

The Impact of the COVID -19 pandemic on children's and adolescents mental health: A Systematic Review

Divya V R¹, B Senthilkumar², Mohini Bhat³, Ashok Jacob Mathews

¹Research Scholar, PG Department of Statistics, Thanthai Periyar Government Arts & Science College(Autonomous), Trichy, Tamilnadu, India, email: divya@claretcollege.edu.in

²PG Department of Statistics, Thanthai Periyar Government Arts & Science College(Autonomous), Trichy, Tamilnadu, India

³Christ Academy Institute for Advanced Studies, Bangalore, Karnataka, India.

⁴Department of Humanities, St.Claret College(Autonomous), Bangalore, Karnataka, India.

ABSTRACT

More people are starting to acknowledge how the COVID-19 pandemic has affected the mental health of kids and teenagers. Nonetheless, a thorough analysis of the data regarding worldwide shifts in mental health before and after the COVID-19 pandemic, with a focus on kids and teenagers, has not been conducted. This systematic review examined longitudinal and repeated cross-sectional studies comparing data from before and during the COVID-19 pandemic to see whether the mental health of children and young people had changed. Peer-reviewed studies with a focus on kids and teens that have been published in English were found by searching the Web of Science, PubMed, Embase, and PsycINFO databases. This revealed some research, from different nations. Comparing data from before and after the epidemic revealed potential harmful effects of the COVID-19 pandemic on the mental health of children and adolescents. High-quality research is urgently needed to examine the pandemic's effects, risks, and protective factors for people's mental health since it will lay a solid foundation for handling such crises in the future.

Keywords: Covid, Cross – Sectional Studies, Longitudinal Study, Bio – Statistics

Received 01.01.2025

Revised 11.02.2025

Accepted 20.03.2025

How to cite this article:

Divya V R , B Senthilkumar , Mohini B, Ashok J M. The Impact of the COVID -19 pandemic on children's and adolescents mental health: A Systematic Review. Adv. Biores. Special Issue [2] 2025. 149-153

INTRODUCTION

The new corona virus SARS-CoV-2, which gave rise to COVID-19, first appeared in Wuhan, China in December 2019 and quickly spread throughout the world. Respiratory symptoms vary in severity, ranging from mild cold-like symptoms to acute respiratory distress syndrome (ARDS) and severe pneumonia [1]. The virus usually manifests symptoms 2–14 days after exposure, and it is mostly transmitted by respiratory droplets and contact with contaminated surfaces. Globally, the pandemic has had a tremendous influence on social, economic, and health issues, resulting in a great deal of disease, fatalities, and major disruptions to daily life. To stop the virus's spread, governments all around the world have put in place a variety of measures, including vaccination drives, social distance, mask laws, and lockdowns.

The development and distribution of vaccines has been a part of the effort to combat COVID-19; several vaccines have been approved for use in an emergency to confer immunity against the virus [3]. Nonetheless, there are still issues to be resolved, such as unequal vaccination rates, the introduction of novel strains, vaccine reluctance, and continuous initiatives to strike a balance between public health and economic growth. According to the most recent report, efforts are still being made around the world to slow down the virus's transmission, cure individuals who are afflicted, and speed up immunization campaigns in order to attain universal immunity and eventually put an end to the epidemic. COVID-19 has had a significant impact on India since its emergence in early 2020[4]. The country experienced several waves of infections, with varying levels of severity. Initially, the nationwide lockdown imposed in March 2020 aimed to curb the spread of the virus, but it also brought about economic hardships and social disruptions.

