

# Psychological Assessment of Doctors Working in a Pandemic Condition in Dhaka Medical College Hospital

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## Abstract:

**Introduction:** The outbreak of COVID-19 is taking an unprecedented mental toll on health workers worldwide. So it comes as no surprise that the mental well-being of health care workers of Bangladesh too is in serious jeopardy. This survey was aimed to assess the immediate psychological impact on doctors working in largest Covid-19 dedicated facility in Bangladesh, Dhaka Medical College Hospital.

**Methods:** This cross sectional study was conducted in a single-centre with response received from participating doctors between 31<sup>st</sup> May to 3<sup>rd</sup> June, 2020. Mental health variables were assessed via the Athens Insomnia Scale (AIS) and Hospital Anxiety Depression Score (HADS).

**Results:** We received 192 completed questionnaires (response rate, 64.43%) among whom around 50% of the participating doctors reportedly have depression and anxiety symptoms

respectively. Among them 104 doctors (54.17%) responded to have insomnia. Around 56% of the responding subjects perceived the highly contagious nature of the SARS-CoV-2 as the most striking threat of COVID-19.

**Conclusion:** Agonizing disease process, high death toll, highly contagious nature of the responsible virus is taking a serious mental toll on physicians in the background of their heightened concern about personal health and family health, scarcity in PPE and adequate hospital facility. Psychological protective measures implemented by the hospital could be helpful.

**Key words:** SARS-CoV-2, COVID-19, Depression, Anxiety, Insomnia

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## Introduction:

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome corona virus-2 (SARS-CoV-2). It was first identified in

December 2019 in Wuhan, China, and since spread globally, resulting in an ongoing pandemic.<sup>[1]</sup> The first case may be traced back to 17 November 2019. As of 3<sup>rd</sup> June 2020, more than 6.38 million cases have been reported across 188 countries and territories, resulting in more than 380,000 deaths.

The COVID-19 pandemic in Bangladesh is part of the worldwide pandemic of SARS-CoV-2 infection. The virus was confirmed to have spread to Bangladesh in March 2020. The first three known cases were reported on 7<sup>th</sup> March 2020 by the country's epidemiology institute, IEDCR. Infections remained low until the end of March but saw a steep rise in April. As of 2<sup>nd</sup> June 2020, there have been a total of 52,445 confirmed cases in the country, with 11,120 recoveries and 709 deaths.

Health care workers are not starting with a baseline of zero. They had super elevated depression, suicide rates and burnout prior to COVID-19 which plague the medical profession.<sup>[2]</sup> The list of stressors for health care workers during COVID-19 is overwhelming event to read. They are worried about not having enough PPE to protect themselves from the virus. They are agonized over the

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prospect of running out of oxygen supply demands, ventilators and having to withhold care from the dying sometimes. Many are practising outside of their field. They are taking on gruelling shifts, with no sense of when the outbreak would crest hence burnout is brutal with heavy toll on their mental health. Many of their colleagues are getting infected and dying sometimes. They are sleeping in hotels, isolated, to protect their families, or going home each night, and worried about putting their families at risk. Those away from the front lines felt guilty and inadequate for not being there.

To date, research on the immediate psychological impact of COVID-19 on doctors and health care workers is still lacking. This survey is aimed to evaluate the immediate psychological impact on doctors with easy-to-use clinical screening tools to identify high-risk individuals of acute stress, depression, and anxiety among doctors at Dhaka Medical College Hospital.

#### Methods:

The study was a single-centre cross-sectional survey, covering only doctors of different disciplines involved in management of patients in the largest COVID-19 dedicated hospital of Bangladesh, Dhaka Medical College Hospital. The study was conducted between 31<sup>st</sup> May to 3<sup>rd</sup> June, 2020. The questionnaire consisted of baseline socio-demographic information, level of education (Graduate or Post Graduate), associated comorbidities, perceptions of most striking threat of COVID-19, pre-existing psychiatric illness (those who replied positively were automatically excluded by the platform). Only one response per question in the questionnaire was permitted.

Insomnia was assessed via the Athens Insomnia Scale (ASI), a 8-item self-report index assessing the normal (<3), more acute sleep difficulties (3-5), and a cut-off score of  $\geq 6$  on the AIS is used to establish the diagnosis of insomnia.<sup>[3]</sup> Anxious and depressive symptoms were assessed via the Hospital Anxiety Depression Scale (HADS),<sup>[4]</sup> which is an ultra-brief self-report questionnaire. In screening of depression and anxiety, a score of 0-7=Normal, 8-10= Borderline abnormal (borderline case) and 11-21 = Abnormal (case) was used.

