

Assessment of Psychiatric Morbidity among Health Care Workers During Covid-19 Pandemic in a Referral Hospital in Bangladesh

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Abstract:

Introduction: Assessment of the symptoms of anxiety, depression, stress and feeling of wellbeing among healthcare workers are essential to take necessary steps to treat or prevent any psychiatric morbidity.

Objective: The objective of the study was to assess the psychiatric morbidity among the healthcare workers of a tertiary level hospital in Bangladesh.

Methods: This was a cross sectional study conducted in Combined Military Hospital, Bogura, Bangladesh from July 2021 to December 2021. For this purpose, 50 health workers fulfilling inclusion and exclusion criteria were taken as sample. They filled up personal & sociodemographic data and the short-form Bangla version of WHO-5, GAD-7, PHQ-9 and PSS-5 scale^[1,2,3,4,18]. The results showed that the mean age of the health workers was average 25 years with male predominance (58%). Symptoms of anxiety, depression, stress

and wellbeing were found among 20%, 30%, 96% and 96% of health workers respectively. This excess stress and low feeling of wellbeing may be related to extra stressors caused by dread, fear and exceptional longevity of the disease itself and sudden socioeconomic drift down compounded by Covid-19 pandemic effects. Combination of depression, anxiety and stress in different patterns were also higher in them.

Conclusions: Incidence of psychiatric illness was high among health care workers during the COVID-19 pandemic. Further larger studies are required to categorize these illness and to find out help to overcome.

Keywords: Morbidity, Health workers, Anxiety, Depression, Stress, Wellbeing and Covid-19.

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Introduction:

The world is now dealing with an infectious disease caused by the SARS-CoV2 virus, the unprecedented global pandemic of novel coronavirus disease 2019 (COVID-19) since December 2019^[5]. The global outbreak

of coronavirus has reached a toll of over 529,940,983 cases worldwide with over 6,306,917 cases of death till now^[6]. The novel corona virus was confirmed to have spread to Bangladesh in March 2020 and by now the number of affected people has been increasing with total number of 1,953,356 cases and death toll of 29,130 cases^[7].

The present circumstances because of COVID-19 pandemic have generated increased worry, stress and fear among population subgroups across the countries. Among general population, there is widespread panic due to lack of knowledge on the situation leading to misconception, misinterpretation, stigma and rumors.

As a part of the total community, healthcare workers also facing severe illness from covid-19, they are experiencing reaction mentally and may experience lasting psychological effects. Having anxiety, depression, stress are some common reactions. Considering the long-term effects of Covid 19, evaluation of their severity and consequences in different target populations should be done before approaching to any action plan.

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Generally, the Healthcare Workers are highly at risk of exposure to infectious pathogens which may concern them of being infected as well as transmitting the infection to others. The increasing demand for critical care, performing beyond regular duty schedules make healthcare workers susceptible to stress, anxiety and depression. This vulnerable circumstance to different occupational hazards, let healthcare workers undergo a considerable number of emotional pressures in relation to their jobs.

In order to understand the psychological needs and gaps, it is important to do research and analysis of the current scenario by collecting currently available evidence from various institutions. Hence, we have conducted this study to quantify the prevalence among healthcare workers during COVID-19 pandemic. It will be helpful for the policy makers and personnel working in the field of mental health problems.

Materials & Methods:

