Journal of Monno Medical College
June 2023; 9 (1):15-19.

Original Article

Psychological Status of Healthcare Professionals of Bangladesh during the COVID-19 Pandemic

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Abstract

Background: The wellbeing of Healthcare professionals (HPs) across the world had been severely affected by the COVID-19 pandemic. Previous researches on other similar infectious diseases consistently showed that many HPs reported symptoms of anxiety and depression, both during and after the outbreak, causing a severe impact on their coping abilities, in some cases with long-lasting effects. ***Objectives:*** The present study was designed to find out the impact on mental health of the HPs in Bangladesh during COVID-19 pandemic. ***Methodology:*** This survey-based cross-sectional study was carried out in Combined Military Hospital, Bogura, a tertiary hospital in Bangladesh. The study was conducted during 15-20 August, 2020, including 303 HPs during the COVID-19 pandemic. The study incorporated the patient health questionnaire (PHQ-2) and generalized health questionnaire (GAD-2), validated for screening of Major Depressive Disorder (MDD) and Generalized Anxiety Disorder (GAD) respectively. ***Results:*** Among the respondents, majority were males (201, 66.34%), between 20-29 years of age (127, 41.92%), married (244, 80.53%), fertile (205, 67.66%) and health assistants (151, 49.83%). Some 137(45.21%) respondents were involved directly to treat diagnosed cases of COVID-19 and 20(06.60%) had been suffering from insomnia. A total of 73(24.09%) HPs remained in anxiety every time that their family members may be affected by COVID-19 through them. The MDD was found in 77(25.41%) respondents and GAD in 42(13.86%). The MDD was found more (25.40% versus 23.53%) in the HPs who were staying without family, but GAD (21.57% versus 12.30%) and Anxiety to infect family members through them was remarkably higher (49.10% versus 19.05%) in the HPs who stayed with family. ***Conclusion:*** The present survey showed that a remarkable number of HPs experienced anxiety and depression due to prevailing COVID-19 pandemic.

Key Words: COVID-19, Healthcare Professionals, MDD, GAD

Received: 19 March, 2023; **Manuscript ID:** 11390323OA; **Accepted:** : 12 April, 2023

DOI: https://doi.org/10.3329/jmomc.v9i1.69022

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How to cite this article: Ali MM, Noor-E-Naharin, Hossain SME, Manjur M. Psychological Status of Healthcare Professionals during the COVID-19 Pandemic. J Monno Med Coll. 2023 June;9(1):15-19.

Introduction

In Wuhan city, China, a novel coronavirus pneumonia outbreak occurred and spread throughout the world in a short period in December, 2019.[1] The International Committee officially named it as 'SARS CoV-2′ and disease infected by this virus was termed 'COVID-19' on Taxonomy of Viruses.[2] The wellbeing of the patients across the world has been severely affected by the COVID-19 pandemic, with 26.94 million confirmed cases worldwide

and 0.32 million cases in Bangladesh by 5th September 2020.[3]

During epidemic, medical staffs were the first line backbone of the fight in control and prevention of COVID-19 pandemic. They pass through high risk of infection, heavy work pressure and negative psychological stress. They were also worried about their families, friends, or colleagues being infected and spreading the virus.[4]

Definitely, physical or mental health of healthcare professionals (HPs) are not immune to the impact of the pandemic. The HPs are struggling to cope with unusual demand for healthcare services, and these places a significant burden on them. Physicians have faced a reduction in routine workload during the pandemic and have been re-assigned to duties out of their own area of expertise, such as covering emergency departments, intensive care units or medical COVID-19 wards and others beyond their comfort zones.[5]

Previous research on similar infectious diseases, including the severe acute respiratory syndrome (SARS), the Middle East respiratory syndrome (MERS) and the Ebola virus disease, consistently showed that many HPs reported symptoms of anxiety and depression, both during and after the outbreak. These were found causing a severe impact on their coping abilities, in some cases with long-lasting effects. In many countries, especially in those that had not experienced any recent epidemic, the HPs have been placed under challenges to traumatic experiences during the COVID-19 pandemic.[6]

A psychological survey suggested that the rates of depression, anxiety, insomnia, and stress among medical staffs, engaged in the prevention and control of infectious diseases, were as high as 50.7%, 44.7%, 36.1%, and 73.4%, respectively. Another survey among the front-line medical staffs in Wuhan showed similar problems due to intense psychological stress in such a short time.[4]

Research regarding COVID-19 mainly focuses on physical health, but the mental health impact of this infection may be far wider than the expected and should not be neglected. The study, therefore, was designed to illuminate on the impact of the pandemic on the mental health of our HPs. The primary objective was to identify and characterize the impact of the pandemic on mental health in the form of major depressive disorder (MDD) and generalized anxiety disorder (GAD).

