



Impact of COVID-19 on the Institutional Education System and its Associated Students in Bangladesh

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Authors' contributions

This work was carried out in collaboration among all authors. Author EKHE designed the study, wrote the protocol, and wrote the first draft of the manuscript. Author ARA managed the analyses of the study. Author MSI performed the statistical analysis and managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Aim: The effect of the current COVID-19 pandemic on the education system of Bangladesh and its possible solution is the focus of the present study.

Design: The study employed a descriptive survey research design.

Place and Duration of Study: The study was conducted through all the districts of Bangladesh from 8 March (2020) to 30 July (2020) accordingly.

Methodology: Descriptive survey with the interactive interview via online in the pandemic area and offline field works for collecting data in possible places were the main structural design of this research.

Results: The COVID-19 has affected worldwide education sectors by shutting down many institutes and temporarily pushing the majority of students out of school. Most countries have temporarily closed their educational institutions to control the COVID-19 pandemic. In Bangladesh,

near 40 million students are now out of school, until the epidemic returns to normal. Besides this universal disruption, out-school learning deprivation varies depending on the socio-economic status of the mass population, their access to technology, parental capabilities, and so on. Most countries are using online or satellite television platforms to deliver education during the pandemic, which is not enough to meet the contrasting levels. Although, developed countries (first and second world) are making good strides with online teaching while struggles are seen in rest (third-world countries). This article highlights how COVID-19 is affecting the education sector and students in Bangladesh. Undoubtedly, the most immediate impact of the Covid-19 on students of Bangladesh is abruptness in learning opportunities with multiple other aspects. Despite earnest government attempts, COVID-19 is adversely affecting students in Bangladesh for several significant reasons.

Conclusion: Collective responses and analysis revealed that not technologies but also technicalities are needed to run the education system smoothly besides this pandemic situation accordingly.

Keywords: COVID-19; Bangladesh; Coronavirus; impact; education; poverty.

1. INTRODUCTION

A zoonotic disease caused by a Coronavirus that has not been diagnosed before in humans was first identified in the human body in late December 2019 in Wuhan, a city in China's Hubei province [1]. At the end of January, it was declared a public health emergency of global concern and was characterized as a pandemic on March 11, by the World Health Organization [2]. Across the world, COVID-19 affects 213 nations and regions, and a couple of international conveyances [3]. The first 3 cases have identified in Bangladesh on March 8 (2020) by the Institute of Epidemiology, Disease Control and Research [4]. Two of the three affected recently returned home from Italy. Since the number of affected people increased periodically, the government announced lockdown throughout the country from March 26 to April 4 [5]. At the end of April, the rate of new infections began to rise very rapidly.

The highest single-day rises were found on April 26, when 549 new cases got in the last 24 hours [6]. So far, Bangladesh has extended the lockdown seven times. On March 16, they decided to keep all the educational institutions closed from March 17 to 31 [7]. Later, the government extended the time of the closure until April 9 to prevent the spread of deadly Coronavirus. On April 27, the Prime minister of Bangladesh said all educational institutions might remain closed until September if the epidemic situation does not improve [8]. At the date of May 7 (2020), There is no district of Bangladesh left as a corona free zone (Fig. 1A). This pandemic has led to unprecedented levels of disruption to education, impacting over 90% of the world's student population [9]. Different countries are

taking various strategies and steps to mitigate the adverse effects of COVID-19 in education.

There have been a couple of remarkable innovations in the responses of educationists to the current crisis. However, relying only on online education approaches will imply reaching only students from well-off families, as many educationists are concerned. Approximately 1.5 billion students worldwide are affected so far due to educational Institution closures [10]. Learning Lab Bangladesh COVID-19 Multi-sector Impact Report says, almost 60 percent of the students have not even heard from Institutions about how the educational activities will continue. According to 38 percent of parents, there is no continuity in teaching [11]. Household Income Expenditure Survey says that 8.4 million student's families live below the poverty level [12]. Their income has dropped by 25% in the last three months. Besides, 24.50% of students from low-income families need proper support [12]. During the three months of the COVID-19 pandemic, the ratio increased by 45% [12]. This phenomenon leads to a higher dropout rate. According to Bangladesh Bureau of Educational Information and Statistics (BANBEIS), the post-secondary Dropout Rate is 19.60% [12]. COVID-19 has a driven, devastating impact on low-income countries like Bangladesh. Most citizens live below the poverty line, so it is often impossible for them to get online education through expensive devices. Even the monthly salary of a teacher in Bangladesh is not enough. Indeed, most teachers do not have high-cost Internet devices because their monthly income rate is low. If the situation continues in the long run, it will be a significant loss for numerous students in Bangladesh.

1.1 Focus and Objectives of Present Study

The objectives of the present study are focusing on new challenges by COVID-19 pandemic and their possible remedies by using current technology, after maintaining the possible social distances and Corona related health cautions. Recommendation for making better policy to reconstruct the education system will be briefly described accordingly. Related statistical analyses will also help to understand the significant impact of probable variables among each other.

2. METHODOLOGY

2.1 Study Area

The Study areas were randomly distributed across the whole country. It was automatically generated according to the responses from the people of all districts (Fig. 1) by online survey and offline fieldwork. For having a better view of the challenges about COVID-19, sampling the responses of the related population from each district were done.

