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**Leading Article**

## **Impact of COVID-19 pandemic on children**

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### **Abstract**

Impact of Covid-19 on children is immense affecting not only their health but their education and safety. The long-term effects of this pandemic are unknown but short-term outcomes are clear. Even though the disease per se is affecting children mildly the effect of periodic lockdown and school closure has led to issues in their learning. Children are learning remotely through the electronic devices hence it hinders their physical activity and social interaction. Being at home, snacking all the time and having access to mobile phones with less physical activity has led to childhood obesity. At the same time, children belonging to poor socio-economic status have undernutrition due to food security issues. Children with special needs and special education are affected more as the services have seized due to the pandemic. Parents of these children are not familiar in caring for these children hence their underlying condition can get exacerbated. High level of stress, unemployment, social isolation has led stress in the family and promoted violence towards children. Help seeking and lack of

access to services have contributed to child safety issues as well.

We need to prioritize and reopen schools in a graded manner with proper health and safety. Remote system of education is advocated which involves children with special needs as well.

**Keywords:** Children, Covid-19, Pandemic.

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### **1 Introduction**

Children throughout the world are affected by the COVID-19 pandemic. The impact of the pandemic is not only affecting their health but their education, mental and social wellbeing as well. Their lives are being forced to change in profound ways. The socioeconomic impact of the disease will have more detrimental effects on their future as well.

The effect of the pandemic is having a profound effect on the poorer countries and especially those who are already disadvantaged and living in overcrowded poor neighbourhoods. Sri Lanka being a low middle-income country faces numerous problems due to the pandemic (UNICEF, 2021a).

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## 2 The Disease

Majority of the children with COVID-19 experience mild symptoms or are asymptomatic. According to global data when compared to adult's death in children and the number of children who are symptomatic and testing positive is very low. Very rarely some children can get severe disease which might require hospitalization, intensive care, or a ventilator support. A rare but serious condition with COVID-19 called Multisystem Inflammatory Syndrome in Children (MIS-C) has been reported worldwide and few cases have been reported in Sri Lanka as well (Munblit *et al.*, 2021).

Children experiencing severe disease or needing hospitalization are mainly under one year and those with a co-morbid condition such as asthma, chronic lung disease, diabetes, heart disease and immunosuppression. Symptoms of COVID-19 are similar in adults and children can mimic common illnesses such as colds, sore throat, or allergies. Fever and cough are the most common symptoms of COVID-19 in children (CDC, 2019).

Children are at highest risk in many infectious diseases, but the opposite is seen with COVID-19 where children are at low risk. In most of the developed countries deaths due to COVID-19 in children remained rare up to February 2021, at 0.17 per 100 000 population. Mortality from COVID-19 was relatively high in older children compared to the younger children (Bhopal *et al.*, 2021).

In addition to the disease mortality there are other issues that need analysis during this COVID-19 pandemic in children.

## 3 Hospitalisation due to other diseases

Parents of children may be avoiding medical care due to fear of acquiring the covid-19 in the hospital itself. We at the Teaching Hospital, Jaffna compared admission rates for acute paediatric conditions during the COVID-19 pandemic with a reference year. During the pandemic period, there was a 58% reduction in admission rates for all conditions combined in 2020 compared with 2019 which was 9.3% ( $X^2=136.5$ ,  $P<0.001$ ) (Sathiadas & Devapriya, 2020). The Daily admission rates during the COVID-19 pandemic was low as in all paediatric medical conditions.

Considering the chronic diseases such as bronchial asthma, seizure disorder, malnutrition, renal and liver diseases too failed to attend their regular clinics during the pandemic especially during the lockdown period. This must be alleviated by clear public health campaigns and insisting on the regular clinic visits and taking regular medications (Rosenbaum, 2020).

## 4 Routine vaccination.

According to the UNICEF report nearly 14 million children missed their routine vaccination in the year 2019 and under vaccinated children is expected to increase worldwide exacerbating the existing inequalities (UNICEF, 2021a). Sri Lanka took

steps to issue missed routine vaccinations to children during pandemic and as a country this was achieved successfully even after a brief period of delay in the vaccination.

According to the current policy on covid-19 vaccination is not recommended but it may change with the changing course of the disease and discoveries (UNICEF, 2021a).

## 5 Children with special needs

Children who are developmentally challenged face numerous problems due to the COVID-19 pandemic and lockdown especially in their educational, vocational activities, leisure activities, and access to health services especially to behavioural health services. Children with autism spectrum disorder predictability and routine are the key issues and that comfort is disrupted during the pandemic. This as well as inability to access the routine care is a struggle to maintain normalcy in these children. Children who rely on a routine structured environment in school and having a familiar schedule enhanced through 1:1 instruction are now being expected to perform in their homes in front of a tablet or laptop. Parents may gain a great insight into their children's strengths and needs but they may not have the required training and experience to effectively manage the education plans. This is further hindered by their working from home arrangement, care of other household members and household chores (Baweja *et al.*, 2021).