India faced considerable challenges during the pandemic, including the strain on its healthcare infrastructure, shortage of medical supplies, and difficulties in implementing widespread testing and contact tracing. The country witnessed a surge in cases during the first wave in mid-2020 and subsequent waves, notably the devastating second wave in April-May 2021, which overwhelmed hospitals and led to a high number of deaths. Efforts to combat the virus included vaccination drives, with the Indian government aiming to inoculate a large portion of the population. However, challenges such as vaccine distribution disparities, logistical hurdles, and vaccine hesitancy persisted. Despite these challenges, India also demonstrated resilience and innovation in its response to COVID-19. The country ramped up its healthcare infrastructure, expanded testing capabilities, developed indigenous vaccines such as Covaxin and Covishield, and initiated large-scale vaccination campaigns. As of the latest update, India continues its efforts to manage the pandemic, with ongoing vaccination drives, surveillance measures, and public health interventions. While significant progress has been made, challenges such as the emergence of new variants and the need for equitable vaccine distribution remain areas of focus for the country's response to COVID-19 [5].

Lockdown and COVID-19 have caused fear and anxiety around the world. These occurrences may have both immediate and long-term repercussions on children and adolescents' behavioral and mental health. The type and extent of an impact on minors are influenced by a number of sensitive factors, including developmental stage, educational achievement, pre-existing mental health conditions, socioeconomic deprivation, and confinement owing to infection or fear of infection.

The purpose of this study is to present a narrative evaluation of multiple articles on the mental health of kids and teenagers impacted by the COVID-19 pandemic and the introduction of regional or nationwide lockdowns to halt the disease's spread. The goal of this was to evaluate children's and adolescents' mental health both during and after the COVID-19 pandemic. The systematic review included longitudinal and repeated cross-sectional studies that compared data from before and during the pandemic [6].

MATERIAL AND METHODS

The COVID-19 pandemic has had significant effects on the mental health of children and adolescents, both during and after the crisis. Some of the key impacts include:

1. **Increased Anxiety and Stress:** Children and adolescents may experience heightened anxiety and stress due to concerns about their health and the health of their loved ones, fear of contracting the virus, and disruptions to their daily routines and social lives.
2. **Social Isolation and Loneliness:** Measures such as lockdowns, school closures, and physical distancing have led to increased social isolation and feelings of loneliness among children and adolescents. Lack of in-person interaction with peers and limited opportunities for socialization can negatively impact their mental well-being.
3. **Disruption of Education:** School closures and the shift to online learning have disrupted the educational experiences of children and adolescents, leading to feelings of frustration, disengagement, and academic stress. The digital divide has also exacerbated disparities in access to education and resources.
4. **Loss and Grief:** Many children and adolescents have experienced loss and grief during the pandemic, including the loss of loved ones, disruptions to family dynamics, and missed milestones such as graduations and celebrations. Coping with these losses can have a profound impact on their mental health.
5. **Increased Screen Time and Sedentary Behavior:** With increased reliance on digital devices for learning, entertainment, and socializing, children and adolescents may experience excessive screen time and sedentary behavior, which can contribute to mental health issues such as depression, anxiety, and sleep disturbances.
6. **Financial Strain:** Economic hardships experienced by families during the pandemic, such as job loss or financial instability, can increase stress levels and negatively impact the mental health of children and adolescents.
7. **Uncertainty and Fear of the Future:** The prolonged nature of the pandemic and uncertainties about the future, including concerns about returning to school, resuming extracurricular activities, and the long-term effects of the pandemic, can contribute to feelings of anxiety, depression, and hopelessness among children and adolescents.

A comprehensive strategy that incorporates social support networks, stress management techniques, resilience building, and well-being promotion is needed to address the mental health needs of children and adolescents during and after the COVID-19 pandemic. Young people's mental health must be given

first priority, and they must be given the tools and resources they require to successfully navigate these trying times [7].

Stressors that could impact the mental health of children and young people.