2.2 Sampling Methods

Online questionnaire surveys were deployed to gather the responses during the pandemic (Questionnaire link: <https://bit.ly/3hnmh2VJ>). Total

response from 2460 people was tabulated and analyzed from a different perspective during this study. The data were categorized into different perspectives, i.e., response time, email address, name, age, educational information, source of family income, number of earning members of the family, earning range per month, and information about educational institutions.

2.3 Data Analysis

Data of COVID-19 infected people in Bangladesh as well as in a world where collected from International database [3]. Necessary details of COVID-19 situations were demonstrated according to its significance (Fig. 1A). The present study used the data of infected people in 7 may 2020 because each district of Bangladesh was becoming affected at this time.

All surveyed data were divided into different categories and tabulated for further analysis. This study tried to understand the data structures basis on the economic group of sampled people. Pearson correlation analysis was done to identify the impact of different variables on the livelihood of sampled people. Furthermore, this study discussed various impacts of the current situation of pandemic (COVID-19) on the study curriculum and mental responses of institutional students across the country. Arc GIS was used to demonstrated COVID-19 spreading in Bangladesh.

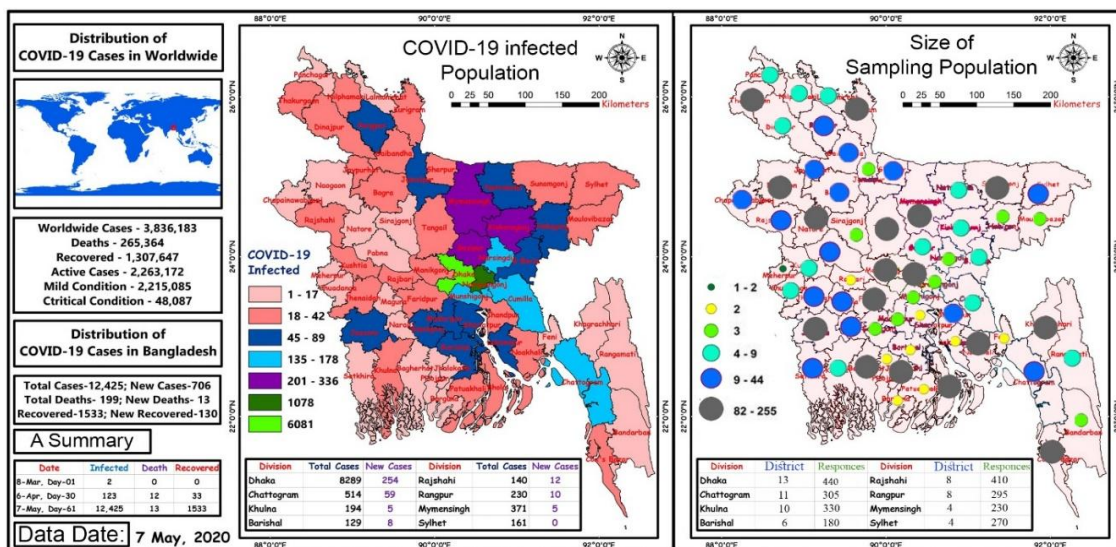


Fig. 1. Reported statistics of infected people from the starting date (March 7, 2020) to the time (May 7, 2020) when each district of Bangladesh was under the threat of COVID-19 (A). Responses of population and their sizes were also marked across the country according to their location (B)

3. RESULTS

3.1 Categories of the Sampled Population

The sampled population was categorized into five sections. Most of them were in the (10-15 & 21- 25) age group (32.5%). Age groups 26-35 were found less (6%) than other sections (Fig. 2A). The majority was (almost 82%) found of those families who have a single earning member (Fig. 2B). 59% of families were surveyed who has income range of less than USD 125. The minimum income range was found (almost 11%) (Fig. 2C). Most of the sampled population were students from School level (44.6%). Madrasha level students were found less than other sections (Fig. 2D). Government job holders were the dominant group in the section of the employment survey. Since they have less economic concern than low-income people in this situation, they responded more. Authors also collected the responses from lower categories of employees (Fig. 2E). They have a hectic working schedule beside this pandemic as well.

3.2 Average Responses of the Sampled Population

More than 75% of people were affected by the decrement of family earnings during lockdown (Fig. 3A). The Majority (65%) of them belongs to public educational Institutions (Fig. 3B). Almost 70% feel pressure in this pandemic, and they are reluctant to clear their semester fees or want to

get a full free scholarship in this situation (Fig. 3C). More than 50% want online classes, and they think it is useful (Fig. 3D). Majority of them (90%) think the price of internet data is high (Fig. 3E). However, 50% of them are addicted to Facebook, YouTube, Netflix, games, etc. (Fig. 3F).

More than 65% are worried about the job of their family's earning member (Fig. 3G), and 70% think their study in lockdown is not fruitful (Fig. 3H). As a result, about 90% feel anxious about their future and concerned about timely graduation (Fig. 3I) and seek financial help (75%) as well (Fig. 3J). Besides, 90% of them don't have any large-screen devices which can help them more on online education (Fig. 3K).

