Review Article

COVID-19 Pandemic and Mental Health of Medical Students

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Abstract
COVID-19 has resulted in significant morbidity, mortality, and adverse psychological impact throughout the world. The government of Bangladesh imposed lockdown and quarantine at the early stage of the outbreak to prevent the spread of the virus, which impacted people's daily life and health, especially on students including medical students which affected their academic and educational activities. During the COVID-19 pandemic, there was an increased prevalence of anxiety, fear, depression, sleep disturbance, somatization, and OCD disorders among medical students. So, it is very important to have a routine screening of depression, anxiety, and stress among medical students and it is recommended that measures be taken to protect them from the debilitating consequences of mental disorders and reduce anticipated adverse effects of the pandemic.
Keywords: Covid-19, Mental health, Medical students.

Introduction:

Since its first outbreak at the end of December 2019 in Wuhan-China, the coronavirus (SARS-COV-2) has spread worldwide to affect more than 346 million confirmed cases and over 5.5 million deaths have been reported worldwide.[1] The disease was then declared a pandemic by the World Health Organization (WHO) on 11 March 2020.[2,3] For its highly contagious nature and the rising death toll among the general population, many countries have locked down and quarantined their population to control the spread of the disease. These restrictive measures were showing effectiveness although many concerns have emerged regarding their psychological impact and their effect on the mental wellbeing of the general population, especially those with high vulnerability to mental health diseases.[4] In Bangladesh, the first case of COVID-19 was confirmed on 8 March 2020. Being a country of limited resources in the healthcare setting, the authorities imposed a countrywide lockdown to lessen its infection.[5] During the COVID-19 pandemic, however, students' psychological health becomes a concern of interest as all the educational institutions were closed down, and their social circle, communication, and interaction processes were also changed.[6] The Covid-19 pandemic has aggregated mental health sufferings throughout the entire world. Committing suicide is the extreme consequence of Covid-19 related psychological burdens, which were reported in many countries including Bangladesh.[7] However, there is a lack of study assessing COVID-19 related human stress among medical students and its associations with other relevant factors affecting the quality of life in the country, which were explored in the present study.

COVID-19 has caused extensive distress in the lives and mental health of medical students. Numerous studies conducted in various parts of the world highlighted that the recent COVID-19 pandemic further negatively impacted the mental health of this population.[8] Since its outbreak, epidemiological data in Bangladesh has revealed

adverse mental health issues due to the COVID-19 pandemic and mass isolation are prominent. Early on in the pandemic, one contributing factor to these mental health implications for Bangladeshis was found to be fear. Studies have reiterated that worries and fears associated with COVID-19 for Bangladeshi samples are associated with increased COVID-19 anxiety, generalized anxiety, depression, and lower mental well-being. Thus, altogether, showing to some extent how the pandemic can impact Bangladeshis psychologically.[9]

Review:

Common mental health disorders among medical students of Bangladesh during the COVID-19 Pandemic:

Adverse mental health outcomes were reported in a systematic review where 50.9% anxiety, 48.3% depression, 53.8% post-traumatic stress disorder, 38% psychological distress, and 81.9% stress were found among the medical students globally, as consistent with other literature concerned with either multi-centered cross-sectional studies, or systematic reviews. Female medical students had relatively more (1.6 times) anxiety and depressive symptoms than males. These devastating issues are alleged for subsequent suicide occurrences globally including Bangladesh.[10]

Depression:

The prevalence of depression was ranging from 46.92% to 82.4% among both college and university students respectively reported in previous studies.[10] However, studies considering the university students found the rate to be within 72% to 82.4%, whereas 49.9% was reported for medical students.[11]

Anxiety:

COVID-19 related anxiety was reported in many studies. Different levels of anxiety were reported to the amount of the medical students (65.9%), ranging from mild (27.3%), moderate (26.8%), and severe (11.8%).[10] Within the university students, the anxiety rate was noted to be 40% to 96.82%.[11]

Stress and psychological distress:

Some studies found the prevalence of stress within 28.5% to 70.1%.[6,10] Previous studies reported the lowest stress prevalence rate among college and university students, whereas university students were identified as dominantly stressed and 57.05% of the medical students were suffering from stress.[12] There was the loss of daily routine in medical students. Less physical activity may lead to boredom and frustration, precipitating psychological distress. Medical college students seem to have been hit hard with their educational institution closed. Some studies have been found possible psychiatric manifestations among medical students during the Covid-19 pandemic.[13]

Suicide:

Commission of suicide is the extreme consequences of Covid-19 related psychological burdens, which were reported in many countries including Bangladesh. A study found 26 worldwide Health Care professionals COVID-19-related suicide cases (aged 22–60 years; 14 females; most of the cases from India). The cases comprised doctors, nurses, paramedics, and one medical student. Being infected with the COVID-19 was the most common reason for suicide, followed by work-related stress, and fear related to COVID-19 infection/transmission. Among the eight cases diagnosed with COVID-19, most were female and either doctors or nurses.[14]

Influencing factors associated with Mental Disorders:

Age and gender:

Previous studies reported age as a significant risk factor for psychological suffering. They found that medical students less than or equal 22 years were at higher risk of depression, anxiety, and stress, respectively. Whereas, 21 to 24 years old medical students were observed to be prone to these disorders.[15]

The relationship between gender and mental disorders was significant in a total of 4 studies, where all but one study found females to be at higher risk of developing depression, anxiety, and stress.[11]

