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Assessment of physical and mental well-being among students of Bangladesh during COVID-19 Pandemic

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ABSTRACT

The outburst of COVID-19 influenced the lives of all segment of society as people were requested to self-quarantine in their homes to stop the outspread of the virus. The lockdown had consequential impacts on mental health, triggering psychological problems encompassing frustration, stress, and depression. The outbreak of Covid-19 has significantly affected the lives of all parts of the society. One of the most instant changes launched was the closure of educational institutions to decelerate the spreading of the virus. Students no longer had availability of institution-based physical activities such as physical education, recess, and walking to/from universities/colleges/school. Inadequate physical activities and enormous sedentary behavior amid students exhibits a noteworthy problem because health behavior patterns can result in heightened risk for a number of hazardous health conditions (e.g., overweight/obesity, type II diabetes, and metabolic syndrome) in later. The objective of this study was to explore the pervasiveness of physical and mental health condition among Bangladeshi students during the COVID-19 pandemic. It also focuses on recognizing the stimulus of various states of physical and mental conditions throughout COVID-19 pandemic. The cross sectional data was gathered by means of interviews or self-responses among the university students from various districts of Bangladesh on July to August 2020. The study was performed with structured questionnaire. To reduce threats of Covid-19 infection, in this investigation, participants were interviewed over telephone instead of face to face interaction. In order to explore the effects of this pandemic on the lives of students, we performed a survey in which a total of 576 participants were participated. In this survey, among them 377 (66%) are male and 197 (34%) female. It was discovered that 92% of participants appreciate participating in physical activities & rest of them (8%) don't like to participate in physical activities. In addition, our study also revealed 46% of the students having trouble in sleep and 45% students feels concentration problem. The findings of this study show that greater numbers of the students are not in sound physical or mental conditions. They are bored, helpless, anxious and depressed than previous. This study shows that the mental conditions of female students are more affected by Covid-19 compared to male students. 82% of female students are stressed about their study, future life and so on. 46% female students are feeling helpless, 61% become upset and 60% feel bored during lockdown and close of education institution. COVID-19 is striking threat both on physical and mental health since its outbreak. During this challenging time, it is necessary to continue taking care of physical and mental health.

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INTRODUCTION

COVID-19 pandemic appeared as the most disastrous and strenuous crisis for public health in the present world. Apart from the escalating death rate, nations around the globe have also been going through a peak of the agonizing psychological consequences, i.e., anxiety and depression among people of all ages. Students are no exception, as all the educational institutions are astonishingly closed for more than usual, and

for Bangladesh, it is more than one year in a row. Such closure, in general, generates a sense of doubt about academic and professional career among the educands and raises endless mental health challenges among students (Islam *et al.*, 2020).

Bangladesh has different diseases burdens which are the major cause of death and disability. (Shaha *et al.*, 2020) The global community is anxious about Coronavirus disease 2019 (COVID-19) and its long-term outcomes. It is going to affect

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various spheres of life including the human health, health care, economy, industries, agriculture, global market etc. There were concomitant detrimental impacts of Covid-19 or lockdown in the health sector. Living under coronavirus disease (COVID-19) constraints accentuates the necessity of being physically fit and healthy. It reflects that current initiatives such as self-isolation and quarantine have influenced usual activities, routines, and livelihoods of people that may lead to an escalation in loneliness, anxiety, depression, insomnia, harmful alcohol, and drug use, and self-harm or suicidal behavior (WHO, 2020). Therefore, in addition to precautionary measures, such as periodic hand washing, social distancing, and self-isolation, individuals require to safeguard their overall physical health through physical activities. The documentation showed that people with underlying medical states, such as cardiovascular disease, diabetes, chronic respiratory disease, and cancer, face a higher risk of critical complaints from COVID-19 (WHO 2020; Huang *et al.*, 2020; Wang *et al.*, 2020; Yang *et al.*, 2020; Liang *et al.*, 2020). The community lockdowns and quarantines being applied to contain the transmission of COVID-19 are favoring physical idleness and tremendous reliance on processed and canned food, which may exacerbate the risk of metabolic diseases in the population (Jiménez-Pavón *et al.*, 2020; Narici *et al.*, 2020). A recent study revealed a considerable decline in physical activity & elevation in internet screen time during the COVID-19 pandemic among children (Xiang *et al.*, 2020). Researches have shown that inadequate physical activity and long-term sedentary behavior are associated to poor physical and mental health outcomes (Korczak *et al.*, 2017; Haapala *et al.*, 2017). Contrarily, the positive effects of regular physical activity on many health consequences are well renowned (Pedersen & Saltin, 2006; Powell *et al.*, 2011).

