

# COVID-19 Pandemic: Effect of prolonged lockdown on adolescents and young adults

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## ABSTRACT

**Objective:** This study was conducted to assess the impact of the prolonged lockdown, due to the Coronavirus Disease 2019 (COVID-19) pandemic, on the daily life, education, mental and family health, and general well-being of adolescents and young adults in India. **Materials and Methods:** A total of 210 participants aged 12–21 years formed the study sample. After approval from the Institutional Ethics Committee, a cross-sectional study was conducted using a pre-designed validated online questionnaire. Consent/assent was taken and confidentiality was assured. The questionnaire consisted of 33 questions. The data were analyzed using Microsoft Excel, expressed as frequency and percentages, and converted to charts and graphs. **Results:** Most (88%) of the respondents understood the severity of the pandemic. The majority (85%) of educational institutions conducted online classes; however, classroom lectures were preferred over online lectures by 171 (81.4%) students. Thirty-seven (36.7%) students had been affected by the cancellation of entrance exams. Eagerness to return to school/college was found amongst 135 (64.2%) participants. Lockdown restrictions led to 56% of activities being screen-based, leading to headaches and eye strain in 167 (79.5%) students. Participants were bored, irritated, and anxious, but 56.2% of them remained positive by developing new hobbies, reading, or spending time with family. Sixty-nine (32.8%) respondents or their close family members suffered from mild COVID symptoms; however, it was a major strain on their mental health. **Conclusion:** Overall, the pandemic and prolonged lockdown had a mixed impact on 82 (39%), a negative impact on 65 (31%), and a positive impact on 63 (30%) of adolescents and young adults.

**Key words:** Adolescents, COVID-19 pandemic, Education, Lifestyle, Lockdown, Mental health

The Coronavirus Disease 2019 (COVID-19) outbreak in December 2019 spread rapidly and became a pandemic. Life in 2020 was very different from what mankind ever experienced. The pandemic drastically altered everyday life [1]. Apart from the physical symptoms of the infection; isolation, lockdowns, and lack of social interactions had an adverse effect on general well-being and mental health [2,3].

Life of students – children, adolescents, and young adults, was affected far more because negative impact on education was part of the collateral damage caused by COVID-19. Online learning became the norm. Instead of classroom learning, students had to adapt to learning through virtual platforms [4].


In India, most children in rural areas did not have easy access to virtual school, due to the unavailability of internet connectivity and other resources. In contrast, in urban cities, there are reports of increased screen time causing reduced physical activity,

obesity, strained eyes, and headaches among other health-related issues [5].

Although there are studies about the effect of COVID-19 on various aspects of life [4-6], there was a need to assess its specific impact on the health, education, lifestyle, and well-being of adolescents and young adults. Hence, this study was undertaken. This paper will add to COVID-19 literature by giving a comprehensive insight into the experience of adolescents and young adults during the prolonged lockdown and their coping mechanisms to the challenges that they faced.

## MATERIALS AND METHODS

A cross-sectional descriptive study was conducted by medical students in the department of pediatrics during the pandemic. Adolescents (aged 12–17 years) and young adults (aged 18–21 years) participated in the study by answering a pre-designed validated online questionnaire through a messaging application.

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The inclusion criteria were the age group of 12–21 years of respondents who gave consent to participate in the study, while the exclusion criteria were the age of respondents <12 years or more than 21 years. Although 218 participants completed the survey, those who did not fulfil the inclusion criteria of age were excluded from the study. A total of 210 participants were enrolled in the study.

## Methodology

Ethical approval for the study was taken from the Institutional Ethics Committee before the commencement of the study. Adolescents and young adults selected randomly from the investigators' contacts were sent a questionnaire to fill out online. For those adolescents who could not fill out the questionnaire on their own, their parents were asked to fill it out on their behalf. This data was collected during a nationwide lockdown due to the coronavirus outbreak.

The initial part of the questionnaire consisted of the consent/assent form, in which the aim of the study was explained and confidentiality of their information was assured. Only after giving consent/assent, the participants answered the online questionnaire.

## Questionnaire

This online pre-validated questionnaire, developed by the researchers, consisted of five parts. The first section included questions about the participant's demographic data, which was followed by four questions about the general understanding of the pandemic in the second section, 13 questions in the third section on the impact of the coronavirus pandemic on education, and 12 questions about changes in daily lives and mental health of participants due to COVID-19 in the fourth section. The fifth section consisting of four questions was concerning families who had COVID-19 infection. There were a total of 33 questions, of which 3 were on a linear scale, ten were "Yes/No" questions, 16 were open-ended, and four had multiple options.

## Statistical Analysis

The descriptive data from Google forms were transferred to Microsoft Excel, and frequencies and percentages were calculated automatically and converted to graphs and charts.