3.3 Responses of Various Economic Categories

Sampled population were categorized in 4 income divisions i.e. low-income (<125 \$), lower-medium income (125 \$ - 235 \$), medium-income (250 \$ - 375 \$) and high-income (>375 \$). People of low income are mostly affected by earning downfall during lockdown for COVID-19 (Fig. 4; Yes-A). The survey said students of the medium and high-income class family are from the private Institution (Fig. 4; Yes-B). Besides, people of low income feel pressure in this pandemic, and they do not want to clear their semester fees or want full free scholarships in this situation (Fig. 4; Yes-C). Additionally, people

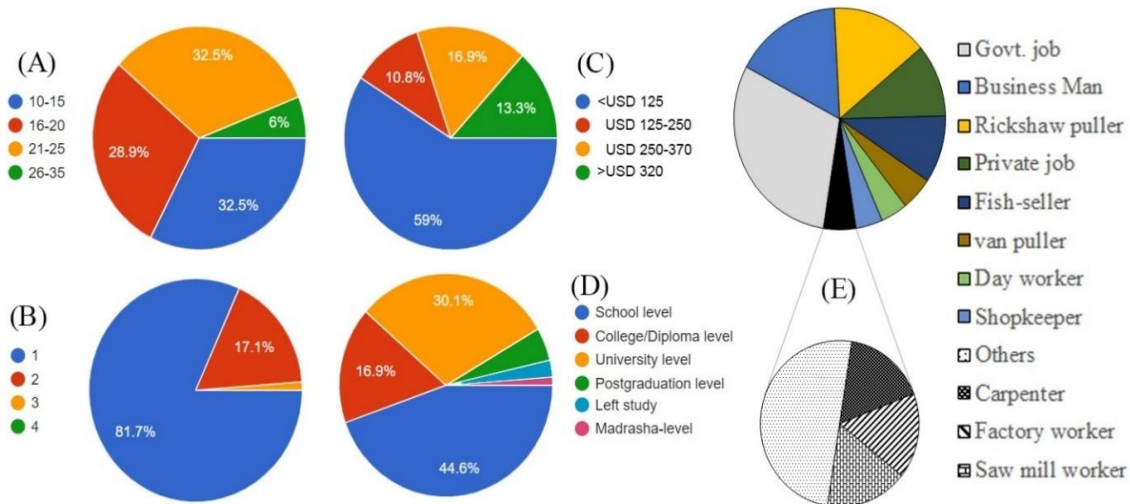


Fig. 2. Social status and occupational categories of sampling people, i.e. age range (A), number of earning members (B), income range (C), education levels (D) and family employment involvement in different categories (E)

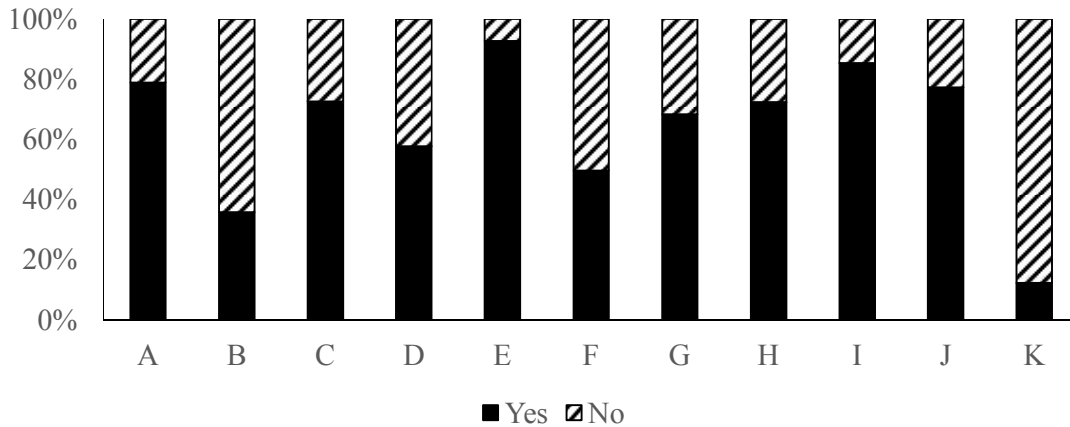


Fig. 3. Average responses of the total sample to the questions, i.e., A= Family earning decrease due to the lockdown (loss of business or reduce salary); B= Are you a private Institution student?; C= Do you feel pressure in this pandemic, and are you reluctant to clear your semester fees or want to get a full free scholarship in this situation?; D= Do you want online classes and think it is useful?; E= Do you think the price of internet data is high?; F= Are you addicted to Facebook, YouTube, Netflix, games, etc.?; G= Are you worried about your job?; H= Do you think your study in lockdown is not fruitful?; I= Do you feel anxious about your future and concerned about your timely graduation?; J= Do you need any financial help?; K= Do you have any large-screen devices (laptops, desktop)?

