

## PSYCHOLOGICAL VULNERABILITY, RESILIENCE AND SOCIAL SUPPORT AMONG HEALTH CARE PROFESSIONALS DURING COVID 19: A CROSS CULTURAL STUDY

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### ABSTRACT

**Objective:** To investigate the moderating effect of social support during COVID-19, on psychological vulnerability and resilience among medical health care professionals of Pakistan and United States.

**Study Design:** Cross-sectional study.

**Place and Duration of Study:** In Islamic Republic of Pakistan and United States, from Apr to Jun 2020.

**Methodology:** The cross-sectional survey was conducted for responses from Health Care Professionals from Pakistan and United States. These health care professionals included medical and para medical staff who were serving during the pandemic period and were willing to participate. Convenient sampling was used and consent was obtained from each subject through google form. All participants evaluated using standardized questionnaires; Psychological Vulnerability, Resilience and Social Support.

**Results:** Results indicated non-significant differences between Pakistani and US health care professionals on psychological vulnerability. Pakistani health care professional are more resilient ( $M=32.26$ ,  $SD= 5.39$ ) and have more social support ( $M=35.37$ ,  $SD=5.49$ ) than US health care professional on resilience ( $M=29.47$ ,  $SD=6.23$ ) and social support ( $M=31.23$ ,  $SD=4.35$ ).

**Conclusion:** Results confirmed psychological vulnerability to be higher in health care professionals of both countries while resilience & social support have been estimated higher in Pakistani professionals with social support having a moderating effect.

**Keywords:** COVID-19, Health Care Professionals, Psychological Vulnerability, Resilience, Social Support.

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### INTRODUCTION

The outbreak of pandemics have always been a challenge for the health care systems and related fields through out the world<sup>1</sup> considering medical profession to be one of the most challenging fields across the globe. Such unforeseen circumstances make the medical professionals highly susceptible to physical & psychological vulnerability<sup>2</sup>. The clinical staff and other specialists who deal with certain emergency situations are more likely to become psychologically vulnerable during the pandemic periods. Other than hazardous effects on physical health and overall performance in general, several studies have confirmed some psychological morbidities like stress, anxiety and depression even after the situation has passed<sup>3</sup>. Several causes like pressure of correct diagnosis, isolation procedures and

strong public and media interference have been reported to be the contributors in increasing the likeliness of mental health challenges with all being universally the same<sup>4</sup>. Evidence suggests that willpower of an individual, personal strength and mental mechanisms assist them in coping or overcoming the symptoms leading to reduced impacts with resilience being an essential combat during adversity<sup>5</sup>.

Resilience being an innate capability/trait and a complete process of dealing with stressful and undesirable life circumstances, medical professionals working in life threatening environments require a strong personality and temperament to fight against vulnerable situations. Literature affirms that proneness to psychological distress exhibits a negative relationship with utilizing internal resources, like resilience, particularly when it is perceived as moral responsibility<sup>6</sup>.

However, evidence also suggests that occupational stress is reduced with enhancement of

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social support among medical professionals in the field<sup>7</sup> as it acts as an integrated part along with an individual's own internal coping strategies. Social support that includes support from family, society and peer, in some cases is also referred to the support from organizational management etc. Furthermore, it is social support that has been found to play a significant role in adverse circumstances in addition to an individual's capacity to recover from such hardships<sup>8</sup>. Medical profession during pandemic has been observed more demanding involving the professional's physical & psychological health, where social support plays the key role to keep an individual integrated and functional. Evident from studies, social support preserves self-awareness rescuing the psychological stress response<sup>9</sup>.

Over all environment and cultural background seem to have strong effect on vulnerability, the degree of resilience and social support among health care professionals since there are numerous studies confirming the possibility. Resilience has a developmental characteristic and cultural determinants play important role in the same<sup>10</sup>.

The pandemic situation in the world has created uncertainty calling for a critical management system across all societies of the world. This system brought a challenge for medical practitioners working as frontline warriors increasing their psychological vulnerability with possible after effects. While the support usually offered by the society overall, may reduce the long term consequences when the individuals also have resilient personalities.

The present research aimed at studying the role of social support during COVID-19. It further explored certain key features like psychological vulnerability and resilience among medical health care professionals the two countries afflicted by the outbreak of COVID-19 pandemic.

