Coronavirus disease 2019 and the inevitable increase in screen time among Indian children: Is going digital the way forward?

ABSTRACT

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The world is facing an unprecedented crisis due to the Coronavirus disease catastrophe. The pandemic has been ravaging for the past six months claiming human lives, causing financial loss, and job insecurity. Children are susceptible to the psychosocial aspects of this pandemic. Being locked indoors there is exorbitant media exposure among children. The debate of digital media technology is now challenged by the pandemic. Digital technology is a boon during this crisis being a platform for both education and recreation. In the background of this inadvertent increases screen exposure we discuss the various health concerns and the need to balance media appropriately to carry it forward during this crisis which shows no sign of waning.

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The world is in the midst of the coronavirus disease 2019 (COVID-19) pandemic caused by the novel corona virus severe acute respiratory syndrome corona virus 2. The pandemic had its epicentre in the Wuhan province of China in late November 2019. Since then, the disease has devastated various countries across the globe and still continues at an unprecedented magnitude. As of September 4, 2020, there are around 26 million cases worldwide and eight lakh deaths due to the disease. India stands third among the affected nations with highest case load with more than 39 lakh cases and a death tally of 68,000. There is no definitive drug of choice or vaccine available yet and the disease shows no sign of abating. Hence, countries around the globe are resorting to social distancing, lockdown, movement restriction, and personal hygiene to combat the deadly virus.

CORONAVIRUS DISEASE 2019 IN CHILDREN AND THE IMPACT OF LOCKDOWN

The spectrum of COVID-19 ranges from asymptomatic cases to multi-organ dysfunction and death. The infection runs a severe course with significant mortality among elderly and those with co-morbid conditions. The incidence of the disease is reported to be less among children compared to adults, being 2.2% in China, 2% in the United States, 0.8% This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

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in Spain and 1.2% in Italy.[1] However, fortunately children also have mild symptoms, an excellent prognosis and are less likely to require hospitalisation compared to adults.[2] Although children are less affected by the medical hazards of COVID-19, they are more susceptible to psychosocial health concerns.[3] They become susceptible to panic attacks, anxiety and posttraumatic stress disorder during such times. Children of health-care workers who are in frontline COVID-19 management and those with a single parent struggle to adjust when the parent is away at work or requires quarantine.[4]

India declared the national lockdown on March 24, 2020. Since then it is being continued in various cities either with or without relaxations. This has posed significant challenges to our everyday lives, such as work from home, temporary unemployment, lack of physical contact with friends and family as well as home schooling for children. Children are locked indoors and lack outdoor games, recreational activities and face contact with friends. They therefore resort more to digital media exposure and may become victims of adulterated media content. Since they constantly remain indoors they are also susceptible to the hazards of indoor air pollution.[5] Their diet and sleeping patterns have become erratic and incidence of child abuse, domestic violence are on the rise.[6] Schools remain closed since the initial lockdown and the online platform of learning has become the new normal during this COVID-19 pandemic.

### MEDIA EXPOSURE BEFORE AND DURING LOCKDOWN

**Precoronavirus disease 2019 times**

Screen time exposure among children refers to the time spent in using various digital media such as television, mobile phones, laptop, and tablets. Excessive media use among children has always been a concern for parents even during the pre-COVID-19 times. Conventionally, media exposure was restricted only to television or radio use and limited only to the home environment. However, in this era of fast-growing technology media exposure has become universally available at all times and all places. This is with the advent of handheld devices such as smart phones, tablets, and instant internet access. Excessive screen use during the first 5 years has found to have negative influences in various domains of early child development.[7] Studies done in the past have found significant behavioural problems in preschoolers as well as in older children exposed to excessive media use.[8] As the time with gadget use becomes increasingly longer, it reduces the child's physical activity as well as their social and interpersonal interaction. This leads to problematic addictive media use among children which is a challenge faced by parents.

