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Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India

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ABSTRACT

To assess the impact of lockdown amidst COVID-19 on undergraduate and postgraduate learners of various colleges and universities of West Bengal. An online survey was conducted from 1 May to 8 May 2020 to collect the information. A structural questionnaire link using 'Google form' was sent to students' through WhatsApp and E-mail. A total of 232 students provided complete information regarding the survey. The simple percentage distribution was used to assess the learning status of the study participants. During the lockdown period, around 70% of learners were involved in e-learning. Most of the learners were used android mobile for attending e-learning. Students have been facing various problems related to depression anxiety, poor internet connectivity, and unfavorable study environment at home. Students from remote areas and marginalized sections mainly face enormous challenges for the study during this pandemic. This study suggests targeted interventions to create a positive space for study among students from the vulnerable section of society. Strategies are urgently needed to build a resilient education system in the state that will ensure to develop the skill for employability and the productivity of the young minds.

1. Introduction

The novel coronavirus disease (COVID-19) first appeared in Wuhan city of China at the end of last year. Rapid worldwide spreading of COVID-19 prompted the World Health Organization (WHO) to declare it as 'pandemic' on 11 March 2020 (WHO, 2020; Pelmin, 2020). Most of the governments around the world have initiated a common goal to curb the spread of this highly contagious disease by imposing lockdown, social/physical distancing, avoiding face-to-face teaching-learning, and restrictions on immigration (Gonzalez et al. 2020). Around 600 million school-going learners are affected across the world due to the closing down of educational institutions (Goyal, 2020). UNESCO (2020) has reported that around 320 million learners are affected in India, of which about 34 million belonged to the tertiary level of education.

The first COVID-19 positive case has been reported in India (Kerala) on 30 January 2020. Currently, India has been experiencing sparkled growth in COVID-19 cases. As of 18 June 2020, India has reported 160,384 active cases, 194,324 recovered cases, and 12,237 death cases (MoHFW, 2020). The government of India along with various state governments have initiated several strategies to control the spread of the disease. Since 25 March, India has observed four phases of nationwide lockdown, which was extended up to 31 May 2020. The ongoing lockdown (fifth phase) is further extended till 30 June 2020 only in containment zones along with essential services are resuming in a planned manner starting from 8 June 2020.

The closures of the educational institution due to the outbreak of COVID-19 lead to an unprecedented impact on education. During the lockdown, teachers are instructed to teach through online learning platforms (Abidah, Hidaayatullaah, Simamora, Fehabutar, & Mutakinati, 2020). Raju (2020) argued that there is a need to adopt innovative teaching for continuing education and to overcome mental stress and anxieties during the lockdown. The outbreak of COVID-19 results in the digital revolution in the higher education system through online lectures, teleconferencing, digital open books, online examination, and interaction at virtual environments (Strielkowski, 2020;

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Kumar, 2020). A significant positive impact of COVID-19 also reported learning efficiency and performances by adopting online learning strategies (Gonzalez et al. 2020). The online mode of the teaching-learning process is often discriminatory to poor and marginalized students. It is identified that hearing-impaired students face challenges in online learning (Manzoor, 2020). During this lockdown period, the closing of educational institutions hampered the education system and the teaching-learning process. Understanding the teaching-learning process in this crisis period is imperative to design effective interventions for the smooth running of teaching and learning (India Today, 2020). With this backdrop, the present study aims to identify the learning status, mode of learning, and problems related to study during this lockdown amidst the COVID-19 pandemic.

2. Data and methods

2.1. Subjects

This is an online survey-based study of the 232 undergraduate and postgraduate students studying in various colleges and universities of West Bengal.

2.2. Data collection and procedure

An online survey was conducted from 1 May to 8 May 2020 to collect the information. A structural questionnaire link using 'Google form' was sent to students' through WhatsApp and E-mail. Participants were provided full consent before participation in the online survey. A total of 232 students provided complete information regarding the survey.

2.3. Data analysis

Descriptive statistics were carried out to understand the distribution of study participants. Simple percentage distribution was estimated to assess the learning status, mode of learning, and opinion on educational decisions, and problems related to study due to the lockdown. All the analyses were performed using the Statistical Package for Social Science (SPSS Version: 25).

