

## Impact of the Covid 19 Pandemic on the Wellbeing of Children

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### Abstract

Starting from December 2019 the COVID-19 disease caused due to SARS-CoV 2 virus spread its wings all over the globe by February 2020 and was declared a Pandemic in February 2020 by WHO. With no immediate treatment available countries resorted to adopting stringent preventive measures such as social distancing, wearing of face masks and frequent hand washing. As these measures did not yield the desired results, authorities to breakdown the chain of the virus transmission, enforced lockdown measures of varying degrees resulting in the closure of schools and educational institutions, and denial of access to public places such as gardens, malls, theatres and religious places where large assemblages are unavoidable. While house quarantine affected all, the impact of confinement in homes has had a serious adverse effect on the physical and mental health of growing children. School closures have led to lack of outdoor activity, aberrant dietary and sleeping habits, physical inactivity sedentary behaviour and anxiety with poor cognition. Studies conducted across many countries have sought to analyse the impact of the pandemic from different perspectives. Most of the studies were on the children as a whole without taking into consideration their socioeconomic conditions. However, in this paper, we analyse the impact of the Pandemic on children of different strata in India. The effects of home quarantine were studied by dividing the children into two socioeconomic groups - children from well-to-do households and children from underprivileged families. The studies of a few (20 in number) children were found to be on the lines of investigations of children elsewhere. Keeping in mind Indian conditions particularly concerning underprivileged children certain recommendations are made over and above the guidelines of WHO. Implemented by parents, caretakers and elders at home we may minimize the ill effects of home quarantine during the lockdown periods.

**Keywords:** Covid-19; Physical Activity; Mental Health; Underprivileged Children

### Introduction

The COVID-19 disease started spreading in December 2019 and it was eventually declared as a Pandemic by the World Health Organization (WHO) in February 2020. The SARS-CoV-2 virus was identified as the causative agent of this acute respiratory syndrome and was found to be highly contagious due to its ability to spread rapid-

ly through aerosol and fomites [1]. With no readily available treatment, health authorities worldwide instead resorted to social distancing and home quarantine as preventive measures. However, as the pandemic grew beyond controllable proportions, government authorities have resorted to lockdown measures across the world. The government of India enforced an unprecedented lockdown in March 2020. Envisaged as a short-term solution for three weeks,

the lockdown could not curb the spread of the pandemic. Hence lockdown was continued over the entire year with varying degrees of severity. This resulted in the closure of public places like schools and other educational institutions, malls, theatres, gardens, parks, fitness centres, and religious places where large assemblages are inevitable. Hence adults across all age groups and children were confined to their homes with little opportunity to engage in outdoor activities. This had an adverse impact on both their physical and mental wellbeing [2].

Several studies conducted across many countries have sought to analyse, from different perspectives, the impact of the pandemic on children. Here, we attempt to summarise the impact of the lockdown and home confinement on children of different strata of society. Specifically, we focus on the impact of the COVID pandemic on the physical and mental health of children in the context of the Indian environment. Based on a few investigations on the affected children's physical fitness levels and mental health, the underlying causes have been studied and conclusions have been accordingly drawn. Even though the recommendations apply to children as a whole, some recommendations are specifically meant for children from underprivileged background.

The COVID-19 home confinement, besides leading to kids' lifestyle becoming more sedentary, has also led to an unhealthy pattern of food consumption [3]. A compulsion for both parents and young children to stay at home for long periods poses a continued challenge in maintaining physical fitness and restricts social communication. This leads to the emergence of both psychological and physical health issues [2]. However, effective coping strategies, engaging psychological resources, and regular exercise can help effectively dealing with such problems [4].

### Physical activity guidelines for young children

Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure [5]. Some amount of physical activity is better than none even when the recommended thresholds are not met [6] (WHO 2020 guidelines). The two components of physical activity are aerobic fitness and the building of strength and balance. Children and adolescents between 5 to 17 years of age are recommended to perform around 60 minutes of moderate to vigorous-intensity activities per day which are mostly aerobic in nature. Vigorous activities include brisk walk-

ing, jogging, step-climbing, or running at least thrice a week. Also, for this age group, muscle strengthening, exercises such as resistance training, and bone-strengthening exercises like running and jump-roping are recommended [5,6]. Activities that help promote movement skills particularly involving balance, coordination and body awareness should be emphasized upon. These guidelines are based on the evidence that more active young children have consequently better health outcomes, including cardiovascular and bone health, muscle fitness and weight status [7]. There is also evidence that increased physical activities are associated with enhanced mental health, *improved* cognitive function, and reduced depressive states in young people [2,8].

### Physical and mental effects of home confinement on lives of young children

This was examined by dividing the children into two socioeconomic categories - (1) Children from well-to-do households (2) Children from underprivileged families.