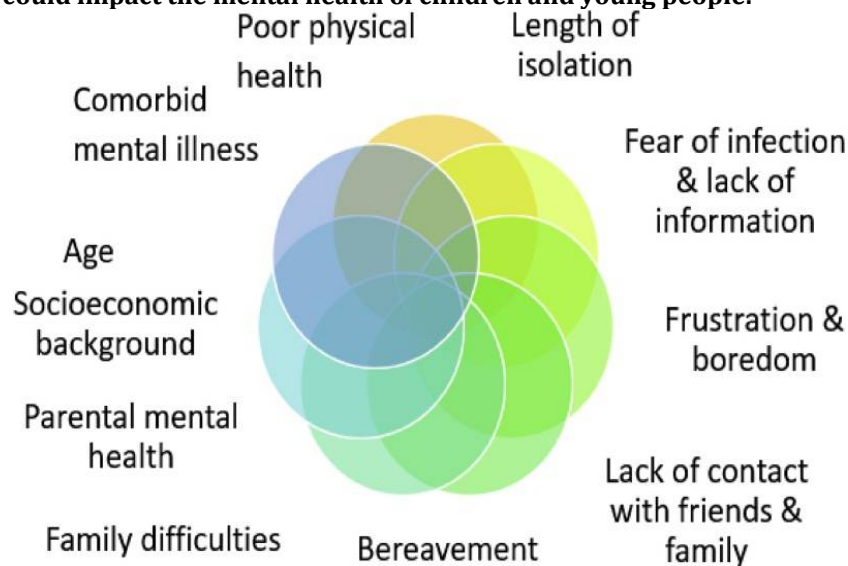


Fig 1: Effect of Stress on Human health

The long-term consequences of the COVID-19 pandemic on adolescents and children could be multifaceted and may continue to unfold over time. Some potential long-term impacts include:

1. **Educational Disparities:** Extended periods of school closures and disrupted learning may exacerbate educational inequities. Children who experienced significant learning loss during the pandemic may struggle to catch up, widening achievement gaps and affecting their long-term educational and career prospects [8].
2. **Mental Health Challenges:** The mental health effects of the pandemic could persist long after its end. Adolescents and children who experienced anxiety, depression, or trauma during the pandemic may continue to grapple with these issues, potentially affecting their emotional well-being, relationships, and future mental health outcomes[14].
3. **Social Skills and Relationships:** Prolonged periods of social isolation and limited face-to-face interaction may impact the social development of children and adolescents. Lack of opportunities for socialization, peer interaction, and relationship-building could affect their ability to form and maintain healthy relationships in the long term.
4. **Economic Impact:** Families facing financial hardship due to job loss, reduced income, or business closures may continue to experience economic strain even after the pandemic subsides. Economic instability can impact children's access to resources, educational opportunities, and overall well-being [15].
5. **Healthcare Access:** Disruptions in healthcare services during the pandemic may have long-term consequences for children's health. Delayed vaccinations, missed healthcare appointments, and reduced access to preventive care could lead to long-term health issues and increased healthcare disparities [16].
6. **Trauma and Resilience:** Children and adolescents who experienced illness, loss, or trauma during the pandemic may carry emotional scars that persist into adulthood. However, resilience-building experiences and supportive relationships can also help them develop coping mechanisms and resilience in the face of adversity.
7. **Digital Dependency:** Increased reliance on digital technology for education, socialization, and entertainment during the pandemic may shape children's behaviors and preferences in the long term. Excessive screen time, social media use, and online interactions could have lasting effects on their cognitive development, social skills, and mental health [9].
8. **Public Health Preparedness:** The experience of living through a global pandemic could influence children's perceptions of health, hygiene, and public safety in the long term. It may also shape their attitudes towards public health policies, emergency preparedness, and community resilience efforts [10].

- Environmental Awareness: The pandemic highlighted the interconnectedness of human health, ecosystems, and environmental sustainability. Children and adolescents who witnessed the environmental impacts of reduced human activity during lockdowns may develop greater awareness and concern for environmental issues in the long term [11].

Addressing these long-term consequences will require sustained efforts from families, communities, educators, healthcare providers, and policymakers to support the well-being and resilience of children and adolescents as they navigate the post-pandemic world [12].