## RESULTS

A total of 218 individuals participated in this cross-sectional study which used a pre-designed validated questionnaire. Respondents who did not fulfil the inclusion criteria (age between 12 and 21 years) were excluded from the analysis. The final sample included 210 participants. Respondents were primarily female (67.14%). Of the 210, 59 were adolescents, and 151 were young adults.

## Awareness Regarding the Pandemic

The majority (88%) of the respondents understood the severity of the pandemic, whereas 11% were unsure, and 0.13% were oblivious to the surrounding situation.

What concerned them the most was the health of their family members, followed by the absence of normalcy, unpreparedness for the situation, and ambiguity of the future.

Using a Likert scale, we found that 56.6% were severely affected, 28.5% were moderately affected, and 14.6% of the participants felt that they were mildly affected by the pandemic.

## Impact of COVID-19 on Education

Among the participants, 23.8% were school students and 76.2% were in college pursuing various different streams of education.

The online education system and its outcome were also assessed. It was found that 85% of educational institutions conducted online classes, whereas 15% did not. The majority of the students (81.4%) preferred in-person classroom lectures over online classes. A large number (48.5%) of participants also attended online coaching classes in addition to their institutional classes.

Interestingly, 61.9% of students believed that they had become more laid-back with respect to self-studying due to no motivation, lack of daily routine, delayed deadlines, lack of peer pressure, and teacher supervision.

When asked if the mode of teaching affected understanding, 81.5% of participants believed that their understanding in classroom lectures was better than in online classes [Table 1]. Ironically, 59.5% of students felt that their performance in online examinations is better than in college examinations.

More than one-third of participants (36.7%) had been affected by board examination/entrance examinations being postponed/cancelled. The indeterminate delay of these examinations caused mental distress and anxiety among the students. Other problems faced by them included frequent changes in study schedules, delayed results, and applications. However, some students felt that the pandemic was a boon, as they got more time to prepare.

Eagerness to return to school/college was found among 64.2% of participants. However, 25.7% of participants were not looking forward to the reopening of their educational institution, and 10.1% of respondents were indifferent toward it.

## Impact of COVID-19 on the Daily Life of Adolescents

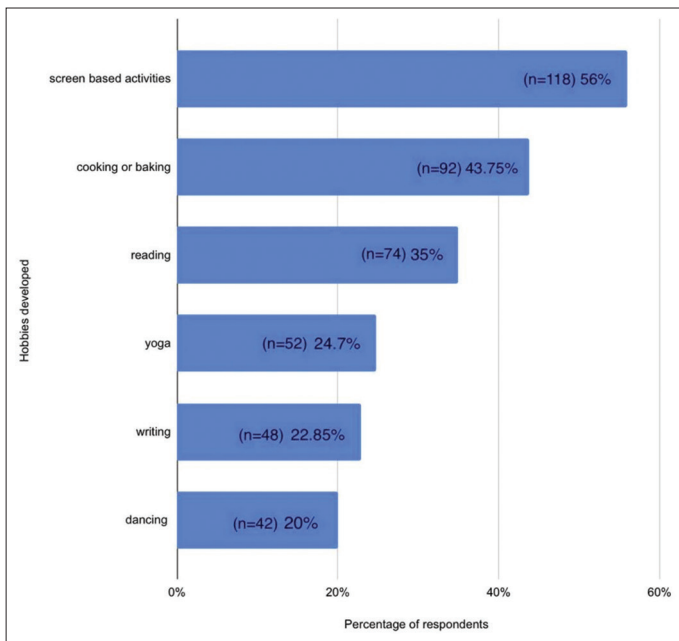
Majority of the activities were restricted to being indoors, of which 56% were screen-based (e.g., online gaming, Netflix, TV shows), while 44% were non-screen based (e.g., reading and household chores). A few respondents also went for outdoor walks. The ample amount of free time led to the formation of new hobbies (Fig. 1).

Most adolescents and young adults experienced an increase in screen time during the pandemic (Fig. 2). As a consequence of the increased screen time, 79.5% of participants experienced frequent headaches or strain in their eyes.

**Table 1: Challenges and benefits of online education – a perspective of adolescents and young adults**

Challenges	%*	Benefits	%*
No practical learning, mainly theoretical	20	Ability to study at own pace/timings are flexible/comfort of own home	25
Atmosphere is not motivating enough/lack of interaction	50	Saves travel time	5
Unable to concentrate/lack of interest/more distractions	45	More time for self-study	20
Doubt solving is not as efficient	15	There is some semblance to normalcy in this situation	15
Connectivity issues	22	Asynchronous availability of lectures, everybody can access the classes at their own pace	12
Strain on the eyes	35		