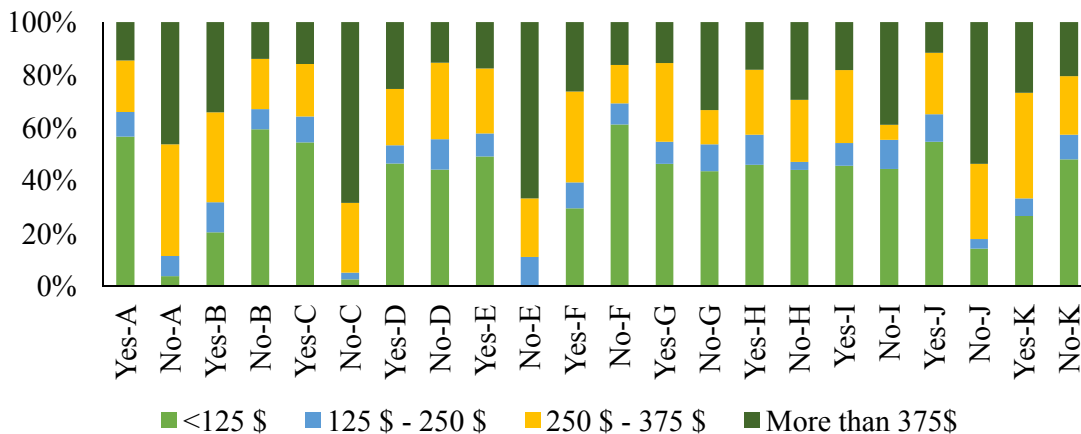


Fig. 4. Responses of people from different economic categories to the questions, i.e., A= Family earning decrease due to the lockdown(loss of business or reduce salary); B= Are you a private Institution student?; C= Do you feel any pressure in this pandemic, and are you reluctant to clear your semester fees or want to get a full free scholarship in this situation?; D= Do you want online classes and think it is useful?; E= Do you think the price of internet data is high?; F= Are you addicted to Facebook, YouTube, Netflix, games, etc.?; G= Are you worried about your job?; H= Do you think your study in lockdown is not fruitful?; I= Do you feel anxious about your future and concerned about your timely graduation?; J= Do you need any financial help?; K= Do you have any large-screen devices (laptops, desktop)?

of low income want online classes, and they think it is useful (Fig. 4; Yes-D) and the price of internet data is high (Fig. 4; Yes-E). Surprisingly,

people of lower-medium income are addicted to Facebook, YouTube, Netflix, games and more (Fig. 4; Yes-F) than others. Moreover, people of

low income are worried about their job (Fig. 4; Yes-G), and they think their study in lockdown is not fruitful (Fig. 4; Yes-H). They were also anxious about the future and concerned about their timely graduation (Fig. 4; Yes-I). Therefore, they need more financial help than others (Fig. 4; Yes-J) which may utilize in buying large-screen devices for online classes (Fig. 4; No-K).

3.4 Correlations among Different Variables

The drastic effects of different variables were observed in different livelihood categories. Correlation analysis found that the decrement of earning affected other variables significantly, i.e. raised (0.99) study pressure, minimize the time of presence in social media (0.99), emerged Job (0.93) and study fulfillment tension (0.98) as well (Table 1). It also increased the tendency of financial help-seeking (0.99) and inability to buy large devices (0.98). On the other hand, the earnings increment and stability provoked student's flexibility in the study (0.87) and financial vitality (0.87).

The analysis showed students of private Institutions spend more time on social media (0.80), and they do not need any financial help during this epidemic (0.88). They also have large screen devices (0.86) for online classes and other opportunities. On the other hand, study pressure is high among the students of public Institutions (0.99), and they spent less time on social media (0.99). Their tension about jobs is significantly elevated (0.93) due to the deficiency in the study (0.84) and wordiness about timely graduation (0.95). They are also seeking to need financial help (0.99) for their study. Besides, most of them do not have any large-screen device (0.98).

The high cost of internet raised study pressure (0.98), absence on social media (0.96), job tension (0.98), study fulfillment tensions (0.99). It also liable behind study lack (0.89) which may tent people to seek financial help (0.98) as well. However, low-cost internet may cause study flexibility (0.98) and economic vitality (0.92) as well (Table 1).

4. DISCUSSION

4.1 Impact on Primary Education

Primary school students are 6 to 11 years old; all are in middle-childhood. The number of students

is over 18 million [13]. Most of the students feel emotional distress during this time due to social distancing. Poverty among lower-class people is increasing. Students' Parents are becoming jobless; most of their monthly payments are decreasing (Fig. 4). Since during the COVID-19 epidemic, many private companies are giving less than 50% payment [14]. As a result, the ability to buy nutritious food for their children is declining, and children are affecting various malnutrition diseases.

To maintain social distancing, they cannot mess with their friends and even cannot play, which is making them emotionally distressed. Middle-childhood children typically become less attached to their parents (Fig. 3). According to children's voices in the time of COVID-19, 91% of the children and young people reported feeling emotional distress and facing troubling experiences [15]. In the case of children, mental illness remains secret because they cannot share their mental condition with others. Two cases were recently reported in Barisal, Bangladesh, where the monthly income of low-income families has decreased significantly during this situation [16]. With the less amount of money where it is not easy to provide a month's worth of food, it is almost impossible to educate their child and meet their child's needs. Parents do not have access to healthy food during this time, and they are under economic and social stress. Consequently, parents are more likely to beat their children in the current situation. According to the Bangladesh Government's statement, the number of street children in this country is more than 34 lakhs [17]. Most of them deprived of various facilities (Fig. 2). However, there are several NGOs that provide free food and other facilities to educate them. Due to the COVID-19 outbreak, their educational activities have postponed. Therefore, at a very young age, they may get involved in various criminal activities. Regrettably, COVID-19 forces many Bangladeshi children into begging [18]. Coronavirus's worst impact on child students is that they are pushing to work as a child worker. However, the government started educating through SANGSAD TV on April 7 [19]. Nevertheless, multiple sources say many families do not yet have TV sets. Since school is closed and first-term exams of the students deferred for this epidemic, many primary students are thinking that they are not growing up or they have lost many things because they do not have schools, classes, and exams.

