

Mental wellbeing of Pediatric Population during Covid-19 Pandemic Era-A Review

Priyanka Yadav^{1*}, Manju Lata²

¹WOS-B Research Scientist, Department of Zoology, MSJ Government Post Graduate College, Bharatpur-321001, Rajasthan, India

²Associate Professor, Department of Zoology, MSJ Government Post Graduate College, Bharatpur-321001, Rajasthan, India

***Address for Correspondence:** Dr. Priyanka Yadav, WOS-B Research Scientist, Department of Zoology, MSJ Government Post Graduate College, Bharatpur-321001, Rajasthan, India

E-mail: priyanyadav1980@gmail.com

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ABSTRACT

All ages children can be affected with coronavirus disease 2019 (COVID-19). According to various data, the proportion of children among COVID-19-affected patients was small, and the majority of children developed the mild illness. Children are just as likely as adults to become infected with SARS-CoV-2, but they are less likely to be symptomatic or affected with severe symptoms, according to preliminary reports. Many researchers discuss physical health and morbidity in children however mental health status remains unnoticed. This review aims to give an idea that is how to identify the risk factors that affected mental health and suggest possible solutions to avoid the adverse result of this pandemic crisis on the psychology of our future adult generations.

Key-words: Children, COVID-19, Mental health, Pandemic, SARS-CoV-2

INTRODUCTION

Coronaviruses (CoVs) are a huge family of enveloped, single-stranded RNA viruses. Coronaviruses can rapidly mutate and leading to novel CoV that can spread from animals to humans. Coronavirus causes respiratory and gastrointestinal problems in humans. The symptoms can range from a simple cold to more serious illnesses like pneumonia, severe acute respiratory distress syndrome, multi-organ failure, and even death ^[1].

Various strains of Coronaviruses normally circulate among humans. SARS-CoV (Coronavirus) strain appeared in 2002 and MERS-CoV (Middle East respiratory syndrome coronavirus) was found in 2012. Currently, Novel coronavirus (SARS-CoV-2) is causing a severe outbreak of the disease in multiple countries, cause a global pandemic.

It seems to affect children less commonly and cause less severe disease in this age group and with lower mortality rates compared with adults ^[2-4].

Children are accounting for a significant percentage of new COVID-19 cases in the United States, accounting for nearly 21%. Since the outbreak began, more than 3.63 million children have tested positive in the United States, accounting for around 13.6 percent of all cases, according to the American Academy of Pediatrics and the Children's Hospital Association ^[5].

According to research, 10 to 14 years aged group children are less likely affected with Covid-19 than those aged more than 20 years. On the other hand, Covid-19 causes serious illness in some young age group children. They may need to be admitted to the hospital and treated in an intensive care unit. Furthermore, children with underlying morbid illnesses like diabetes, asthma, or obesity may be at higher risk of serious disease ^[6].

Some researchers believe that youngsters react differently to COVID-19 because other similar group viruses spread in the community and cause diseases like the common cold, according to numerous publications. Since children often have a common cold, their immune

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systems might be pre-programmed to offer some defence against COVID-19. It's maybe possible that the immune systems of children and adults interact differently with the coronavirus. Some adults may be severely affected because of over reactive immune systems to the virus, causing more damage. Moreover, it is believed that mild infections caused by respiratory and gastrointestinal viruses are common in children hence pre-existing antibodies against previous viral infections confer cross-protection against COVID-19 [7]. Another fact about the number of Covid-19 cases reported in children is low because the test is reliant on testing criteria; in many cases, testing was done only on individuals who were symptomatic or required hospitalization, this occurs less frequently in children and adolescents.

Literature search review- A literature search conducted through Medline, PubMed, Google Scholar and Embase using the following keywords, 'COVID-19', 'SARS-CoV-2', 'coronavirus', 'mental health', 'paediatrics', 'children', 'adolescent', 'behavioural', 'psychological impact', 'lock down', 'quarantine,' and 'education.' The objectives of this review are to recognize the overall psychological impact of the pandemic on children, observing factors influencing their mental health and evidence-based recommendations.