Parental support is needed for children who use alternative communication, such as gestures or picture exchange and virtual interaction. Effective reinforcement strategies must be adopted to develop a realistic and sustainable schedule in learning which will be an immense task for the parents (Baweja *et al.*, 2021). This has been overcome in many countries as well as in Sri Lanka by providing telehealth services. Web based provision of behavioural health services through telehealth, telemedicine, teletherapy and telepsychiatry is advocated in many countries and has shown effectiveness (Ramirez *et al.*, 2021).

## 6 Education during Pandemic

Nearly 168 million children globally have been affected by school closure due to COVID-19 and lockdowns. Furthermore, nearly 214 million children globally i.e., one in seven have missed nearly 80% of the in-person learning (UNICEF, 2021a).

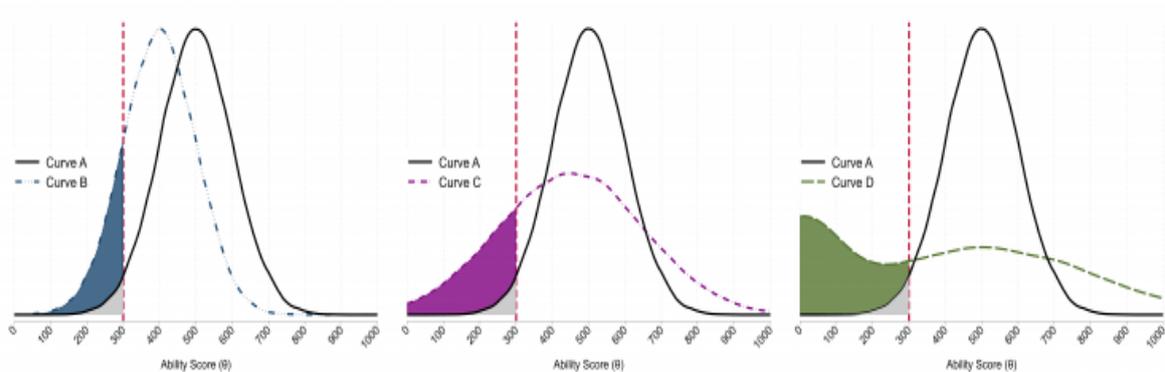
The pandemic has exaggerated the inequities affecting schoolchildren in poorer countries to a greater extent. Lack of resources to invest in digital learning and the absence of household internet access is seen in poorer households. According to the "After Access Asia report 2019" only 34% of the Sri Lankan households have access to a device with online learning. In poorer areas this number dropped to nearly 21% (Galpaya *et al.*, 2019).

Despite the remote learning policies and the presence of the necessary technology at home,

the skill gap of the children, teachers and the parents also will hinder the learning.

Examinations that are needed for admission and advancement to new educational levels are affected by the closure of schools. Variable access to learning and conducting exams through a distance process has serious concerns about fairness (Lucas, 2020).

Not only did the children miss their educational needs but also the social interaction and extracurricular activities. The technical and vocational training is affected by the disruptions in workplace-based apprenticeship schemes and work-based learning.



*UN Policy brief on Education 2020*

**Figure 1:** *Three possible scenarios of how the learning curve may evolve in the coming months: a lower average, a higher standard deviation, or a sharp increase in low learning at the bottom*

Greater loss in learning is seen both in short and long term. According to researchers in Canada socio-economic skills gap can increase by 30 per cent due to the pandemic. The World Bank identifies three possible scenarios for the loss of learning (*Figure 1*): a reduction in average learning levels, a widening of the distribution of learning achievements, or a significant increase of students with very low level of achievement due to dropouts (United Nations, 2020).

Provision of essential services through schools and communities are affected by school closure. The loss of school meals and other health and nutrition services affected nearly

370 million children in 195 countries during the first few months of the pandemic (World Food Programme, 2020).

The prolonged period of school closure will lead to more children to drop out of school as the economic crisis on the family will put pressure on the children to work and generate income for financially struggling families. (United Nations, 2020).

## 7 Impact on the Nutrition

A Humanitarian crisis is anticipated during and after this pandemic especially in children who are undernutrition. Under nutrition has an increased risk of infection and children are

depended on adult for food. Children will suffer when the caregivers become sick, quarantined, or unable to secure nutritious and safe food and drinking water. As many as 132 million people may have gone hungry in 2020, of that 44 million are children and nearly 370 million children may have missed nutritious school meals (UNICEF, 2021a). Deteriorating quality of food, disrupting food systems, affecting health and nutrition services, devastating livelihoods, and threatening food security are contributing to the malnutrition in children during the pandemic. Wasting and acute under nutrition seen as short term and stunting as long-term problems is predicted to increase in the near future.