## **METHODOLOGY**

The cross-sectional study was conducted from April to June 2020 in which Health Care Professionals from Pakistan and United States

were included. These health care professionals included medical and para medical staff, only those serving the community during the pandemic period and willing to participate were included, while professionals not serving during the pandemic period or not willing to participate were excluded. Convenient sampling was used and consent was obtained from each subject through google form.

A total of 110 Pakistani and US healthcare professionals serving during the pandemic period were taken. From a total of 187970 medical professionals of Pakistan<sup>11</sup>, 50 participated & from 535,601 60 individuals participated<sup>12</sup>. Sample size was calculated by using the WHO sample size calculator, considering 7% margin of error and a 95% confidence interval. Individuals included in the study were those serving in hospitals, quarantine centers or other health care settings in different areas of Pakistan and US along with access to internet to participate in the mentioned web based survey.

Using convenient sampling technique, survey was shared through email & consent was obtained from all the subjects. All subjects were expected to fill in the online survey using standardized questionnaires. Demographic data, like age, years of service, designation, organization affiliation etc were recorded. The subjects were also inquired about duration of duty hours, time spent at home, activities in which they kept themselves engaged other than duty hours, kind of patients they are dealing with during quarantine period, fear of getting the viral outbreak etc. All the subjects were evaluated using standardized questionnaires; Psychological Vulnerability, Ego Resiliency Scale and Provisions of Social Relations (PSR).

Sinclair and Wallston have proposed the Psychological Vulnerability Scale (PVS). This six-item self-report assesses a pattern of maladaptive beliefs, such as need for others' approval, very stringent standards and negative attributions.

Ego-Resiliency Scale, a 14 item self reported inventory developed by Block and Block (1980). It

was designed to measure the quality of resilience by assessing the way each person manages the fluctuation in daily life and what they do about their own experiences. The reliability of the scale was 0.93.

Provisions of Social Relations (PSR) was developed by Turner, Frankel and Levin (1983) and has 15. The PSR scale was designed to have

and social support. Pakistani health care professional are more resilient (M=32.26, SD=5.39) and having more social support (M=35.37, SD=5.49) than US health care professional on resilience (M=29.47, SD=6.23) and social support (M=31.23, SD=4.35)

Psychological vulnerability is negatively related with resilience (r=-.73\*\*) and social sup-

**Table-I: Pakistani and United States (US) health care professionals on psychological vulnerability, resilience and social support (n=110).**

Variables	Pakistan (n=50)	United States (n=60)	T (108)	p	95% CI		Cohen's d
	Mean ± SD	Mean ± SD			LL	UL	
Psychological Vulnerability	23.99 ± 15.30	23.40 ± 15.53	0.67	0.74	-6.16	2.33	0.06
Resilience	32.26 ± 5.39	29.47 ± 6.23	5.43	0.02	0.39	2.57	0.63
Social Support	35.37 ± 5.49	31.23 ± 4.35	4.62	0.01	0.27	4.36	0.58

15 items. The scale consists of multiple factors; family support & peer support. The reliability of the scale is 0.97.

Data was analyzed using SPSS-21. Descriptive data was expressed as frequencies and percentages. t-test were performed to compare mean differences to check the prevalence. Pearson correlation coefficient was calculated to determine relationships between the variables with regression analysis to determine the moderating effect of Social Support on psychological vulnerability and resilience.

**RESULTS**

Of the 110 participant 50 (45.45%) were Pakistani health care professionals and 60 (54.55%) were US health care professionals. Out of these 50 Pakistani health care professionals, 23 (46%) are medical health professionals and 27 (54%) are Para-medical staff. Among these 60 US health care professionals, 30 (50%) are medical health professionals and 30 (50%) are Para-medical staff.

Table-I shows non-significant differences between Pakistani and US health care professionals on psychological vulnerability. Whereas, there is significant difference between Pakistani and US health care professionals on resilience

**Table-II: Correlation matrix of the study variables (n=110).**

Psychological Vulnerability	-	-0.73**	-0.70**
Resilience	-	-	0.76**
Social Support	-	-	-

\*\*p<0.01

**Table-III: Moderating effect of social support on psychological vulnerability and resilience (n=110).**

Predictors	Resilience	
	B	95% CI
Constant	31.33*	21.97 ± 30.32
Psychological vulnerability	0.45**	0.07 ± 0.53
Social Support	0.22**	0.05 ± 0.36
Psychological vulnerability × Social Support	0.19*	0.09 ± 0.55
R2	0.46	
F	52.32**	

\*p<0.05. \*\*p<0.01

port (r=-.70\*\*). Whereas resilience is positively correlated with social support (r=.76\*\*).