As the COVID-19 pandemic has been transmitting expeditiously within the world, high levels of anxiety, stress and depression have previously been noticed in the general population. Throughout pandemics, as the world experiences a shutdown or slowdown in daily activities and individuals are inspired to practice social distancing so as to minimize interactions between people, thus reducing the chances of new infections (Wilder *et al.*, 2020). These factors can cause distinct levels of psychological pressure, which may develop perception of loneliness and helplessness, or a sequence of dysphoric emotional states, such as stress, irritability, physical and mental fatigue, and despair. These kinds of epidemics guide the public to encounter mental complications such as post-traumatic stress disorder, psychological distress, depression and anxiety (Shultz *et al.*, 2015, Qu *et al.*, 2014).

Wellness activities, involving good nutrition, adequate sleep, meditation, and regular exercise, have a major role in restricting COVID-19 infection as well as in coming back from COVID-19. The immune system shields against viruses and diseases and generate antibodies to kill pathogens. Antibiotics exerts the effect on immune systems and the underlying mechanism of immunomodulation are unknown (Shaha *et al.*, 2016a,b, Islam *et al.*, 2016). Herbal medicine, which has an immunomodulatory effect, has a crucial role in allergic rhinitis, lung infection, (Shaha *et al.*, 2018, Islam *et al.*, 2018) could have

promising as an inhibitory measure and even therapeutic agent for patients with COVID-19 infection. COVID-19 outlasters need healthy nutrition, good care, and engagement in wellness activities to fully heal and acquire their lives continuing as expected.

METHODS AND MATERIALS

Study Design

The study was semi structured, cross-sectional and descriptive in nature. This study was pre-planned to bring about the actual scenario of physical activity and mental status amid university students during COVID-19 situation. The contributors of this investigation were the students of different public and private universities of Bangladesh from different regions.

Sample Design

For the survey part of the study, age stratified sampling technique was used for selecting the study sample. Both male & female sample with an age range of 18-27 years were interviewed. Samples were from Home in COVID situation. The number of sample different university selected randomly for an average scenario. A total of 576 samples were interviewed by Google based online form individually & via phone calls for desired response from the respondents.

Data Collection and Study Procedures

The questionnaire survey was directed from 16 July to 26 July, 2020 during the COVID-19 pandemic. As a community-based national sampling survey during this time was not feasible, data was gathered online along with phone calls to serve the aim of the research. Google Form based online questionnaire was prepared to conduct the survey. A total of 23 items was investigated in the drafted questionnaires to get people's perception of the COVID-19 outbreak in Bangladesh.

The drafted questionnaire with an introductory paragraph outlining the purpose of the study was shared through Facebook & Email with selective and relevant people considering the purposive sampling method. The initial survey was written in English and then translated into Bangla by a researcher fluent in both languages. The survey was piloted with a small online user group to test its clarity. We communicated with the respondents via phone calls in accordance with prepared Google questionnaire and data from 576 respondents were collected. The answers to the survey questionnaires are on a voluntary basis.

Ethical Consideration

All the data collected was used only for research purpose and respondents were assured that, any unauthorized use of the data that can affect the confidentiality will be strongly prohibited. All the participants participated willingly.

Statistical Analysis

To analyze the data, a set of statistical tools have been applied. Descriptive statistics consisting of frequencies and percentages of categorical data have been used to obtain the characteristics of the participants using Microsoft Excel 2010 software.

RESULTS

The participants were aged from 18 to 27 above years & most of them were undergraduate students from various renowned universities across the country. Among the respondents 28% belong to the age range 18~20, 37% belong to the age range 21~23, 32% belong to the age range 24~26 & 2% of the respondents belong to the age range 27 & above as shown in the Figure 1. Most of the participants that were involved in this study were male. Table 1 represents that among the participants 66% were male & 34% were female.