3. Results and discussion

3.1. Participant's characteristics

Table 1 displays the profile of the study participants. Of 232 students, almost two-thirds of them were aged below 22 years with a median age of 21 years. The number of male and female students was equal in the sample. Over one-third of the students (35.8%) belonged to the 'general' social group. The majority of them were affiliated to the Hindu religion (84.1%), resided in rural areas (70.7%), and had a family income of less than INR 20,000 (65.1%). Most of the students were from the Arts academic background (73.3%). The educational movement of students across different districts of West Bengal is depicted in Table 2. The highest proportion of students was from the Maldah district (34.5%), followed by Darjeeling (12.9%) and Dakshin Dinajpur (11.2%). Moreover, the highest concentration of students was found in Maldah as an institutional district (42.2%), followed by Darjeeling (32.8%) and Nadia (8.6%). Maldah and Darjeeling districts are considered as educational hubs in North Bengal. A large number of colleges and the existence of universities in these two districts constitute a concentration of a substantial proportion of students in this region.

3.2. Knowledge and attitudes regarding COVID-19

Table 3 shows the knowledge and attitudes of students about this current public health emergency. Of 232 participants, 98 students (42.2%) heard about this disease in January 2020. Over half of the students (57.8%) were got information about COVID-19 from social media, which indicates their awareness of various facts about the disease. The majority of the students (81.5%) reported that they were residing in their own homes during the lockdown period. The students who were not living at their own home (staying in relative's home, rented house, mess, and as a paying guest) were facing some difficulties related to financial (26.5%), food (51%), and health (22.5%).

3.3. Learning status and academic sphere during the lockdown

Several questions were asked to trace out the learning status during lockdown that includes modes of learning, coverage of syllabus, time

Table 1
Characteristics of the study participants (n-232).

Characteristics	Frequency (n)	Percentage (%)
Age of students (median age)	21	
21 years and below	147	63.4
22 years and Above	85	36.6
Sex		
Female	116	50.0
Male	116	50.0
Social groups		
General	83	35.8
Other Backward Classes	63	27.2
Scheduled Caste	72	31.0
Scheduled Tribe	14	6.0
Religion		
Buddhist	6	2.6
Christian	4	1.7
Hindu	195	84.1
Muslim	25	10.8
Other	2	0.9
Residential area		
Rural	164	70.7
Urban	68	29.3
Monthly income of the family (Rs.)		
Below 20,000	151	65.1
20,000–40,000	53	22.8
Above 40,000	28	12.1
Presently studying		
B.A./B.Sc./B.Com.	141	60.8
M.A./M.Sc./M.Com.	91	39.2
Stream of Study		
Arts	170	73.3
Commerce	3	1.3
Science	59	25.4

Table 2
Movement of students for the study.

Home Districts	Students (%)	Institutional District	Students studying (%)
Alipurduar	5(2.2)	Alipurduar	1(0.4)
Cooch Behar	10(4.3)	Jalpaiguri	2(0.9)
Jalpaiguri	23(9.9)	Darjeeling	76(32.8)
Kalimpong	3(1.3)	Uttar Dinajpur	16(6.9)
Darjeeling	30(12.9)	Dakshin Dinajpur	7(3.0)
Uttar Dinajpur	25(10.8)	Malda	98(42.2)
Dakshin Dinajpur	26(11.2)	Murshidabad	1(0.4)
Malda	80(34.5)	Bhirbhum	3(1.3)
Purba Bardhaman	1(0.4)	Nadia	20(8.6)
Bankura	1(0.4)	Kolkata	7(3.0)
Nadia	21(9.1)	South 24 Pargana	1(0.4)
Howrah	2(0.9)		
Kolkata	3(1.3)		
South 24 Pargana	2(0.9)		

Table 3
Knowledge and attitudes regarding COVID-19.

Knowledge and attitudes	Frequency (n)	Percentage (%)
Time when heard about COVID-19		
January 2020	98	42.2
February 2020	69	29.7
March 2020	65	28.1
Source of information about COVID-19		
Newspaper	28	12.1
Personal interaction	12	5.2
Social media	134	57.8
Television	58	25.0
Place residing during the lockdown		
At own home	189	81.5
Other places (i.e. relative home, mess, or rented house)	43	18.5
Difficulties facing during lockdown (who are not at home)		
Financial	13	26.5
Food	25	51.0
Health	11	22.5

Table 4
Learning status and academic sphere during the lockdown.

Variables	Frequency (n)	Percentage (%)
Mode of learning		
Both textbook and online	88	37.9
Online studying	73	31.5
Reading textbook with own effort	71	30.6
Syllabus covered (%)		
< 30	91	39.2
30–50	57	24.6
> 50	27	11.6
Just exam completed	32	13.8
Not yet completed exam	25	10.8
Following e-pathshala for study materials		
Yes	49	21.1
No	155	66.8
Don't know	28	12.1
Time spending for study during the lockdown		
Less than normal situation	126	54.3
More than a normal situation	39	16.8
Same like a normal situation	67	28.9
Separate reading room for study		
Yes	129	55.6
No	103	44.4

spending for study, and separate reading room at home (Table 4). In this lockdown period, 88 (37.9%) students were continuing their study through textbook reading and digital e-learning, while 71 (30.6%) students were studying through reading textbooks by own effort and not participated in e-learning. Since learners studying under various universities, their study-tenure of the academic session slightly varies. Only 27 (11.6%) students reported that over 50% of their syllabus was covered. About two-thirds of students (66.8%) were not following the e-pathshala for study materials. Over half of the students (54.3%) reported that they were spending less time than the normal situation for study. Out of 232 students, 103 (44.4%) had no separate reading room for the study.