Low family income and urban residence:

Low family income was significantly associated with increasing the risk of mental health disorders.[15] A significant adverse mental health effect was observed at the student's place of residence. A study depicted residing in urban areas were higher risk of depression and anxiety compared to those in rural areas.[25] Besides this, other studies reported people living in urban areas were more vulnerable to psychological problems.[16]

Factors related to family:

The number of family members was found inversely significant for developing mental health disor-

ders. A previous study reported that students who had a family size less than or equal to 4 were at higher risk of anxiety and depressive symptoms than family size greater than four.[17] Another study found that having more than or equal to five family members compared to less than four family members was more prone to mental disorders.[18] The number of children in the family was identified as a risk factor for mental health problems. The study found that students from these families with children under 5 years were at higher risk of developing depressive symptoms.[19] Living with family or parents was also found to increase the risk of psychological suffering. Participants who reported currently living with their family were at 2.6 and 1.8 times higher risk of depression and anxiety, respectively.[20]

Factors related to lifestyle:

Smoking habit was reported as a significant factor for evaluating mental health problems. Studies found that students who were smokers were more prone to psychological sufferings compared to those who were not.[21] Physical exercise was found as a significant predictor of mental health during this pandemic. Based on two studies, students who reported not engaging in physical exercise were at higher risk of mental disorders.[22] Internet browsing time was found as a predictive factor of developing psychological disorders in a study that showed that students reporting internet browsing for 5 to 6 hours, and more than 6 hours compared to less than 2 hours were at higher risk of developing psychological problems.[23] Having sleep difficulties could also influence the higher risk of mental health problems. A study claimed that students reporting dissatisfaction with their sleep experienced higher psychological sufferings compared to those who had good sleep.[24]

Online teaching:

In the lockdown situation, online teaching, a newly introduced methods of teaching can be unfavorable for a higher number of students as of difficulties related to understanding materials, technical issues, lack of interest in attending classes, limited access to online teaching materials, and so forth. The severity of lack of willingness in online learning led to psychological disturbance was evident in Bangladesh. That is, an undergraduate student refused to partake in online teaching and examinations, which turned into conflicts within their family.[25,26]

COVID-19 Related Risk Factors:

The perceptions about the negative impact of the COVID-19 pandemic were reported as the influential factors of psychological suffering included (i) normal life disrupted by the COVID-19 pandemic, (ii) negatively affecting themselves by the COVID-19 pandemic, (iii) the country's healthcare system would be overrun and people would not be able to get proper medical care, (iv) the trajectory of COVID-19 suspicion, (v) its negative impact on education like lagging academically, worrying about the effects of COVID-19.[25]

Fear of getting infected by the COVID-19 was found as a significant predictor of depression, anxiety, and stress in a couple of studies; whereas relatives or friends who were being infected with the COVID-19 had also increased the level of anxiety. [23,24,26] Recent studies reported that students severely tensed of being contacted with the COVID-19 infected individuals were at 3.5 and 2.75 times higher risk of being anxious and depressed respectively than the students who had no or minimal contract. Similarly, contact with the confirmed COVID-19 cases was reported to be at 4 and 3.17 times higher risk of getting stressed and anxious, respectively.[27]

Mental health sufferings were also increased when students reported experiencing the COVID-19 related symptoms. It is reported that experiencing one and more symptoms and at least one symptom increased the risk of stress by 1.60 and 3.06 times; whereas it was 3.02 and 4.96 times, respectively, for anxiety. Also, another study found having the symptoms of fever, dry cough, fatigue, sore throat, difficulty breathing as the influential factors of mental disorders.[28]

Other Risk Factors:

Losing part-time teaching job as a tutor, lack of concentration on the study, being agitated more easily, fear of getting assaulted or humiliated on the way to the hospital or home, worsening their financial condition, being dissatisfied with academic studies having an inadequate food supply, being more exposed to the COVID-19 news in social media and mass media, being more active in recreational activities like watching TV series, reading storybooks, online and offline gaming, etc, engaging in household chores, etc were reported to be associated with the development of psychological sufferings.[29]

Measures to overcome mental disorders at Covid pandemic:[30]

It is normal to feel sad, stressed, confused, scared, or angry during a pandemic. Talking to people with one trust, contact with friends and family will help. Avoiding smoking, alcohol or other drugs to deal with emotions is mandatory. Need to talk to a health worker or counselor during overwhelmed feelings and have a plan, where to go to and how to seek help for physical and mental health needs if required. Get the facts; gather accurate information that will help to determine the risk so that one can take reasonable precautions. To find a credible source one can trust such as the WHO website or, a local or state public health agency. Limit worry and agitation by lessening the time watching or listening to media coverage that perceives as upsetting. Maintain a healthy lifestyle - including proper diet, sleep, exercise, and social contacts with loved ones at home and by email or phone with other family and friends. Draw on skills used in the past that have helped to manage previous life's adversities and utilize previous experiences and skills to manage emotions during the challenging time of this outbreak.

Conclusion:

During the pandemic outbreak, the level of anxiety and depression of medical students goes up. It is essential to introduce a time-oriented policy to screen and monitor of mental health of medical students and implement care monitoring plans to combat the mental health adversities, which may help in managing the pandemic as well as nurturing the public mental health to combat COVID-19 related psychological challenges.

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