It is important during isolation/lockdown that we find ways to maintain our activity levels as many of us aren't getting in as much movement as we typically would. While it may seem easier to curl up on the couch when we're confined at home, we should try to think of this time as an opportunity to set our physical activity goals and think of ways to build long term sustainable habits into our daily schedule. Now is the perfect time to find ways to integrate physical activity into our lifestyle. In this study among the participants only 92% (Table 2) of them enjoys participating in physical activities & rest of them (8%) don't like to participate in physical activities.

This study shows 73% respondents perform household activities. (Table 3) represents that respondents who performs household activities, among them 30% respondents helps their parents in various way, 20% of them does cooking, 27% does cleaning & washing room, 8% of does agricultural work & remaining 15% respondents does things like going to market.

Participants spending several months in lockdown and it's no surprise that the motivation to do exercise on a regular term and maintaining fitness has been a bit of struggle. Besides the closure of parks, gyms, fitness classes and restriction to outdoor group sporting activities is also not helping.

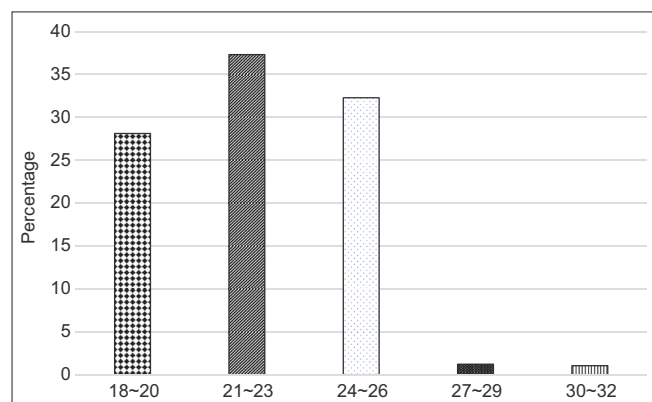


Figure 1: Respondents of age varieties

As the Table 1.3 shows that 72% of respondents do walking, 7% of respondents do running, 4% of them do yoga and rest of the respondents (17%) does other forms of exercises including gym.

COVID-19 pandemic came out as the most devastating and challenging crisis for public health in the contemporary world. Apart from the soaring mortality rate, nations across the globe have also been suffering from a spike of the excruciating

Table 1: Characteristics of participants

Variables	Value
Total No. of participants	576
Male students	377 (66%)
Female students	197 (34%)
Level of study	Universities student
Faculty of students	375 (65%) Science faculty
Average age	21.75 ± 2.36

Table 2: Frequency table for different selected variables

Variables	Frequency	Percentage
Sleep disturbance		
Yes	264	44
No	323	56
Satisfaction with academic study under present circumstances		
Yes	512	89
No	63	11
Physical activities		
Yes	530	92
No	46	8
Smoking/Alcohol/Drug		
Yes	80	14
No	496	86
Anxiety		
Yes	248	43
No	328	57
Concentration disturbance		
Yes	261	45
No	315	55
Depression		
Yes	253	44
No	323	56
Stressed		
Yes	442	77
No	134	23
Worried about future/session Jam		
Yes	506	88
No	70	12

Table 3: Respondents participates on different Physical activities

	n	Percentage
Household activities		
Cooking	84	20
Helping Parents	124	30
Cleaning	116	27
Agriculture	32	8
Going Market	64	15
Physical Activities		
Walking	412	72
Running	38	7
Yoga	25	4
Others	57	10
Gym	44	7

psychological outcomes, i.e. anxiety and depression among people of all ages. It is entirely reasonable to feel upset considering the lockdown situation that is exactly what was found among the participants. Almost half of the total number of participants responded positively while asked whether they are feeling upset quite often during the COVID-19 situation, i.e. lockdown. People with past mental disorders are particularly vulnerable to these effects. Because of the pandemic, all these problems would have much greater impacts on children and teenagers. (Table 2) shows that 44% of Participants feel depression, 46% of Participants feel insomnia, 43% participants feel anxiety and 45% students feel concentration disturbance. Lockdown can be a very stressful period for many of us. Our life changed a lot during the last few weeks, and this lockdown situation can increase stress and anxiety. You might feel fear of getting sick or face uncertainty on how COVID-19 will affect you socially and economically

In such a critical situation, it is normal to feel sad, worried, scared or angry – or even all these emotions at once. Table 2 represents that 78% of the respondents feeling stressed. Among them 34% of them feeling extremely stressed & the remaining 57% of the respondents feel moderate stress while remaining are not feeling any stress during the lockdown due to COVID-19.

