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Pre and Post Covid Pandemic Effect on Adolescent Mental Health - An Exploration

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Abstract

Background: The COVID-19 pandemic and associated stay-at-home directives have profoundly impacted the mental health of adolescents worldwide. This study aims to investigate these effects specifically among adolescents in India, the second most populous nation globally. With India's response to the epidemic pivotal in shaping global strategies, this research focuses on two primary objectives: (1) assessing the influence of COVID-19 on the mental well-being of adolescents, and (2) evaluating their patterns of seeking mental health support during the pandemic. India implemented stringent lockdown measures despite significant challenges, showcasing initial progress while prompting a critical debate on balancing health benefits against adverse socio-economic consequences. **Materials & Methods:** This study employs a mixed-methods approach, incorporating quantitative surveys to gauge mental health indicators and qualitative interviews to explore help-seeking behaviours among adolescents. **Conclusion:** By elucidating these dynamics, the research aims to inform targeted interventions and policy recommendations aimed at enhancing adolescent mental health resilience in the context of future pandemics.

Keywords: Covid; Pandemic; Mental health; Adolescent

1 Introduction

The outbreak of the Coronavirus Disease 2019 (COVID-19) pandemic has imposed considerable risk on public health, human safety, and well-being and has generated an unprecedented level of panic. In addition to physical repercussions, it has brought about disturbing socio-psychological and economic uncertainties. Mental health problems have been widely reported in the general population during this pandemic across countries.[1] Most of these reports have focused on adults, including healthcare workers.[2] However, children and adolescents deserve a high level of attention because

of their vulnerability to mental health problems especially during emergencies and disasters.

The COVID-19 epidemic and stay-at-home procedures have had multiple effects on this population, especially mental health. Sudden school closures, inadequate physical exercise, and lack of peer connection may have harmed an adolescent's well-being. According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO), about half of the world's student population (862 million children) were affected by the closure of schools[3] and this would harm the mental health of children and adolescents. Online learning could also be perceived as a source of stress, especially for first-time users and students in locations with poor internet, logistic access, and inadequate technical support.[4] Adolescents experiencing such situations are more prone to experiencing significant levels of stress and related symptoms which affect their overall functioning. Anxiety and related effects can be mitigated by social support.

The effect of anxiety, everyday hassles, confrontations, and arguments in the family structures are like flow charts extending to all components and members belonging to the symmetry of a family.

According to recent data, over half of teenagers express hesitation in seeking help for mental health concerns. Additionally, a significant portion of teens are not aware of available mental health hotlines. It's important to address these barriers to accessing support and provide resources for those who may be struggling. (Shifted from discussion needs reference).

The PHQ-2 scale is a reliable and valid screening instrument for detecting significant depression symptoms in adolescents. Its briefness makes it a viable first step for screening adolescents for depression in primary care settings. The PHQ-2 is a simple two-item questionnaire that assesses depression symptoms in adolescents.

With this background this study focuses on effect of covid 19 on mental health of children and their help seeking behavior.

1.1 Aims and Objectives

1. To study the impact of COVID-19 on the mental health of adolescents
2. To evaluate the adolescents' mental help-seeking behavior.

2 Material and Methods

- **Type of study:** Online survey-based observational research was conducted among teenagers residing in Karnataka, India, during the COVID-19 pandemic outbreak. A snowball sampling method was used to distribute the online survey.
- **Study duration:** The data collection spanned five days, from the 25th to the 29th of April 2021. A total of three hundred participants between the ages of 10 and 19, who understood English and had access to the Internet, were invited to take part in the study.
- **Study Methodology:** Participants who had volunteered for the study were recruited after completing an electronic permission form. They were given a letter that explained the study and asked to provide it to their parents. The trial posed very low risks, so passive parental consent was employed.

Initially, a questionnaire that was created using Google Forms was distributed among the investigators' social media contacts, who were urged to forward it to their friends.

Anonymity was maintained to preserve the confidentiality, integrity, and credibility of the data.

