

Impact of Coronavirus Infection on Adolescence during the COVID-19 Pandemic

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ABSTRACT

Background: Coronavirus disease 2019 (COVID -19) is a major global health problem. During this pandemic situation, adolescent groups in low-income and middle-income countries become at high risk which crucially affected their physical and mental health. The aim of this study determine the effect of challenges students faced on blended learning, disharmony of economic conditions during the pandemic situation.

Materials and methods: A descriptive cross-sectional study was carried out to assess the impacts of coronavirus infection on adolescence during the COVID-19 pandemic among the 393 school-going adolescents by a semi-structured questionnaire in a selected school of Cumilla.

Results: Among the respondent adolescents, two-thirds of them (66.2%) belonged to the middle adolescence group, the majority came from urban areas (88.3%) and middle-income families (77.9%). The majorities were responded about the proper use of mask (94.4%), frequent hand washing with soap-water or sanitizer for 20 seconds (98.0%), avoiding crowded places (98.1%) and maintenance of social distancing (89.6%). Cough (96.2%), Fever (95.7%) and Dyspnoea (86.0%) were cited as common symptoms of coronavirus infection. Nearly one-out-of-three adolescents (30.5%) never faced any problem and one-out-of-five adolescents (18.9%) mentioned problem faced by them.

Conclusion: Nearly one-third of adolescents never faced any problem during the COVID-19 pandemic and the rest faced problems that ranged occasional to always. The study findings also suggested that adolescents from middle socioeconomic status had a good perception and practices towards COVID-19 infection.

Key words: Adolescents; Bangladesh; COVID-19 pandemic; Impacts.

Introduction

COVID-19 infection has been recognized as a foremost health concern globally. According to WHO, over 262 million individuals have been infected and over 5 million

have died up to December 2, 2021.¹ Globally, about 1.5 billion adolescents and young people are now or have been impacted by school and college closures due to COVID-19 pandemic.²

In Bangladesh, from May 17, 2020 the government enforced a complete lockdown and suspended all educational institutions, which led the students to continue their daily activities at home and sustain a long period.³ Though adolescents are usually less likely than adults to get SARSCoV-2 and even if they do, they often have milder symptoms or even may not show any symptoms at all. However, they are not immune to this, they can bear the fact of psychological impacts, social isolation, academic stress, current conditions of the family and so on.⁴ At the time of the study, some students with low socioeconomic profile reported discrepancies in the availability of requisites from their families, which was superimposed by the pandemic to a greater extent following income sources and other social issues. Apart from traditional academic activities, students also faced barriers in contacting teachers, friends as they were not habituated to this situation over a long time, consequently it made think the students about their uncertainty in the future, misinterpretations of news related to students in social media, fear of infection and others.⁵

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However, measuring the current aspects of knowledge, perceptions and practices about the COVID-19 among adolescents has been so challenging in the current pandemic.⁶ Interestingly, students residing at home from March 2020 have been attaining knowledge from their family members and mass media exposure due to increased screen time, though their perception about COVID-19 is still unclear as there are plenty of biases and misconceptions.^{7,8} The aim of this study determine the effect of challenges students faced on blended learning, disharmony of economic conditions during the pandemic situation, any association between the relationship with others such as relatives, teachers, changes in extra curricular and recreational activities during the pandemic situation.

Materials and methods

This descriptive cross-sectional study was conducted to assess the impacts of coronavirus infection on adolescence during the COVID-19 pandemic. The study was done in a purposively selected school named Cumilla Collectorate School and College, Cumilla, Bangladesh from October 2021 to January 2022.

Students of classes VIII, IX and X were presented in their class rooms and were interviewed conveniently. The age of the students was categorized into three groups- early adolescence (13-14 years), middle adolescence (15-16 years) and late adolescence (17-18). Data were collected by using a pretested semi-structured questionnaire from the 393 school-going adolescents. The preceding survey was interviewed through the face-face interviews by the 3rd year MBBS students as a part of the Residential Field Site Training (RFST) program.

The data were checked and cleaned followed by categorizing data manually. The statistical analysis was done by descriptive statistics such as frequency and percentile and presented with tables and diagrams.

Participation was voluntary and confidentiality was maintained. Informed written assent and consent were taken from each participant and school authorities. The study was validated by the Cumilla Medical College, Cumilla.

Results

Table 1 describes the socio-demographic characteristics of school-going adolescents. Two-thirds of them (66.2%) belonged to the middle adolescence group and only a few were from the late adolescence group (6.6%). The male-female ratio was nearly 2:1, where the male was predominated. The majority of the adolescents came from Muslim families (92.5%) and resided in urban areas (88.3%). More than half of families had >4 members (54.2%) and three-fourths (77.9%) were cited as middle-income families.

