

Depression, Anxiety, Stress and Fear during Covid-19 Pandemic among Frontline Healthcare workers at GMC Anantnag, Jammu & Kashmir

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Abstract

The Covid-19 pandemic has affected millions of people worldwide, causing a significant strain on healthcare systems and frontline healthcare workers (FHCWs). However, the pandemic's highly infectious nature, diverse clinical manifestations, rapid transmission, and lack of specialised antiviral medication have raised widespread concerns. FHCWs who directly interact with Covid-19 patients face a high risk of contracting the disease. This study aimed to assess level of fear, depression, anxiety and stress during Covid-19 among Frontline Healthcare workers and to find the association of socio demographic variables with anxiety, depression, stress and fear. This study featured a descriptive cross-sectional design. Proportionate stratified random sampling was used to select the participants. The findings of the study revealed that most (46%) participants, fear level was between 21–30 and those of 41.6 percent between 10–20 and only 12 percent participants fear level was between 31–40. The total mean score for the FCV-19S was 22.72 (SD = 6.048), which again exceeded the mid-point for the total score range (21), indicating elevated level fear of the Covid-19 pandemic. Our study concluded that the psychological effects of the Covid-19 pandemic, including fear, depression, anxiety, and stress, were significantly higher. Both patients and healthcare workers faced considerable levels of these psychological challenges. These findings emphasise the importance of preparedness, prevention measures, and adequate psychological support to address the mental health impact of current and potential pandemics. Further research is needed to fully understand the psychological effects of pandemics throughout history and in the future.

Key words: Pandemic, Fear, Anxiety, Depression

Over 5 million people have died as a result of the Covid-19 Pandemic, which affected about 282 million people worldwide (Sanyaoluet et al, 2020). This overtaxed the healthcare systems and frontline healthcare workers (FHCWs) in various nations (Alnazly et al, 2021; Shahbaz et al, 2021). However, there are many efficient measures to restrict the spread of this fatal virus, such as closing down public spaces, using personal protective equipments, practicing quarantine, and avoiding close contact with others (Amin, 2022). Due to their frequent contact with clients, frontline employees are extremely exposed (Ehrlich et al, 2020; Parchani et al, 2021). As far as healthcare workers are concerned, they are always at the forefront of the Covid-19 battle in medical facilities (Amin & Parveen, 2022). They

provide non-stop care for critically ill patients who require extremely specialised care, working around the clock to do so (Amin et al, 2022; Munandar et al, 2022).

The risk of Covid-19 infection is higher for frontline healthcare professionals. China's health officials said on 7 January, 2020 that this particular group of cases was linked to a 2019 new coronavirus (Aly et al, 2021; Bengante et al, 2020). The virus spread to 114 nations in three months, and infected over 118,000 individuals, killed 4,291 people, and impacted over 118,000 people. The Covid-19 outbreak was deemed a worldwide pandemic and a public health crisis of worldwide importance by the World Health Organisation (WHO) on 30 January 2020 (Mazza et al, 2020; Gupta et al, 2020).

Since its first occurrence in Kashmir, the government officials and media have consistently reported an increase in cases, which created public anxiety (Gao et al, 2020; Khanam et al, 2020).

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This pandemic has caused psychological turmoil, instability, and upheavals all across the world in addition to having a high fatality rate (Amin, 2017; Aly et al, 2021). Due to the Covid-19 epidemic, there was a reported global scarcity of personal protective equipment (PPE), endangering the lives of frontline healthcare personnel. It increased the worry in a Third World nation like India (Jiang et al, 2020; Du et al, 2020).

The extremely infectious nature, varied clinical presentations, undiagnosed asymptomatic and pre-symptomatic carriers, fast transmission, lack of specialised antiviral therapy, and high fatality rate of this pandemic have all contributed to widespread fear (Khan et al, 2021; Munnandar et al, 2022). The FHCWs who are exposed to and in close contact with confirmed and suspected Covid-19 patients are at significant risk of contracting the disease as well as developing mental health issues (Giorgi et al, 2021; Jaber et al, 2022). The most typical psychological problems that FHCWs deal with include anxiety, post-traumatic stress disorder symptoms, stigma, depressive symptoms, sleep disorders and worry about spreading disease to their friends and family (Nguyem et al 2020; Lai et al, 2019).