Methodology:

This survey-based cross-sectional study was carried out in Combined Military Hospital, Bogura, a tertiary hospital in Bangladesh. The study was conducted during 15-20 August, 2020, with the healthcare professionals (HPs) of this institute during the COVID-19 pandemic.

The PHQ-2 and GAD-2 questionnaire sets, validated for screening major depressive disorder (MDD) and generalized anxiety disorder (GAD) respectively, were included to estimate the prevalence of MDD and GAD in the respondents. The survey was kept brief with 16 questions to promote completion. The PHQ and GAD scores ranges from 0-6, a score of 3 was taken as cutoff point and a score of >3 was considered likely of MDD and GAD.[7,8]

In addition, gender, age, education, marriage status, and fertility status were also collected. The completed questionnaires available between 15 to 20 August, 2020 were recognized as eligible and included in the analysis. Incomplete questionnaires and participants with a history of psychological or cognitive disorder were excluded.

Respondents were allowed to abstain from answering and abstainers were treated as having not sought support from healthcare services. The survey questionnaires were distributed person-to-person or via e-mail. Institutional approval was taken keeping compliance with Helsinki Declaration for Medical Research involving Human Subjects. Each of the study subjects was informed verbally about the study design, the purpose of the study and right for withdrawing themselves from the study at any time, for any reason, what so ever. Persons, who have given informed written consent to participate voluntarily in the study, were included as study subject.

Results

Among the respondent healthcare professionals (HPs), 201(66.34%) were males and remaining 102(33.66%) were females. Most of them (127, 41.92%) were in between 20-29 years of age, married (244, 80.53%) and fertile (205, 67.66%). Some (65, 21.45%) respondents were MBBS doctors or postgraduate, but majority were Higher Secondary School Certificate (HSC) qualified (76, 25.08%) and by profession, majority (151, 49.83%) were health assistants . (Table I)

Table I. Breakdown of the demographics of the survey respondents (n=303)

Criteria	Number of respondents	Percentage (%)
Age in years		
20-29	127	41.92
30-39	101	33.33
40-49	50	16.50
50-59	25	08.25
Gender		
Male	201	66.34
Female	102	33.66
Marital status		
Married	244	80.53
Unmarried	59	19.47
Fertility		
Yes	205	67.66
NO	98	32.34
Education		
PSC	19	06.28
JSC	53	17.49
SSC	45	14.85
HSC	76	25.08
Graduate	45	14.85
MBBS	65	21.45
PSC- Primary School Certificate, JSC- Junior School Certificate, SSC- Secondary School Certificate, HSC- Higher Secondary School Certificate, MBBS- Bachelor of Medicine and Bachelor of Surgery		
Professional status of the HPs		
Doctor	27	08.92
Intern Doctor	38	12.54
Health Assistants	151	49.83
Administration	87	28.71

Many (137, 45.21%) of the respondents were involved directly to treat diagnosed cases of COVID-19 and 20(06.60%) among them had been suffering from insomnia. Some 73(24.09%) of the HPs reported that they were in anxiety or worry every time to infect their family members by COVID-19 through them. (Table II)

By PHQ-2 and GAD-2 scores of >3, 77(25.41%) of the respondents were found having Major Depressive Disorder (MDD) and 42(13.87%) had Generalized Anxiety Disorder (GAD). (Figure 1)

High prevalence of MDD (25, 65.79%) and GAD (19, 50.00%) was found in young intern doctors. Other doctors showed both MDD and GAD equally (10, 37.04%). Persons in the administrative jobs of the hospital had the lowest MDD (13, 14.94%) and rarely GAD (01, 01.15%). (Table III)

Table II. Involvement of the HPs to treat COVID-19 patients, development of insomnia and anxiety to infect family members (n=303)

Criteria	Number of respondents	Percentage (%)
Involved to treat diagnosed COVID-19 patients		
Yes	137	45.21
No	166	54.79
Insomnia		
Never	243	80.20%
Rarely	32	10.56%
Often	08	02.64%
Every Time	20	06.60%
Anxiety to infect family member		
Never	204	67.33%
Rarely	15	04.95%
Often	11	03.63%
Every Time	73	24.09%

