

Original Research Article

Anxiety among adolescent during COVID-19 pandemic: a cross-sectional study

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ABSTRACT

Background: The epidemic from Wuhan started in early 2020 and within a few months metamorphosed into a pandemic. Emotional disturbance, maladaptive behaviour, defensive responses are a few psychological reactions of the pandemic. Adolescents are exposed to the greatest psychological impact on mental wellbeing due to the closure of schools, cutbacks of outdoor games and monotonous lifestyle. The study aimed to assess anxiety among young adolescents during COVID-19 pandemics.

Methods: A cross-sectional descriptive study was conducted on adolescents of age group 10-17 years. Non-probability convenience sampling technique was used to select the samples. Coronavirus anxiety scale (CAS) was used to assess anxiety among adolescents. Data collected was analyzed using the statistical package for the social sciences (SPSS) version 23.

Results: The study findings revealed that more than half of the adolescents 70 (56%) had no anxiety, mild anxiety was identified among 49 (39%) of the adolescents, only 2.3% of the subjects had moderate anxiety and 3.3% of the adolescents had severe anxiety. The mean score of anxiety level was 0.075 with a standard deviation of 2.80. The Chi-square test (χ^2) showed a significant association between the level of anxiety with the profession of the mother $\chi^2=4.262$ ($p=0.039$).

Conclusions: Results indicate that more than 50% of adolescents were having no anxiety regarding the COVID-19 pandemic. Four (3.5%) of the adolescents were having a total score ≥ 9 measured by CAS. The data presented by UNICEF and other authentic sources, regarding the reduced mortality rate among adolescents could be a reason for reduced anxiety related to COVID-19 among adolescents.

Keywords: Anxiety, Adolescent, Coronavirus anxiety scale, COVID-19 pandemic

INTRODUCTION

The second wave of corona virus disease (COVID-19) has wobbled India and stupefied physicians and scientists across the globe. Nightmarish reports are being telecasted at every news channel which although updates the citizens about the current scenario, at the same time, children also catch a sight of such reports and are being overblown by it. There is uncertainty about the present and future.^{1,2} Emotional disturbance, maladaptive behavior,

and defensive responses are a few psychological reactions of the pandemic.³ More exploration of children's behavior during the pandemic should be reinforced to understand and recce the factors forecasting anxiety and other mental health issues in children.⁴

COVID-19 has exposed the families to stress and emotional disturbance due to innumerable factors like loss of job, homestay, lack of resources, loss of near or dear ones, and fear of getting infected.⁵ Lockdown is the most

effective way chosen to control the spread of COVID-19 but repercussions of this complete shutdown are observed in every age group. Closing of offices, schools, playgrounds, places of worship, no social gathering along with fear of getting infected with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) or diagnosed positive for this virus has led to concern, anxiety, frustration, and depression among all age groups.^{6,7}

Children exhibit different behavior at different stages of development and in distinct circumstances, which is considered normal.^{8,9} Centers for Disease Control and Prevention (CDC) defines anxiety in children as the state of unease and fear which baffles routine activities at home, school, and play. It may also result in anger, irritability, and physiological manifestation as headache and fatigue.¹⁰

More exploration of children's behavior during the pandemic should be reinforced to understand the factors forecasting anxiety and other mental health issues in children.⁴ Along with the study of virology and medical management, researchers are also required to care for children's emotional and psychological health.¹¹

