

## ORIGINAL ARTICLE

# Psychological Sequelae of Covid 19 Calamity on Medical Personnel in Pakistan

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## ABSTRACT

**Aim:** To gauge the physiological sequelae of covid-19 pandemic on medical personnel in Pakistan.**Place & duration:** An online cross sectional study was conducted from May, 2020 to August, 2020 in Lahore.**Methodology:** 17 score PTSD check list civilian version was used to assess the symptoms of post-traumatic stress disorder in medical personnel.**Results:** Mean post-traumatic stress score (PTSS) was 39±15 with a range of 18-89. 66% (n=240) of the participants experienced moderate to extreme stress level. Chi Square test was used to determine an association between higher stress level and age, gender and staff category. Higher stress scores were associated with females (p<0.01).**Conclusion:** Rewarding the health personnel with gratitude, acknowledgement, financial compensations and provision of personal protective equipments (PPEs) can halt the psychological sequelae and is a promise to win this battle.**Keywords:** SARS coV2, Covid 19, PTSD, Health personnel

## INTRODUCTION

The disease is caused by SARS coV2 virus which have six strains and is characterized by fever, cough, difficulty in breathing, fatigue, body aches, loss of taste or smell, sore throat, runny nose, nausea or vomiting and diarrhea. The disease is transmitted from person to person through close contact and droplet infection. In most of cases, disease remains asymptomatic and confers a lifelong immunity to the host but in small proportion of individuals with risk factors like diabetes mellitus, heart and lung diseases it leads to severe complications and death. To date (October 12, 2020) it has caused 1,081,528 deaths and 37,756,558 cases worldwide with fatality case of 0.1% and over 2.5%, based upon countries demographics profile. Most adversely affected countries were China, Italy, France, Spain and United States. In Pakistan 6,580 deaths, 319,317 cases and the case fatality rate is 2.1%<sup>1</sup>.

PTSD is a condition that can develop after experiencing a psychological trauma after an accident or pandemics. When these reactions persist for a month or more, these cause distress and disruption in life. Symptoms of PTSD i.e. presence of intrusive symptoms avoiding stressful memories of the trauma, negative effects on mood and increased arousal e.g. trouble sleeping and hyper vigilance<sup>2</sup>.

Compared with other pandemics that the world faced during last two decades (SARS-coV 2003, H1N1 2009, MERS-coV 2012, Ebola 2014 and Zika 2016), Covid 19 deteriorated the mental health more. The protective factors for mental health are social support, employment and financial stability, and adequate health care resources in the form of hospitals, testing ability, adequate personal protective equipments(PPE,s) while mental stressors are

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unemployment, lack of leisure activities, social isolation, extreme exposure to covid-19 details, being a care giver, inadequate PPEs and fear of death. It shifted the balance towards mental health stressors. As a consequence prevalence of depression, anxiety, domestic violence, psychological trauma and PTSD rose markedly<sup>3</sup>. In countries where strict lockdown was imposed, substantial increase in substance abuse and more cases of opioid overuse were reported<sup>4</sup>.

Health personnel are the frontline soldiers against the war. They are at special risk of contracting disease during taking care of patients<sup>5</sup>. Lack of PPEs, long working hours, a high patient load, more critically ill patients and lack of guidelines increase the probability of contracting disease and the resultant psychological trauma<sup>6</sup>. Health care works accounts for 2% of total populations in most developing countries but 10-20% of patients diagnosed with Covid-19 are health care workers and this number can be as high as 35% in some regions<sup>7</sup>. Health personnel experiences a wide spectrum of psychological responses like stress, anxiety, depression and fear, insomnia, high levels of uncertainty and concerns about well being of their families.

The objective of the study was to gauge the physiological sequelae of covid-19 pandemic on medical personnel in Pakistan.