**During coronavirus disease 2019 lockdown**

Lockdown has exaggerated this excessive media use among children which was already a major concern. School closures and the restricted outside movement, make children spend the entire day indoors. This forces them to spend extra time in front of screens, social media dependence, playing video games, etc., This leads to unhealthy lifestyle behaviours, exposure to violent or adult sexual content, cyber-bullying and misinformation about COVID-19. They also become victims of internet addiction or problematic media use causing distress to the family. This results in additional anxiety for parents who already had a concern about their child’s media use before the COVID-19 crisis as there is more room for media exposure and dependence now.

However, it should also be emphasized that digital media which was always blamed in the pre-COVID-19 era helps to restore normalcy to a certain extent during this lockdown. It facilitates online education, entertainment and helps to connect with family and friends. Schools were shut indefinitely even before the curriculum for the previous academic year concluded. This being a period of uncertainty, the academic calendar needs to be rolled out through e-learning with online classes being conducted by schools. Thus, digital media which is a boon during this lockdown becomes problematic when the recreational screen time increases.

### THE AMERICAN ACADEMY OF PAEDIATRICS

**Recommendations on screen time for children**

The American Academy of Pediatrics recommends that children between 2 and 5 years of age should restrict their screen time exposure to 1 h per day of high-quality programs. The committee discourages media use in children below 2 years of age. Video-chatting is allowed in children <18 months, whereas parents of children between 18 and 24 months, can choose high-quality programs and co-view with their kids if they want to introduce digital media.[9] These recommendations are very important in view of neuroplasticity, requiring good quality interactions between the child and their caregivers in the initial years.[10]

**Health hazards of excessive screen time:**

- Physical inactivity and obesity: Lack of physical activity, high-calorie intake of junk food and exposure to advertisements of unhealthy foods predispose to overweight and obesity.[11] Bedroom gadget use makes children sedentary as they prefer to do all their daily activities on bed.
- Sleep problems: Reasons are (i) “blue light
EOLearning: The New Educational Platform During Coronavirus Disease 2019

As the pandemic keeps raving at a steady pace, there is a lot of uncertainty regarding re-opening of schools. To combat this educational crisis schools have resorted to online education to compensate for the lost learning time. Globally, around 1.26 billion children which is 72% of the student population worldwide are affected by school closure as estimated by the United Nations Educational, Scientific, and Cultural Organization. Indian students constitute 320 million of this group. This has led to “Emergency remote teaching” which is the sudden dramatic shift from face-to-face learning to online education. Many parents, teachers, and students would find it difficult to adapt to this unexpected change in the academic curriculum. Parents have concerns of increased screen time as children also get distracted with internet use. Some of the parents may not be tech-savvy and hence have aversion to online learning and so are their children. Students might find it monotonous as discussion of concepts or doubts is all online and they lack school ambience. This is also a challenge for teachers as they need to adapt to the new online mode of teaching. Classroom teaching helps them to develop a rapport with each child, and understand their body language and interaction with others. Now with e learning, they just see them on screens and there are a lot of surrounding disturbances when the class goes on. Despite all these disadvantages, it should be emphasized that digital media technology has helped to bridge the gap in education during this pandemic. As school re-opening remains unpredictable for the initial part of academic year it is advisable that parents, teachers and students adapt to the new routine of online education. Experts are however of the opinion that online education is not a consequence of the pandemic but rather a new milestone in years to come.

How do you balance screen media use among children during Coronavirus Disease 2019 pandemic?

During this stressful period of isolation and boredom, there is a tendency for children to succumb to excessive and unhealthy media practices. It does not mean that screen media is always bad. Apart from the duration of media use, it also depends on the content the child views. During this COVID-19 crisis, digital technology actually has become a lifeline and helps us to stay connected. Children use them for education as well as for entertainment. Some of the measures to maintain the balance of media viewing are summarized below.