Therefore, it is crucial to comprehend how FHCWs perceive and respond to a pandemic of this scale. Hence, this study was undertaken to assess depression, anxiety, stress and fear among FHCWs in a government hospital dealing with Covid-19 patients. This cross sectional study covers the psychological anguish created, the circumstances that contributed to it, depression and stress.

Individual coping techniques and current job-related pressures were shown to have a considerable psychological influence on levels of anxiety and depression among these individuals. Similar study has been done by Shabir Ahmad Das but they have worked only on anxiety and depression.

Objectives

This study endeavoured:

- To assess level of fear, depression, anxiety and stress during Covid-19 among frontline healthcare workers; and
- To find the association of socio demographic variables with anxiety, depression, stress and fear.

Methodology

This study featured a cross-sectional and correlational design. The participants were 100 healthcare workers including doctors, nurses, pharma-

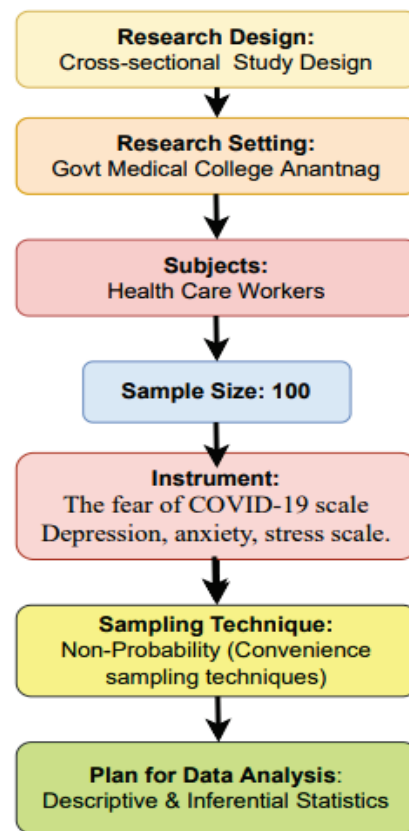


Fig 1: Methodology.

cists, lab technicians, anaesthesia technicians and nursing aids from GMC Anantnag, who filled the questionnaire from July to October, 2021 when Covid-19 situation in Kashmir was worst, with the recording of 40–30 cases per day and this quickly escalated to several hundred and then to several thousand cases a day. However, the number of cases that required hospitalisation was low. Through emails, text messages, and social media platforms, people were invited to participate. Flow chart of methodology is in Fig 1.

The study was conducted at MMABM Associated Hospital, Government Medical College Anantnag, J&K. The sample size was calculated by using the ‘sample size determination in health studies’ software of World Health Organisation. Prevalence of anxiety among Healthcare workers was used to calculate the sample size. At confidence level of 95 percent and bound on the error of 5 percent, taking the prevalence of 35.51 percent by using formulae $n = (Z^2 P(1-P)) / d^2$.

Inclusion criteria for participation: Being a healthcare worker; Working in GMC Anantnag. Participants not on duty one week prior to the data collection were excluded.

Research instruments used: Sociodemographic characteristics and health-related variables like gender, age, marital status, profession, education, providers care for covid-19 positive clients.

Table 1: Participants' sociodemographic variables (n=100)

Variable		Frequency	Percent (%)	Chi square (Depression) / P value	Chi square (Anxiety) / P value	Chi square (Stress) / P value
Gender	Male	56	55.4	4.014/0.404	1.630/.653	2.455/.653
	Female	44	43.6			
Age	20-29 yrs	66	65.3	24.694/.016*	11.667/.233	35.549/.000*
	30-39 yrs	9	8.9			
	40-49 yrs	16	15.8			
	50-59 yrs	9	8.9			
	>60	0	0			
Marital status	Single	58	57.4	8.446/.077	5.511/.138	6.435/.169
	Married	42	41.6			
Profession	Doctor	20	19.8	48.288/.000*	48.939/.000*	49.195/.000*
	Nursing officer	40	39.6			
	Pharmacist	10	9.9			
	Lab Tech	8	7.9			
	Anaest. Technician	14	13.9			
	Nursing orderly	8	7.9			
Educational qualification	Diploma	37	36.6	20.929/.007*	32.600/.000*	20.510/.009*
	Bachelors	52	51.5			
	PG	11	10.9			
Provided care to Covid-19 positive patients	Yes	98	97.0	1.979.740	.692/.875	3.001/.558
	No	2	2.0			

*Statistically significant at ($\alpha \leq 0.05$).