2.1 Collection of Data

Parameters collected in the Google form questionnaire are:

a. Socio-demographic information.

b. Patient Health Questionnaire-2 (PHQ-2) - To assess the frequency of depressed symptoms and anhedonia over the previous two weeks. The total score ranges from 0 to 6, with a score of 3 being the cut-off for clinically significant symptoms. Respondents rate their symptoms on a four-point Likert scale from 0 to 3.

c. Questions on anger, relaxation, focus, and sleep.

d. Attitudes and behaviors towards mental health care seeking – Three questions were asked:

- If respondents would seek assistance – Yes/No
- A preferred source of emotional or psychological support - multiple response options.
- Awareness of a hotline for counseling and emotional assistance – Yes/No

2.2 Statistical analysis

The data was imported into a Microsoft Excel spreadsheet and analyzed using SPSS 22. Frequencies and proportions were utilized to depict the categorical data. The Chi-square test was utilized as the significance test for qualitative data. The mean and standard deviation were used to describe continuous data. ANOVA (Analysis of Variance) was employed as the significance test to determine the mean difference between more than two quantitative groups. Using Microsoft Excel and Microsoft Word, numerous sorts of graphs, including bar diagrams and pie diagrams, were generated. p-value < 0.05 was considered statistically significant.

3 Results

A total of Three hundred respondents who responded to the survey between April 25 and April 29, 2021, were included in

the study

Sociodemographic data: The mean age of the participants was 17.01 +/- 1.34 years (range: 10–19 years). The majority of the participants in the research were female (71.3 %), and (73%) had at least one sibling. (78.3%) of respondents belonged to a nuclear family, (17.0%) to a combined family, (4.7%) to a family with a single parent, and (81.7%) to a family with three to five members.

3.1 Symptoms of depression and anhedonia

The sample mean for stress and depression as determined by the PHQ-2 scale was 1.32 (SD = 0.99). Table 1 displays the response distribution for the PHQ-2 scale among subjects Selected for the research.

During the preceding two weeks, 34.7 per cent felt little interest or pleasure in doing things on several occasions, and 32.0% felt melancholy or hopeless on more than half of the days. 41.7 per cent were upset or agitated by the circumstance, and 34.0 per cent found it difficult to relax on more than 50 per cent of the days (32.0%) had difficulty concentrating, and (33.0% had irregular sleeping patterns almost daily. The study did not find any meaningful correlation between sociodemographic characteristics and PHQ-2 score.

3.2 Awareness and help-seeking behavior

If they required psychological support, (47.7%) of respondents stated they were likely to seek assistance, (13.7%) did not intend to seek assistance, and (38.7%) were unclear of their intentions to seek assistance. In the survey, 56.0% were aware of a hotline for counselling and emotional support, whereas (24.3%) were unaware of the existence of such a helpline. Using data depicted in Table 1, most respondents intended to seek assistance from a parent (57.7 %) and/or sibling (57.3 %). 7 Mental health professionals (26.0%), friends (12.7%), and other family members (12.3%) were identified to be additional sources of mental health support. The doctor (9%), an intimate partner (6%), a hotline (2.7%), and religious leaders (1%), were judged to be fewer effective providers of assistance.

4 Discussion

The impact of the COVID-19 pandemic on adolescent mental health has been extensively studied, revealing notable findings:

Higher Depressive Symptoms: Studies indicate a rise in depressive symptoms among adolescents during and after the COVID-19 pandemic, emphasizing the psychological toll of the global crisis[5–7].

Externalizing Difficulties: Some literature suggests an impact on externalizing difficulties in adolescents during the pandemic, pointing to behavioral challenges that emerged in response to the crisis[5].

Biological, Environmental, and Social Factors: A comprehensive review underscores the multifaceted nature of the pandemic's impact on children and adolescents, considering biological, environmental, and social factors[7]. These findings collectively highlight the nuanced effects of the COVID-19 pandemic on the mental health of adolescents, encompassing both emotional and behavioral dimensions. Several studies have reported increases in rates of mental health symptoms and increased demand for mental health services since the onset of the COVID-19 pandemic . Emergency departments (EDs) are increasingly a first point of contact for youth with acute or emerging mental health problems[8], especially among youth with self-harm and substance use-related concerns . While an increasing number of cross-sectional studies have highlighted the effects of the COVID-19 pandemic and associated public health measures on youth mental health , few studies have described changes in ED visits and hospitalization rates for mental health presentations.

