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## Review Article

## Impact of Covid-19 on children physical and mental health

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## ABSTRACT

Today's children are tomorrow's citizen with this statement it's very important that children's health is a vital parameter to be protected. Children of all ages, and from all countries, have been affected by the socioeconomic impacts and, in some cases, by mitigation measures that may inadvertently do more harm than good. Moreover, the harmful effects of this pandemic are not distributed equally. The consequences proved to be more disastrous.<sup>1</sup>

In extreme cases, children suffered from predicament like mental illness and physical trauma. Mental illness like depression characterized by low mood, tiredness, pessimism, poor sleep, and appetite, feeling helpless, guilty, and hopeless, with a gradual reduction in work output and physical illness which they suffer were fatigue, anemia, malnutrition dehydration respiratory distress cold, fever pneumonia etc.. Older children were more vulnerable because they are much exposed in the society therefore special care must be taken for them. Negative impact of Covid 19 during pandemic can profoundly affect growth and development of child. These negative impacts could be related to rise in poverty levels, food insecurity disrupted healthcare and other personal factors such as demise of caregivers and psychological stress. For this all problems we have to prioritize the continuity of child-centered services with a particular focus on equity of access-particularly in relation to schooling, nutrition programmed immunization and other maternal and new-born care. Also, the health education needed for parents provides practical support to parents and caregivers including how to talk about the pandemic with children, how to manage their own mental health and the mental health of their children, and tools to help support their children's learning.

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## 1. Scenario during COVID-19 among children

## 1.1. Some of the key fact presented by UNICEF among children

1. 32 percent of children worldwide who show symptoms of pneumonia are not taken for care to a health provider.
2. 2 out of 5 people or 3 billion people around the world lack access to basic hand washing facilities.

3. Worldwide, nearly 31 million children had been forcibly displaced at the end of 2018. This includes some 13 million child refugees, around 1 million asylum-seeking children and an estimated 17 million children displaced within their own countries by violence and conflict.
4. In a majority of countries, more than 2 in 3 children are subjected to violent discipline by caregivers.

## 2. Threatening Child Survival and Health

The indirect effects stemming from strained health systems and disruptions to life-saving health services such as

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immunization and antenatal care, had result in devastating increases in child mortality.

COVID-19 is also likely to increase the number of stillbirths. Nearly 200,000 additional stillbirths could occur in 12 months as women are less likely or able to access health services. This dreadful loss of life can often be prevented with quality antenatal and postnatal care. The pandemic threatens to reverse decades of progress made around the world toward eliminating preventable child deaths.

### 2.1. Case scenario of Maharashtra in increasing child malnutrition

Today, more vulnerable children are becoming malnourished due to the deteriorating quality of their diets and the multiple shocks created by the pandemic and its containment measures. Efforts to mitigate the transmission of COVID-19 are disrupting food systems, upending health and nutrition services, devastating livelihoods, and threatening food security.

Maharashtra was a hotspot that accounted for nearly 22.35 % of the total cases in India as well as about 30.55 % of all deaths. As of 10 May 2021, the state's case fatality rate is nearly 1.49%. Pune was the worst-affected city in Maharashtra, with about 930,809 cases as of 10 May 2021. In view of the third wave of Covid-19 pandemic and its likely impact on the children, the Maharashtra government is in the process of setting up a Pediatric Task Force, said Health Minister Rajesh Tope on Friday while addressing the media.<sup>2</sup>

The Kelkar Committee surmised that the infant mortality rate of tribal areas in Maharashtra is 60-70 per cent higher than the state average. The richest 20 per cent of pregnant women are 1.2 times more likely than the poorest 20 per cent to have a skilled attendant present during child birth. Regardless of wealth, girls continue to be held back from schooling.<sup>3</sup>

In Maharashtra one in every ten children are born with low birth weight, and one in every three mothers of under two year old children record a Body Mass Index (BMI) of less than 18.5, which increases the risk of low birth weight babies. Child survival indicators remain the last mile issue in tribal areas and urban slums.