Table-III shows the moderating effect of social support between psychological vulnerability and resilience. The interaction effect of psychological vulnerability and social support has significant moderating effect along with explaining 46% variance in relationship with resilience (B=.19\*, p<.05, R2=.46).

## DISCUSSION

The present study evaluated the relationship between psychological vulnerability and resilience among health care professionals from United States and Pakistan, working as frontline staff during COVID-19 pandemic. The study also presented the significance of social support as moderating factor among the two above mentioned variables. According to a study, an increased susceptibility of mental distress and burnout among medical professionals' in United States has been noted and more or less the same has been reported in health care professionals of Pakistan as well<sup>13</sup>. It has also been observed that inner personal resources & positive social support have been found to contribute to endurance and resilience<sup>14</sup>. The availability and flexibility of the resources in different cultures may contribute to nature of health care experiences<sup>15</sup> which are counted towards vulnerability and coping mechanisms.

Results indicated a non significant difference in psychological vulnerability among the professionals of the two countries particularly during the outbreak period of COVID-19. This finding is aligned with previously conducted studies which refer to frontline medical staff being prone to stressful conditions particularly during emergency situations regardless of the country and region<sup>14</sup>. Other than the innate factors, rigorous engagement of healthcare professionals during the pandemic period; allocation of equal resources, adapting to constantly changing emergency trends, taking care of serious patients are some similar situations dealt by the professionals worldwide. However, the scores of Pakistani professionals have been found to be higher on resilience and social support as compared to those serving in US. Pakistan despite being a fragile country has always defied odds with resilient individuals that have withstood many upheavals and crisis. During all calamities, the persistent mental pressure; stress, anxiety, lack of resources, waves of religious extremism, social disparity and lower economical situations<sup>16</sup>, hence leads to an increase in acceptability and

endurance to stand against odds. Furthermore, the family systems and relationship values are found to be stronger to offer support in adverse and difficult circumstances as part of Pakistani culture as documented already<sup>17</sup>.

The findings of the current study further confirmed the negative relationship between psychological vulnerability and resilience among health care professionals while inner resources like resilience have been found to be an integral coping mechanism leading to reduction of psychological vulnerability or other mental health issue. The maintenance of mental resilience brings resolution of personal and mental conflicts in critical times<sup>18</sup>. The resilience is usually associated with different religious and spiritual coping among different cultures<sup>19</sup>.

Furthermore, results of the study indicate a significant moderating role of social support between psychological vulnerability and resilience while prior literature also supports social support as a substantial element effect-ively contributing to the lives of medical professionals<sup>20</sup>. It has been highlighted that there exists inverse relationship between psychological stress and resilience where the social support strengthens the role of resilience<sup>21</sup>. The major source of social support is thought to be the family system and already existing data mentions the enhancement of psychological strength through strong and healthy ties with friends, family, colleagues and other acquaintances<sup>22</sup>. Moreover, supportive organizational setup with reasonable provision of facilities has been found to positively contribute to the psychological health as a component of social support of individuals<sup>23</sup>. To conclude with, it has been proven that psychological vulnerability can be reduced and the possibility of prolonged psychological effects can be prevented if social support and related aspects are strengthened<sup>23</sup>.

Review of literature pertaining to nature and prevalence of psychological stressors of health care professionals across various cultures and regions was found to be scarce particularly across



cultures during pandemic periods. Studies indicate that the environmental effects are diversified, however the crises situation like a pandemic brings certain challenges and medical health professionals are found to suffer<sup>24</sup>. Moreover factors like crisis of human resource, limited resources and lack of facilities for the frontline workers have also been found to contribute in development of psychosocial disturbances, mental health issues and inadequate social support<sup>25</sup>.

In the current study, sample size remained small and data was collected from the conveniently available participants due to busy schedules of frontline professionals serving during pandemic. Moreover being web based survey, due to limited time, uncertain situation and varied outspread, equal number of sample with reference to gender, age or geographical location could not be ensured. It is recommended that the sample size may be increased to enhance generalizability in future studies.

## CONCLUSION

The results confirmed that the psychological vulnerability for the health care professionals serving in both countries included in the current study is higher and at the same level. However, the factors of resilience & social support have been estimated higher in Pakistani professionals. Furthermore, the role of social support as a moderator is also confirmed by the study.

## CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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