## METHODOLOGY

This cross sectional study was conducted from May 2020 to October 2020 in Lahore. PTSD check list civilian version was used. It is a 17 item self reported validated scale which assesses the severity of stress disorder on five points scale with one no stress to 5 as extremely stressed. The total score ranges from 17-85. A total score of 17-29 shows the

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no or little stress, 30-44 shows moderate stress and a score above 45 shows severe stress.

**Sample size:** A sample size of 360 was calculated using at 95% confidence interval and 80% power of study.

Data was analyzed using SPSS version 15. For qualitative variables like staff category and gender frequencies were calculated while for quantitative variables like age and PTSD score mean and standard deviations were calculated.

## RESULTS

Detail of results is given in tables 1, 2. Out of 360 participants, 237(66%) were between 20-30 years of age and males were 184(51.1%). Mean Post Traumatic Stress Score (PTSS) was  $39 \pm 15$  with a range of 18-89. 240(66%) of the participants experiences moderate to extreme stress level. Chi Square test was used to determine an association between higher stress level and age, gender and staff category. Higher stress was associated females ( $p < 0.01$ ). For staff category and age the results were not significant ( $p > 0.05$ ).

Table 1: Demographic characteristics of participants

Demographic characters	PTSD Categories			P value
	Mild	Moderate	Severe	
Age (Yrs)				.0.05 (NS)
21-30	68(18.9%)	84(23.3%)	85(23.6%)	
31-40	36(10%)	22(6.1%)	22(6.1%)	
41-50	9(2.5%)	10(2.8%)	7(1.9%)	
>50	7(1.9%)	7(1.9%)	3(0.8%)	
Gender				0.01 (HS)
Males	76(21.1%)	63(17.5%)	45(12.5%)	
Females	44(12.2%)	60(16.7%)	72(20%)	
Staff category				.0.05 (NS)
Medics	105(29.2%)	106(29.4%)	97(26.9%)	
Paramedics	15(4.2%)	17(4.7%)	20(5.6%)	

Table 2: Distribution of PTSD Score among participants

PTSD categories	n	%age
Mild	120	33.3
Moderate	123	34.2
Severe	117	32.5

## DISCUSSION

The world has faced a couple of epidemics since 2000, most notable of these are SARS-coV in 2003, H1N1 in 2009, MERS-coV in 2012, Ebola in 2014 and Zika in 2016. The drastic mental health sequelae of these epidemics are considered "an emergency within an emergency" by WHO<sup>8</sup>.

In our study, mean stress score was  $39 \pm 15$  with a range of 18-89. These findings are consistent with a study conducted by Zhuang Lao in china where mean PTSD score was  $42.92 \pm 17.88$ <sup>9</sup>. 240(66%) subjects experienced moderate to severe stress level. These findings are consistent with a study conducted by Jianbo Lai et al in China where 71% of health care workers experience distress<sup>10</sup>. A slight low level of stress can be attributed to less number of total deaths in our country as compared to china. This 66% proportion contradicts with a study conducted by Ram Sandeesh et al in Pakistan where

90.1% of the participants suffered from moderate to extreme stress level<sup>5</sup>. The reason for this contradiction may be that our study involves both medics and paramedics while the study by Ram Sandeesh et al in Pakistan involved only those doctors which were appointed in Covid-19 isolation ward, being directly exposed to high loads of viruses all the time. The second reason may be the difference in sample size of two studies. The study by Ram Sandeesh et al involved 112 health care professionals (HCPs) while our study had sample size of 360<sup>5</sup>.

Our study found an association between female gender and extreme stress levels. The 40.9% of females faced extreme stress while only 24.5% of males have extreme stress levels ( $p < 0.01$ ). These findings are consistent with a study conducted in China where female gender is prominent for extreme stress<sup>9</sup>.

## CONCLUSION

Covid-19 pandemic had overwhelming effects on mental health of health care workers. The need is to address these mental health sequelae. Government and other stake holders should take necessary steps to improve the mental health of care givers in the form of gratitude, acknowledgement and provision of PPEs.

**Conflict of interest:** None

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