

A DIFFERENT VIEW**The impacts of COVID-19 on children****Sonia Gupta¹ | Manveen Kaur Jawanda²**¹Department of Oral and Maxillofacial Pathology and Microbiology & Forensic Odontology, Rayat and Bahra Dental College and Hospital, Mohali, India²Department of Oral and Maxillofacial Pathology and Microbiology & Forensic Odontology, Laxmibai Institute of Dental Sciences and Hospital, Patiala, India**Correspondence:** Dr Sonia Gupta, #95/3, Adarsh Nagar, Dera Bassi, Dist: Mohali, Punjab 140507, India.

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1 | INTRODUCTION

Millions of children could be adversely affected by the COVID-19 pandemic, and we anticipate that the greatest impact could be on those in poor socioeconomic groups, who are already vulnerable and disadvantaged. However, some positive changes could also come out of this global crisis. This paper discusses what we see as the possible effects of this pandemic (Table 1).

2 | POSITIVE IMPACTS**2.1 | Childhood development**

Children's education is expected to be badly affected by school closures. UNESCO has actively promoted distanced learning solutions, and this includes using digital teaching aids. Those children who have access to these will be given the opportunity to learn educational methods that will benefit them later in life.¹ They could also get involved in a different physical, learning and creative activities during school closures that will help them to develop new skills.

2.2 | Greater awareness

UNICEF, the World Health Organization and health specialists have advised parents to discuss the pandemic in detail with their children. For example, UNICEF has developed eight top tips to help and comfort children during the pandemic. These include parents being honest, reassuring them and explaining what practical measures they can take to keep themselves and others safe.²

2.3 | Developing relationships and empathy

Spending time with their family could help some children to develop closer relationships with them and being aware of the impact of the pandemic could also help children to develop more humanity and empathy, as they realise the value of human life.

2.4 | Learning nature's value

Less traffic has led to reductions in overall pollution and noise, and there is anecdotal evidence that this has led to changes in our natural environment and provided more opportunities for children to see, and appreciate, wild life.

3 | NEGATIVE IMPACTS**3.1 | Effects on education**

Closing schools and facilities like libraries that are the only way some children can access the Internet will have an impact on children's education in a number of ways. Lancker and Parolin point out that non-school factors are a primary source of inequalities in education. They believe that focusing on digital education, due to school closures, will definitely widen the learning gap between children from low and high socioeconomic backgrounds. In fact, they have described the combination of school closures and child poverty as a social crisis in the making.³ We believe that the worst effects will be felt in the poorest communities and in rural areas with no Internet facilities or slow Internet speeds. Families may also struggle with the cost of broadband services because of the downturn in the economy.

Abbreviations: COVID, Coronavirus disease; UNICEF, United Nations Children's Fund; UNESCO, United Nations Educational, Scientific and Cultural Organization.

3.2 | Anxiety about the future

Examinations have been postponed or cancelled as a result of the pandemic, and some children could be anxious about their future. These issues could also delay further education or the start to their working life.

3.3 | Health issues

One of the major consequences of lockdowns and school closures could be that some children will not be able to engage in outdoor physical activities, especially if they do not have access to outside space, which could increase weight problems and the disorders that are associated with them. A Chinese study by Chen et al stressed the need to maintain regular physical activity and stated that it is important to avoid behaviours that lead to inactivity and a sedentary lifestyle. They state that maintaining regular physical activity and routinely exercising in a safe home environment is an important strategy for healthy living during the COVID-19 pandemic.⁴ Good nutrition also plays a critical role in children's cognitive development and academic performance, and this is a concern during the pandemic. This includes lack of Vitamin D, which is essential for bones and teeth. A review by Beard et al⁵ also stated that there was evidence from interventional and observation epidemiological studies to suggest that vitamin D deficiency may lead to an increased risk of respiratory tract infections. Given the disease course of COVID-19, which is primarily a respiratory disease, we believe that Vitamin D deficiency could make children more vulnerable. The impact of nutritional deficiency is mostly seen in poor socioeconomic groups and school closures means that millions of children will not benefit from food programmes provided by their schools. A review by Bitler and Seifoddini⁶ studied evidence from the United States on the health impacts of food assistance and concluded these could have positive effects on education as well as health.