Influence of COVID-19 on the mental health of the pediatric population- COVID-19 epidemic was originally detected in China, and over some time, it spread over the world, resulting in a global pandemic. As of September 2021, the coronavirus had spread all over the world with at least 228,394,572 confirmed cases of COVID-19, including 4,690,186 deaths, reported globally. In the Indian scenario, there have been 33,478,419 confirmed cases of the new coronavirus with 445,133 deaths [8]. This epidemic was designated a national emergency in several nations, causing millions of people to go into lock down. The worldwide community, particularly young- sters, has been greatly disrupted by this unexpectedly imposed social isolation.

To promote and comply with social distancing standards, most schools closed and transitioned to home-based or online learning as part of the measures to minimize the virus's spread. The move away from the physical education programme has caused a major disturbance in the lives of students and their families, creating a possible risk to children's mental health [9].

An unexpected change in the education environment, restricted social contacts and activities caused an unusual situation for developing brains of children [10]. With the ongoing corona virus pandemic, various mental disorders and other health issues are observed in children and adolescents hence, this should be taken into consideration [11]. Moreover, there is some responsibility of the scientific community and healthcare workers to assess and examine the psychological impact on children. Countries all around the world, including many developed countries, are grappling with how to best protect children against the psychological effects of coronavirus.

Contributory factors to the mental health of children-

Children and their families have been subjected to direct and indirect stressors and emotional disturbances as a result of the Covid-19 pandemic. This sickness instills fear in youngsters because they are concerned not only about becoming infected, but also about their parents remaining at home and not going to work [12]. Parents have had to work from home for several weeks due to the lockdown. Additionally, due to job losses, many families have lost their financial independence [13].

During the pandemic, different situations emerged. Some children have parents working on the front lines of COVID-19 situations, while others have parents who now work from home or have recently lost their jobs [14]. Some families have difficulty feeding their children because many of them were dependent on daily or temporary work.

Children and adolescents who are confined to their homes are worried because their education and physical activity are disrupted [15]. The absence of a regular school causes interruption in routine activities; create dullness, and a lack of new ideas for engaging in various academic and extracurricular activities for extended periods. As a result of the long-term change in their routine, children have become more attached, attention-seeking, and dependent on their parents [16-18].

Furthermore, international students are affected by uncontrollable factors like school closures, campus closures and travel restrictions. Due to the unexpected lockdown of many countries to foreigners, school administrators are under a lot of pressure to provide lodging, food, and safety for their international students [14,19].

While switching to online classes has aided both international and domestic students in continuing their education, numerous youngsters and faculty members are upset since they may lack the technical skill or expertise needed to manage this new way of communication. Faculties have expressed concerns about their ability to deal with current technology as a result of the online teaching style [19]. The COVID-19 pandemic resulted in an unprecedented humanitarian and health crisis. It led to an economic slowdown. Family's general well-being, as well as their mental health, will be harmed by the combination of economic uncertainty and psychological trauma [20].

Evidence-based References- Under this current scenario, chronic diseases can increase the risk of mental illness.

The physical and psychological well-being of children must be balanced [2]. Mental health consists in regulating our emotions, psychological and social welfare. It also helps to identify how we respond to stress, how we relate to others, and how we make decisions. Mental health is important throughout our lifetime, from early childhood to adolescent and adult life. When a person's mental health is harmed, it can lead to problems that impact how they think, feel, or behave, such as depression, anxiety. Mental illness, particularly depression, impairs rational thinking and raises the likelihood of developing other health issues such as diabetes [21,22]. Various publications, described below in Table 1, highlighted some aspects of COVID-19 on mental wellbeing in the pediatric population.