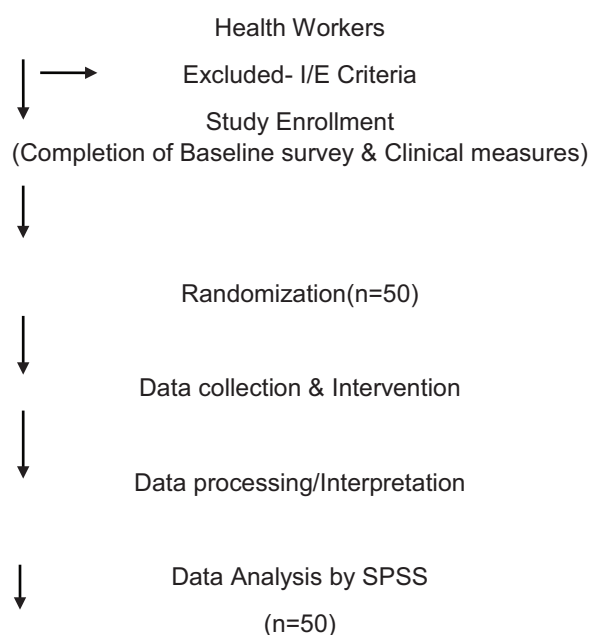
This was a cross sectional study conducted in Combined Military Hospital, Bogura, Bangladesh from July 2021 to December 2021. For this purpose, 50 healthcare workers (Doctors, nurse and paramedics) fulfilling inclusion and exclusion criteria were taken as convenient sample. They filled up a pretested questionnaire containing personal & sociodemographic data and the short-form Bengali version of WHO-5 Well-being Index (WHO-5), Patient Health Questionnaire-9 (PHQ-9) for Depression, General Anxiety Disorder-7 (GAD-7) and Perceived Stress Scale-5 (PSS-5) scale with an objective to assess the predictors of psychological impact of COVID-19 in terms of wellbeing, depression, anxiety and stress respectively.

To maintain statistical procedures considering ethical aspects, prior ethical clearance has taken from the ethical committee of CMH, Bogura and neither any intervention nor invasive procedure were given. During data collection, the inclusion-exclusion criteria has followed where healthcare workers treating covid dedicated wards has included and health workers from non-covid wards were excluded. Study instruments will be selected and developed as per requirement of study objectives. Self-rated questionnaire has been used. Questions were

closed-ended using WHO-5 Wellbeing Index, GAD-7, PHC -9 & PSS-5. After randomization and pretesting, data interpretation and statistical analysis has done using statistical package for social sciences (SPSS-v 25)^[8].

Flowchart:

Result is described in brief with special attention to the psychological wellbeing, depression, anxiety and stress of healthcare workers. Recommendations and inference will follow appraisal of results.



Results:

Among the respondents, the results showed that mean age of the healthcare workers was 25 years with male predominance (58%) (Table-I). Respondents include Physician, Nurse, Paramedics performing their duty in Covid dedicated Ward.

Table-I

Gender distribution of patients (n=50)

Variable	Frequency (n=50)	Percentage
Male	29	58.0
Female	21	42.0
Total	50	100.0

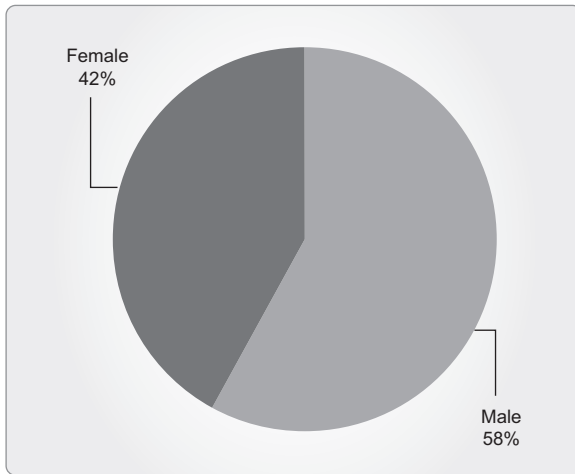


Fig.-1: Gender distribution of patients (n=50)

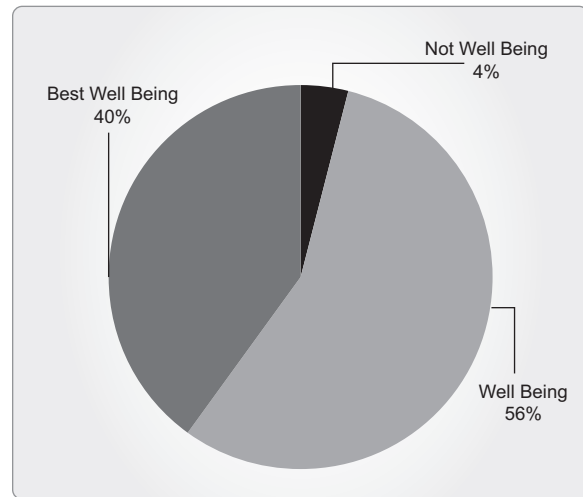


Fig.-2: Assessment for well-being

From (Table-II), Sample (n=50) shows that 96% is in a state of well-being and 04% of the sample is in a state of not well-being according to WHO-5 well-being index. Among the 48 (96%), 28 (56%) are in a state of moderate well-being and 20 (40%) are in best well-being. Result also shows that 02 (04%) are in a state of not well-being (Fig.-2).