COVID-19 PANDEMIC IMPACTS ON CHILDREN AND ADOLESCENTS

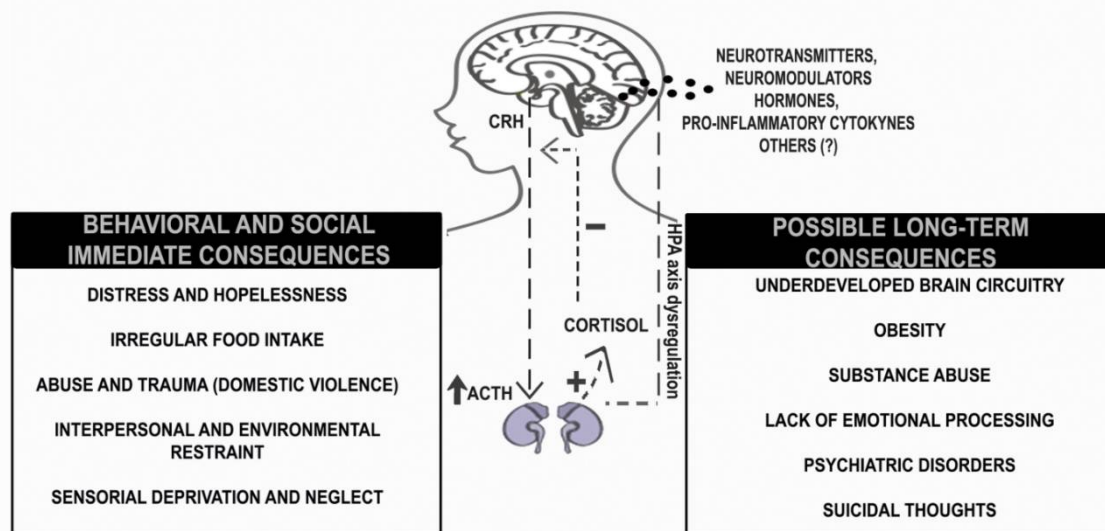


Fig 1: COVID 19 Pandemic Impacts on children and adolescents

RESULTS AND DISCUSSION

Data from before and after the outbreak were compared and the results indicated that the COVID-19 pandemic may have a negative effect on children's and adolescents' mental health. Recent studies comparing data from before and after the outbreak of COVID-19 have shed light on the potential negative effects of the pandemic on children's and adolescents' mental health [13]. These findings underscore the significant challenges that young people have faced as a result of the pandemic-related disruptions to their lives. Before the pandemic, children and adolescents already faced various stressors and mental health concerns. However, the unprecedented changes brought about by COVID-19, such as school closures, social distancing measures, and economic hardships, have exacerbated these challenges. The disruption to daily routines, isolation from peers, uncertainty about the future, and increased exposure to stressors within the family environment have contributed to heightened levels of anxiety, depression, and loneliness among young people. Furthermore, the transition to remote learning and increased screen time have presented additional challenges to their mental well-being. These findings underscore the importance of prioritizing the mental health of children and adolescents during and after the pandemic. It is essential to provide young people with access to mental health support services, resources for coping with stress, and opportunities for social connection and emotional expression. Additionally, efforts to address the underlying social and economic factors contributing to mental health disparities among children and adolescents are crucial for promoting their overall well-being in the face of ongoing challenges posed by the COVID-19 pandemic. High-quality research is urgently needed to examine the pandemic's effects, risks, and protective factors for people's mental health since it will lay a solid foundation for handling such crises in the future.

REFERENCES

- Rajarathinam, A., P. Tamilselvan and M. Ramji, (2021). Estimating hidden models and trends in COVID-19 infected cases. *Strad Res.*, 8: 128-133.
- Ding, Y. and L. Gao, (2020). An evaluation of COVID-19 in Italy: A data-driven modeling analysis. *Infect. Dis. Modell.*, 5: 495-501
- [3]. Roy, S. and K.R. Bhattacharya, (2020). Spread of COVID-19 in India: A mathematical model. *J. Sci. Technol.*, 5: 41-47.