The fear of Covid-19 scale and depression, anxiety, stress scale were used.

Review of Literature

Eman Alnazly, et al (Sep 2020) conducted a cross-sectional correlational study on anxiety, depression, stress, fear and social support during Covid-19 pandemic among 365 Jordanian health-care workers. The mean overall score for the fear of Covid-19 scale was 23.64 (SD $\pm$ 6.85) which again exceeded the mid-point for the total score range, indicating elevated level fear of the Covid-19 pandemic. Participants displayed extremely severe depression (40%), extremely severe anxiety (60%), and 35 percent were severely distressed. Scores for depression (21.30 $\pm$ 10.86), anxiety (20.37 $\pm$ 10.80), stress (23.33 $\pm$ 10.87) were also high. Factors determined to be associated with psychological distress were being male, married, aged 40 years and older, and having more clinical experience. Overall, Jordanian health-care workers sample reported fear, depression, anxiety, and stress.

Parchani et al (2021) conducted a descriptive

study on fear, anxiety, stress, and depression due to Covid-19 pandemic among patients and their healthcare workers. Results revealed that Covid-19 patients in the age range 41-50 with respiratory tract symptoms and those who were home isolated/quarantined had a higher risk of mental health issues in the community. Healthcare staff assigned to Covid-19-designated regions of the hospital had increased levels of stress, anxiety, and despair.

Another exploratory study on psychological impact of delivering health care services during Covid-19 in Kashmir by Khanam et al (2020) revealed that Covid-19 had a significant psychological influence on more than half of the FHCWs. The psychological impact was greater in men and those who were married, and it was connected to the location of the FHCWs' posting. Nurses experienced substantially more stress than doctors.

Statistical Analyses

Data was entered and analysed using SPSS software (IBM, SPSS Statistics, Version 26). Descriptive statistics were used, including frequencies

Table 2: Assessment of Fear (N=100)

FCV-19S	Mean	SD
FCV-19 S Total Score	22.72	6.048

Table 3: Assessment of depression, anxiety, and stress (N=100)

DASS		Mean	SD
1.	Moderate depression	8.25	5.213
2.	Extremely severe anxiety	10.11	5.360
3.	Severe stress	10.25	5.169

(n), percentages (%), means, standard deviations (SDs), medians, and interquartile ranges (IQRs). Variations between sub-categories of demographic variables were checked using chi-square tests. Inferential statistics approaches were used to identify differences in demographic variables. These approaches included one-way ANOVA and variations across demographic sub-groups. Further, Pearson's correlation coefficient was used to determine the relationships between variables and to establish the inter-correlation matrix. To lower the risk of type I errors, the statistical significance level was set at $p < 0.05$.

Results

Socio-demographic profile of participants is given in Table 1. Table 2 presents the results for the Fear of Covid-19 Scale (FCV-19S), which reflected the participants' fear of Covid-19.

Fear level of 46 percent participants was between 21–30 and 41.6 percent had fear level between 10–20 (Fig 2).

Participants displayed moderate depression (8.25 ± 5.213), extremely severe anxiety (10.11 ± 5.260), and severe stress (10.25 ± 5.169). Fig 2-5 illustrate the distribution of participants across the five levels of severity of depression, anxiety and stress.

Based on the data, approximately 22 percent of the participants had extremely severe depression, over 31 percent had moderate to severe depression, and approximately 30 percent had normal to mild depression.

For anxiety, approximately 56 percent of the participants, reported extremely severe anxiety and 28 percent has mild anxiety.

Regarding stress, the figure shows an

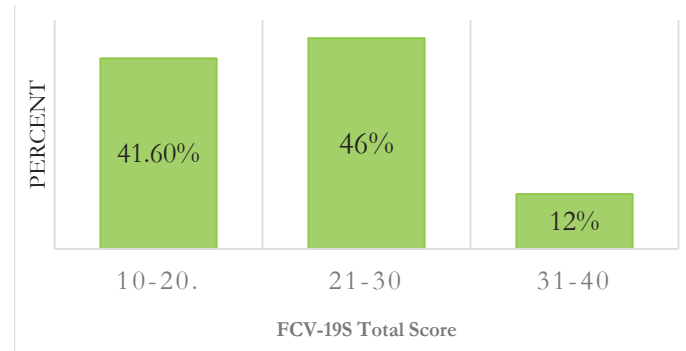


Fig 2: Level of fear

uneven distribution over the severity levels, indicating inconsistent patterns of stress severity. However, 12 percent had extremely severe stress and 25 percent were severely distressed.