Table 1: Literature on psycho-social aspects of COVID-19 among the pediatric population

Author and publication year	Literature objective	Key findings
Jiao <i>et al.</i> [15]	Behavioral and Emotional Disorders in Children during the COVID-19 Epidemic	A combined group found that attention difficulty, and irritability as commonest emotional conditions shown by all younger children
Fegert <i>et al.</i> [11]	Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health	There are several pandemic-related mental health risks for minors. During the acute phase, the main problem has been associated with social distancing and reduced access to support facilities. Following the pandemic, economic downturn and the significances of anxiety, stress, may be the most pressing issues to address in child and adolescent psychiatry care.
Wagner [14]	Addressing the Experience of Children and Adolescents During the COVID-19 Pandemic	Attempts should be made to spend more time with kids than usual, and to reassure thinking about or contacting relatives
Zhai and Du [18]	Mental health care for international Chinese students affected by the COVID-19 outbreak	Care and advocacy play an important role in promoting mental health. Therefore, hovering institutional and societal awareness of students for mental health care can be a critical factor of supporting them
Roy <i>et al.</i> [26]	Impact of COVID-19 Pandemic Led Lockdown on the Lifestyle of Adolescents and Young Adults	The study found changes in various lifestyle indices in pediatrics because of COVID-19 lockdown. Increased screen time and habits could be countered by encouraging adolescent and young adult participation in co-curricular activities.
Liu <i>et al.</i> [17]	Mental health considerations for children quarantined because of COVID-19	Quarantine policies have been developed considering impact of isolation on mental health of children
Xiang <i>et al.</i> [30]	Impact of COVID-19 pandemic on children and adolescents' lifestyle behavior larger than expected	Study data stated a significant decrease in physical activity and increase in screen time during the COVID-19 pandemic

Lee ^[16]

Mental health effects of school closures during COVID-19

Children with specific educational needs are particularly vulnerable. Routines at school are important for young people with mental health issues because they help them manage and organize their behaviour. There has also been an increase in child abuse as a result of the pandemic and lockdown because of economic distress.

Furthermore, children can be taught coping techniques that allow them to self-regulate their emotions without relying on others. Behavioral activation, which focuses on participating in things people enjoy rather than using avoidance behaviors, is one technique for achieving this goal ^[15]. Children, who are more prone to stress health crises should be provided special attention through a collaborative approach involving their parents, educators, school administrators, psychologists, and psychiatrists. Additional mental health counselors should be hired to assist kids in managing their anxiety, depression, and/or stress as a result of COVID-19, as well as to stabilize any previously diagnosed mental illness or avoid the onset of a new mental disease ^[23,24].

According to a survey of parents of children aged between 5 to 15 in New Delhi, 54 percent said their children spend an additional five hours per day on a screen. Approximate 84 percent of parents were concerned about their child's increased screen time ^[25]. Another study conducted among school-going kids in both rural and urban areas discovered that average screen time has increased by around 2 hours since the normal time ^[26].

Physical activity decreased as screen time increased. Reduced physical activity (and, conversely, increased sedentary behavior) has been linked to negative physical and mental health outcomes such as loss of muscular fitness, weight gain, psychosocial problems, poor academic achievement, and eye disorders, according to research. To avoid long periods of screen time, it is recommended that the family should play board games and join sports activities with the child. Evidence suggests that the negative impacts may have long-term consequences ^[27-30]. Only a strong educational and healthcare system will be able to protect and sustain the mental health of the next generation of adults ^[24]. Therefore, it is necessary to have adequate resources to overcome this crisis.

DISCUSSION

Global understanding of COVID-19 has expanded around the world, but it's immediate and long-term impact on children's mental health is significant. Children's psychological well-being is affected as a result of measures taken to stop the virus from spreading and deal with unknown conditions ^[31].

Many methods taken to avoid the coronavirus, such as closing schools, limiting social interactions, restricting travel, limiting athletic activities, and converting all classes to online ones, have caused mental pain, dread, and worry among children and their parents. Despite the low occurrence of COVID-19 infection among young children and adolescents, the stress they face makes their situation extremely vulnerable. Various studies have been conducted to examine the impact of COVID-19 and lockdown on children and youth. The results of these studies show that the nature and scope of this impact are influenced by several risk variables, including developmental age, educational status, pre-existing mental health conditions ^[32].

During a pandemic, parents are very likely to notice changes in their children's behavior. If the behavior issues are minor and do not endanger the children or others, parents should consider ignoring them and ceasing to pay attention to them. This will help to reduce the occurrence of the behavior while also giving parents and children space ^[33].