It is concerning to know that a significant percentage of adolescents worldwide are affected by mental health disorders. According to the World Health Organization (WHO), 10-20% of adolescents suffer from mental health issues. Adolescents often experience significant mental health issues, as highlighted in the reviewed literature. The findings indicate the prevalence of various challenges, including-

- **Depressive Symptoms:** Adolescents frequently report significant rates of depressive symptoms, reflecting emotional distress and potential mental health concerns[8,9].
- **Hostility:** The literature suggests that adolescents may exhibit increased hostility, signalling emotional challenges and potential difficulties in interpersonal relationships[9].
- **Difficulty Relaxing:** Adolescents face challenges in relaxing, potentially indicating heightened stress levels and the need for coping strategies[9].
- **Sleep Problems:** Sleep-related issues are prevalent among adolescents, with a connection to mental health problems such as depressive symptoms and heightened emotional states[8–10]. These findings underscore the importance of addressing the mental health needs of adolescents, with a focus on emotional well-being and sleep hygiene. Depression has been identified as the leading source of illness burden among young people. It is also disheartening to know that children with mental disorders face numerous Challenges, including stigma, discrimination, and lack of access to healthcare and education. Such obstacles violate their basic rights and should be addressed with urgency.

Table 1. Socio-demographic variables and PHQ-2 scale

Socio-demographic variables		PHQ-2 Scale				P Value
		≥ 3		< 3		
		Count	%	Count	%	
Age	< 14 years	5	29.4	12	70.6	0.219
	15 to 16 years	20	35.7	36	64.3	
	17 to 18 years	97	47.3	108	52.7	
	> 18 years	8	36.4	14	63.6	
Gender	Female	98	45.8	116	54.2	0.175
	Male	32	37.2	54	62.8	
Education	Bachelors/University	10	35.7	18	64.3	0.145
	Lower Secondary	4	23.5	13	76.5	
	Upper Secondary	116	45.5	139	54.5	
Type of Family	Joint Family	19	37.3	32	62.7	0.576
	Nuclear Family	104	44.3	131	55.7	
	Single Parent Family	7	50.0	7	50.0	
Number of Individuals in the household	Six people or more	14	40.0	21	60.0	0.771
	Three to Five People	106	43.3	139	56.7	
	Two People	10	50.0	10	50.0	
Siblings	I am the only child	30	37.0	51	63.0	0.181
	I have a sibling	100	45.7	119	54.3	

Table 2. PHQ-2 scale distribution

PHQ-2 scale	Not at all		Several Days		More than half the days		Nearly every day	
	Count	%	Count	%	Count	%	Count	%
How often have you felt little interest or pleasure in doing things?	34	11.3	104	34.7	112	37.3	50	16.7
How often have you felt down, depressed or hopeless?	74	24.7	89	29.7	96	32	41	13.7
Other problems faced								
How often have you felt agitated or angered about the situation?	48	16	93	31	125	41.7	34	11.3
How often did you find it difficult to relax?	97	32.3	67	22.3	102	34	34	11.3
How often have you has difficulty in concentrating on college / school work, reading etc?	43	14.3	84	28	77	25.7	96	32
How often have you had trouble asleep, staying asleep, or sleeping too much?	61	20.3	64	21.3	76	25.3	99	33

According to the research, there is a need to alleviate the psychological suffering experienced by adolescents during the COVID-19 pandemic. The study found that adolescents reported significant rates of depressive symptoms, hostility, difficulty relaxing, and sleep problems, indicating significant mental health issues. It may be helpful to seek advice from someone who has published stress management advice for adolescents. These findings suggest that there may be short- and long-term repercussions related to the epidemic.

The teenagers must be screened, and those who exhibit deviations from the norm must be treated aggressively. According to recent data, over half of teenagers express hesitation in seeking help for mental health concerns. Additionally, a significant portion of teens are not aware of available mental health hotlines. It's important to address these barriers to accessing support and provide resources for those who may be struggling. (52.3 %) of teenagers reported that they were doubtful about getting assistance 9 for difficulties related to mental health, while (24.3%) were unaware of any mental health hotline.