Table 1. Pearson correlations among different variables

	Earnings decrease		Private institution	Public institution	ID high PRICE	ID low price
Study Pressure	0.99	-0.48	-0.09	0.99	0.98	-0.51
Flexible Study	-0.41	0.87	0.78	-0.4	-0.31	0.98
OC useful	0.93	-0.19	0.21	0.93	0.95	-0.18
OC less-useful	0.94	-0.31	0.09	0.94	0.98	-0.54
Time on SM	0.46	0.5	0.8	0.47	0.62	0.13
No Time in SM	0.99	-0.52	-0.13	0.99	0.96	-0.47
Job tension	0.93	-0.25	0.15	0.93	0.98	-0.48
Job flexibility	0.77	-0.16	0.15	0.77	0.75	0.09
Study fulfillment	0.98	-0.36	0.05	0.98	0.99	-0.47
Study Lack	0.83	0.04	0.42	0.84	0.89	0.01
Graduation tension	0.95	-0.24	0.17	0.95	0.99	-0.42
Graduation flexibility	0.63	-0.16	0.08	0.64	0.59	0.2
Need Help	0.99	-0.5	-0.11	0.99	0.98	-0.61
No Help	-0.23	0.87	0.88	-0.22	-0.11	0.92
LS Devices	0.27	0.63	0.86	0.28	0.45	0.2
No LS Devices	0.98	-0.33	0.08	0.98	0.99	-0.38

- OC=online courses, SM=Social Media, LS= Large screen, ID=Internet Data

4.2 Impact on Secondary School Students

According to the department of secondary school education, Bangladesh has more than 23 thousand high Schools [20]. During the survey, we discussed with numerous high school students in our neighborhood ages of twelve to sixteen. 5% have no TV set in their house. 50% of students are going through horrible family regression. 25% are worried about getting admission to higher secondary college. Even though the government has started broadcasting lessons on television, it impossible to do so for many students as there is no TV in many houses. Recently Secondary School Certificate (SSC) passed students are going through anxiety because of postponed college admission. Since students are unable to start their College sessions, they are quite worried about their academic year being shortened. Many students are forcing to join multiple risky jobs like building construction, garment-sector, driving bus, auto-rickshaw, and many more. Parents are forcing girls to marry at an early age [21].

Moreover, the early marriage rate in Bangladesh is on a high [22]. During COVID-19, it is hard for the female students to maintain their hygiene. Hence, many of them are unable to use sanitary napkin due to the lack of money. Numerous female students are forcing to work as sex workers by the unfortunate economic circumstances and maintaining family needs.

4.3 Impact on Higher Secondary Students

There are 9081 intermediate colleges in Bangladesh, and total students are over 13 lakhs [23]. Although The Higher Secondary Certificate (HSC) examination was supposed to be held, it is postponed due to the COVID-19 outbreak. After completing the higher secondary level, students are admitted to different universities, and some go abroad for higher study. However, this being hampered by COVID-19. Now students are worried about their future. Students who can afford smart Gadgets and internet connection are getting addicted to Facebook, YouTube, and online games. We talked with many college students' parents during the survey. Surprisingly found, 60% are incorporated in the mobile phone substantially. They cannot focus on their study well. Many of them do not even read a single word. Most students spend time with TV and social media or sitting idle at-home quarantine; therefore, it is very alarming. Many students are not prepared to sit on the HSC examination because they have already dropped out of the study. Although the private higher secondary Institutions are engaging in online teaching, there are no online classes that have started in government schools yet. The analysis said that the significant number of sampled populations found online classes both useful and unnecessary as well (Table 1). It creates confusion in decision making among students. Current study suspected that this misbalance of necessity might happen in the governing committee in various educational

Institutions too. For example, Motijheel Ideal School and College, Cambrian School and College, Viqarunnisa Noon School and College, Willes Little Flower School, and College, and some more Institutions are taking online classes [24]. Notably, only students from upper-class families get the opportunity to study in private schools (Fig. 4). Moreover, Bangladesh has the highest number of lower and middle-class families, and most of their children attend government schools.

College students are young and energetic. Right guidance and proper education can cultivate these young people's creativity and talent, which will surely benefit our country. Unexpectedly, the effect of COVID-19 is disrupting everything at this moment.

4.4 Impact on University Students

4.4.1 Irregular attendances in online classes

According to the University Grants Commission of Bangladesh (UGC) & Bangladesh Medical and Dental Council (BMDC), there are 155 public and private Universities in Bangladesh and 117 medical and dental colleges under these universities [25, 26]. More than ten lakhs students are studying at these Institutions. During the situation of the pandemic, all the Universities and Medical and Dental colleges are remaining closed since April 2020. Majority of the students have gone to their native villages and towns. Some institutions are taking online classes, but most of them left their electronic devices like laptops desktops in the university or college hostels. Biotechnology Enhancement and Development (BioTED) has recently published an article in an English newspaper. They surveyed on 2038 students from different 42 public and private universities from May 9 to May 11. BioTED has found Only 23% of the total students are doing the online class [27]. There are many reasons that they are not attending online courses. Villages don't provide broadband internet connection. An average duration class can take up to 300 megabytes of data, and if a student attends at least three classes per day, he will need to spend 1GB of data [27]. But for the higher price of internet data, it is hard to buy for many students. Engineering and medical students are having huge problems. They are unable to do their lab and practical classes, which will subsequently adversely affect their career.