For parents:

- Online classes should be attended from a designated comfortable seating place in the house. The child should use a study table for doing any homework given
- Children should be educated about internet safety and kept away from fake COVID-19 information online
- There should be limits set for media time and unplugged playtime should be a routine at home
- Parental control measures should be activated and privacy settings should be kept as age appropriate
- Devices used by children should have latest updated software and antivirus protection
- Time limits should be set in smart phones for applications (App) and unwanted websites can be blocked in Wi-Fi router

How do I know if my child has excessive screen time or screen addiction?

Excessive screen time or gaming in children causes significant functional impairment in their everyday life. It disrupts the child’s social relationship with family and peers, reduces focus on school tasks, interferes with activities of daily living and causes emotional outbursts. The problematic media use measure short form (PMUM-SF), helps to identify addictive screen media use among children. This consists of nine items and is a parent-reported measure to identify addictive media use among children. The screening tool is broad enough as it does not specify a particular device but in general captures any screen media use. Parents can also be asked about the most common media their child used, to complement the PMUM-SF total score.

Coronavirus infodemic: This refers to the social media panic created by fake information, flamboyant news agencies and intoxicating rumors. This leads to delusions of having the disease, irritability, anxiety, panic spells, phobia, and depression.

Others: Vision problems, headache, and neck pain due to abnormal posture while working on a computer.

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The sudden dramatic shift from face-to-face learning to online education has led to “Emergency remote teaching” which is the new educational platform during this pandemic. Educational, Scientific, and Cultural Organization. Indian students constitute 320 million of this group.

• Behaviour problems: Excessive screen use causes behavioral problems among children such as hyperactivity, inattention, conduct, and emotional problems.

• Early child development: When children observe screens they are sedentary and don’t practice gross motor skills, have less face-to-face communication and thus lag in socioemotional and communication domains.

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Экстренное удаление обучения - новая платформа образования в период пандемии 2019 года.

Как я узнаю, у моего ребенка есть проблема с экранной зависимостью?

Эксперты считают, что цифровые технологии помогли укрепить образовательный щит. Однако есть определенные ограничения.

Во-первых, это не означает, что экранная зависимость всегда вредна.

Во-вторых, это зависит от контента, который просматривает ребенок.

В-третьих, цифровая медиа-трансляция является необходимой в междисциплинарных доменах.

В-четвертых, это связано с избыточным использованием экранов и неправильными медиа-привычками.

Это не говорит о том, что экранное время всегда плохо. Отдельно от продолжительности использования медиа, также зависит от контента, который просматривает ребенок.

Во время этого стрессового периода изоляции и одиночества, возникает тенденция у детей сдаваться под властью избыточного и неправильного использования медиа. Это не означает, что медиа всегда плохо. Отдельно от продолжительности использования медиа, также зависит от контента, который просматривает ребенок.

Во время этого COVID-19 кризиса, цифровые технологии фактически стали линией жизни и помогают нам оставаться в курсе событий. Дети используют их не только для образования, но и для развлечений. Некоторые из мер, чтобы поддерживать баланс использования медиа, представлены ниже.

Для родителей:

- Онлайн-уроки должны быть прохождены в назначенном удобном месте дома. Дети должны использовать стул для выполнения домашних заданий.
- Детей следует информировать о безопасности в интернете и удерживать их от фальшивой информации о COVID-19 онлайн.
- Должны быть установлены лимиты на использование медиа времени и время без Интернета должно быть обычным.
- Родительские контрольные меры должны быть активированы и настройки приватности должны быть установлены на должный возраст.
- Должны быть установлены последние обновления программного обеспечения и антивирусная защита.
- Ограничения на использование времени в смартфоне для приложений (App) и нежелательных веб-сайтов могут быть блокированы в Wi-Fi роутере.