The COVID-19 pandemic has overwhelmed many health systems, and this has led to reductions in many routine health services and parents have been reluctant to attend health facilities. Vaccinations rates were already an issue before the pandemic and the current health crisis could exacerbate this situation further. School closures may also mean that children sit continuously for longer periods of time, for example at computers, and this could lead to issues like back pain, eye strain and disturbed sleep. We are also concerned that children living in underdeveloped countries may also face higher infections rates, especially those living in slums, immigration detention centres, orphanages and other institutions. These children live in close proximity with other children, with limited access health care and to clean water and sanitation, which are likely to facilitate the spread of the virus.

3.4 | Aggressive behavioural changes

Isolation, physical distance and loneliness are challenging situations for every human being. Children are bound to miss interacting with their own peer groups, and we fear that being deprived of their company for any length of time will lead to drastic behavioural changes.

TABLE 1 Summary of the impacts of COVID-19 on children

Positive impacts	
Childhood development	Learning new educational skills Getting indulged into indoor physical activities Personality development Self-confidence build up
Greater awareness	Awareness about an unknown disease and health Developing inner strength to face such challenges in future
Developing relationships and empathy	Coming more closer to family Forming a bond of love and affection Developing selfless devotion towards humankind Dwelling virtues of humanity and empathy at early stage of life Developing new horizons beyond home and schools
Learning nature's value	Start valuing and caring nature
Negative impacts	
Effects on education	Loss of quality Deprivation of education Inadequate learning Lack of digital access Fall in educational outputs Wide learning gap between low and high socioeconomic group
Anxiety about the future	Delay in examinations Late beginning of new session Development of anxiety and frustration about future
Health issues	Lack of outdoor physical activities Prone to various health disorders Nutritional deficiency Lack of immunisation
Aggressive behavioural changes	Social isolation Frustration, anger, anxiety, irritation
Lack of competitive zone	Disconnection from schools Loss of enthusiasm and interest to compete
Addiction to social media and the Internet	Cyberbullying Sexual exploitation Addiction to harmful substances
Increased risks of child exploitation	Deprivation of education Domestic violation Child abuse Child labour
Impact on disabled children	Lack of provision of educational, nutritional and healthcare services

3.5 | Lack of competitive environment

Schools provide the social and competitive activities that many children enjoy and interacting with children from different area, helps them to adapt to diverse environments and develop social connections. Viner et al⁷ carried out a rapid systematic review of 16 papers during the pandemic and concluded that school closures and social disconnection could hamper the psychological and personal development of children.

3.6 | Addiction to social media and the Internet

Due to school closures, many children will be actively encouraged to go online to continue their education. They will also want to keep in touch with their peers, and this could increase their use of social media, which could distract them when they are meant to be doing school work. They could also be exposed inappropriate content and cyberbullying. According to a study carried out by Hunduja and Patchin⁸ before the pandemic, social media exposes children to a greater risk of cyberbullying and that can lead to stress, anxiety, low self-esteem and even suicide attempts. The dangers of being online can also include inappropriate content and conversations, including sexual images and pornography. Social media could be a major source of getting addicted to various harmful substances for the children. Primack et al⁹, in their study, provided the evidence that alcohol advertisements encouraged a number of students to drink. Research conducted by Ray and Ramjat¹⁰ has demonstrated a strong relationship between acquaintance to mass media messages and smoking in adolescents.

3.7 | Increased risk of child exploitation

UNESCO has suggested that the COVID-19 pandemic will have a devastating impact on children in low socioeconomic communities, especially females.¹¹ We believe that widespread job losses and greater economic insecurity could lead to particular problems in poor areas of the world. These could include increases in child exploitation, such as child labour, domestic violence, early child marriages and sexual exploitation. Children could also lose family members and be orphaned.

3.8 | Impact on disabled children

Armitage and Nellums¹² have stated the COVID-19 response must include people with disabilities. The authors point out that social distancing will create more obstacles by interrupting important services, such as nutrition, education, health care or personal care. These could have a negative impact on disabled children, and we suspect this could also cause behavioural changes.

4 | CONCLUSION

In our opinion, the COVID-19 pandemic will have a far-reaching, long-term impacts on children worldwide. Although some of these may be positive, we believe that the negative impacts will be devastating and could affect millions of children in some way. International healthcare organisations, children's welfare organisations and governments need to work together to minimise the impact the pandemic will have on children in the post COVID-19 era.

CONFLICT OF INTEREST

None declared.

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