Table 1.2 shows that 88% of the respondents feeling anxious of the current situation, while thinking about session jam/unemployment & other relevant things. Similarly, living alone, having a lower educational background, and being technically unemployed increased the odds of smoking more cigarettes during the lockdown as well. As the Table 2 represents that 14% of the participants have taken things like drug, alcohol, nicotine etc. to overcome or feel better.

This study reveals that the mental condition of female students are more affected by Covid-19 compared to male students. 82% of female students are stressed about their study, future life and so on. 46% female students are feeling helpless, 61% become upset and 60% feel bored during lockdown and close of education institution. (Table 4)

DISCUSSION

In this investigation, we evaluated the factors that affect physical & mental health conditions among the youth round about two months after the appearance of COVID-19. This investigation gives the nationwide data on physical wellness, stress levels, anxiety symptoms, and distressing symptom etc. among students presently studying in public, private & national universities during the COVID-19 pandemic.

Our investigation reveals that COVID-19 pandemic is related to elevated physical & mental health issues. In our analysis we discovered most of the respondents' were materially quite well & 6% of them were replied negatively. Amid those participants they are mainly facing depression & other mental health problems & some of them are also experiencing sleep disturbances which influenced their standard of life during the COVID-19

pandemic. Our study reflects that this COVID-19 pandemic has significantly impacted the people on performing physical activities; 95% of participants engaged in physical activities in different ways. In France almost after 2 months of quarantine identical investigation indicates that the COVID-19 pandemic influenced the number of people participating in group physical activity programs mainly due to the fear of meeting likely infected people (WHO, 2020) In this investigation (Table-1.3) it was shown that most of the participants (72%) evaluated limited walking as their principal form of exercise & some of others engaged in running, yoga & other forms of exercises. Since innumerable people are working from home schedules due to quarantine, engaged to lesser movement or exercise & there has been a conventional rise in the texting activity, video conferencing, hours of internet activity such as online courses, webinars and all other prime duties are at present done by depending on internet and technology. This reduced bodily activity & the heightened use of handheld devices such as mobile phones, tablets, game controls, personal digital assistants and portable media players has led to a rise in the musculoskeletal problems during the quarantine period (Lu et al., 2020)

In our study (Table 2) we discovered among the respondents only 14% of them are like to be involved in smoking/drugs/alcohol. Though the number is not large enough but keeping in mind our study population and age ranges (18-27) it is quite a frightening number (Figure 1). During long periods of isolation light inconsistent smokers can be transformed into heavy or regular consumers, which is surely an issue to think about. Earlier study shows that Over 45% of smokers encountered a rise in smoking repetition during the quarantine (Xiang et al., 2014).

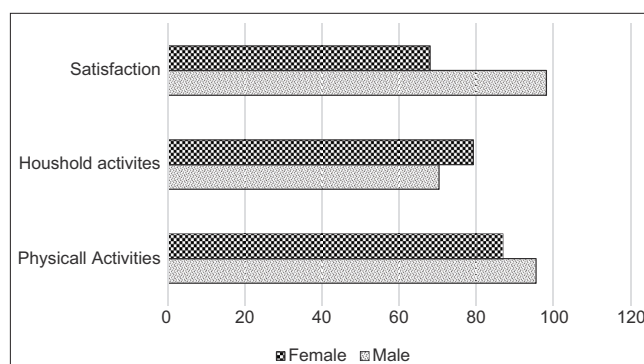


Figure 2: Comparison of physical activities among male and female students

Table 4: Comparison of stress, anxiety, boredom, and depressive symptoms among male and female students based on perceptions of COVID-19