Table-II

Assessment for well-being by WHO-5 index (n=50)		
Variable	Frequency (n=50)	Percentage
(0-20) % - Not Well Being	2	4.0
(21-80) % - Well Being	28	56.0
(81-100) % - Best Well Being	20	40.0
Total	50	100.0

Table-II

Assessment for well-being by WHO-5 index (n=50)		
Variable	Frequency (n=50)	Percentage
(0-20) % - Not Well Being	2	4.0
(21-80) % - Well Being	28	56.0
(81-100) % - Best Well Being	20	40.0
Total	50	100.0

On the contrary, (Table-III), result shows that among the samples (n = 50) the frequency of low stress is 20 and moderate stress is 28 and frequency of stress-free is 2 according to PSS-5 scale for stress. Among the stress

positive samples, 40% of them are suffering from low stress and 56% of them are suffering from moderate stress. However, 4% are stress-free. Result also shows that there is no one suffering from high stress and maximum was suffering from moderate type of stress (Fig.-3)

Table-III

Assessment for stress by (PSS-5) scale (n=50)			
Variable	Stress level	Frequency (n=50)	Percentage
1- Negative	Nil	2	4.0
>1 - Positive	Low	20	40.0
	Moderate	28	56.0
	High	0	0.00
Total		50	100.0

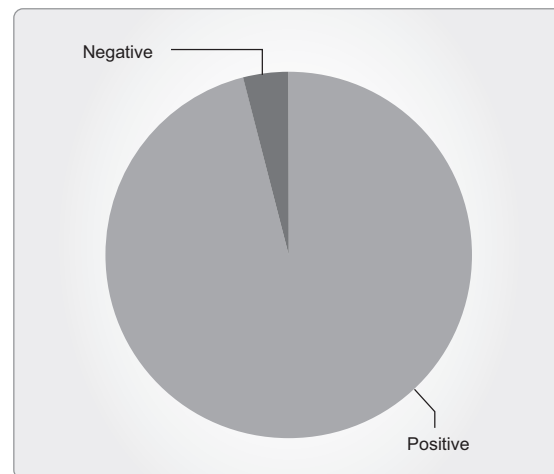


Fig.-3: Assessment for stress

From (Table-IV), Sample (n=50) shows that 80% has not face any anxiety, 18% of the sample was in a state of mild anxiety and 02% of the sample was in a state of moderate anxiety (Fig.-4).

Table-IV

<i>Assessment for General Anxiety Disorder by GAD-7 (n=50)</i>		
Variable	Frequency (n=50)	Percentage
(0-5)-Normal	40	80.0
(6-10) - Mild	9	18.0
(11-15)- Moderate	1	2.0
Total	50	100.0

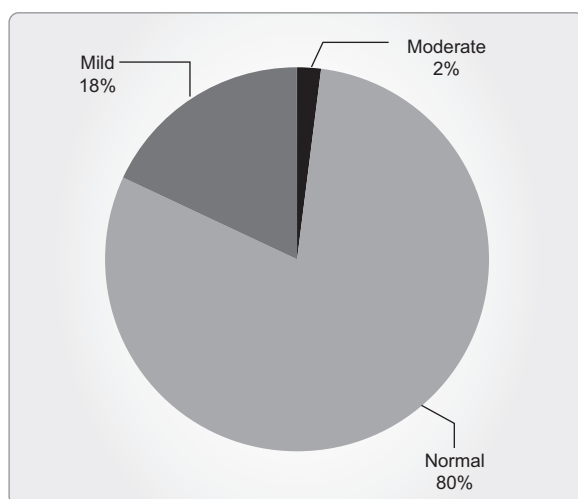


Fig.-4: Assessment for General Anxiety Disorder

From (Table-V), among the samples (n = 50) the frequency of mild depression is 7, moderate depression is 6, moderately severe depression is 1, severe depression is 1 and frequency of depression-free is 35. 30% is suffering from depression and 70% is depression free. Among the 30%, 46% of them are suffering from mild depression and 40% of them are suffering from moderate depression, 07% of them are suffering from moderately severe depression, 07% of them are suffering from severe depression (Fig.-5).