4.4.2 Remote area networking problems

The internet speed in the Villages is slowest. The entire attendant of the online class is 58.8 percent from private university 41.2 percent from public university [27]. That means many of the public university students cannot afford to buy broadband internet. From the total candidate of online class from science 55%, humanities 12.1%, social science 11.2%, from business studies and other disciplines are 4.7% attending the online course [27]. According to daily star, Bangladesh has the slowest data connection speed among 42 countries [28]. Where Canada enjoys 63 Mbps, we have only 7.8 Mbps. Even it was 9.2 Mbps beginning of February but at the finishing of March 7.2 Mbps. Most university students earn money by doing part-time tuition or jobs. Many students lost their jobs with the closure of shops and restaurants. Numerous students' parents became jobless or their business off due to the Coronavirus. Some private universities even pressure students to clear their semester fees. Students worried about how they will cope with the financial loss of COVID-19.

4.4.3 Accommodation and rent mismanagement

Since the universities are city-centric, the students from the small-town residents in several hostels near the university. Due to the COVID-19 outbreak, they have moved back to their home, but all their belongings remained in the hostel. They also have not paid their monthly rent due to being at home for several months, which has resulted in hostel owners throwing away all the belongings of the students. According to a recent report in a newspaper, the hostel owner had thrown student's laptops, clothes, certificates, and other items in the dustbin as they could not pay the rent for several months [29]. Many universities have not started online classes yet, and students at those universities are very concerned about the possibility of session jam. Various universities are taking an online examination, which is not fruitful; students taking advantage of multiple misfortunes.

4.4.4 Mental health instabilities

Mental health and its significance during any pandemic of lockdown are quite important to maintain a sound environmental serenity [30]. Some Bangladeshi students were found to waste their times on Facebook, TV, web-series don't concentrate on their studies. Most of the time,

students are engrossed in unnecessary gossips in many groups on Facebook and WhatsApp, which is threatening their future. Although the fresh graduates were supposed to enter the workplace, it is no longer possible due to the COVID-19 outbreak. And their poverty also increases significantly, which is even affecting the economy of the country. One student from Daffodil International University suicided a few days ago due to this type of anxiety, depression, frustration, and family pressure, which is quite heartbreaking [31].

4.5 Impact on Bangladeshi Students Studying Abroad and the Students Willing to Study Overseas

Most of the international students want to do their classes on their campus. Since the quality of online education is not sufficient, they are reluctant to take online courses. Many students pay their tuition fees or garnering pocket money by working in a different restaurant, super shop, university-centric job, or driving the taxi cab [32]. However, in this situation, they have become jobless. Moreover, they have fallen in great trouble because most are unable to pay their semester fees. This circumstance forces them to back their home country without completing their degree [33]. Many parents of students are unable to send money due to the salary cuts or the reduction of their salaries. Consequently, numerous students are going through disorientation. Since the practical classes for Engineering students are no longer to conduct, students worry that they will not be getting the experience they need to land their expected job.

On the other hand, the students who intend to study abroad have to cancel their plans. International routes have been closed since the beginning of the outbreak. Although there has been limited flight these days, countries have not made any decisions about international students yet. As a result, many of the students who had planned to pursue higher education abroad are frustrated by not being able to pursue education and achieve their desired goals.

4.6 Some Important Strategies to Reduce the Overall Damage Caused by COVID-19

4.6.1 Reconstruction of educational strategies

Education is the most dependable weapon in terms of national policy to enhance skills. The

school-going step is the perfect opportunity to encourage social skills and social-awareness and constitute a foundation for advancement. No social skill will be developed if social distancing is maintained. Students need to be guided under the guidance of parents with technical equipment at home. This epidemic has caused worldwide school closures as well as delays in exams. Many facets of the disadvantaged children must be considered. Now many parents in Bangladesh are unable to provide proper nutrition to their children, which is necessary for the physical and mental growth of them. Besides, the online dependency of this generation may develop a threatening future for these young children. As early as possible this should be solved for the next generation.

4.6.2 Evolving a viable family income

Due to the COVID-19 outbreak, many people have become jobless, and their income has grown decreased. Consequently, they are suffering from malnutrition, and their immunity cannot be developed. On the other hand, they are also traumatized for the fear of infected by COVID-19. College students are deprived of study who were going to sit for the upcoming HSC examination. Many of them are absorbed in social media and wasting their time (Table 1). University students cannot graduate from time to time—those who have internet access and devices are continuing their online classes. Students who can clear their semester fees doing online courses. Besides, private Institutions are not reducing the semester fees, not arranging the internet at a low price, and not focusing on timely graduation. They are unable to provide quality education online. Even they are failed to provide practical knowledge to the students, which is most needed for a graduate student is a prerequisite for the welfare of a nation.

4.6.3 Temporary students grant and scholarships

University should waive the tuition fees partially/fully and provide financial support for the student. All the departments and sectors related to education must take care to eradicate all the problems by taking these circumstances seriously [32]. Cost-free nutritional food and drinking water should be provided to needy children by the government, besides ensuring economic support to their family. Every school, college, and university should provide psychological counseling for the students [30].

Parents can play a vital role in home learning. They can give importance to informal learning as well as formal education to their children. A case was recently reported in Australia, where parents engaged their child in such a learning system [34]. These may help students to continue the extra curriculum besides academic studies too [35].