METHODS

A cross-sectional descriptive survey study was conducted among 126 adolescents of urban communities who can read and write Hindi or English. Non-probability convenience sampling was adopted for the adolescents who were willing to participate in the study and data was collected from August 2021 to November 2021 after obtaining the consent of parents. The pilot study was conducted with 20 adolescents and reliability was obtained which was 0.79. The tool included personal variables datasheets like age, gender, education of father, education of mother, the profession of father, the profession of mother, whether father/mother is a health care worker, any present or history of the family member diagnosed with COVID-19, any history of chronic/lifestyle diseases in any family member and standardized coronavirus anxiety scale (CAS) developed by Lee. CAS is an open access, self-reported mental health screener of dysfunctional anxiety associated with the coronavirus crisis. The reliability of CAS is 0.92 with 90% sensitivity and 85% specificity. Each item of the CAS is rated on a five-point scale, from 0 (not at all) to 4 (nearly every day) based on experiences over the past two weeks. A total score of ≥ 9 indicates probable dysfunctional coronavirus-related anxiety. Elevated scores on a particular item or a high total scale score (≥ 9) may indicate problematic symptoms for the individual that might warrant further assessment or treatment.^{12,13} The tool's reliability was obtained through internal consistency using Cronbach alpha and was found reliable (0.86). Again, the anxiety score is subdivided into no anxiety (score-0), mild anxiety (score-1-5), moderate anxiety (score-6-10), severe anxiety (score 11-15), and very severe anxiety (score 16-20). Before commencing the study, ethical clearance was obtained from institutional ethical committee. (AIIMS/IEC/2021/3664). The data

collection tools were converted to Google forms in both Hindi and English languages and a link was shared with subjects/parents through WhatsApp. The confidentiality of data was assured. The filled forms received within the stipulated period were coded and analyzed.

The data collected was analyzed using the statistical package for the social sciences (SPSS) version 23. The data were summarized as mean, frequency, percentage, and standard deviation. The Chi-square test was used to test the association, the p level was set as <0.05 .

RESULTS

Demographic characteristics of participants

The online survey was completed by 126 participants among which most of the subjects were above 14 years (69.85%). More than half of the adolescents were girls (61.1%). The majority of the fathers were graduates and above (60.4%). Most of the mothers (47.6%) were also graduate and above. Fathers of only two subjects were unemployed. Around 27% of mothers were unemployed and 23 (18.3%) parents of adolescents were health care workers. Family members diagnosed with and without COVID-19 were almost equal in number (50.8% and 49.2% respectively). Nearly 3/4th (75.4%) of the adolescent's family members did not report chronic/lifestyle diseases. The Chi-square test (χ^2) showed a significant association between the level of anxiety with the profession of the mother $\chi^2=4.262$ (p value 0.039). The remaining variables do not have any significant association with the level of anxiety (Table 1).

Anxiety score of adolescents based on CAS

Elevated scores on a particular item or a high total scale score (≥ 9) may indicate problematic symptoms for the individual that might warrant further assessment or treatment. In the study four of the adolescent were having a total score ≥ 9 measured by CAS indicates the presence of dysfunctional anxiety that need further assessment and treatment.

More than half of the adolescents 70 (56%) had no anxiety, 49 (38.8%) adolescents had mild anxiety, only 2.3% of the subjects had moderate anxiety and 3.3% of the adolescents had severe anxiety. No one experienced very severe anxiety. So, it was interpreted that most adolescent children did not experience severe anxiety due to the COVID-19 pandemic (Table 2 and Figure 1).

The mean score of anxiety level was 0.075 with a standard deviation of 2.8. So, it was interpreted that the anxiety among adolescents was very less regarding COVID-19 pandemics. The item wise mean anxiety score reflects that the adolescents were having mild symptoms of anxiety (Table 3). Mean score and standard deviation of item 1, 2, 3, 4 and 5 were 0.453 ± 0.816 , 0.373 ± 0.865 , 0.262 ± 0.771 , 0.206 ± 0.406 and 0.198 ± 0.522 respectively.

Table 1: Frequency distribution of subjects and factors determining the anxiety level of the adolescents (n=126).