The result, as depicted in Table 4 revealed that there is significant relationship between stress, depression and fear with age of subjects at 0.05 level of significance. Also, no relationship was

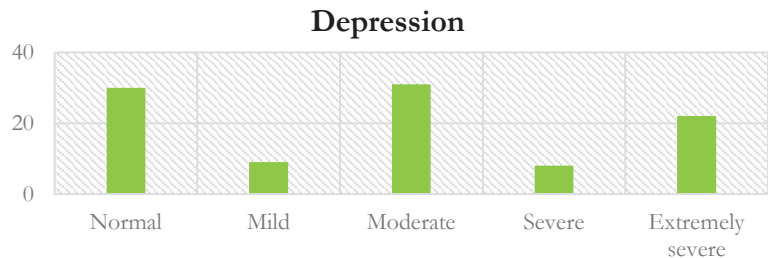


Fig 3: Severity levels of depression.

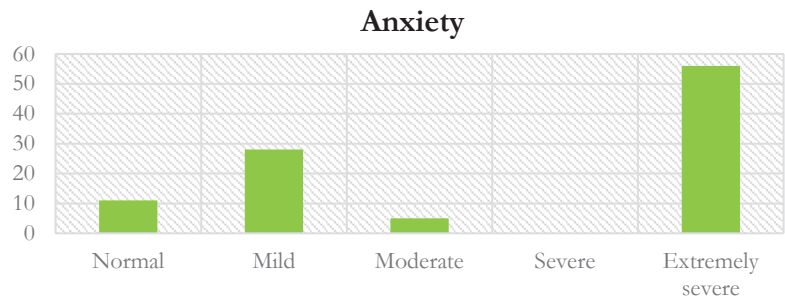


Fig 4: Severity of anxiety.



Fig 5: Severity of stress.

Table 4: One-way ANOVA results for sociodemographic variable age regarding to depression, anxiety and stress

		N	Mean	Std deviation	F value	Sig
Stress (group)	20-29 Yrs	66	2.45	1.383	3.719	0.014*
	30-39 Yrs	9	3.11	.928		
	40-49 Yrs	16	3.25	1.238		
	50-59 Yrs	9	3.78	1.641		
Anxiety (level)	20-29 Yrs	66	37.83	18.318	1.184	0.320
	30-39 Yrs	9	39.11	15.664		
	40-49 Yrs	16	46.75	15.295		
	50-59 Yrs	9	42.78	18.606		
Depression (scale)	20-29 Yrs	66	280.86	152.345	3.737	0.014*
	30-39 Yrs	9	308.33	173.545		
	40-49 Yrs	16	388.50	167.116		
	50-59 Yrs	9	431.67	187.754		
Fear	20-29 Yrs	66	21.97	5.572	4.142	0.008*
	30-39 Yrs	9	22.67	6.538		
	40-49 Yrs	16	22.31	5.449		
	50-59 Yrs	9	29.22	7.429		

*Statistically significant at ($\alpha \leq 0.05$).

found between age of participants and anxiety.

The participants' sociodemographic characteristics are presented in Table 1. The Table represents the frequency and percentage of responses for various variables related to depression, anxiety, stress, and fear among frontline healthcare workers at GMC Anantnag, Kashmir during the Covid-19 pandemic. The variables presented are gender, age, marital status, profession, educational qualification, and whether the participants provided care to Covid-19 positive patients or not.

The Chi-square test results reveal that age, profession, and educational qualification are significantly associated with depression, anxiety, and stress among frontline healthcare workers during the Covid-19 pandemic. In contrast, gender and marital status do not show any significant association with these mental health issues. Specifically, workers aged between 20-29 years reported the highest levels of depression, anxiety, and stress. Doctors reported the highest levels of depression, anxiety, and stress among all professions. Workers with a diploma as their educational qualification reported the highest levels of anxiety and stress. Overall, the Table 1 suggests that there is a significant prevalence of mental health issues, such as depression, anxiety, and stress, among frontline healthcare workers during the COVID-19 pandemic. The findings also suggest that some demograph-

ic and professional factors might influence the risk of developing these mental health issues.

