but in case of failure emotional suppression, or poorly regulating emotions in terms of anger, frustration, hostility etc. they experience greater distress, burnout, anxiety and lower resilience.¹¹

Literature suggests that another variable, playing important role in mental health of HCPs, is emotion regulation. Emotion regulation strategies are considered significant to counteract the negative health outcomes and the disclosure of emotions is also essential for sustaining the mental health. If positive emotions are disclosed, it facilitates the mental

health but if more negative emotions as hostility, frustration etc. are disclosed, it contributes towards mental health problems.¹² Doctors struggle to cope with the symptoms of mental health issues, unable to self-manage lead towards lack of disclosure. Briefly, significant improvement in the mental well-being of adolescents is linked with emotional self-disclosure.¹³ Considering the increased prevalence and adverse consequences associated with mental health problems in HCPs, it is needed to identify the risk and protective factors of mental health problems. For the purpose, the current study investigated the association of emotion regulation, emotional disclosure and apprehension.

Further, it was also aimed to find out the mediating role of emotional disclosure in the association of emotion regulation and apprehension. Emotion regulation refers to the ability of managing one's emotions to adapt to work demands specifically during COVID-19 it played a significant role to better cope with the psychosocial challenges in a healthcare setting. Furthermore, most of the researches covered the general psychosocial impact of pandemic in healthcare workers in Pakistan and but the current research was more problem specific in highlighting the role of emotion regulation and apprehension with the mediating role of emotional disclosure.

METHODS

The current study used a correlational research design with survey method. The approval was taken from institutional ethical review board. The study included participants employed in public or private healthcare settings, possessing internet access, and having proficiency in the English language. Data was collected from March 2019 to May 2019, coinciding with the initial wave of Covid in Pakistan. Seventy-six healthcare workers were approached using purposive sampling. Inclusion criteria comprised any paid or unpaid individual serving in a healthcare facility with the potential for direct or indirect exposure to patients, as well as their infectious secretions and materials.

Total three scales were used along with one demographic sheet. The following three measures were used to collect data from the participants.

Emotion Regulation Questionnaire

This scale a 10-item scale designed to measure respondents' tendency to regulate their emotions.¹⁴ It assesses the participant's ability to control (that is, regulate and manage) emotions. It comprises of two basic emotional aspects from person's life; cognitive reappraisal and expressive suppression. It is a 7-point Likert scale ranging from 1 (strongly disagrees) to 7 (strongly agrees). The scoring range of the first sub-scale cognitive reappraisal is between 6 to 42 and that of the Expressive Suppression it is between 4

Table III: Regression analysis: Impact of negative emotional disclosure and expressive suppression on apprehension in healthcare workers (n=76)

Antecedent	Outcome						
	NED (M)				A (Y)		
	β	SE	p		β	SE	p
ES (X)	.23	.09	.043*	c'	.33	.11	.001***
NED (M)	---	---	---	b	.44	.14	.001***
	$R^2 = .05$				$R^2 = .37$		
	$F(1,74) = 4.22, p = .043^*$				$F(2,73) = 21.26, p = .001^{***}$		

Note. ES= Expressive Suppression, NED= Negative Emotional Disclosure, A= Apprehension. * $p < .05$, *** $p < .001$

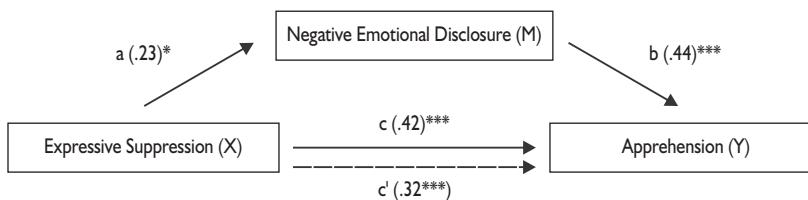


Figure 1: Mediation Model of Negative Emotional Disclosure (M) on the association between Expressive Suppression (X) and Apprehension (Y). * $p < .05$, *** $p < .001$.

to 28. The Cronbach alpha of the scale came out to be 0.87.

Psychosocial Reaction Scale

The scale consists a total of 27 items primarily based on the presenting complaints of 39 students self-referred at the Counselling Service Centre during the first wave of COVID-19 lockdown period in Pakistan.¹⁵ The scale contains two subscales; Depression Symptomatology and Apprehension. It is a 4-point Likert scale, response ranging from 0 (not at all), 1 (a little), 2 (to some extent), and 3 (a lot). 0–81 is the scoring range where higher score reflects more psychosocial reactions. The Cronbach alpha of the scale came out to be 0.92.

Emotional Self-Disclosure Scale

The scale is a 10-item scale consisted of multiple subscales which were devised to find out the interpersonal emotional disclosure of different emotions such as depression, happiness, jealousy, anxiety, anger, calmness, apathy, and fear.¹⁶ The scoring options for this scale was 0 (not at all), 1 (sometimes), 2 (often), 3 (to some extent), and 4 (always). The scoring range high scored depicted more emotional self-disclosure while low scores scored lack of emotional disclosure. The Cronbach alpha of the

scale came out to be 0.72.

Procedure

After getting permission from the Institutional Review Board (IRB), School of Professional Psychology, University of Management and Technology, Lahore, Pakistan, healthcare workers were approached online and they were further briefly informed about the aims and objective of the research. After their permission, they were requested to fill the online google survey form. Data was collected online and the healthcare professionals were approached on email and on different social media platforms. Participants of the study were assured the privacy and confidentiality of the data that was obtained from them. Participants were also encouraged to ask queries if any and to give feedback in the end of the form. Statistical analysis was carried out through Statistical Package for Social Sciences version 25. Sample characteristics was determined through descriptive analysis. Pearson Product Moment Correlation was used to find out the relationship among emotion regulation, emotional disclosure and anxiety proneness. Mediation analysis was run by Hayes¹⁷ bootstrapping approach was conducted to explore the role of emotional disclosure as a

mediator between emotion regulation and apprehension.