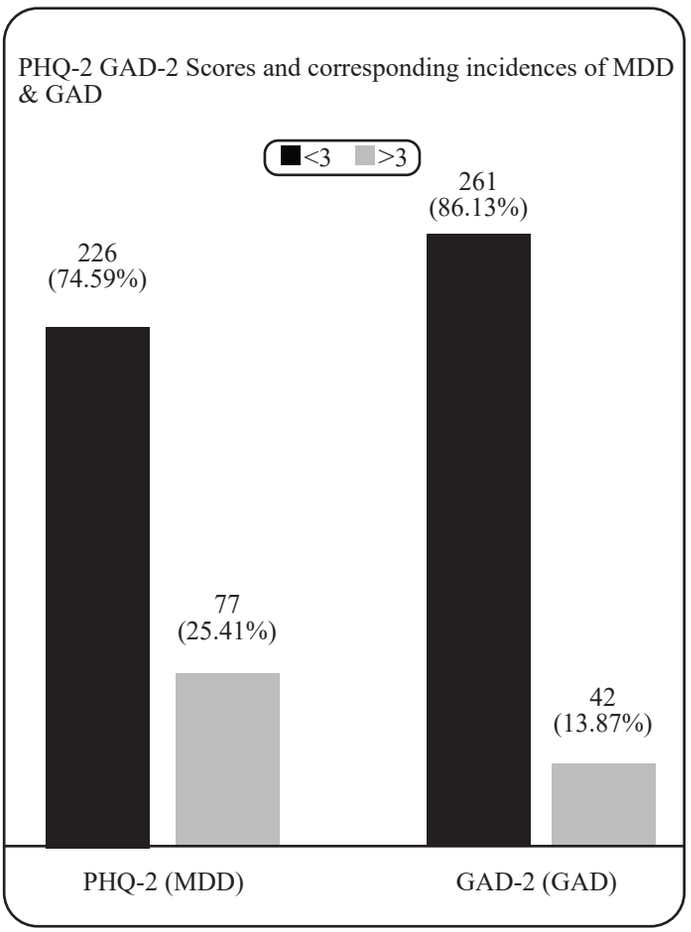

Figure 1. The PHQ-2 and GAD-2 scores and corresponding incidences of major depressive disorder (MDD) and generalized anxiety disorder (GAD) among the survey respondents (n=303)

Table III. Distribution of major depressive disorder (MDD) and generalized anxiety disorder (GAD) in different Healthcare Professionals (n=303)

Diseases	Doctor (n=27)	Inter Doctor (n=38)	Health assistant (n=151)	Administration staff (n=87)
Only MDD	03 (11.11%)	08 (21.05%)	19 (12.58%)	12 (13.79%)
Only GAD	03 (11.11%)	02 (05.26%)	02 (01.32%)	00 (00.00%)
Both MDD & GAD	07 (25.93%)	17 (44.74%)	10 (06.62%)	01 (01.15%)
None	14 (51.85%)	11 (28.95%)	120 (79.47%)	74 (85.06%)
Total	**27 (100.00%)**	**38 (100.00%)**	**151 (100.00%)**	**87 (100.00%)**

Compared to the males, the females had higher scores in PHQ-2 for MDD (37, 36.27% versus 40, 19.90%) and GAD-2 for GAD (27, 26.47% versus 15, 7.46%). (Table IV)

Table IV. Distribution of MDD and GAD in different genders of the HPs (n=303)

Disease	Male (n=201)	Female (n=102)	Total
Only MDD	31 (15.42%)	11 (10.78%)	42 (13.86%)
Only GAD	06 (02.99%)	01 (00.98%)	07 (2.31%)
Both MDD & GAD	09 (04.48%)	26 (25.49%)	35 (11.55%)
None	155 (77.11%)	64 (62.75%)	219 (72.28%)
Total	**201 (100.00%)**	**102 (100.00%)**	**303 (100.00%)**

The MDDs and the GADs were more among the HPs who had their duties for patients other than COVID-19 (non-COVID wards), than the HPs who served for the diagnosed COVID-19 patients. (Table- V)

Table V. Distribution MDD and GAD among Healthcare Professionals who did duty in COVID-19 ward with HPs of who served in non-COVID-19 wards

Disease	Done duty in COVID-19 Ward (n=137)	Done duty in non-COVID-19 ward (n=166)
Only MDD	18 (13.14%)	24 (14.46%)
Only GAD	03 (02.19%)	04 (02.41%)
Both MDD & GAD	13 (09.49%)	22 (13.25%)
None	103 (75.18%)	116 (69.88%)
Total	137 (100.00%)	166 (100.00%)

Compared to those HPs staying with their families and those who did not stay with families shows that MDDs were more in the latter group (25.40% versus 23.53%), but GAD (21.57% versus 12.30%) and anxiety to infect family members through them (49.10% versus 19.05%) was remarkably more in the former group. (Figure 2)