## 3. Covid-19 Impact On Young Children

Impact of Covid-19 in children and its adverse effect on children even before there were born are hideous. Some of the following fact which is shown by various study is about Young children and adolescents during pandemic have a greater impact on emotional and social development which is compared to that of the grown-ups. In one of the preliminary studies during the on-going pandemic situation, it was found younger children

(3-6years old) were more likely to manifest symptoms of clinginess and the fear of family members being infected than older children (6-18 years old), Whereas, the older children were more likely to experience inattention and were curious for COVID-19. Although, severe psychological conditions of increased irritability, inattention and clinging behavior were revealed by all children irrespective of their age groups parents, findings also revealed that children felt uncertain, fearful and isolated during current times. It was also shown that children experienced disturbed sleep, nightmares, poor appetite, agitation, inattention and separation related anxiety.<sup>4</sup>

### 3.1. Covid-19 impact of lock down on moldy children

In underprivileged children Social inequality is the issue that has been associated with the risk of developing mental health challenges. An increasing number of poor and street children had no source of income, making them a high risk population to face abuse and mental health issues with greater vulnerability and exposure to unfavorable economic, social and environmental circumstances. The pandemic and lock down world has experienced global economic turn-down which has directly worsened the preexisting social inequality. In developing countries, with the imposed lock down, the underprivileged children faced acute deprivation of nutrition and overall protection. The prolonged period of stress now has a long term negative impact on their development and growth. For instance, in India, which has the largest child population in the world with 472 million children, the lock down has significantly impacted 40 million children from poor families. These include children working on farms, fields in rural areas, children of migrants and street children.

During the time of lock down an increasing number of poor families have no source of daily wages which led them to frustration and feelings of helplessness. The consequences is, the frustration and family conflict manifested itself in the form of violence towards children. In order to cover up the loss of education during lock down, many schools have offered distance learning or online courses to students. However, this opportunity is not available to underprivileged children as a result of which they face financial crisis and a lack of stimulation and therefore has no access to online resource material to study.

### 3.2. Covid-19 impact on school and college going students

Globally, the pre-lock down learning of children and adolescents predominantly involved one-to-one interaction with their mentors and peer groups. Unfortunately, the nationwide closures of schools and colleges have negatively impacted over 91% of the world's student population (Lee, 2020). The home confinement of children and adolescents is

associated with uncertainty and anxiety which is attributable to disruption in their education, physical activities and opportunities for socialization (Jiao et al., 2020). Absence of structured setting of the school for a long duration result in disruption in routine, boredom and lack of innovative ideas for engaging in various academic and extracurricular activities. Some children have expressed lower levels of affect for not being able to play outdoors, not meeting friends and not engaging in the in-person school activities (Lee, 2020; Liu et al., 2020; Zhai and Du, 2020). These children have become clingier, attention seeking and more dependent on their parents due to the long term shift in their routine. It is presumed that children might resist going to school after the lockdown gets over and may face difficulty in establishing rapport with their mentors. Consequently, the constraint of movement imposed on them can have a long term negative effect on their overall psychological well being (Lee, 2020).

A study found that older adolescents and youth are anxious regarding cancellation of examinations, exchange programs and academic events (Lee, 2020). Current studies related to COVID-19 demonstrate that school shut-downs in isolation prevent about 2-4% additional deaths which is quite less if compared to usage of other measures of social distancing. Moreover, they suggest to the policy-makers that other less disrupting social distancing strategies should be followed by schools if social distancing is recommended for a long duration (Lee, 2020; Sahu, 2020; Viner et al., 2020a). However, in current circumstances, it is controversial whether complete closure of school and colleges is warranted for a prolonged period.