#### Physical effects

Amongst children from well-to-do households, the sense of general discipline owing to lockdown measures may get compromised. Similarly, food habits get thwarted and good sleeping hours are not observed [3]. Untimely and excess food consumption has led to increased incidence of weight gain. In 7 out of 20 children, a weight gain of 7 - 10 percent above what is normal for their age has been observed by us in our clinical practice. The advent of online schooling has resulted in a significant increase in the screen time of children. Further, as a result of children spending more time indoors, a disproportionate time is spent on electronic gadgets. Thus, higher sedentary behaviour is leading to lower fitness levels in children [9]. As a consequence, we are witnessing the emergence of lifestyle diseases in young children, normally prevalent in sedentary adults. In the case of underprivileged children the scenario seems to be different. These children while attending government schools, were enjoying the benefits of free mid-day nutritional meals under government-sponsored schemes. Deprived of this critical program that took care of their basic nutritional needs, such children may eventually suffer weight loss due to loss of adequate nutrition. This is compounded by the financial constraints due to a reduced income for their parents and their caretakers. If this situation of undernutrition continues for a longer time, such children may even experience stunted growth. The immediate surroundings of such

children do not offer adequate space for physical activities. A paucity of physical activity in these children can lead to loss of muscle mass and hence muscle deconditioning. Household activities like cleaning, washing utensils, and clothes can compensate for the lack of outdoor activities only to some extent. A study conducted in Guangzhou, China showed an increased proportion of children between 3 - 6 years with Vitamin D deficiency during the period March 1 to June 30, 2020, as compared to those over the equivalent period in previous years (2017 - 2019) [10]. A common feature amongst these kids was a lower exposure to sunlight.

### Effects on mental health

Exercise reduces levels of the body's stress hormones such as cortisol and adrenaline. It also stimulates the production of endorphins, which are chemicals in the brain that act as mood elevators. This can also affect the physical and mental wellbeing of children of all economic strata. Physical attendance in schools has been cancelled completely with the encouragement of digital home schooling. This disconnection from schools results in a loss of enthusiasm and interest to compete. A rapid systematic review of 16 papers during the pandemic concluded that school closures and social disconnection could hamper the psychological and personal development of children [11].

Online schooling, being a new phenomenon, causes a lot of stress to both students and teachers. Teachers are untrained to teach effectively in online mode. Further, they are unable to assess the body language of the child. Also, in this method the learning seems to be more passive. Consequently, there have been reported instances of children getting diverted while the lessons were on. The problem is accentuated in the children of underprivileged backgrounds, wherein the absence of a dedicated device (due to economic constraints) hindered them in fully comprehending the lessons. The fear/frustration of lagging behind coupled with social isolation has resulted in increased instances of anger, anxiety [12] and irritability. All this may also lead to aggressive behavioural changes. Also, young kids and children are under the constant watch of their caregivers which has led to a sense of insecurity creeping into the minds of children. The inability to mingle with their peers can cause further frustration and emotional struggles. The increased screen exposure leads to lower cognition [11]. Taken together, all these factors are contributing to undesirable mental outcomes which need to be tackled on a war footing.

### Suggestions and recommendations for improving physical and mental fitness

#### Measures to improve physical fitness

Home-based physical activities are the mainstay during the COVID-19 pandemic. Parents can be physically active with children through household chores, play and exercise [13]. Exercises that increase aerobic metabolisms such as brisk walking, jogging, running outdoors or at the spot at home, staircase climbing, cycling and muscle strengthening, balance and stretching exercises should be performed. Household tasks such as cleaning, gardening, washing and ironing clothes, sweeping, and vacuuming is also suggested. Similarly, yoga has a range of positive effects and can be done online. While attending online classes, it would be beneficial if some time is spent standing instead of sitting. In addition, short bouts of physical activities like walking should be practised to limit screen usage and also facilitate greater concentration.

In households/communities where there are space constraints, it would be necessary to perform the activities inside the home. Here activities like skipping, spot jumping, or climbing the building stairs would be useful. Also, to inject an element of fun activities such as balloon volleyball, juggling, obstacle course, and dancing can be implemented indoors. If possible, the children should be encouraged to stand next to a window to ensure sunlight falls on them for 30 minutes a day to enhance their vitamin D levels. Added to this it would be desirable if vitamin D supplementation is done on a large scale by the government.

#### Measures to improve mental well-being

During home confinement, children may tend to lead a sedentary behaviour and may spend more time on electronic gadgets with an increase in screen time other than that spent during online schooling [10]. This can be overcome by encouraging active learning like playing games that involve cognitive dimensions like chess, solving mazes and jumbles, drawing animated figures, etc. Also restricting the screen time to close to 1 hour in (3 to 5 years) up to 1 to 1.5 hours in (6 to 10 years) and up to 2 hours in (11 - 13 years) would be beneficial. Reading of books should be encouraged. For younger children, parents can narrate stories and make them interactive. Also, in these stressful times, the children might develop intolerance towards their parents and caretakers. Thus, enforcing any discipline measures should be tempered with kindness and practicality. Parents should be sensitive to the needs of pre-teenag-

ers particularly girls who at this point in time may be undergoing biological changes. Children above the age of 12 years should be involved in decision-making process. Moreover, supplementation of vitamin D would be necessary to achieve the necessary fitness levels and for long-term cognition.

## Conclusion

The COVID-19 pandemic is an unforeseen event with no set rules of management. The constraint placed on everyday lives is harming both the physical and mental wellbeing of children. To mitigate the impact of this, parents and caretakers should encourage their children by providing the necessary infrastructure, to the extent possible, within their homes. Physical activities should be done through a combination of both participating in household work and exercises/games. This will ensure the maintenance of good health and also minimize the chances of the development of an unhealthy lifestyle that will linger even after the pandemic is over. The major limitation of this perspective is that the conclusions have been drawn based on observations done in a few households which may not be a true representative of the entire population.

At the end of the day, it is the responsibility of parents, teachers, and caretakers to ensure that, by following certain recommendations given in the report over and above the recommended guidelines of WHO [6], the pandemic does not leave any undesirable and indelible impression on the minds of children. It would be worth remembering the words of Adam Grant, the famous New York Times columnist that we still live in a world that normalizes physical health but stigmatises mental health challenges.

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