4.6.4 Recommended administrative approaches

The Government should take appropriate steps to reduce the price of the internet. They can provide education loans for the students and teachers to buy smart gadgets. With the Ministry of Education and various agencies' help, teachers need to be trained and made suitable for taking online classes. Moreover, the government should try its best to hand over the electronic devices to the students, which Italy did within months of the onset of the epidemic [36]. We need to follow the way China has launched the world's most extensive online education system across the country. To prevent cheating in online exams, teachers can set questions that require a higher level of thinking. UGC, School college and, University authorities must come in front to solve this problem. The government should initialize helping hand to them who lost their job due to this pandemic. To prevent the students' anxiety and depression in this present situation, society and family have to play a huge role [30]. Furthermore, massive social awareness and proper financial support from the respective should be ensured for the students in this pandemic. Otherwise, the total educational system may be devastated.

5. CONCLUSION

This paper has outlined multiple impacts of COVID-19 on the students in Bangladesh after considering their financial states accordingly. The inequality between students' access to the internet and various gadgets has had a devastating effect on countless students amid the COVID-19 outbreak. None of us knows exactly how long the COVID-19 epidemic will last. It's creating a new world that we don't know of yet, but the education sector and students must be resilient to adapt to new changes that the epidemic will bring. Researchers may come up with new ways to make universal education accessible to all students. This paper has not covered large scale statistical analysis on the impact of COVID-19 on the Institutional

education system and its associated students in Bangladesh. However, our study tried as much as possible to collect information, although it is not feasible for us to obtain a large amount of data during this epidemic.

CONSENT

As per international standard or university standard, participant's written consent has been collected and preserved by the author(s).

DEDICATION

This study is dedicated to our respective parents, who have been our source of inspiration and have raised us to be a person we are today.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. The Economic Times. Coronavirus detected in Wuhan in late December: China; 2020. [Online]. Available: <https://economictimes.indiatimes.com/news/international/world-news/coronavirus-detected-in-wuhan-in-late-december-china/articleshow/75028126.cms> Accessed: 23 August 2020
2. WHO, Rolling updates on coronavirus disease (COVID-19); 2020. [Online]. Accessed: 30 July 2020
3. Worldometer, COVID-19 CORONAVIRUS PANDEMIC; 2020. [Online]. Available: https://www.worldometers.info/coronavirus/?utm_campaign=homeAdUOA?Si%3Ca%20href= Accessed: 31 July 2020

4. The Business Standard, First coronavirus cases detected in Bangladesh; 2020. [Online]. Available: <https://tbsnews.net/bangladesh/health/3-tested-positive-coronavirus-bangladesh-iedcr-53476> Accessed: 31 July 2020
5. The Hindu. Bangladesh to extend shutdown till May 30; 2020. [Online]. Available: <https://www.thehindu.com/news/international/bangladesh-to-extend-shutdown-till-may-30/article31579303.ece> Accessed: 31 July 2020
6. The Business Standard. Bangladesh recorded highest Covid-19 positive cases on Tuesday; 2020. [Online]. Available: <https://tbsnews.net/coronavirus-chronicle/covid-19-bangladesh/bangladesh-confirms-3-more-deaths-coronavirus-549-new> Accessed: 31 July 2020
7. The Daily Star. Coronavirus Scare : All educational institutions closed till March 31; 2020. [Online]. Available: <https://www.thedailystar.net/backpage/news/coronavirus-scare-all-educational-institutions-shut-till-march-31-1881658> Accessed: 23 August 2020
8. The Daily Star. Covid-19: Govt to extend closure of educational institutions; 2020. [Online]. Available: <https://www.thedailystar.net/country/news/covid-19-govt-extend-closure-educational-institutions-1914265> Accessed: 11 July 2020
9. UNESCO. COVID-19 educational disruption and response: Radio paathshala for students in Nepal's Bagmati province; 2020. [Online]. Available: <https://en.unesco.org/news/covid-19-educational-disruption-and-response-radio-paathshala-students-nepals-bagmati-province> Accessed: 30 July 2020
10. UN News. Startling disparities in digital learning emerge as COVID-19 spreads: UN education agency; 2020. [Online]. Available: <https://news.un.org/en/story/2020/04/1062232> Accessed: 31 July 2020
11. Devkota P, Rejve K, Janoch E. Bangladesh's COVID-19 multi-sector impact report: Some insights; 2020. [Online]. Available: <https://usaidlearninglab.org/lab-notes/bangladesh%E2%80%99s-covid-19-multi-sector-impact-report-some-insights> Accessed: 1 August 2020
12. Uddin M. Effects of the pandemic on the education sector in Bangladesh; 2020. [Online]. Available: <https://thefinancialexpress.com.bd/views/effects-of-the-pandemic-on-the-education-sector-in-bangladesh-1592061447> Accessed: 1 August 2020
13. USAID. EDUCATION; 2020. [Online]. Available: <https://www.usaid.gov/bangladesh/education> Accessed: 23 August 2020
14. Tbsnews. Here comes the pay chop; 2020. [Online]. Available: <https://tbsnews.net/economy/here-comes-pay-chop-78145> Accessed: 1 August 2020
15. worldvision, 91% of Children surveyed by world vision felt distressed by COVID-19; 2020. [Online]. Available: https://www.worldvision.org.hk/en/news/press-releases/Childrens_Voices_Survey Accessed: 1 August 2020
16. Prothom Alo (in Bengali). Children at home in depression. 2020. [Online]. Available: <https://www.prothomalo.com/bangladesh/article/1665404/%E0%A6%AC%E0%A6%BF%E0%A6%B7%E0%A6%A3%E0%A7%8D%E0%A6%A8%E0%A6%A4%E0%A6%BE%E0%A7%9F-%E0%A6%98%E0%A6%B0%E0%A6%AC%E0%A6%A8%E0%A7%8D%E0%A6%A6%E0%A7%80-%E0%A6%B6%E0%A6%BF%E0%A6%B6%E0%A7%81-%E0%A6%AD%E0%A7%87> Accessed: 1 August 2020
17. The Independent. Street children in Bangladesh: A life of uncertainty; 2016. [Online]. Available: <http://www.theindependentbd.com/printversion/details/32932> Accessed: 1 August 2020
18. The Business Standard. Covid-19 making things worse for children; 2020. [Online]. Available: <https://tbsnews.net/feature/panorama/covid-19-making-things-worse-children-92254> Accessed: 1 August 2020