At the moment, it is unclear how long the pandemic will last and what the long-term consequences will be Kirkcaldy *et al.* ^[34] and CDC ^[35]. However, in long term scenario various adverse effects are likely and post-COVID-19 pandemic world would not be the same. The influences of post-pandemic in children may go far beyond physical health including psychosocial and educational ^[36].

CONCLUSIONS

The mental health of children must be continually protected and guarded by parents, educational institutions and health authorities through open

communication and the facilitation of competent counselling to address stressors.

For future perspectives, it is recommended that new policies or guidance should be in place to support those children who have found lockdown to be particularly difficult in terms of mental well-being during the current pandemic scenario.

CONTRIBUTION OF AUTHORS

Research concept-Dr Priyanka Yadav

Research design- Dr Priyanka Yadav

Supervision-Dr Manju Lata

Materials-Dr Priyanka Yadav

Data collection-Dr Priyanka Yadav

Data analysis and Interpretation- Dr Manju Lata

Literature search- Dr Priyanka Yadav

Writing article-Dr Priyanka Yadav

Critical review-Dr Manju Lata

Article editing-Dr Priyanka Yadav

Final approval-Dr Manju Lata

REFERENCES

- [1] Pal M, Berhanu G, Desalegn C, Kandi V. Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2): An Update. *Cureus*, 2020; 12(3): e7423
- [2] Center for Disease Control & prevention (CDC.gov). Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19)-United States, MMWR Morb Mortal Wkly Rep., 2020; 69: 343-46.
- [3] Livingston E, Bucher K. Coronavirus Disease 2019 (COVID-19) in Italy. *JAMA*. 2020; 323(14): 1335.
- [4] Report on the Epidemiological Features of Coronavirus Disease 2019 (COVID-19) Outbreak in the Republic of Korea from January 19 to March 2, 2020. *J Korean Med Sci.*, 2020; 16; 35(10): e112.
- [5] American Academy of Pediatrics and the Children's Hospital Association. [Updated 2021 September 18] Available from: <https://www.aappublications.org>.
- [6] Zhonghua Liu Xing Bing Xue Za Zhi. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China, 2020; 41(2): 145-51.
- [7] Zimmermann P, Curtis N. Coronavirus Infections in Children Including COVID-19: An Overview of the Epidemiology, Clinical Features, Diagnosis, Treatment and Prevention Options in Children. *Pediatr Infect Dis J.*, 2020; 39(5): 355-68.
- [8] Covid-19 WHO statistics. [updated 2021 September 18] Available from: <https://covid19.who.int/>.
- [9] Kohl HW, Cook HD. Committee on Physical Activity and Physical Education in the School Environment; Food and Nutrition Board; Institute of Medicine; Educating the Student Body: Taking Physical Activity and Physical Education to School. Washington (DC): National Academies Press (US); 2013 Oct 30. 3, Physical Activity and Physical Education: Relationship to Growth, Development, and Health. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK201497/>.
- [10] Kolb B, Gibb R. Brain plasticity and behaviour in the developing brain. *J Can Acad Child Adolesc Psychiatry*, 2011; 20(4): 265-76.
- [11] Fegert JM, Vitiello B, Plener PL, et al. Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child Adolesc Psychiatry Ment Health*, 2020; 14: 20.
- [12] Chronicle.com. Shock, fear, and fatalism: as coronavirus prompts colleges to close, students grapple with uncertainty. [updated 2020 March 12] Available from: <https://www.chronicle.com>.
- [13] World economic forum.org. COVID-19 is hurting children's mental health. Here are 3 ways we can help. [updated 2020 May 01] Available from: <https://www.weforum.org>.
- [14] Wagner KD. Addressing the Experience of Children and Adolescents during the COVID-19 Pandemic. *J Clin Psychiatry*, 2020; 81(3): 20ed13394.
- [15] Jiao WY, Wang LN, Liu J, Fang SF, Jiao FY, et al. Behavioral and Emotional Disorders in Children during the COVID-19 Epidemic. *J Pediatr.*, 2020; 221: 264-266.e1.
- [16] Lee J. Mental health effects of school closures during COVID-19. *Lancet Child Adolesc Health*, 2020; 4(6): 421.
- [17] Liu JJ, Bao Y, Huang X, Shi J, Lu L. Mental health considerations for children quarantined because of COVID-19. *Lancet Child Adolesc Health*, 2020; 4(5): 347-49.
- [18] Zhai Y, Du X. Mental health care for international Chinese students affected by the COVID-19 outbreak. *Lancet Psychiatry*, 2020; 7(4): e22.