Mental Condition	Male student (percentage)	Female student (percentage)
Depression	47	38
Boredom	45	60
Anxiety	34	61
Insomnia	43	52
Concentration disturbance	44	49
Stressed	76	82
Helpless feeling	28	46

Table 1.2 demonstrated 89% of the participants were worried about their academic education. Among them 174 participants (34%) were intensely stressed, 58% reasonably stressed and 8% had a little stressed on their academic career. Unpredictability about future, Fear of losing livelihood, restricted leisure opportunities, forbidden social community events, significantly restricted social relationships to the closest family members & peer communication etc. can be accountable to generate this kind of perception too often. Related concerns are lifted elsewhere as well (National Health commission, 2020) i.e. that the anticipated mental/physical health outcomes of coronavirus pandemic can be more or less figured and will probably include: intense fear and anxiety; lowered sense of health; uninterested societal behaviors guided by fear and distorted feeling of risk which will lead to feeling of dissatisfaction too often.

This investigation shows that the mental states of female students are more disturbed by Covid-19 in contrast to male students (Table 1.4). 82% of female students are stressed about their study, future life and so on. 46% female students are feeling helpless, 61% become upset and 60% feel bored during lockdown and shut down of education institution.

It is observed to be a dark and distressing feeling, a threat for many mental problems like depression, anxiety, adjustment disorder, chronic stress, insomnia or even late-life dementia. Social isolation resulting in chronic loneliness and boredom, which if long enough can have deleterious effects on physical and mental well-being. In addition, loneliness has also proved to be a distinct risk factor for sensory loss, connective tissue and autoimmune disorders, cardio-vascular disorders and obesity. Earlier study indicates due to prolong self-isolation and lockdown it is probable that chronic loneliness will reduce physical activity resulting in elevated risk of frailty and fractures (Bao *et al.*, 2020). Anciently quarantine has been associated with anxiety, depression, panic, irritability, somatic disorder, and insomnia. Moreover, an increased level of stress and trauma-related diseases are byproducts of being isolated. Aspects like a prolonged period of isolation, fear of infection, uncertainty, disappointment, fatigue, stigma, inadequate data and information concerning the disease, inadequate supplies, and economic devastation also negatively impact person's psychological wellbeing.

Psychosocial stressors like anxiety, stress, altered lifestyle with little to no social support, and fear may influence the framework of sleep amid individual often resulting in sleep disorders (Huang *et al.*, 2020, Kang *et al.*, 2020). Sleep is an essential physiological activity in keep pace with physical and mental wellbeing and better life quality. Contemporary researches have manifested that sleep disorders impact up to 1 in 4 adults (Xiang *et al.*, 2020). They are also observed to be related to a wide range of adverse health outcomes, for example, elevated risk of obesity, diabetes, hypertension, cerebrovascular diseases, malignancy, musculoskeletal diseases, septicemia, and metabolic syndrome. A substantial amount of proof indicates a high pervasiveness of various forms of sleep disorders in the global community. This situation is likely to worsen in the current circumstances with numerous psychological stressors. In our

investigation (Table 1.2) we discovered 46% of the participants having sleep disturbances like having trouble falling or staying asleep or sleeping too much. Among them female students have high sleep disturbance compared to male students.

COVID-19 pandemic has affected women differently than it has affected men: women reported more sleep troubles, more symptoms of anxiety and depression, and greater empathy for others. (Thibaut *et al.*, 2020). This study also showed that the mental conditions of female students are more affected by Covid-19 compared to male students. The comparison showed 61% become upset whereas male students percentage is about 34% and 60% feel boredom symptoms whereas male students are 45% during lockdown and close of education institution. (Table 1.4) It is reported that Women are two to three times more predicted to be diagnosed with anxiety disorder.

CONCLUSION

This investigation indicates the actual structure of Bangladeshi students who have been suffering from depression and anxiety symptoms and other physical problems during the current pandemic situation. In addition to academic and professional uncertainty, financial insecurity is promoting to the growth of depression and anxiety among students. To reduce the growing mental health problems, the government, along with the institutions, should work jointly to provide rapidly and precisely economy-oriented physical and psychological support to the students.

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