Figure I illustrates the perception regarding prevention of COVID-19 infection among the adolescents was good. The majorities were responded about the proper use of mask (94.4%), frequent hand washing with soap-water or sanitizer for 20 seconds (98.0%), avoiding crowded places (98.1%) and maintenance of social distancing (89.6%). In figure 2, Cough (96.2%), Fever (95.7%) and Dyspnoea (86.0%) were cited as common symptoms of coronavirus infection. Nine out of ten adolescents (89.8%) were interested to be vaccinated against COVID-19 infection (Figure 3).

Table II exhibits the impact of coronavirus infection among the adolescent groups during the COVID-19 pandemic. Fear of COVID-19 infection and changes in relationship status were affected, created sometimes problem among most adolescents. About half of the adolescent's families never faced any financial problems. Most of them experienced that recreational activities were affected sometimes (32.6%) but religious (47.1%) and sports (32.6%) activities were never affected. Regarding academic activities, changes in overall academic works always affected about one-third of the students (30.5%) and about half (46.9%) never faced any difficulty to adapt with post-COVID academic activities. The changes in mental state such as feeling anxious or restless and difficulties to adopt current study methods occurred among one-third of the adolescents.

Figure 4 portrays the levels of impact on adolescence during the COVID-19 pandemic. Nearly one-out-of-three adolescents (30.5%) never faced any problem and one-out-of-five of adolescents (18.9%) faced often a problem.

Table I Socio-demographic characteristics of adolescents (n=393)

	Characteristics	n(%)
Age groups (Years)	Early adolescence	107(27.2)
	Middle adolescence	260(66.2)
	Late adolescence	26(6.6)
Gender	Male	252(64.1)
	Female	141(35.9)
Religion	Muslim	363(92.5)
	Hindu	30(7.6)
Family members	4	180(45.8)
	>4	213(54.2)
Residence	Urban	347(88.3)
	Rural	46(11.7)
Economic status	High income	82(20.9)
	Middle income	306(77.9)
	Low income	5(1.2)

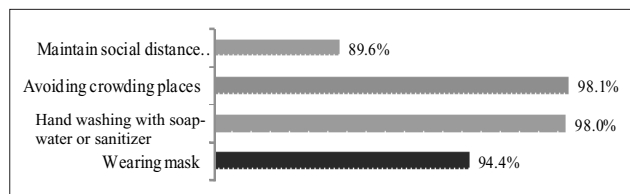


Figure 1 Perception regarding prevention of COVID-19 infection

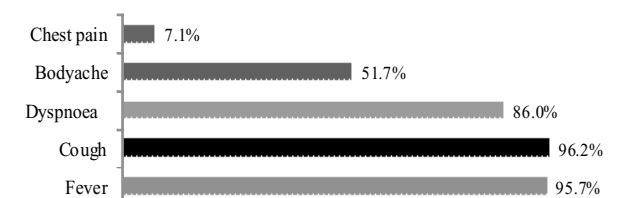


Figure 2 Knowledge about common symptoms of COVID-19 infection

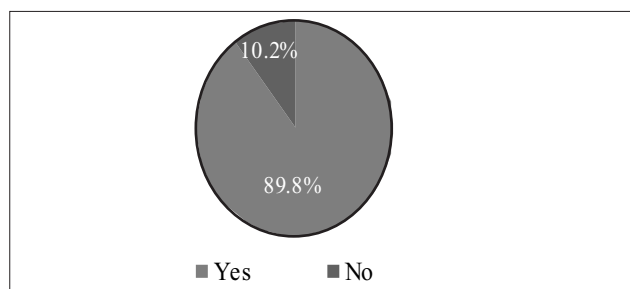


Figure 3 Adolescent's intend to be vaccinated (n=393)

Table II Impact of coronavirus infection on adolescence during the COVID-19 pandemic