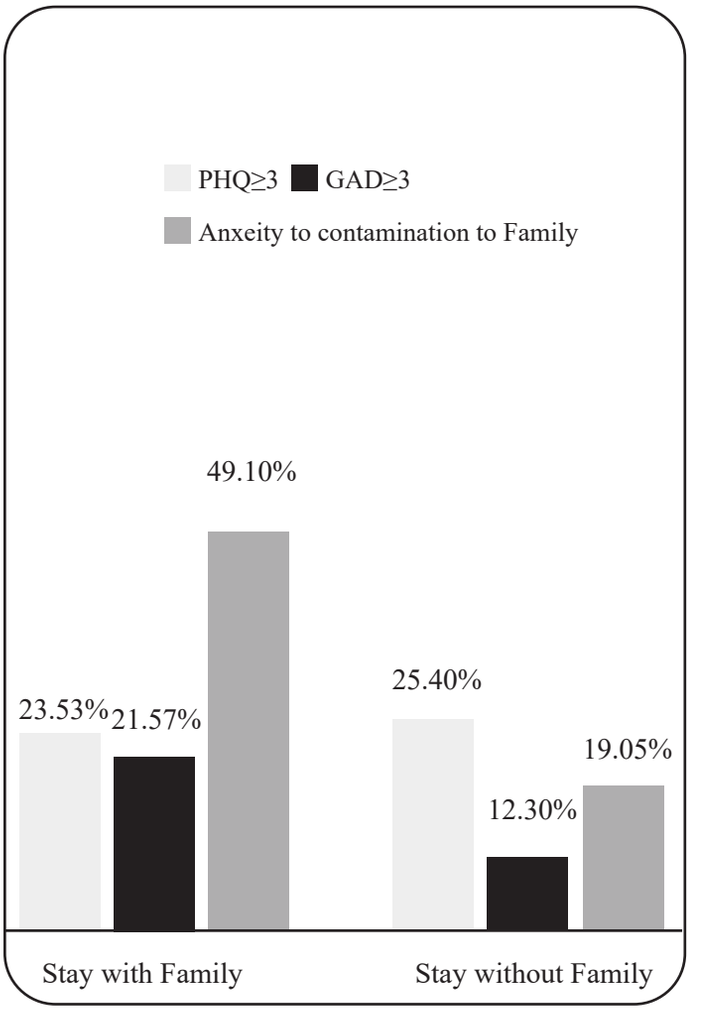

Figure 2: Distribution PHQ-2 & GAD-2 scores and anxiety for infecting family members between HPs who stayed with family and who stayed without family (n=303)

Discussion:

The incidence of Generalized Anxiety Disorder (GAD) in our cohort was almost three times greater than in the general population as reported previously (13.86% vs 5.7%).[9] The Major Depressive Disorder (MDD) was found almost six times greater than that in the general population reported in another study (25.41% vs 4.6%).[10] Therefore, these psychological problems found among the respondents cannot be ignored regardless of the cause. The Healthcare Professionals (HPs) had every time insomnia during this COVID-19 pandemic.

Wu et al in 2020 also found poor sleep quality in medical staffs [2.63±0.98 (M±SD) (t=31.76 & p= <.001)] and worrying about family infection [4.64 ± 0.64 (M±SD) (t= 45.13 & P= <.001)].[4] In the current study, it was observed that 24.09% of the HPs every time worried about the family members to be infected through them.

This study showed that MDD and GAD were remarkably higher in the females than the males (36.27% vs 19.90% and 26.47% vs 07.46% respectively). In another study, it was also identified that females scored higher for symptoms of GDD and MDD as compared to males.[5]

High prevalence of MDD (25, 65.79%) and GAD (19, 50.00%) was found in young intern doctors. Doctors showed both MDD and GAD 37.04%. Persons who were in the administrative job of the hospital had the lowest MDD (14.94%) and rarely GAD (01.15%). In a study in China, [11] authors found higher GAD (2.9%) and MDD (0.3%) in medical staff than in the administrative staff (GAD 1.6% and MDD 0%). In a study it was found that symptoms of major depressive disorder were significantly more prevalent among Senior House Officers, regardless of sex, as compared to all other grades of doctors.[5]

The study was carried out in a cohort of HPs in an Army Hospital during pandemic threats of COVID-19. Therefore, this study may not represent the whole community of the professionals or the whole country of Bangladesh.

Conclusion:

To conclude, the present survey showed that an alarming number of healthcare professionnals (HPs) were experiencing anxiety and depression due to prevailing COVID-19 pandemic in the form of major depressive disorder (MDD) and generalized anxiety disorder (GAD).

Conflict of interest: None declared.

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