Table-V

<i>Assessment for Depression by PHQ-9 scale (n=50)</i>		
Variable	Frequency (n=50)	Percentage
(0-4) - None	35	70.0
(5-9) - Mild	7	14.0
(10-14)- Moderate	6	12.0
(15-19) - Moderately severe	1	2.0
(20-27)- severe	1	2.0
Total	50	100.0

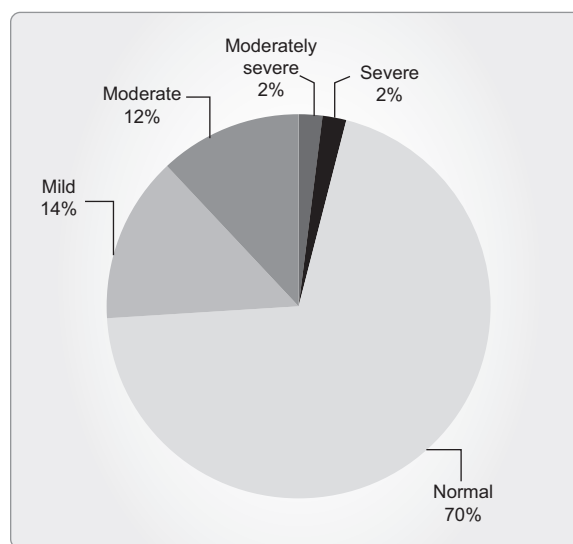


Fig.-5: Assessment for Depression

Discussion:

The covid-19 pandemic is hunting us all. But the most devastating and destabilizing effects will be felt in the world’s poorest countries. Bangladesh as a poor developing country may face the biggest economic slowdown in living memory. The humanitarian system in preparing for a sharp rise in conflict, food insecurity and poverty as economic contract, export earnings, remittances and tourism may reduce or disappear due to prolonged pandemic. So, the issue of early and adequate humanitarian assistance from government and nongovernment organization is eminent⁹.

Bangladesh is one of the high-risk countries of the Covid-19 pandemic and its consequent losses due to social

and economic condition. It is the world's most densely populated and impoverished country. There is a significant possibility that economic stagnation would push a large population back into poverty¹⁰.

Early diagnosis, recognition, rapid isolation and quarantine are essential to prevent transmission. It is also required to provide appropriate time demanding physical and mental health care within stipulated time frame. The issue of treating the confirmed diagnosed causes along with suspected/ index cases heralds' national attention and guideline to manage cases and to offer optimum supportive care to avert symptoms and multi organ dysfunction/ sepsis.

Combined Military Hospital, Bogura provides treatment facilities to the entitled serving and retired armed forces personnel including their families. This tertiary level hospital obtains a different sociodemographic characteristic among the healthcare workers due to the existing rules and regulation of armed forces but somehow different from the national average in many cases. According to the WHO-5 Well-being Index, well-being has found widespread among 96% health workers in this study. However, since March 2020, the number of infected persons among authorized personnel has gradually increased.

The healthcare workers have been involved in tremendous hard work for 24/7 to reduce the rate of spreading of the disease and to treat the COVID-19 infected patients. Severe psychological pressure like general anxiety disorder, depression or stress symptoms were common after going through high occupation related hazards, scarcities in logistic supply, long duty hours etc.

In further study with the GAD-7, PHQ-9, and PSS-5 scales, the level of anxiety, depression, and stress were found among 20%, 30%, and 96% of health workers, respectively. This excess stress and low feeling of wellbeing may be related to extra stressors caused by dread, fear and exceptional longevity of the disease itself and sudden socioeconomic drift down compounded by Covid-19 pandemic effects. Combination of depression, anxiety and stress in different patterns were also higher in them.