Responses	Never a problem n(%)	Sometimes a problem n(%)	Often a problem n(%)	Always a problem n(%)
Fear of COVID-19 infection				
Perception of risks of contagion	69(17.6)	143(36.4)	82(20.9)	99(25.2)
Perception of conditions of social isolation	77(19.6)	120(30.5)	98(24.9)	98(24.9)
Changes in relationship status				
Relation status with relatives	91(23.2)	142(36.1)	84(21.4)	76(19.3)
Relation status with teachers	80(20.4)	141(35.9)	89(22.6)	83(21.1)
Relation status with friends	71(18.1)	98(24.9)	88(22.4)	136(34.6)
Financial uncertainty				
Financial uncertainty in the family	193(49.1)	83(21.1)	62(15.8)	55(14.0)
Affects recreational, religious and sport activities				
Changes in recreational activities	98(24.9)	128(32.6)	76(19.3)	91(23.2)
Trouble in performing religious activities	185(47.1)	93(23.7)	52(13.2)	63(16.0)
Trouble in participating sports activities	128(32.6)	84(21.4)	75(19.1)	106(26.9)
Academic activities				
Changes in overall academic studies	71(18.1)	111(28.2)	91(23.2)	120(30.5)
Difficulties to adopt with post-COVID academic activities	184(46.9)	107(27.2)	53(13.5)	49(12.5)
Changes of mental state during post-COVID period				
Feeling anxious or restless	176(44.9)	130(33.1)	55(14.0)	33(8.4)
Difficulties to adopt current study methods	137(34.9)	142(36.1)	63(16.0)	51(13.0)

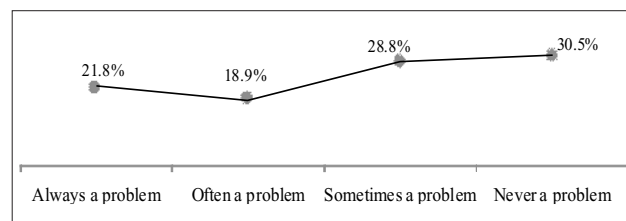


Figure 4 Levels of impact on adolescence during COVID-19 pandemic

Discussion

The findings reveal the substantial number of socio-demographic factors that has a huge impact and should be made useful during the planning of health education programs about the established infectious disease. The study was made upon an analysis of over 393 students where the participants were students of secondary level. Two-thirds of them (66.2%) belonged to the middle adolescence group and the male-female ratio was nearly 2:1. Three-fourths were cited as middle-income families (77.9%). Most of the participants of the adolescents came from urban areas (88.3%) and a few of them from rural areas (11.7%), which are different from the surveys.⁹⁻¹¹

In this study, Cough (96.2%), Fever (95.7%) and Dyspnoea (86.0%) were cited as common symptoms of coronavirus infection which are similar to the studies.^{7,12,13} The majority of the participants were aware of the common way of preventing the infection such as wearing mask properly, washing hands with soap-water or sanitizer, avoid overcrowding, maintain social distances etc. It is similar to an integrated health system assessment of COVID-19 preparedness surveys in Bangladesh, Kenya and Sub-Saharan countries.¹¹⁻¹³ Comparing to these studies, this survey discovered markedly increased accurate awareness about the level of impact of COVID-19 and consciousness regarding the COVID-19.^{7,14-17}

In this survey, it was found that most of the participants belong to middle-class families. In this pandemic, many people have lost their jobs. So, having concerned about the financial uncertainty of the family was a common fact to think about at that time. Furthermore, some other factors that might come in considering the difference from the relevant studies that is the major portion (49.1%) of the group belonging to the middle-class family never faced any problem regarding their economic status and the rest of them were concerned about the matter of family's financial uncertainty. Fear of COVID-19 infection and changes in relationship status were affected, created restlessness, bad-temperment sometimes among most adolescents.

Most of them experienced that recreational activities were affected sometimes (32.6%), but religious (47.1%) and sports (32.6%) activities were never affected. Regarding academic activities, changes in overall academic studies always affected about one-third of the students (30.5%) and about half (46.9%) never faced any difficulty to adapt with post-COVID academic activities. The changes in mental state such as feeling anxious or restless and difficulties to adopt current study methods occurred among one-third of the adolescents. In comparison to other studies, this survey discovered markedly decreased attitudes toward the perception of risk of contagion during COVID-19 which was found markedly increased in the discussed survey.^{7,8}

The level of impact of coronavirus infection on adolescence was nearly one-third of adolescents never faced any problem during the COVID-19 pandemic and the rest faced problems ranging from sometimes to always. In summary, study findings suggested that adolescents from middle socioeconomic status have had a good perception and practices towards COVID-19 infection.

Limitation

As this study was conducted at a single point of time and with selective age group students, it is very difficult to assess the total conditions of the adolescents of greater arena they were undergoing.

Conclusions

The majority of the students do know the preventive measures, which gives a proper image that the measures that need to be followed irrespective of age and sex are being introduced well. Some other activities, including their social confinement, novel methods of studying, and mental conditions, had no significant impact on them, except their academic activities, which made them a bit anxious.

Recommendation

For the best interventions, a long-term duration-based study or longitudinal study is highly recommended to measure the actual outcomes. Besides, community participation, NGOs, policymakers, and government support roles can play a crucial role in making the timely interventions possible.

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Disclosure

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