#### Results:

Out of 298 designed questionnaire circulated among doctors of different disciplines, we received 192

completed questionnaires (response rate, 64.43%). Among them male and female doctors were 160 (83.33%) and 32 (16.67%) respectively. Unmarried doctors were 68 (35.42%), among whom 20 (10.42%) were lady and 48 (25%) were male doctors.

Among the responding doctors, 72 (37.5%) were post graduate physicians whilst others are graduate doctors (62.5%). Sixty-eight (35.42%) of them reported to have prior co-morbidities either single or multiple. Out of them 13 (6.7%) reported to have Hypertension, whereas 12 (6.25%) had prior Bronchial Asthma, 17 (8.85%) had DM, 03 (1.6%) had heart disease of different forms, 05 (2.6%) had known dyslipidaemia, 02 had hypothyroidism and one each had NAFLD and Renal Cell Carcinoma (treated).

Those with prior co-morbidities, 23.53% had no symptoms of depression while 45.59% and 30.88% was reportedly labelled as being borderline abnormal (borderline case) and abnormal (case) of depressive illness respectively. Subjects having no known co-morbidity before proved to be of normal with 61.29%, borderline abnormal with 29.83% and abnormal (case) with 8.87%. Overall 92 doctors (47.92%) found normal while a total of 68 (35.42%) and 32 (16.66%) found to have borderline depression and confirmed depression respectively (table-I).

Those with prior co-morbidities, 25% had no anxiety related symptoms while 32.35% and 42.6% was reportedly labelled as being borderline abnormal (borderline case) and abnormal (case) of anxiety disorder respectively. Subjects having no known co-morbidity before proved to be of normal with 60.48%, borderline abnormal with 27.42% and abnormal (case) with 12.1%. Overall total 92 doctors (47.92%) found normal while a total of 56 (29.17%) and 44 (22.92%) found to have borderline anxiety and confirmed anxiety respectively (table-II).

Assessing with the Athens Insomnia scale exposed a scenario of surprising toll of COVID-19 over the sleep quality of the participating physicians in this survey. A great number of doctors (51.17%) currently experiencing insomnia according to the survey. Only around 15% of them having sound sleep while the rests (31.25%) having more acute sleep difficulties according to the scale parameters (table-III).

While only one response per question in the questionnaire was permitted more than half of doctors (56.25%) considered the highly contagious nature of SARS-CoV-2 as the most striking threat of this pandemic situation. High death toll came across to around 30% study subject's mind as perception of most striking threat

while 23.53% prioritized agonising disease process (table-IV). Almost half of them (47.92%) are primarily concerned about their family health while 16.67% and 35.42% are concerned about personal health and hospital infrastructure and logistics respectively when they are permitted to choose one option (table-V).

**Table-I***Age and co morbidity matched depression score (HADS) analysis*

Age group	Depression scoring					
	Normal		Borderline abnormal (borderline case)		Abnormal (case)	
	With co-morbidity	Without co-morbidity	With co-morbidity	Without co-morbidity	With co-morbidity	Without co-morbidity
≤30	2	34	5	7	6	6
31-40	7	37	20	28	9	3
≥341	7	5	6	2	6	2
Total	16 (23.53%)	76 (61.29%)	31 (45.59%)	37 (29.83%)	21 (30.88%)	11 (8.87%)
	92 (47.92%)		68 (35.42%)		32 (16.66%)	

**Table-II***Age and co morbidity matched anxiety score (HADS) analysis*

Age group	Anxiety Score					
	Normal		Borderline abnormal (borderline case)		Abnormal (case)	
	With co-morbidity	Without co-morbidity	With co-morbidity	Without co-morbidity	With co-morbidity	Without co-morbidity
≤30	3	21	4	20	6	6
31-40	9	51	12	12	15	5
≥41	5	3	6	2	8	4
Total	17 (25%)	75 (60.48%)	22 (32.35%)	34 (27.42%)	29 (42.6%)	15 (12.1%)
	92 (47.92%)		56 (29.17%)		44 (22.92%)	

