

## PSYCHOLOGICAL IMPACTS OF ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 VARIANT COVID-19 ON HEALTH CARE WORKERS IN PESHAWAR

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### ABSTRACT

**Objective:** To assess the psychological impacts of COVID-19 on the health care workers (HCWs) in Peshawar.

**Material & Methods:** A total of 350 self-administered questionnaires were distributed among the health care workers of three big teaching hospitals in district Peshawar, out of which 308 were suitable for analysis. The completed questionnaires were collected from the health care workers within due course of time and their responses were noted and the data were analyzed.

**Results:** Males were 55.2% and 44.8% were females. Among all health care workers, doctors were a major group (43.17%), nurses were 34.09% and other staff members were 22.72%. Exposure to COVID-19 was 85.064 % and 14.935 % were unexposed. The main concerns of health workers were: lack of personal protective equipment (PPE) 246 (79.87%), self-infection 243 (78.89%), medical violence 157 (50.97%), family infections 134 (43.50%) and getting infection from infected colleagues were 98 (31.81 %).

**Conclusion:** The study concluded that COVID-19 outbreak has significant psychological impacts on healthcare workers. In majority of the cases, the reason for the psychological impacts were the lack of PPE which could cause infection to the workers as well as their family members and endanger their lives.

**Key Words:** COVID-19, Healthcare, Medical Profession, Mental Health

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### INTRODUCTION

The first corona virus was discovered in 1965 which caused common cold.<sup>1</sup> In the same decade scientists found a group of viruses both in humans and animals which were named "corona viruses" because of their crown like shape. Basically, corona viruses have different variants which cause diseases of the respiratory tract ranging from mild flue like symptoms to severe acute respiratory syndrome (SARS). An outbreak occurred in 2002-2004 in China, Hong Kong, Taiwan and other neighbouring countries which was named

as severe acute respiratory syndrome corona virus (SARS-CoV).<sup>2</sup> Another outbreak had occurred in Saudi Arabia in 2012 which was more deadly than SARS-CoV and was named as Middle East respiratory syndrome coronavirus.<sup>3</sup> WHO has given the official name of SARS-CoV-2 to the novel corona virus and the disease is named as COVID-19.<sup>4,5</sup>

Prevention and control of COVID-19 has entered a critical stage all over the world. This viral infection which began in China in December 2019, has attracted considerable attention around the world.<sup>6-8</sup> This is an RNA virus and is on seventh

number among the enveloped coronaviruses.<sup>8,9</sup> The clinical characteristics of different variants vary but epidemiological features are similar. Furthermore, COVID-19 delivery rates are faster than SARS, but mortality rates are lower than SARS.<sup>10,11</sup> The routes of transmission are primarily through the respiratory tract (respiratory drops) or contact with the virus through the nasal mucosa, mouth conjunctiva and rarely through other organs.<sup>12</sup> Therefore, close contact settings such as meeting people in big crowds, functions and meetings can lead to cluster infections. Due to the contagious outbreak of COVID-19, it causes fear of being infected, anxiety and depression among the HCWs as well as in general public.<sup>13,14</sup> Due to its spread through close and breathable contacts, there is tendency of spreading the infection in hospital staff members as well as in their families. The psychological status of the public needs to be understood and investigated during this turbulent time. It is of practical importance to investigate the psychological problems being faced by the HCWs and even the general public. Help should be provided to them to improve and maintain their mental health.<sup>15</sup> Healthcare workers are being pushed globally toward the COVID-19 epidemic. The prevalence of the COVID-19 among the HCWs and the general public was compared, which were 2747 cases per 100 000 in HCWs and 242 cases per 100 000 in the general public.<sup>16</sup> An estimated 115000 HCW have died of the COVID-19 outbreak all over the globe, as updated on 24 May 2021 by WHO. In some areas supplies of face masks, gloves and other protective equipment are deficient which increases the worries and anxiety of health care workers. In those countries where the number of COVID-19 patients is expected to increase, the mental health of the medical staff would be affected profoundly.<sup>17</sup>

## MATERIAL AND METHODS

The study was performed from March 2021 to May 2021. Three big teaching hospitals in the district Peshawar were selected for the study because 90 % of COVID 19 patients from the whole province of KPK are managed here. Therefore, the HCWs in these hospitals were more vulnerable to psychological problems due to the pandemic. The purpose of this study was to estimate the psychological impacts on the HCWs in the city of Peshawar Pakistan. The study was conducted through a survey, based on Likert scale questionnaires which were sent to the HCWs either through emails and Google form. A total of 350 questionnaires were distributed among the health care workers out of which 308 were suitable for analysis. The response rate was (88%), which is a good representation of the population. The workers were categorized on the basis of age, gender, profession and exposure to COVID-19 infection. Their responses to the questionnaires were tabulated and analyzed.

## RESULTS

A total of 308 questionnaires were analyzed. Males were 55.2% and 44.8% were females. Age groups were: 25-40 years were 47.07%, from 41 to 50 years were 30.84%, 51 to 60 years were 18.83% and above 60 years were 3.24%. Among all HCWs, doctors were a major group (43.17%), nurses were 34.09% and other staff members were 22.72%. Exposure to COVID 19 was 85.064 % and 14.935 % were unexposed. **(Table 1)** The main concerns of health workers were: protective measures and PPEs 246 (79.87%), self-infection 243 (78.89%), medical violence 157 (50.97%), family infections 134 (43.50%) and getting infection from infected colleagues were 98 (31.81 %). **(Table 2)** Their main concerns were the non or delay availability of PPEs and other safety measures and of course fear of being infected by themselves. Therefore, it is necessary to provide HCWs with proper PPEs and other safety equipment so that to decrease the spread of infection and psychological stress on them due to the pandemic.