3.4. Information about online classes

Among the surveyed students who were attending online classes (n = 185), only 26 (14.1%) students were attending online classes daily, while 54% of them were attending online classes less than 3 days per week. Most of the respondents (85.8%) used android mobile for attending e-learning and another 14.2% of students used their laptops or computer for e-learning purposes. Although 73.7% of students used their android mobile for e-learning and 5.3% of students hired gadgets from family members to attend classes at the time of their learning. Fewer (0.9%) students had enriched the subjective knowledge by hiring e-learning gadgets from neighbors. The initiation or conducting digital teaching by teachers using various digital platforms during this lockdown period due to COVID-19 indicates the continuation of the teaching-learning process in this critical situation. University Grant Commission (UGC) and the Higher Education Department of West Bengal instructed to the academic institutions to continue the teaching-learning process through digital platforms. In such a situation, teachers are informing their students to participate in digital classes. In the present study, about 13.4% of students reported that their home tutors contacted them for digital learning. Another 15.5% of students are interested to involve in digital learning by a conversation with their friends. It is also reported that most of the learners (73.7%) were not involved in any digital platforms for the study before the COVID-19 outbreak (Table 5).

Table 5
Information about online classes.

Variables	Frequency (n)	Percentage (%)
Online classes attended per week		
Above 3 days per week	59	31.9
Below 3 days per week	100	54.0
Daily	26	14.1
Gadgets for attending online classes		
Android mobile	182	85.8
Laptop or Computer	30	14.2
Possess of Gadgets for online classes		
Own	171	73.7
Hired from neighbor	2	0.9
Hired from family members	12	5.3
Persons conducted online classes at lockdown		
Institution's teachers	155	64.9
Conversation with friends	37	15.5
Home tutors	32	13.4
Others (family members, relatives)	15	6.2
Attended online classes before the outbreak of COVID-19		
Yes	61	26.3
No	171	73.7

3.5. Platforms for online classes, materials sharing, and evaluation

It is found that the students were using various platforms for e-lectures, study material sharing and learning evaluation, such as the Zoom app, Team link, YouTube live, Skype, Google meets/hangout, Google classroom, WhatsApp, etc. (Table 6). The results also show that most of the respondents (34.2%) used the Zoom app for attending online classes or e-lectures, followed by Google classroom (33.4%) and YouTube live (14.7%). The learners also followed many platforms for getting study materials during this lockdown period. It is observed that students were more likely to study through shared study materials than attending online lectures mainly due to poor internet connectivity. The majority of the respondents (39.4%) used the WhatsApp group for getting study the materials from teachers and as well as friends and 31.8% of students used Google Classroom for this purpose. However, fewer learners followed institutions/teachers' website and YouTube lives for study materials. Teachers used many platforms not only for digital teaching and learning but also for learning-evaluation very quickly through WhatsApp group, Google classroom, Google form, Microsoft Kaizala, and so on. The learning of the respondents mostly evaluated through the WhatsApp group (40.5%), followed by Google classroom (24.9%). Additionally, students learning status was also evaluated through Google form (8.0%). It is worth mentioning to report

Table 6
Platforms for online classes, materials sharing, and evaluation.

Various platforms	Frequency (n)	Percentage (%)
Platforms of online classes		
Mobile-conversation (for Audio materials)	20	7.4
Google classroom	91	33.4
Team Link	16	5.9
YouTube live	40	14.7
Zoom app	93	34.2
Skype	6	2.2
Google meet	3	1.1
You tube	3	1.1
Platforms of Materials sharing		
WhatsApp group	115	39.4
Google classroom	93	31.8
Zoom app	30	10.3
Institution/teachers website	11	3.7
YouTube live	13	4.5
Youtube video upload	30	10.3
Evaluation of online platforms		
WhatsApp group	91	40.5
Google classroom	56	24.9
Google form	18	8.0
Microsoft Kaizala	2	0.9
Not yet evaluated online platforms	58	25.7

that over one-fourth (25.7%) of students' learning status was yet to be evaluated.