**Table-III***Age grouped insomnia score (AIS) analysis*

Age group	Insomnia score		
	Normal (score <3)	More acute sleep difficulties (score 3-5)	Insomnia (score ≥6)
≤30	8	29	43
31-40	14	21	47
≥41	6	8	14
Total	28 (14.58%)	60 (31.25%)	104 (54.17%)

**Table-IV***Age grouped perceptions of most striking threat by COVID-19*

Age group	Perceptions of most striking threat of COVID-19		
	Highly contagious	Agonizing disease process	High death toll
≤30	40	8	12
31-40	60	12	32
≥41	8	4	16
Total	108 (56.25%)	24 (23.53%)	60 (31.25%)

**Table-V***Age grouped main concern*

Age group	Prime concern		
	Personal health	Family health	Hospital infrastructure
≤30	8	28	24
31-40	16	56	32
≥41	8	8	12
Total	32 (16.67%)	92 (47.92%)	68 (35.42%)

**Discussion:**

Doctors experience high levels of work stress even under normal circumstances but many would be reluctant to disclose mental health difficulties or seek help for them with stigma an often-cited reason. The COVID-19 crisis places additional pressure on doctors and on the healthcare system in general and research shows that such pressure brings a greater risk of psychological distress. During the COVID-19 outbreak, doctors in Bangladesh have been confronted with mounting challenges that have not been faced before. Decisions have to be made fast, ranging from efficiently triaging and isolating patients with suspicion of infection, to deciding whether to shut down departments and operating theatres when a patient or staff test positive; all these whilst being on limited resources. The pressure to act timely and to successfully diagnose, isolate and treat has been overwhelming, especially amid intense public and media scrutiny. This is in concordance with experience in other countries.<sup>5</sup>

Research has consistently shown that the healthcare professions experience higher levels of work stress than the general population, even under normal circumstances<sup>6</sup> and stress in doctors is associated with

both physical<sup>7</sup> and mental health problems.<sup>8</sup> Studies have also shown that many doctors find it difficult to tell their colleagues or employers about their mental health difficulties.<sup>9</sup> The most commonly cited reasons are perceived stigma and anticipated damage to future career prospects.<sup>10,11</sup>

In a pandemic, the number of patients requiring treatment increases significantly, placing strain on healthcare resources and on personnel alike. Additionally, doctors perceive a greater risk-to-self due to their exposure to the patients who are most poorly— adding further stress.<sup>12,13</sup> Compounding this stress, is the shortage of personal protective equipment (PPE) that can arise during a pandemic.<sup>14</sup> A further stressor is the increased risk of infection for the families of health care professionals on the frontline.<sup>15</sup> Data from the 2009 pandemic shows that 20% of doctors and nurses with symptoms reported symptoms in at least one of their family members.<sup>16</sup>

Our survey has shown that 35.42% have borderline depression and 16.66% have depression. A study in Wuhan, China showed that 29.8%, 13.5% and 24.1% of health care workers had stress, depression, and anxiety

symptoms.<sup>17</sup> Depression and anxiety of health workers in their study was relatively lower, which may be related to the different measurements used in their studies and psychological protective measures implemented by Tongji Hospital's administrators responding to COVID-19 in the early stage. In our survey we found 22.92% physicians serving at dedicated COVID-19 hospital have anxiety whereas around 30% have borderline anxiety. Our study also suggested a high number of physician are experiencing sleep difficulties (31.25%) and insomnia (54.17%).

Therefore, healthcare professionals dealing with COVID-19 are under increased psychological pressure and experience high rates of psychiatric morbidity, resembling the situation during the SARS and H1N1 epidemics.<sup>18,19</sup> Experience in our hospitals in the past few weeks, although anecdotal, is concordant with these reports. The disruption of routine clinical practice, the sense of loss of control and the subsequent fear of potential destabilization of the health services, has provoked 'overflowing' anxiety and depression among healthcare professionals, a feature which is not uncommon of epidemics.<sup>19,20</sup>

#### Conclusion:

In conclusion, a higher prevalence of psychological symptoms was found among medical health workers during COVID-19. Medical health workers are in need of health protection and adequate working conditions, e.g., provision of necessary and sufficient medical protective equipment, arrangement of adequate rest, as well as recovery programs aimed at empowering resilience and psychological well-being.

#### Limitations

The present study has limitations. First, a cross-sectional design was applied. Second, psychological assessment was based on self-report tools. The use of clinical interviews is encouraged in future studies to draw a more comprehensive assessment of the problem.

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#### Disclosure statement

The authors declare that they have no conflicts of interests.

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