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• Age restricted content in YouTube and unnecessary advertisements can be blocked
• Videos can be viewed on the browser instead of the mobile applications
• If the child owns a mobile, Google family app can be installed which is the best way to monitor them
• Offline activities such as reading books, playing board games, solving puzzles, art and crafts, cooking together, dancing together, and skipping should be encouraged\[10\].
• To promote physical activity among kids during this pandemic they can be encouraged to watch online exercise classes including yoga sessions and engage in active video games\[10\].
• Children should be explained that their limitations for online activities are relaxed during this pandemic and that it is temporary. They should be clear that everything will get back to normal once the lockdown ends\[14\].
• Screen free times such as meal times, and 1 h before bed should be a family routine\[20\].
• The child’s bedroom should be free from digital media gadgets. Bedroom gadgets disrupt sleep and children also become sedentary as they constantly view media lying on the bed\[28\].
• Device curfew such as turning off all devices especially at night should be practiced\[26\].
• Co-viewing media with children strengthens the parent-child bond and parents can actually be a part of what the child is watching, rather than simply monitoring them online\[20\].
• The commonsensemedia.org provides useful information regarding age appropriate media content
• Media should not be used as an emotional pacifier
• Media should be considered as one another environment in the child’s life. Parents should be aware of what the child does online, the applications they use and the websites they visit\[20\].
• Parents should be the best role model for children. They should actively interact and play with them instead of simply staring at a screen \[20\].

For children
• Children need to be well behaved during such times of staying indoors. They need to understand that having a smart phone in hand is a responsibility which they need to shoulder
• They need to maintain “good digital citizenship.” They should inform parents if they come across inadvertent content online and not befriend or chat with an unknown person online without parental consent
• Children can engage in video games that promote digital gatherings with friends. Some of them are “Houseparty,” “Snap games,” “Psych,” “Cards against humanity”

• Some of the video games promote empathy and facilitate social skills. Examples are “the social express,” “Thomas was alone,” and “social adventures”\[21\]
• “Minecraft” is a video game which improves socialization, prosocial behaviors, problem-solving skills and is also used to craft minds in the class room thereby facilitating education in an effective way\[22\].

For schools and teachers
• Parents of children enrolled in online education should be educated about internet safety guidelines
• Children should be advised about online code of conduct and cyber-bullying
• Students should be provided with online counseling services.

For health care providers
• Pediatricians should anticipate excessive media use among children during this lockdown period. They should assess and quantify media use among children to detect addictive use
• They need to empower parents with knowledge on the need to balance screen time
• They can provide services such as online counseling and psychological support for children with addictive media use.

For policy-makers
• The Indian academy of pediatrics can formulate guidelines on media use emphasizing the hazards of media exposure and gaming disorder among children during this pandemic
• They can collaborate with digital technology companies and ensure that safety measures are incorporated for children online
• Policy makers can provide educational materials to teach the public on safe media use for education and recreation.

CONCLUSION

During this COVID-19 pandemic, where everybody is locked up in despair and gloom, digital media undoubtedly helps to bridge the deficit. Screen media which was always curtailed by parents is now indispensable as it provides a platform for both learning and recreation. It can also be said that COVID-19 pandemic has dissolved the screen time debate. However, there is a need to draw a clear line between acceptable and addictive screen time. As rightly said by our Honourable Prime Minister Mr. Narendra Modi, in his “Mann Ki Baat” address, children can resort to traditional local games such as Pachisi, snake and ladder and Gütta. The Prime Minister also opined that such
Children should understand that media is not the only entertainment during this lockdown. Although media helps in staying connected during lockdown it should not lead to separation or distance within the household. There should be strict government legislation to curtail the infodemic spread of misinformation through social media thereby preventing “coronaphobia” in the society. Online education being newly introduced during this pandemic is perceived by many as inferior to face-to-face education. However, online platform is the only option available to compensate the learning loss in this academic year. Digital learning can at times be more beneficial than some of the monotonous classroom sessions more so for visual learners. Therefore, it is a joint societal responsibility to maintain a balanced and safe digital environment for our children which may metamorphose further with changing times. Thus, increased screen time among children during COVID-19 pandemic is “inevitable” and “indispensable” but yet “ameanable” to a disciplined digital media strategy.

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