19. The Financial Express. Primary students to get televised lessons through Sangsad TV; 2020. [Online].
Available:<https://thefinancialexpress.com.bd/education/primary-students-to-get-televised-lessons-through-sangsad-tv-1585565233>
Accessed: 1 August 2020
20. Education Board. Ministry of education; 2005-2006. [Online].
Available:http://www.educationboard.gov.bd/edb_statistics.php
Accessed: 1 August 2020
21. Dhaka Tribune. Is Covid-19 pandemic leading to a rise in child marriage?; 2020. [Online].
Available:<https://www.dhakatribune.com/bangladesh/2020/07/09/parents-using-pandemic-as-opportunity-to-marry-off-underage-daughters>
Accessed: 23 August 2020
22. HRW. Bangladesh: Girls damaged by child marriage; 2015. [Online].
Available:<https://www.hrw.org/news/2015/06/09/bangladesh-girls-damaged-child-marriage>
Accessed: 1 August 2020
23. Dhaka Tribune. HSC, equivalent exams results: Higher pass rates, more GPA 5 achievers this year; 2019. [Online].
Available:<https://www.dhakatribune.com/bangladesh/education/2019/07/18/hsc-equivalent-exams-results-higher-pass-rates-more-gpa-5-achievers-this-year>
Accessed: 1 August 2020
24. Dhaka Tribune. Covid-19: Educational institutions engaging in online, virtual classes; 2020. [Online].
Available:<https://www.dhakatribune.com/bangladesh/education/2020/05/02/covid-19-educational-institutions-engaging-in-online-virtual-classes>
Accessed: 1 August 2020
25. UGC. University grants commission of Bangladesh; 2019 - 2020. [Online].
Available:<http://www.ugc-universities.gov.bd/public-universities>
Accessed: 1 August 2020
26. BMDc. New list of recognized medical & dental colleges and dental units (Govt. & Non-Govt.); 2017-2018. [Online].
Available:<https://www.bmdc.org.bd/about-college-n>
Accessed: 1 August 2020
27. Islam DMS, Tanvir K, Amin DM, Salman M. Online classes for university students in Bangladesh during the Covid-19 pandemic- is it feasible?; 2020. [Online].
Available:<https://tbsnews.net/thoughts/online-classes-university-students-bangladesh-during-covid-19-pandemic-it-feasible-87454>
Accessed: 1 August 2020
28. The Daily Star. Mobile internet slowest in Bangladesh among 42 countries; 2020. [Online].
Available:<https://www.thedailystar.net/business/news/mobile-internet-slowest-bangladesh-among-42-countries-1892761>
Accessed: 1 August 2020
29. Dhaka tribune. Landlords evict students, throw away belongings amid pandemic; 2020. [Online].
Available:<https://www.dhakatribune.com/bangladesh/dhaka/2020/07/02/landlords-evict-students-throw-away-belongings-amid-pandemic>
Accessed: 1 August 2020
30. Hemanth LK. Changing trends of social interaction during the pandemic and its effects on mental health – A student's perspective. Asian Journal of Education and Social Studies. 2020;9(3): 7-14.
31. Mamun MA, Chandrima RM, Griffiths MD. Mother and son suicide pact due to COVID-19-related online learning issues in Bangladesh: An unusual case report. International Journal of Mental Health and Addiction; 2020.
32. Jayalath C, Wickramasinghe U, Kottage H. Factors influencing orderly transition to online. Asian Journal of Education and Social Studies. 2020;9(2):10-24.
33. Upoalkpajor J-LN, Upoalkpajor CB. "The impact of COVID-19 on education in Ghana," Asian Journal of Education and Social Studies. 2020;9(1): 23-33.
34. Ng C, Renshaw P. Transforming pedagogies in Australian schools amid the COVID-19 pandemic: An activity theoretic reflection. Best evidence of Chinese education. 2020;5(2):635-648.

35. Etobro A. Benjamin Fabinu Emmanuel. Effects of peer-assisted learning strategies as pedagogical approaches on students' academic performance in basic science. Asian Journal of Education and Social Studies. 2018;2(2):1-8.
36. Pellegrini M, Maltinti C. School never stops: Measures and experience in Italian schools during the COVID-19 lockdown. Best Evidence of Chinese Education. 2020;5(2):649-663.

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