Several studies have conducted on healthcare workers to assess their mental state in Bangladesh during the Covid-19 pandemic. A study conducted at Bangladesh

by S. M. Nurul Irfan has revealed that 21.6% of the respondents had mild to severe depressive symptoms, 43.1% of the respondents had mild to extremely severe anxiety symptoms and 24.1% of the respondents had mild to extremely severe stress symptoms^[11]. Another study conducted at Bangladesh by Hasan MT et al. revealed that about 67.72% physician suffers from anxiety and 48.5% of them found depressive¹². In case of adjacent countries, an additional study conducted at India by William Wilson showed that the prevalence of healthcare providers with high-level stress was 37%, while the prevalence rates of healthcare providers with depressive symptoms requiring treatment and anxiety symptoms requiring further evaluation were 11.4% and 17.7% respectively^[13]. In contrast to above mentioned outcomes, a low anxiety, low depression but higher stress score has been rendered from our study. Maintaining the perseverance among healthcare services, quality treatment, management integrity towards the patients along with military protocols in Covid-19 pandemic may induce such stressful working environment for healthcare providers.

Higher psychological morbidities were also found in the past during the outbreaks of severe acute respiratory syndrome (SARS), H1N1 influenza, Ebola virus, middle east respiratory syndrome (MERS) like several situations^[12]. Previous surveys during epidemics have also showed that healthcare workers have significantly higher prevalence of psychological problems compared to general population. A negative impact might exert on their psychological status for the concerns related to personal protection, safety of their loved ones, death of their own colleagues, excess duty hours, ethical concerns about rationing of ventilators and oxygen concentrators for the patients.

There are some certain limitations of our study that should be mentioned. There may be other factors like marital status, long term health issues, preexisting psychological problems that affect the psychological impact among the healthcare workers in addition to the factors concerned in this study. The data collected from healthcare workers of a tertiary military hospital are not representative of the entire population. No longitudinal observations of the respondents are considered during evaluation of the psychological impact of healthcare workers involved in Covid-19 management cases as a cross-sectional study. The possibility of selection bias

may exist as the respondents were selected purposively for the study.

Along with definitive curative treatment, preventive & social strategy to be ascertained to stop spreading the communicable infection right at this time. Maintenance of 100% effective hygiene and sanitation along with strict maintenance of washing rules/principles (Surokhha) will add on treating policies, reducing burden on frontliners and timely prevention of spread of these highly communicable infectious diseases^{13,17}.

Vaccination as a part of preventive and social medicine is a well acquainted and practiced method of prevention and thereby halting reinfection & spread to community. Currently among many clinical & preclinical trials, 3 vaccines were found safe, tolerated and immunogenic, so early instituting and monitoring of well trialed vaccines can bring a new hope to our community/citizens. High risk groups, old age, those with comorbidities, health care workers should be recruited and assessed for efficacy, safety and immunogenicity of vaccines available as single or booster dose administration^{14,15,16,19}.

Making proper plan, policy, and standard operating procedure both in workplace and accommodation for healthcare workers, has been proven to be effective in protecting mental health wellbeing. Evaluation for a longer period of time to check the negative psychological consequences should be followed in healthcare workers recovered from Covid-19. In addition to the medical facilities, psychological services for healthcare workers should be developed, implemented and sustained. Mental healthcare services should come across proper assessment and cares for healthcare workers to avoid stress, anxiety, depression, suicidal ideation, and training of staffs to support and adopt newer ways of working.

Conclusion:

COVID-19 has left a huge impact on the healthcare workers. It does not only affect us physically but also puts a tremendous pressure on our mental health. The healthcare workers are trying to maintain their mental wellbeing by self-help. Along with this special attention is needed from appropriate authority to maintain their wellbeing during COVID-19 crisis and post Covid period.

Stress is very common in any profession but it is more obvious among the healthcare workers during this

COVID-19 pandemic as they have to carry an extra workload related to patient's care, care of relatives and selfcare. Maximum moderate stress may be due to Covid related new life stresses. Also, the effect of repeated lockdown, loss of job and low payment can't be overruled. We can work together to reduce stress among the healthcare workers by improving their working environment, accommodation & safety, increasing their workforce and providing extra support in the form of monetary, suppling protective appliances and accommodation services. Care can also be offered ranging from counselling to psychotherapy and motivational approaches through yoga.

Adequate psychiatric services should be provided to manage those conditions among health care workers with special emphasis on stress management preferably by relaxation techniques like yoga and supportive psychotherapy including financial and accommodation aspects preferably from government sector to boost their morale and confidence.

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