RESULTS

A cohort of 76 healthcare workers distributed across various departments, including 32% in emergency, 30% in outpatient departments, and 38% in wards, was gathered from diverse healthcare settings in Lahore, Pakistan. Out of 76 participants, 41 (54%) were males and 35 (46%) were females. Mean age of participants was 29.68 ± 8.14 years. Majority ($n=58/76$; 76%) of participants were doctors; 52/76 (68%) were working in public sector and 26 (34%) had prior exposure to Covid virus (Table I).

The relationships among expressive suppression, negative emotional disclosure and apprehension were found out through Pearson Product-Moment Correlation. Table II shows that the emotion regulation mechanism; cognitive reappraisal is significantly positively associated with positive emotional disclosure in healthcare workers. However, positive emotional disclosure did not come out to be associative with apprehension in healthcare workers. Furthermore, expressive suppression is significantly positively associated with negative emotional disclosure and apprehension in healthcare workers. Furthermore, negatively emotional disclosure is significantly positively associated with apprehension. This means that healthcare workers having higher expressive suppression will also higher negative emotional disclosure and consequently more apprehension related to COVID-19. Moreover, a higher negative emotional disclosure is also associated with elevated level of apprehension. The findings of Pearson Product-Moment Correlation showed significant relationships among expressive suppression, negative emotional disclosure and apprehension; therefore, the mediating role of negative emotional disclosure was investigated using Hayes¹⁴ bootstrapping approach (Table III).

Figure I shows significant total effect of expressive suppression on apprehension ($\beta=0.42$, $SE=1.95$, $p < .001$). Moreover, findings also reveal

significant direct effects expressive suppression on negative emotional disclosure ($\beta=0.23$, $SE=0.09$, $p < 0.001$) and negative emotional disclosure on apprehension ($\beta=0.44$, $SE=0.14$, $p < 0.001$). Findings indicate that negative emotional disclosure partially mediate the association between expressive suppression and apprehension, as after controlling the negative emotional disclosure, the direct effect of expressive suppression on apprehension is minimized ($\beta=0.33$, $SE=0.11$, $p < 0.001$) but c' path remained significant.

DISCUSSION

COVID-19 is a great health challenge that equally effected the whole world. This fear of being infected and life threat has caused serious mental health concerns in people.⁴ Health care professional are at greater risk of not only affected by COVID but also for serious mental health concerns that adversely affect their work efficacy and psychological well-being.⁵ The most frequently reported psychological concern in health care professionals include anxiety, fear, sense of insecurity and depression.⁷ The current study aimed to identify the mediating role of emotional disclosure between emotion regulation and apprehension.

This research has highlighted a very common yet complex human experience of apprehension with specific reference to health care professional during the times of COVID-19. The findings suggested that emotion regulation i.e., expressive-suppression has found to be positively associated with negative emotion disclosure and apprehensions in health care professionals. Mediation analysis has revealed that negative emotions increase the likelihood of strong relation between negatively suppressed emotion regulation and sense of apprehensions. These finds are in line with literature.¹⁰⁻¹²

As literature revealed that anxiety and apprehension is one of the most frequent response of individuals during COVID and health care professionals because of their job requirements, working conditions and direct exposure to COVID patients may lead to feeling of apprehension. Findings of the current

research suggest that individuals who indulge into cognitive appraisals, try to analyze situation rationally and realistically tend to have less anxiety, as they feel in control to stressful situation and rely on the available resources to handle sense of anxiety and insecurity. On the other hand, individuals in stressful situation tend to repress their emotions and internalize their feelings are more prone to apprehension. Mediation analysis confirmed the model that if an individual does not regulate his emotions accurately and indulge more into suppression is more likely to experience more anxiety and this positive association is influenced by discloser of negative emotions such as anger and frustration.

The clinical significance of these findings relates to understand the very nature of the job of the health care professionals, accepting and identifying their psychosocial burdens related to work, family and these has reached to maximum level during times of stress like COVID-19. It is important to note that apprehension, anxiety and stress are common and normal reactions in health care profession yet it they start disrupting functioning level can become an emotional burden that influence mental health functioning. These findings suggest that health care professionals require continuous training and practice to regulate emotions and skill to handle emotional exhaustion and burden.

The current study is preliminary research to identify the interplay of complex factors in mental health processes in health care professionals. The sample size was insufficient that risk the generalizability. Since this was correlational research and we cannot find any cause-and-effect results. The sample was not only less but limited to Lahore as well.

CONCLUSION

The findings of the current research demonstrate a great need of counselling and intervention to psycho educate our front-line workers who are handling the tremendous stress of COVID-19. This may further lead to helping health care professionals with combating anger, frustration and anxiety by empowering them with better emotion regulation

strategies. Future research can focus on identifying the risk and protective factors, some prevalence rates of mental health problems and longitudinal data to demonstrate the long-lasting impact of mental health problems.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

SS: Concept and study design, analysis and interpretation of data, critical review, approval of the final version to be published

HK & RK: Acquisition of data, drafting the manuscript, approval of the final version to be published

SS: Analysis and interpretation of data, drafting the manuscript, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest

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DATA SHARING STATEMENT

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