Participants were distributed over a range of demographic subgroups. Approximately 44 percent of the participants were females and 56 percent were males, 65 percent were 20-29 years of age, 57.4 percent were single. Most participants were registered nurses (39.6%); 51.5 percent held a baccalaureate degree and 97 percent provided care to Covid-19 positive patients.

Assessment of fear of Covid-19

Table 2 presents the results for the Fear of Covid-19 Scale (FCV-19S), which reflected the participants' fear of Covid-19. For each item, the mean score exceeded the midpoint of 2.5, indicating a moderate level of fear. The total mean score for the FCV-19S was 22.72 (SD = 6.048) which again exceeded the mid-point for the total score range (21), indicating elevated level fear of the Covid-19 pandemic.

Assessment of Depression, Anxiety, and Stress

The mean scores for each subscale of the DASS, are presented in Table 3 & 4. Participants displayed moderate depression (8.25 ± 5.213), extremely severe anxiety (10.11 ± 5.260), and severe stress (10.25 ± 5.169). Fig 3 illustrates, for depression, anxiety, and stress, the distribution of the participants across the five levels of severity.

Discussion

Major findings of the study were organised as follows:

Section I: Demographic characteristics

- Majority (56%) of the 100 participants were males and 44 percent of the participants were females.
- Majority of the participants (65%) were 20-29 years of age.
- Mostly (57.4%) of the participants were single.
- Most participants (39.6%) were registered nurses.
- More than half (51.5%) of the participants held a baccalaureate degree.
- Majority (97%) of the participants provided care to Covid-19 positive patients.

Section II: Assessment of fear

The findings of the present study revealed that, most (46%) participants' fear level was between 21–30 and those of 41.6 percent between 10–20 and only 12 percent participants' fear level was between 31–40. The total mean score for the FCV-19S was 22.72 (SD = 6.048) which again exceeded the mid-point for the total score range (21), indicating elevated level fear of the Covid-19 pandemic.

Section III: Assessment of depression, anxiety, and stress

Approximately 22 percent of the participants had extremely severe depression, over 31 percent had moderate to severe depression, and approximately 30 percent had normal to mild depression. Approximately 56 percent of the participants reported extremely severe anxiety and 28 percent has mild anxiety. Regarding stress, the analysis shows an uneven distribution over the severity levels, indicating inconsistent patterns of stress severity. However, 12 percent of participants had extremely severe stress and 25 percent were severely distressed.

Section IV: Association of socio demographic variables with anxiety, depression, stress and fear

There was a significant relationship between stress, depression and fear with age of subjects at 0.05 level of significance. Also, no relationship was found between age of participants and anxiety.

HCWS have always been at the forefront, whether it be a medical emergency, an elective therapy, or coping with pandemics like Covid-19. Thus working near to the infectious virus, during these circumstance, HCWs are at the most significant risk of being exposed to any infection. 22 percent of the HCWs in our research reported having extremely severe depression, 56 percent reported having extremely severe anxiety and 25 percent were severely distressed. Similar tendencies have been seen in previously released data from India and other nations. According to a research on healthcare workers, patients and others at AIIMS, between 20 percent, 19 percent and 28 percent of healthcare workers experienced depression, anxiety and psychological stress. Chinese researchers Zhu et al confirmed our results by reporting that HCWs working in Covid-19 authorised hospitals had substantial psychological alteration. Additionally, our prevalence estimates are in line with another study by Gao et al (2020), in which out of 107 respondents/ healthcare workers 35.5 percent and 17.76 percent experienced anxiety and depression respectively.

Our frontline HCWs expressed much more

anxiety about becoming sick, spreading an infection to loved ones, being isolated, increased workload, shortage of PPE, and training. These fears, which included feelings of vulnerability or loss of control as well as concerns about oneself, the spread of the virus, the health of one's family and others, changes in one's job, and isolation, were consistently stated by HCWs working in varied infectious situations.

Since Covid-19 is human-to-human transmissible, highly morbid, and possibly lethal, it may make people feel more in danger. Additionally, a foreseen supply shortfall and an uptick in suspected and confirmed Covid-19 cases added to the demands and worries of healthcare staff. Studies have shown a link between fear, depression, anxiety, and other mental health issues and working in healthcare jobs during epidemics and pandemics like SARS, MERS, and Ebola disease.