\*Percentage of participants



**Figure 1: Bar graph showing new hobbies developed by the participants during the lockdown**

**Impact of COVID-19 on Mental Health and General Well-being of Adolescents**

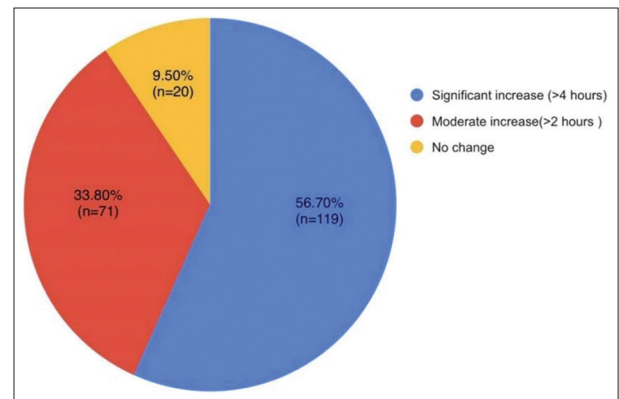
The pandemic had an overall mixed impact on 39% of participants. There was a positive impact on 30% of participants and a negative impact on 31% of participants.

Common negative emotions experienced by the participants were those of boredom, irritation, and anxiousness. Sadness, fear, and anger were the lesser experienced emotions. They also experienced positive emotions such as feeling happy and relaxed (Fig. 3).

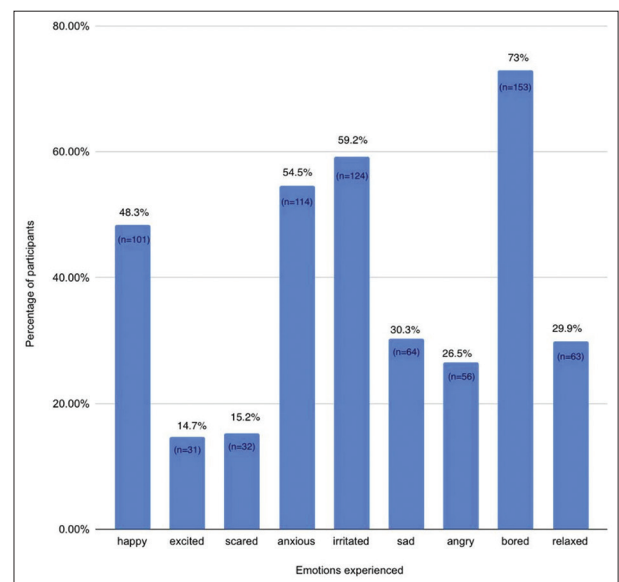
Open-ended questions revealed that the participants “managed to remain positive” despite the trying situation, by spending more time with family which has led to them growing closer to their family members (56.2%).

A reduction in the duration and frequency of outings caused an adverse impact on friendships, with 74.3% of the participants believing that they lost their connection with friends.

During the nationwide pandemic, people were instructed not to venture out unless absolutely necessary. However, 9% of the participants went out multiple times a week, 44.8% went a few times a month, 26.2% went once a week, and 20% said that they did not go out at all.



**Figure 2: Pie chart showing a change in screen time of the participants during the lockdown**



**Figure 3: Bar graph showing emotions experienced by the participants during the lockdown**

**Impact on the Health of Self and Family**

The participants were asked whether any of their family members tested positive for the novel coronavirus, and it was found that 69 (32.8%) of the respondents or their close family members suffered from the infection.

When the impact of coronavirus on these participants was further studied, trends showed that they experienced mild physical symptoms; however, COVID-19 was a major strain on their mental health.

The experience also made them more cautious with respect to protective measures taken against the virus. Among those whose family members were affected, 37 (53.6%) participants found relief with coping mechanisms such as watching TV shows, reading, and yoga. A few of them also found solace in connecting with their friends virtually.

## DISCUSSION

COVID-19 has had a universal impact on various aspects of life along with its high infectivity and fatality rates. In adolescents and young adults, a major impact was seen on education, lifestyle, and mental health in our study.

In this cross-sectional study, we found that the gravity of the pandemic was understood by the majority (88%) of the participants. Other studies also indicated that the uncertainty of the situation, financial loss, and unavailability of basic life resources accentuated the understanding of the pandemic by the people [6].

More than half of the participants who were affected severely by the pandemic expressed major concerns toward the health of their families and the absence of normalcy. Another study concluded that the well-being of themselves and their loved ones was their major paranoia [7].

### Education

Educational institutes faced a huge setback. Although virtual learning was a well-known concept, it was sparingly used before the pandemic. Our study assessed the role and impact of online education in the lives of adolescents and young adults.

We found that 85% of educational institutions conducted online classes, whereas 15% did not conduct them. Online classes ensured continuity of education; hence, a semblance of normalcy was retained. Other benefits were the flexibility of studying on their own time, in the comfort of their homes. Despite the obvious benefits, we found that most (81.5%) participants preferred in-person classes over online lectures as their understanding of classroom lectures was better than online classes. Other studies stated that this was due to more direct interaction in offline classes [8].