4. Shweta Singh, Deblina Roy, Krittika Sinha, Sheeba Parveen, Ginni Sharma, Gunjan Joshi(2020).Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations .
5. CDC Data and statistics on children's mental health | CDC. Centers Dis. Control Prevent.(2019). <https://www.cdc.gov/childrensmentalhealth/data.html> .
6. Camila Saggioro de Figueiredo, (2021). COVID-19 pandemic impact on children and adolescents' mental health: Biological, environmental, and social factors -2:106:110171.
7. Ashikkali L, Carroll W, Johnson C. The indirect impact of COVID-19 on child health. *Paediatr Child Health* (Oxford). 2020 Dec;30(12):430-437. doi: 10.1016/j.paed.2020.09.004. Epub 2020 Sep 16. PMID: 32959000; PMCID: PMC7494255.
8. Fangping Chen, (2020). Depression and anxiety among adolescents during COVID-19: A cross-sectional study. 88:36–38.
9. Ludvigsson JF. Systematic review of COVID-19 in children shows milder cases and a better prognosis than adults. *Acta Paediatr*. 2020 Jun;109(6):1088-1095. doi: 10.1111/apa.15270. Epub 2020 Apr 14. PMID: 32202343; PMCID: PMC7228328.
10. Lee J. Mental health effects of school closures during COVID-19. *Lancet Child Adolesc Health*. 2020 Jun;4(6):421. doi: 10.1016/S2352-4642(20)30109-7. Epub 2020 Apr 14. Erratum in: *Lancet Child Adolesc Health*. 2020 Jun;4(6):e16. doi: 10.1016/S2352-4642(20)30128-0. PMID: 32302537; PMCID: PMC7156240.
11. Zhou, J., Zhang, Y., He, S. *et al*. Accelerated global burden of depressive disorders during the COVID-19 pandemic from 2019 to 2021. *Sci Rep* **15**, 9529 (2025). <https://doi.org/10.1038/s41598-025-93923-4>
12. Dekker L, Hooijman L, Louwerse A, Visser K, Bastiaansen D, Ten Hoopen L, De Nijs P, Dieleman G, Ester W, Van Rijen S, Truijens F, Van der Hallen R. Impact of the COVID-19 pandemic on children and adolescents with autism spectrum disorder and their families: a mixed-methods study protocol. *BMJ Open*. 2022 Jan 25;12(1):e049336. doi: 10.1136/bmjopen-2021-049336. PMID: 35078834; PMCID: PMC8795917.
13. Brown SM, Orsi R, Chen PCB, Everson CL, Fluke J. The Impact of the COVID-19 Pandemic on Child Protection System Referrals and Responses in Colorado, USA. *Child Maltreat*. 2022 Feb;27(1):3-11. doi: 10.1177/10775595211012476. Epub 2021 Apr 26. PMID: 33896229; PMCID: PMC9011917.
14. Racine N, McArthur BA, Cooke JE, Eirich R, Zhu J, Madigan S. (2021). Global Prevalence of Depressive and Anxiety Symptoms in Children and Adolescents During COVID-19: A Meta-analysis. *JAMA Pediatr*. 2021 Nov 1;175(11):1142-1150. doi: 10.1001/jamapediatrics.2021.2482. PMID: 34369987; PMCID: PMC8353576.
15. Baumann M. (2021). COVID-19 and mental health in children and adolescents: a diagnostic panel to map psychosocial consequences in the pandemic context. *Discov Ment Health*. 1(1):2. doi: 10.1007/s44192-021-00002-x. Epub 2021 Oct 25. PMID: 35174361; PMCID: PMC8544185.
16. Li D, Nyhan K, Zhou X, *et al*. School closures and reopenings during the COVID-19 pandemic: a scoping review protocol *BMJ Open* 2022;**12**:e054292. doi: 10.1136/bmjopen-2021-054292

Copyright: © 2025 Author. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.