Scaling up and intensifying existing nutrition related programmes, empowering women, and providing safe food can help to overcome this problem (Bahatheg, 2021).

In addition to undernutrition the prevalence of childhood obesity is also increasing contributing to the double burden. Children at home with access to social media and discussing issues related to food preparation are associated with weight gain (Yılmaz & Gökmen, 2020). Stay-at-home orders has increased screen time and cooking at home. Screen time is associated with overweight in childhood especially when it is associated with snacking. Hearing or reading about COVID-19 can be stressful and this can make children to eat “comfort foods” that are rich in sugar and fat (Rundle *et al.*, 2020).

## 8 Child Protection Issues

There are several reports to say that Violence against children has increased due to the COVID-19 pandemic. In addition, there is disruption of the child protection services. High level of tension in the household due to economic uncertainty, job loss or disruption to livelihoods, and social isolation are well known risk factors for violence at home.

Children may also witness intimate partner violence during this period. Identifying children at risk is a challenge as signs of abuse are usually picked by teachers, extended family and community members who are no longer in regular contact with children.

Nearly 1.8 billion children living in the 104 countries have experienced a disruption to child protection services. In addition to sexual and physical abuse the children also face the risk of child labour due to the economic burden the family faces (UNICEF, 2021b).

School closures have led to an increase in child marriages in the past which often prevent children from continuing their education. The disruption of provision of the reproductive health services has a direct impact on teenage pregnancy as well.

## 9 Mental health

Uncertain situation, isolation and parental anxiety have an impact on mental health of children and adolescents. Children too can worry about the consequences of COVID-19 especially in regard to meeting their friends

and relatives, going to school or getting sick. The increased stress levels are also seen due to exposure of the virus and needing isolation in treatment units or home-based quarantine. Quarantine measures are frightening the children especially if they do not understand what is happening (Wagner, 2020).

Access to mental health services especially children and parents/caregivers with pre-existing mental health conditions is affected during the pandemic. Lack of peer interaction and not able to share their stress with friends makes the situation even worse.

Loss of a loved one to the diseases has a strong impact on the mental wellbeing of the child. According to the latest data each COVID-19 death leaves 0.078 children aged 0 to 17 parentally bereaved. Children who have lost a loved one will need targeted support to overcome the grief. This is difficult particularly during this period of heightened social isolation. Children need psychological intervention on short- and long-term basis (Kidman *et al.*, 2021).

To overcome the mental health issues the National Alliance of Mental Health has stressed the concept of self-care which should be practiced daily. Trauma focused cognitive behavioral therapy has proven to be beneficial in children who have mental health issues related to COVID-19 (Cohen *et al.*, 2017).

## 10 Screen time during the Pandemic

According to the World Health Organization (WHO) the current recommendations for screen time is two hours and physical activity is one hour for older children. Sedentary screen time is not recommended for 1-year-olds, and it should be not more than one hour in those aged 2 years and above (WHO, 2019).

A restricted state of movement has led to recognize the internet and the screen as critical tools for children to access it for learning, playing and entertainment and for social interactions. Spending time on the screens has become a normalcy and part of their life. More attention should be paid to what children do online and the content they encounter in general rather than looking at the time they spend on the screen (Kovacs *et al.*, 2021).

Screen-time has also been blamed for physical inactivity which contributes to childhood obesity. Scheduling the activities so that children do spend time outdoors as well as allowing them the required screen time must be practiced. A promising intervention is to follow a daily school schedule and organise the remaining time on physical and outdoor activity.

## 11 Conclusion

Impact of COVID-19 disproportionately affects children in poverty especially in nutritional, physical, and mental health needs. Thus, we must prioritize safe and equitable plans for school reopening and advocate for a remote

system of education which also supports children with disabilities. The need to expand nutrition programs and advocate to provide

access to vital school-based resources so that children can be protected during this dark period.