- [19] Coronavirus: universities are shifting classes online-but it's not as easy as it sounds. [Updated 2020 March 10] <https://theconversation.com>.
- [20] Covid-19 crisis poses threat to financial stability. [updated 2020 April 14]. Available from: <https://www.imf.org>.
- [21] Jurewicz I. Mental health in young adults and adolescents-supporting general physicians to provide holistic care. *Clin Med (Lond)*, 2015; 15(2): 151-54.
- [22] ACOG.org [updated 2017 July; Reaffirmed 2020]. Mental Health Disorders in Adolescents. Available from: <https://www.acog.org>.
- [23] Merikangas KR, He JP, Burstein M, Swanson SA, Avenevoli S, et al. Lifetime prevalence of mental disorders in U.S. adolescents: results from the National Comorbidity Survey Replication--Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry*, 2010; 49(10): 980-89.
- [24] Shah K, Chaudhari G, Kamrai D, Lail A, Patel RS. How Essential Is to Focus on Physician's Health and Burnout in Coronavirus (COVID-19) Pandemic? *Cureus*, 2020; 12(4): e7538.
- [25] [Economictimes.indiatimes.com](https://economictimes.indiatimes.com) COVID-19 Impact: Screen Time up by 100% for Children. [Updated 2020 June 15] Available from: <https://economictimes.indiatimes.com>.
- [26] Roy S, Tiwari S, Kanchan S, Bajpai P. Impact of COVID-19 Pandemic Led Lockdown on the Lifestyle of Adolescents and Young Adults. *Ind J Youth Adol Health*, 2020; 7(2): 12-15.
- [27] Gopinath B, Baur LA, Wang JJ, Hardy LL, Teber E, et al. Influence of physical activity and screen time on the retinal microvasculature in young children. *Arterioscler Thromb Vasc Biol.*, 2011; 31(5): 1233-39.
- [28] Korczak DJ, Madigan S, Colasanto M. Children's Physical Activity and Depression: A Meta-analysis. *Pediatrics*, 2017; 139(4): e20162266.
- [29] Haapala EA, Vaisto J, Lintu N, Westgate K, Ekelund U, et al. Physical activity and sedentary time in relation to academic achievement in children. *J Sci Med Sport*, 2017; 20(6): 583-89.
- [30] Xiang M, Zhang Z, Kuwahara K. Impact of COVID-19 pandemic on children and adolescents' lifestyle behavior larger than expected. *Prog Cardiovasc Dis.*, 2020; 63(4): 531-32.
- [31] Singh S, Roy D, Sinha K, Parveen S, Sharma G, et al. Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Res.*, 2020; 293: 113429.
- [32] Panchal U, Salazar de Pablo G, Franco M, Moreno C, et al. The impact of COVID-19 lockdown on child and adolescent mental health: systematic review. *Eur Child Adolesc Psychiatry*, 2021; pp. 1–27.
- [33] Francisco R, Pedro M, Delvecchio E, Espada JP, Morales A, et al. Psychological Symptoms and behavioral changes in children and Adolescents during the early phase of COVID-19 quarantine in three european countries. *Front Psychiatry*, 2020; 11: 570164.
- [34] Kirkcaldy RD, King BA, Brooks JT. COVID-19 and Post infection Immunity: Limited Evidence, Many Remaining Questions. *JAMA*, 2020; 323(22): 2245–46.
- [35] Center for Disease Control & Prevention (CDC.gov). Learn about mental health [Updated June 28, 2021]. Available from: <https://www.cdc.gov>.
- [36] [Unicef.org](https://www.unicef.org) don't let children be the hidden victims of COVID-19 pandemic [Updated 2020, April 09]. Available from: <https://www.unicef.org>.

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