In present pandemic era there has been a rise in the hoarding behavior among the teenagers (Oosterhoff et al., 2020a). It is also found that among youth social distancing is viewed primarily as a social responsibility and it is followed more sincerely if motivated by prosocial reasons to prevent others from getting sick (Oosterhoff et al., 2020a). Further, due to prolonged confinement at home children's increased use of internet and social media predisposes them to use internet compulsively, access objectionable content and also increases their vulnerability for getting bullied or abused (Cooper, 2020; UNICEF, 2020b). Worst of all, during lock down when schools, legal and preventative services did not function properly, children are rarely in a position to report violence, abuse and harm if they themselves have been in a abusive environment.

### *3.3. Impact on children and adolescents having special needs*

There are about 1 in every 6 children within the age group of 2-8 years who have some or the other neuro developmental, behavioral or emotional difficulty (CDC, 2019). These children with special needs [autism, attention deficit hyperactivity disorder, cerebral palsy, learning

disability, developmental delays and other behavioral and emotional difficulties] encounter challenges during the current pandemic and lock down (CDC, 2019). They have intolerance for uncertainty and there is an aggravation in the symptoms due to the enforced restrictions and unfriendly environment which does not correspond with their regular routine. Also, they face difficulties in following instructions, understanding the complexity of the pandemic situation and doing their own work independently. With the closure of special schools and day care centers these children lack access to resource material, peer group interactions and opportunities of learning and developing important social and behavioral skills in due time may lead to regression to the past behavior as they lose anchor in life, as a result of this their symptoms could relapse (Lee, 2020). These conditions also trigger outburst of temper tantrums, and conflict between parents and adolescents. Although prior to the pandemic, these children had been facing difficulties even while attending special schools, but in due course they had learnt to develop a schedule to adhere to for most of the time of the day (APA, 2020; Cortese et al., 2020; UNICEF, 2020a). To cater to these challenges, it is difficult for parents to handle the challenged children and adolescents on their own, as they lack professional expertise, and they mostly relies on schools and therapists to help them out (Dalton et al., 2020).

Since every disorder is different, every child has different needs to be met. The children with autism find it very difficult to adapt to the changing environment. They become agitated and exasperated when anything is rearranged or shifted from its existing setup. They might show an increase in their behavioral problems and acts of self-harm. It is a huge challenge for parents to handle autistic children due to lock down. The suspension of speech therapy and occupational therapy sessions could have a negative impact on their skill development and the achievement of the next milestone, as it is difficult for them to learn through online sessions (UNICEF, 2020a). The children with Attention Deficit Hyperactivity Disorder (ADHD), struggle to make meaning of what is going around them from the cues they get from their caregivers. It is difficult for them to remain confined to a place and not to touch things, which might infect them. Due to being confined to one place the chances of their hyperactivity increases along with heightened impulses and it becomes difficult for the caregivers to engage these children in meaningful activities (Cortese et al., 2020).

Obsessive compulsive disorder (OCD) among the children and adolescents is estimated to be of 0.25%–4% among children and adolescents (CDC, 2019). Children with OCD are suspected to be one of the most affected ones by this pandemic. Due to obsessions and compulsions related to contamination, hoarding, and somatic preoccupation, they are expected to experience

heightened distress. Cleanliness is one key protective measure against the spread of COVID-19. According to United Nations' policy guidelines to fight the infection one has to be careful about washing their hands six times a day, and whenever they touch anything (APA, 2020; United Nations, 2020). The lockdown, which has made the healthy population distressed about possessing enough food and prevention related resources like masks and sanitizers, has made it worse for people with hoarding disorder (APA, 2020; Mukherjee et al., 2020).