## References

- Bahatgeg, R. O. (2021). Young Children's Nutrition During the COVID-19 Pandemic Lockdown: A Comparative Study. *Early Childhood Education Journal*, 49, 915–923. doi:10.1007/s10643-021-01192-3
- Baweja, R., Brown, S. L., Edwards, E. M., & Michael, J. M. (2021). COVID-19 Pandemic and Impact on Patients with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 52(1), 473–482. doi:10.1007/s10803-021-04950-9
- Bhopal, S. S., Bagaria, J., Olabi, B., & Bhopal, R. (2021). Children and young people remain at low risk of COVID-19 mortality. *The Lancet Child & Adolescent Health*, 05(05), E12–E13. doi:10.1016/S2352-4642(21)00066-3
- CDC. (2019). *CDC guidelines on Covid -19 in children and teens*. Retrieved June 17, 2021, from <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-copingchildren/symptoms.html>.
- Cohen, J. A., Mannerino, A. P., & Deblinger, E. (2017). *Treating Trauma and Traumatic Grief in Children and Adolescents* (2nd ed.). New York: Guild Press.
- Galpaya, H., Zainudeen, A., & Amarasinghe, T. (2019). *After Access-Asia-Report 3.0*. LIRNEasia. Retrieved June 30, 2021, from <https://lirneasia.net/2019/05/afteraccess-asia-report3/>.
- Kidman, R., Margolis, R., Smith-Greenaway, E., & Verdery, A. M. (2021). Estimates and Projections of COVID-19 and Parental Death in the US. *JAMA Pediatrics*, 175(7), 745–746. doi:doi:10.1001/jamapediatrics.
- Kovacs, V. A., Starc, G., Brandes, M., Kaj, M., Blagus, R., Leskošek, B., . . . Brzezinski, M. (2021). Physical activity screen time and the COVID-19 school closures in Europe – An observational study in 10 countries. *European Journal of Sport Science*, 1–10. doi:DOI: 10.1080/17461391.2021.1897166
- Lucas, G. N. (2020). COVID-19 pandemic and school education. *Sri Lanka Journal of Child Health*, 49(3), 207– 209. Retrieved 2020, from <http://dx.doi.org/10.4038/sljch.v49i3.9135>
- Munblit, D., Simpson, F., Mabbitt, J., Galvin, A. D., Semple, G., & Warner, J. O. (2021). Legacy of COVID-19 infection in children: long-COVID will have a lifelong health/economic impact. *Archives of Disease in Childhood*. doi:10.1136/archdischild-2021-321882
- Ramirez, A. V., Ojeaga, M., Espinoza, V., Hensler, B., & Honrubia, V. (2021). Telemedicine in minority and socioeconomically disadvantaged communities amidst COVID-19 pandemic. *Otolaryngology Head and Neck Surgery*, 164(1), 91–92. Retrieved from <https://doi.org/10.1177/0194599820947667>
- Rosenbaum, L. (2020). The untold toll—the pandemic's effects on patients without Covid-19. *The New England Journal of Medicine*, 382(24), 2368–2371. doi:10.1056/NEJMms2009984
- Rundle, A. G., Park, Y., Herbstman, J. B., Kinsey, E. W., & Wang, Y. C. (2020). COVID-19-related school closings and risk of weight gain among children. *Obesity (Silver Spring)*, 28(6), 1008–1009. Retrieved 2020, from <https://doi.org/10.1002/oby.22813>
- Sathiadas, M., & Devapriya, K. M. (2020). Paediatric Hospital admissions during Covid 19 pandemic - A single centre study. *Proceedings of the Annual scientific sessions of the Jaffna Medical Association* (p. 70). Jaffna: The Jaffna Medical Association.

- UNICEF. (2021a). *COVID-19 and children*. Retrieved June 20, 2021, from UNICEF data hub.: <https://data.unicef.org/covid-19-and-children>.
- UNICEF. (2021b). *Child protection and COVID-19*. Retrieved June 20, 2021, from <https://data.unicef.org/topic/child-protection/covid-19>
- United Nations. (2020). *United Nations Policy brief on Education during covid -19 and beyond August 2020*. Retrieved June 27, 2021, from [https://www.un.org/development/desa/dspd/wpcontent/uploads/sites/22/2020/08/sg\\_policy\\_brief\\_covid-19\\_and\\_education\\_](https://www.un.org/development/desa/dspd/wpcontent/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_).
- Wagner, K. D. (2020). *New Findings About Children's Mental Health During COVID-19*. Retrieved June 27, 2021, from <https://www.psychiatrictimes.com/view/new-findings-children-mental-health-covid-19>
- WHO. (2019). *Guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age*. Retrieved from World Health Organization: <https://apps.who.int/iris/handle/10665/311664>
- World Food Programme. (2020). *Global Monitoring of School Meals During COVID-19 School Closures*. Retrieved from [https://cdn.wfp.org/2020/school-feeding-map/?\\_ga=2.215701278.825170677.1587840528-1202927441.1587480127](https://cdn.wfp.org/2020/school-feeding-map/?_ga=2.215701278.825170677.1587840528-1202927441.1587480127)
- Yılmaz, C., & Gökmen, V. (2020). Neuroactive compounds in foods: Occurrence, mechanism and potential health effects. *Food Research International*, 128. doi:10.1016/j.foodres.2019.108744