In the current study according to PHQ-2 scale 16.7% of the subjects felt interested or pleasure in doing things nearly every day, 34.7 % of the subjects felt little interest or pleasure in doing things on several days, 37.3% of subjects felt the same more than half the days and only 11.3% of the subjects felt no interest or pleasure in doing things.

Nearly 30% of the subjects felt depressed on several days and 32 % felt depressed or down for more than half the days. 13.7% subjects felt down or depressed nearly every day. This is in concordance with the study done by Thorisdottir et al. where 48.4% of the young people met with criteria for depression, another study by Bailey et al., showed 28.3% of young people with severe depression.

41.7% of the subjects felt agitated or angered about the situation for more than half the days and 11% of the subjects had similar conditions nearly every day. A study by Thorisdottir et al showed similar results with nearly 51% of the young people with anxiety disorders[11]. Bailey et al. had 27% of the young population with severe anxiety[12].

Nearly 11 % of the subjects faced the issue of relaxing from the current situation and 32% of the subjects had no issues with relaxing during this period. 33% of the subjects had trouble with sleep cycle on a daily basis and 20% of the subjects had no issues with their sleep cycle. 32% of the subjects faced the issue of difficulty in concentrating on college/school work, reading etc., on a daily basis and 20% of the subjects did not deal with such issues. A study done by Bailey et al., in Australia shows a Negative perceived impact of covid 19 in nearly 84-88% of individuals.

According to a systematic review by Nearchou F et. al.[13] depression was within the range of 22.6 to 43.7%, and anxiety was seen in 18.9 to 37.4%. While 62.2% were worried about being infected or contracting covid 19.

The stigma associated with mental health is a major impediment to help-seeking. These findings emphasize the need to conduct initiatives to raise awareness among teenagers. As a result of the epidemic, children of all age groups across the genders suffered comparable levels of sadness and unpleasant emotions, regardless of gender or age. Governments, mental health facilities, and volunteer groups have built platforms and helplines for psychological aid and crisis intervention, but the percentage of public knowledge and usage is low. In India, there are seven psychiatrists per million people, despite a serious shortage. These professionals are concentrated in metropolitan areas and treat just (10 to 20%) of the overall burden of mental health illnesses. The National Mental Health Program (NMHP, 1982) and District Mental Health Program (DMHP,1996) provide mental healthcare in India, which is incorporated into the current primary health system. Due to stringent social distance standards, access to these materials has been restricted. Therefore, Teenagers who are socially isolated at home tend to seek comfort from their families. Support and resources for families are important to help adolescents cope with the pandemic's impact on their mental health. Engaging in activities with their teens may help promote a sense of connection and lessen the effects of social isolation. Implementing virtual counselling services or support groups can also help promote emotional well-being.

Six online methods of the study restricted the participation of teenagers living in remote regions or without internet access. There is a need for more research employing more robust sampling techniques to reflect data from all locations. In light of the government's stringent regulations and the time-sensitive nature of the epidemic, we devised a non-random sampling approach called snowball sampling. As a result, there was an oversample of a certain network of peers, and the results did not Reflect the true pattern of the population. Despite the aforementioned limitations, our study's findings can be utilized to implement mental health treatments to enhance the psychological resilience of teenagers during the COVID-19 pandemic. Family provides the closest and most obvious assistance to children. In addition, the findings highlight the necessity of integrating mental health services not just at the school and community levels, but also at the family level. As we face the challenges posed by the COVID-19 pandemic, it is important to recognize that adolescents are a vulnerable demographic that requires special consideration from mental healthcare professionals.

5 Conclusions

Our study suggests significant impacts of COVID-19 on adolescent mental health and a need for further longitudinal research work in this area**.** The healthcare system should be tailored to provide them with the psychological assistance they need to address issues such as depression symptoms,

hostility, difficulty relaxing, and sleep difficulties. It is imperative that we work together to provide effective mental health care to children and adolescents. Coordination with key individuals involved in mental health care, such as parents, paediatricians, teachers, school counsellors, community volunteers, NGOs, and police, is crucial. Tele mental health services should be widely available and accessible on a variety of devices to address the mental health needs of the population, especially vulnerable and underprivileged communities. Policymakers and healthcare providers should focus on prevention, promotion, and interventions while considering regional contextual factors.

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