3.6. Opinion regarding academic decisions and UGC recommendations

Table 7 shows the opinion of students regarding academic decisions and UGC recommendations during lockdown phases. Out of 232 students, 123 students agreed on the government's decision for the opening of academic institutions on June 10, 2020. Over one-third of the students (36.2%) did not know about the UGC committee report regarding academic spheres, whereas 148 (63.8%) students had known about UGC report towards academic institutions. Most of the study participants (58.2%) reported a positive response on recommendations of UGC's proposed academic calendar whereas near about one-fourth students (27.6%) did not know about it. More than half of the students (52.6%) expressed their agreement on UGC recommendation regarding the examination system, evaluation pattern, research, and field study, whereas almost one-third of the students (31.0%) did not know about this UGC recommendation.

Table 7
Opinion regarding academic decisions and UGC recommendations.

Academic decisions and UGC recommendations	Frequency (n)	Percentage (%)
Do you agree on GoWB's decision for the opening of academic institutions after June 10, 2020?		
Yes	123	53.00
No	38	16.40
Don't know	71	30.60
Do you know about the 'Report of the UGC Committee on Examinations and Academic Calendar'?		
Yes	148	63.8
No	84	36.2
Do you agree on recommendations of UGC's proposed academic calendar?		
Yes	135	58.20
No	33	14.20
Don't know	64	27.60
Do you agree on UGC's recommendation about the examination system, evaluation pattern, research, and field study allied?		
Yes	122	52.60
No	38	16.40
Don't know	72	31.00

Table 8
Impact of COVD-19 on economic condition and educational attendance.

Opinions	Frequency (n)	Percentage (%)
Do you think that the economic condition of your family will be affected by COVID 19 pandemic?		
Yes	181	78.00
No	51	22.00
Do you think that low family income would affect your education?		
Yes	178	76.70
No	54	23.30
Do you think the COVID-19 pandemic may cause of educational discontinuation?		
Yes	176	75.90
No	19	8.20
Don't know	37	15.90

3.7. Impact of COVD-19 on economic condition and educational attendance

Out of 232, 181 students reported that their economic condition will be affected by the COVID-19 pandemic and 178 students reported that low family income amidst COVID-19 would have a negative impact on their education. Furthermore, 176 students thought that the current pandemic may cause their educational discontinuation (Table 8).

3.8. Problems related to study during the lockdown

In this lockdown period, it was reported that learners were mostly suffering from stress, depression, and anxiety (42.0%). The students were also facing problems related to poor internet connectivity (32.4%), followed by the absence of a favorable environment to study at home (12.6%). Students residing in rural and remote areas may face poor internet connectivity. Moreover, poor economic conditions might be a reason for the unfavorable environment and lack of separate room for their study (Table 9).

It should be mentioned that the online learning process is often discriminatory. Our study also found that many students face enormous challenges in e-learning and a substantial proportion of students could not attend online classes. Students from remote areas and marginalized sections mainly denied online learning due to the lack of electricity and poor internet connectivity. Poverty further exacerbates the problem of the digital learning process in this unwanted crisis period.

4. Concluding remarks

The lockdown amidst COVID-19 has made significant disruptions in academic activities. The present study assessed the learning status of undergraduate and postgraduate students during this pandemic. Although a substantial proportion of students are using digital platforms for learning, many of them face huge challenges in online study. Our study has suggested the following recommendation to the

Table 9
Problems related to the study during the lockdown.

Various problems	Frequency (n)	Percentage (%)
Feeling of stress, depression, and anxieties	126	42.0
Do not have gadgets for online study	27	9.0
Do not have a favorable environment to study at home	38	12.6
Problems related to Internet connectivity	97	32.4
Teachers not interested in teaching	12	4.0

government, policymakers, and institutional authorities:

There should be made a uniform academic plan for the universities and colleges and also initiate a proper Education Continuity Plan (ECP) to continue the learning process during this pandemic. The infrastructural facilities should be availed to the education institutions which can regulate the digital learning process during future health emergencies. There is a need to ensure adequate funding for the improvement of the education system and to provide capacity development training to the stakeholders of higher education institutions. Interventions should be initiated through a targeted approach to create a positive space for study among the students from the vulnerable section of society.

At this critical period, the open-source digital learning and learning management system could be adopted by the institutional teachers to conduct online learning. Finally, the vital multi-prolonged strategies are urgently needed to build a resilient education system in the state that will ensure to develop the skill for employability and the productivity of the young minds.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

The data were collected through an online survey using 'Google form' and sent to study participants through WhatsApp and E-mail. Participants were provided full consent before participation in the online survey.

Supplementary data to this article can be found online at https://doi.org/10.1016/j.childyouth.2020.105194.

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