In our study we discovered that there is significant relationship between stress, depression and fear with age of subjects and no relationship was found between age of participants and Anxiety (Table 5). When compared to individuals under the age of 40, people over 40 had significantly greater levels of fear, depression, and stress. The ANOVA results (Table 5) showed a significant $p < 0.05$ correlation between fear, depression, stress and age. Similar results have been found in United states of America by Alnazly et al (2021).

The finding of current research demonstrates that healthcare professionals experience pandemic fear, anxiety, stress, and depression. This indicates that healthcare professionals are making crucial judgments while doing their jobs. Employees who get direct management assistance are more likely to have good attitudes about their jobs and have better stress management skills. However, insufficient defence, perceived stigma, and unfavourable patient feedback might worsen psychological suffering brought on by Covid-19. Additionally, psychological help is necessary for healthcare professionals who exhibit signs of severe psychological distress. Health-care personnel who are at risk of psychological distress should get psychosocial therapies in the early phases of pandemics. Our results suggest that managing stress, anxiety, and depression requires appropriate social support. To investigate the long-term consequences of the Covid-19 pandemic on psychological distress among healthcare professionals, further study is needed.

When healthcare professionals get the Covid-19 infection at work or while travelling to work, it becomes an occupational injury. Health care leaders should, in accordance with other regulatory agencies around the world, swiftly implement

policy changes at institutional levels and at the local level to facilitate a shift in culture towards improved well-being and workplace environments. This will help support health care workers during future health emergencies (such as future infections or disasters) and protect them from such injuries.

Implications

The findings of this research indicate that actions should be taken to safeguard the mental health of healthcare professionals during the Covid-19 pandemic.

- Leaders in healthcare institutions should understand the value of having strong connections with healthcare professionals during the catastrophic circumstances like Covid-19.
- Leaders should reassure health-care workers that they and their families will receive adequate support if contaminated by Covid-19. Maintenance of safe working environments and availability of personal protective equipment for both healthcare workers and their families are necessary in addition to the physiological, medical, financial, and emotional care.
- Regular meetings with healthcare professionals should be organised at the primary and secondary levels to encourage the development of appropriate coping mechanisms for the stresses associated with dealing of Covid-19 patients.
- Individual therapy for mental health issues and early treatment are crucial at the secondary level of prevention. Health care professionals should have access to teams of expert psychologists at each facility at all times, timely treatment, and follow-ups should be given.
- Peer support and group talks should be promoted.
- It is also crucial to address the industrial damage and moral suffering. Collaboration between healthcare professionals, administrators, and community members is necessary.
- The Covid-19 pandemic has caused psychological anguish among healthcare professionals globally the HCWs are now keenly aware of the harm posed by the virus' propagation. It is critical to protect the mental health of healthcare professionals during pandemic scenarios. Employers should make an effort to find strategies that help to reduce the psychological suffering of HCWs. Since most healthcare professionals interact directly with patients, this might result in high levels of anxiety. Managers and leaders should expand the resources available to help healthcare professionals both

within their own social networks and inside their businesses.

Additionally, efforts should be made to foster colleague support; healthcare professionals might try to assist others in making wise decisions in response to pandemic-related difficulties.

Limitations

There should be certain restrictions in our investigation. First, the findings' generalisability may be constrained by the small sample size. Second, since our research used a cross-sectional design, we were unable to draw any conclusions about the relationship between the independent and outcome variables. Third, incomplete information on the non-responders might skew the results. Poor random sampling practices result in uncertain statistical confidence and margins of error. Finally, it is challenging to remark on the direct impact of Covid-19 on the mental health of HCWS since our research lacked a control group.

Conclusion

The psychological effects of the Covid-19 pandemic are highlighted by our study's finding that every parameter including fear, depression, anxiety and stress, were much greater than those felt during the SARS 2003 epidemic. Patients and health care workers both experienced considerable levels of fear, depression, anxiety and stress as a result of the Covid-19 epidemic. These findings highlight the need of being well-prepared and readiness to combat current and potential pandemics affecting mental health. Additionally, based on our findings, there may be a major psychological effect on both patient and HCW populations, necessitating appropriate preventative measures as well as enough psychological assistance for both demographic groups. To fully understand the crucial components of the psychological effects of any pandemics in history and the future, more research and study will be needed in the future.

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