**Table 1: Demographic Data of Health Care Workers (n=308)**

<b>Age</b>	<b>Group</b>	<b>Frequency</b>	<b>Valid percentage age</b>	<b>Cumulative percentage age</b>
	25-40 years	145	47.07	47.07
	41-50 years	95	30.84	77.91
	51-60 years	58	18.83	96.74
	Above 60 years	10	3.24	100
<b>Gender</b>				
	Male	170	55.2	55.2
	Female	138	44.8	100
<b>Profession</b>				
	Doctors	133	43.18	43.18
	Nurses	105	34.09	77.27
	Paramedical staff	70	22.72	100
<b>Exposure</b>				
	Exposed	262	85.064	85.064
	Unexposed	46	14.935	100

**Table 2: Participants responses to the questiones**

<b>Statement/Questions</b>	<b>Strongly afraid</b>	<b>Afraid</b>	<b>Not sure</b>	<b>Not too afraid</b>	<b>Not afraid at all</b>
You are afraid of getting infected yourself.	243	37	11	9	8
Percentage (%)	78.89%	12.01%	3.57%	2.92%	2.59%
You are afraid of no availability/shortage of PPEs.	246	29	20	8	5
Percentage (%)	79.87%	9.41%	6.50 %	2.59%	1.62%
You are afraid of family members may get infection.	134	138	18	12	6
Percentage (%)	43.50%	44.80%	5.84%	3.90%	1.94%
You are afraid of your colleagues who are in direct contact with the COVID 19.	98	190	12	6	2
Percentage (%)	31.81%	61.68%	3.89%	1.90%	0.65%
You are afraid of medical violence.	157	72	26	21	32
Percentage (%)	50.97%	23.37%	8.44%	6.81%	10.38%

## DISCUSSION

We conducted this study related to the mental health of the HCWs caring for the COVID-19 patients in the city of Peshawar in Pakistan. The study focused on all staff members of the health care industry and the data were collected through a structured questionnaire. The results of the study were summarized according to the questionnaire and strongly afraid was taken significant for analysis. Outbreak of Covid-19 is a stressor for all of the health care staff as well as for the general public across the globe due to uncertainty of COVID-19 and the nonavailability of proper and definitive treatment.<sup>18-19</sup> Its rapid transmission rate and contagious nature is a serious threat to mental health. The fear and anxiety cause many physical manifestations in the public and health care providers. These include increased heart rate, increased blood pressure, increased blood sugar, palpitations, loss of appetite, disorders, sleep disorders, headaches, body aches, endocrine disorders and a series of emotional experiences.<sup>20</sup> People living in an emotional state such as depression, anxiety, nervousness, frustration or fear; results in carelessness, low ability to solve problems, slow process, repeated anger, forced behavior (frequent hand washing), easy crying, smoking, alcohol abuses and so many other health issues.<sup>21</sup> This is a normal response when people are exposed to dangerous situations like COVID-19. All these responses can stimulate the human body's internal drive to fight the existing challenge up to a certain limit. But if these challenges become excessive than that of the body normal tolerance threshold then these affect the balance of the physical and psychological functions of the body resulting in serious physical and mental illnesses.<sup>22-24</sup> Most anxiety disorders affect women twice as much as men. They are often found in conjunction with major depressive disorders, alcoholism and other substance use disorders and personality problems.<sup>25,26</sup> Thousands of the frontline healthcare workers in New York city response, have shared their experiences through social media urging people to stay home to prevent the spread of the deadly disease which has killed many thousands of people in the United States

alone.<sup>27</sup> In New York city dozens of nurses protested outside the hospital earlier this week. Due to the shortage of PPEs, the healthcare workers in US are mentally disturbed and are in stress and depression. In Suffolk County, a nurse says her hospital was closed about a week before because of shortage of PPEs. She received the N95 mask two weeks ago, which she puts in a paper bag at her hospital after each shift. She said that it was not safe to reuse the mask and other PPEs both for the workers as well as for the patients. Dr. Susan George Noche, a colorectal surgeon in Charleston, South Carolina, has counselled doctors, nurses and management at her hospital to use the available PPEs very carefully. The health care workers across the world are not in a position to combat with the unexpectedly high number of COVID-19 patients. As a result, the psychological problems in the health care workers in the US are significantly increased. The deaths of the fellow workers of the HCWs have intensified their stressful situation.<sup>28</sup>

## CONCLUSION

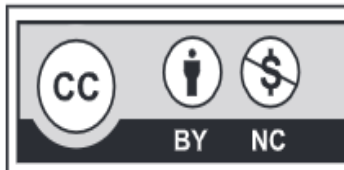
The provision of proper and sufficient PPEs is very important for relieving the anxiety of the medical staff. Because the provision of timely medical care is vital for the people during such tragic outbreak. The government should provide timely and accurate information about the prevalence of COVID-19 to the public and data regarding deaths and recoveries must be updated on a daily basis. HCWs should be encouraged, and incentives must be given so that to decrease their stress and anxiety. Public awareness campaigns (seminars etc.) should be expedited so that to decrease the spread of the disease which will indirectly relieve the anxiety and mental stress of the HCWs.

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