Demographic variables	Frequency (%)	X ² value	P value
Age in years			
10-13	38 (30.15)	0.006	0.936
14-17	88 (69.85)		
Gender			
Girl	77 (61.1)	1.930	0.165
Boy	49 (38.9)		
Education of father			
Graduate and above	76 (60.4)	1.036	0.309
Below graduate	50 (39.6)		
Education of mother			
Graduate and above	60 (47.6)	0.702	0.402
Below graduate	66 (52.4)		
Profession of father			
Unemployed	2 (1.6)	0.768 [#]	0.381
Employed	124 (98.4)		
Profession of mother			
Unemployed	34 (27)	4.262*	0.039
Employed	92 (73)		
Is your father/mother a health care worker			
Yes	23 (18.3)	0.322	0.571
No	103 (81.7)		
Any family member diagnosed with COVID-19			
Yes	64 (50.8)	1.626	0.202
No	62 (49.2)		
Any chronic/lifestyle diseases in any family members			
Yes	31 (24.6)	1.337	0.248
No	95 (75.4)		

*Level of significance at <0.05, #Fisher exact test

Table 2: Frequency and percentage of subjects based on level of anxiety (n=126).

S. no.	Score	Interpretation	Frequency and percentage
1	0	No anxiety	70 (55.6)
2	1-5	Mild anxiety	49 (38.8)
3	6-10	Moderate anxiety	3 (2.3)
4	11-15	Severe anxiety	4 (3.3)
5	16-20	Very severe anxiety	0

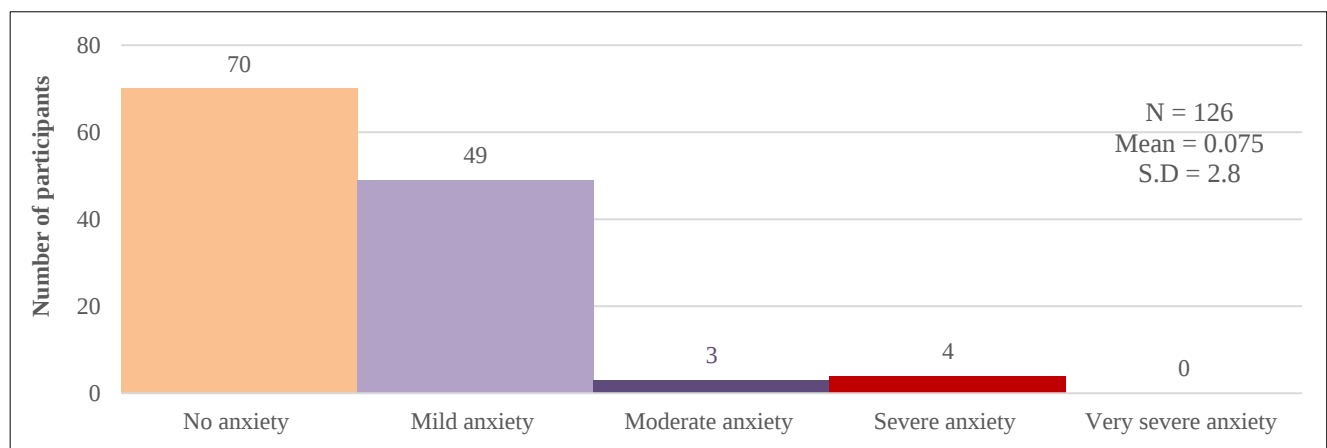
**Figure 1: Histogram showing the distribution of data and mean with the standard deviation.**

Table 3: Mean score of the items.

S. no.	Items	Mean±SD
1	I felt dizzy, lightheaded, or faint when I read or listened to news about the coronavirus	0.453±0.816
2	I had trouble falling or staying asleep because I was thinking about the coronavirus	0.373±0.865
3	I felt paralyzed or frozen when I thought about or was exposed to information about the coronavirus	0.262±0.771
4	I lost interest in eating when I thought about or was exposed to information about the coronavirus	0.206±0.406
5	I felt nauseous or had stomach problems when I thought about or was exposed to information about the coronavirus	0.198±0.522

DISCUSSION

The finding of the current study reflects that more than half of the adolescents 70 (56%) had no anxiety. Studies have shown that during virus provoked pandemics or epidemics larger percentage of respondents reported anxiety or worries.¹⁴⁻¹⁶ Coronavirus disease is ever-evolving since it started in 2019 till date. The data on treatment, vaccines, or scientific data on any long-term impact on health are insufficient till now for the adolescent population. In a study, shattering media reports were reported as a reason for negative coping and increased anxiety.¹⁷ A similar study conducted in China, results of the study revealed that the lower percentages of adolescents with moderate and severe anxiety levels.¹⁸