More than half of the students believed that they have become neglectful toward their academic commitments. This was attributed to the fact that the home environment was less conducive to learning, due to many distractions. Other studies also reported the same, due to the absence of a structured school setting, disturbed routine, and lack of innovative ideas to keep them motivated [4,9].

Students also complained of connectivity issues and screen fatigue. A study performed in Bengal highlighted that online education was not favourable in rural areas since students face poor internet connectivity and poor economic conditions which may lead to an unfavourable environment for conducting virtual classes [10].

Lockdown and virtual learning led to reduced motivation in 62% of the participants due to a lack of social interaction, lack of peer pressure, lack of teachers' supervision, and absence of

strict routines and deadlines. Other studies reported a lack of self-discipline, self-motivation, and a sense of isolation [11].

Despite all these constraints, 60% of students felt that they performed better during online exams. Another study conducted in the UK stated that most students performed well since these examinations were open book [12]. Some studies also showed an increased level of stress in students while giving these examinations due to computer-based technical errors, increased difficulty in questions, and less time [13].

Students affected by the postponement/cancellation of major examinations experienced mental distress and anxiety. This was similar to other studies [4]. A study conducted on students who were preparing for medical and engineering entrance examinations in India reported that some students were unable to cope with the stress and anxiety caused due to a delay in the examinations [14]. However, other students felt that this delay in examinations was a boon, as they got more time to prepare.

For medical school students, clinical postings are necessary for practical training and patient interaction. In our study, medical students were greatly concerned due to the cancellation of their clinical postings, which was also reported in other studies [15].

There was a lot of debate regarding the reopening of educational institutions. Policy-makers, teachers, students, and parents had different opinions. Approximately two-thirds of our participants were awaiting the reopening of their educational institutions. Other studies found that children may have resisted going to school after the lockdown [4].

### Lifestyle

The restrictions of the lockdown during the pandemic greatly affected the lifestyles of adolescents and young adults. A study on lifestyle reported that 70% of participants had reduced activity after the onset of the pandemic [16]. This was similar to the findings of our study, where the participants had reduced outdoor physical activity. This led to an increase in indoor activities, of which 56% were screen-based, while 44% were non-screen based and consisted of a variety of new hobbies such as cooking, baking, reading, writing, and dancing. Other studies found that there was a greater inclination toward computer/video games, and art and crafts [16].

The results of our study provided substantial support for increased screen time, both educational as well as recreational along with decreased physical activity. This had a negative impact on the participants' health, with an increased frequency of headaches and straining of the eyes in almost 80% of the respondents. Several studies showed similar results, with one indicating that young adults had the longest screen time across all age groups [17]. While another study showed that the percentage of physically inactive students had increased from 21.3% to 65.6% [18].

### Mental Health

When questioned about their emotional well-being, approximately half the respondents felt happy and some felt relaxed. A study performed in Lucknow, India showed that 48.1% of respondents

said that there had been a decrease in their stress level which could be attributed to them having developed new hobbies [5].

Our study showed that some of the participants experienced negative emotions of boredom (73%) irritation (59.2%) and anxiousness (54.5%). However, other studies showed a higher percentage of negative emotions such as worry (68.59%), helplessness (66.11%), and fear (61.98%) [6].

Socialization, an important aspect of an individual's mental well-being, had been weakened due to the lockdown(s) [19]. This was similar to our study, in which the majority of participants believed that they had lost their connection with friends and expressed that virtually connecting through online platforms was not the same as physical interaction.

### Health of Self and Family

COVID-19 is a highly communicable disease, it spreads very easily within a family once an individual is infected [20]. One-third of the respondents or their close family members suffered from COVID-19. Most suffered from a mild infection; however, it affected their mental health significantly. A study from Ghana found that the families affected by COVID-19 experienced psychosocial and economic burdens in addition to health issues [21].

Isolating COVID-19 patients was a measure propagated to contain the spread of infection. This took a toll on the patient's mental health. Virtual meetings had great benefits. According to a study conducted in the UK, patients in the ICU who were allowed virtual visiting by families experienced psychological relief [22]. In our study, to cope with this distress, participants engaged in watching TV shows, reading, and yoga and connecting with friends virtually.

### CONCLUSION

This study assessed the impact of the prolonged lockdown due to COVID-19 pandemic. Although a switch to online education was a boon, majority of students looked forward to classroom learning. Reduced outdoor physical activity and increased screen time had a negative impact on physical and mental health. The major concerns expressed were related to COVID infection and isolation of self and family. Overall, the pandemic and prolonged lockdown had a mixed impact on education, lifestyle, health, and mental health of adolescents and young adults.

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