### 3.4. *Impact due to quarantine and separation from parents*

COVID-19 infection is expressed differently in children and adolescents. Yet the incidents of infection in the minors have been reported worldwide, which result in children being quarantined. Moreover, in many cases a single parent or both the parents are infected and quarantined. In either condition children are separated from their parents. Many countries have laid down strict quarantine policies as a measure to fight COVID-19 pandemic. Such as in China several adults, adolescents and children have been put in complete isolation to control the spread of infection. Although quarantining measures are for the benefit of the community at large, its psychological effects cannot be ignored (Liu et al., 2020). The children who are in isolation require special attention as these children might be at risk of developing mental health problems due to grief caused by of parental separation. As during the formative years of life, the role of parents is very crucial, any disruption in the form of isolation from parents can have long termed effects of perceived attachment of the child. It is found that separation from the primary caregivers can make a child more vulnerable and can pose a threat to a child's mental health (Cooper, 2020; Jiao et al., 2020; Liu et al., 2020). The children may develop feelings of sadness, anxiety, fear of death, fear of parents' death and fear of being isolated in the hospital which may have a very detrimental effect on their psychological development (APA, 2020; CDC, 2019; Dalton et al., 2020). Children have emotionally pent-up feelings of distress which may turn inwards into emotional fear or outwards towards acting out behavior (Liu. et al., 2020). They might feel separated or alone as they have limited knowledge and level of maturity to understand the implications of the current pandemic situation in their limited world.

## 4. **Healthy Prevention Strategy to Prevent Mental Stress On Children**

With the objective of universal prevention and mental health promotion, the International organizations and advisory bodies have issued various guidelines taking into account the mental health needs of children during the COVID-

19. They have suggested parents to interact constructively with the children by communicating with them about the current pandemic, according to their maturity level and their ability to comprehend the crisis. Parents should plan their children's tasks one at a time, involve them in various home activities, educate them about following hygiene habits and social distancing, and engage in indoor play and creative activities. In addition to these activities, adolescents are advised to be involved in household chores and understand their social responsibilities (WHO, 2020b). Interventions supervised by adults can help them in understanding their concerns. The activities of children and adolescents should include more structure in homeschooling activities. Children should be encouraged to socialize with their friends and classmates through digital forums under adult supervision (WHO, 2020a).<sup>4</sup>

The advisory committees have also provided guidelines for managing children with special needs and neurodevelopmental disorders (UNICEF, 2020a, 2020b; WHO, 2020a). The children prone to risk for trauma and heightened anxiety. The children need early identification prompt management involving the parents and experts to prevent long term mental health morbidity.

It is imperative to plan strategies to enhance children and adolescent's access to mental health services during and after the current crisis. For this direct and digital collaborative network of various stakeholders is required. Recommendations for ensuring mental well-being of children and adolescents during the COVID-19 pandemic and lock down and the role of parents, teachers, paediatricians, community volunteers, the health system and policy-makers are being discussed.

### 4.1.

#### 4.1.1. *Parents*

You know your child best. Talk to your child's healthcare professional if you have concerns about the way your child behaves at home, in school, or with friends.

#### 4.1.2. *Teen*

It is just as important to take care of your mental health as it is to take care of your physical health. If you are angry, worried or sad, don't be afraid to talk about your feelings and reach out to a trusted friend or adult.

#### 4.1.3. *Healthcare professionals*

Early diagnosis and appropriate treatment based on updated guidelines are very important. There are resources available to help diagnose and treat children's mental disorders.

#### 4.1.4. *Teachers/school administrators*

Early identification is important so that children can get the help they need. Work with families and healthcare professionals if you have concerns about the mental health

of a child in your school.

The need of the times is to listen, understand, reassure children, and make them feel loved and safe. Parents should closely monitor children for any signs of change in behavior and sensitively apprising them of the situation keeping in mind their naivety will lessen the apprehension and help to tide over these tough times. Parents should spend quality time with them, regularize their daily schedule, do fun activities together to take their minds off the crisis, encourage them to do physical activity, and help them in their hobbies. Children should be kept close to their parents and family as much as possible or at least ensuring regular contact in case of adverse circumstances (hospitalization or quarantine of parent or child). Children may need extra love and attention. The future of the world depends on how strong and resilient we raise our next generation to be.

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None.

### 6. Conflict of Interest

The author declares that there is no conflict of interest.

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