A study conducted on Asian students indicated that students were among the groups that suffered from increased levels of anxiety during the lockdown compared to the other groups that have participated in the study.¹⁹ Also, in an Argentinian study, it was revealed that student participant was exposed to high psychological distress during the quarantine.²⁰

The findings of our study found that more than half of the adolescents, 55.6% had no anxiety, 38.8% of adolescents had mild anxiety, 2.3% of the subjects had moderate anxiety and 3.3% of the adolescents had severe anxiety. In a similar study conducted among university students in Sudan, more students experienced mild anxiety (75.1%) while 15.5% reported moderate anxiety levels during the pandemic.²¹ Findings were similar to our study findings where maximum adolescents reported no anxiety and 38.8% of adolescents reported mild anxiety. According to data published by UNICEF, as of January 2022, out of 3.5 million COVID-19 deaths were reported, only 0.4% occurred in children and adolescents.²² In India, as per the Ministry of Health and Family Welfare <12% of all confirmed cases are aged below 20 years. Only <2% of all deaths were of individuals below 20 years of age.²³ The reduced mortality rate as pointed out by the data could be a probable reason for less anxiety related to COVID-19.

Even though the consequences of coronavirus disease vary from individual to individual, the recovery rate is high

(97.32%) in India.²⁴ The low anxiety levels among the participants were possibly due to a relative or acquaintance confirmed or doubtful COVID-19, beholding his/her returning towards health.

As suggested in a research report by Zhong et al optimistically driven health education focussing on preventive and protective measures to combat COVID-19 will also help in reducing anxiety among the population especially adolescents and the young generation who follow media.²⁵

The study is limited to small sample of adolescents and also the study is conducted for adolescent of urban community only.

The government and health authorities' roles are important in the COVID-19 crisis to provide adequate information and deny any false information to keep the public informed. In a nerve weakening situation like this, it is of paramount importance to the population to educate and provide access to scientifically accurate information through the digital media platform. This is the long run will ensure better compliance with safety protocols as suggested by health care agencies, which will ensure better coping and less anxiety arising due to the COVID pandemic.

CONCLUSION

Coronavirus disease has been a crippling event, which has unanticipatedly changed human lives. As per research reports and literature, epidemics or pandemics have disastrous, drastic effects primarily on health and on a wider spectrum involving every aspect of society, whether it be education, economy, or political system.^{25,26} To allow adolescents who also are students to cope well with the psychological effects of the pandemic, educational institutions need to have policies to combat any disease outburst.²⁷⁻²⁹

The study may be a part of the project along with other studies which are being carried out to discuss the well-being of students during a pandemic. The result gives new cognizance into the psychological aspect of adolescents and this has its own set of merits. It should be considered

as a priority to find needed interventions to help the adolescent to overcome the negative effects of the pandemic today or tomorrow if any. Parents, educators, and society as a whole should identify ways to enhance students' adaptability skills that will enable them to cope in such situations.

Most importantly, as much as we are convinced that COVID-19 is the current enemy of humanity, we must be aware of the associated impact and be able to respond effectively to all consequences.

The study findings reveal that more than 50% of adolescents were having no anxiety regarding the COVID-19 pandemic. As pointed out by the data presented by UNICEF and other authentic sources, the reduced mortality rate among adolescents is suggestive of their awareness and could be a reason for reduced anxiety related to COVID-19. The study will help to advance knowledge and understanding of anxiety among adolescent taking into consideration epidemics, pandemics, or other communicable or prevalent non communicable diseases.

Recommendations

Despite being a study with a small sample size, the findings of the study are informative about the anxiety-related experience of the adolescent population of urban society, regarding pandemics. The results of this current study can hence, help future researchers on a larger scale in exploring more about the experiences of younger adults regarding an epidemic if any.

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