



Awareness Among Parents Working in the Healthcare Sector on Screen Addiction and Its Impact on Children and Adolescents

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ABSTRACT

Introduction: The digital life of our children begins at an early age as they are exposed to a variety of screens (mobile phones, TV screens, tablets and computers). It has become more important for parents to suggest an appropriate screen time and type of media exposure for children in recent years.

Aim: The present study aimed to understand the awareness of parents who are health care workers on their child's screen timing and associated behavioural changes, post lockdown. Method: A cross sectional survey was conducted among the health care workers, who are parents of child aged between 3 - 18 years at Apollo Hospitals, between December 2021 - Feb 2022.

Results: A total of 105 responses received from medical and non-medical sectors. In the study 47.61% were fathers followed by mother (44.76%) and Guardian (7.61%). Majority of the children belong to the age group of 6 to 12 years (42.85%) and were secondary school level (29.52%). Majority of the children watching mobile phones, followed by television. The daily screen time for child was reported as 3 hours in week days and > 4 hours during weekends. Among behavioural changes, age group of 3-6 years and 12-18 years showed lack of concentration, whereas in 6-12 years age group personal hygiene was reduced. Further there is a change in eating pattern (70%) and sleeping pattern (92%), and increase in their monthly bills (42%) towards the mobiles/ screen apps due to increased screen time. On the other hand, digital technology increases the understanding of the concept easily and improves the learning outcome. Thus, parents feel that they need to find the right balance in the usage of the technology (39.4%) for the prolong use of the digital technology.

Conclusion: To conclude, it is fairly impossible to provide techno free zone to children in this digital world. Thus, parents have to focus and limit the screen usage time to reduce the ill effects, further parental screen addiction awareness and co-viewing avoids the behavioural problem.

Key Words: Screen addiction, Digital technology, Parents, health care workers, Awareness, Techno free

INTRODUCTION

The digital life of our children begins at an early age as they are exposed to a variety of screens (mobile phones, TV screens, tablets and computers). It has become more important for parents to suggest an appropriate screen time and type of media exposure for children in recent years. Screen time is defined as the time spent interacting with media devices. Both its benefits as well as its harms have been subject to debate.¹ Initially, screen time was found to be associated with health problems like obesity, sleep disturbances, and behaviour disorders. Currently, digital literacy is being hailed as a way to further education of children.²The population of

India's digital consumers (nearly 41%) grew to 560 million in 2018, ranking second only to China among the largest and fastest-growing markets for digital consumers.³ As on 2019, there were about 1161.17 million cell phone users in India.⁴ Cell phones are known to affect individual's overall health.⁵ They are associated with sleep deprivation, inappropriate food habits, physical inactivity, over weight and obesity.^{6,7,8}

As the confusion on appropriate of screen time for children exist American Academy of Paediatrics (AAP) started updating and providing recommendations.⁹ AAP initially suggested the restriction perhaps later it suggested to limit the screen timing not more than two hours per day for children greater than two years and also recommended no screen tim-

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ing for children less than two years of age.¹⁰ Further in 2013 AAP recommended the paediatricians to include the two basic questions in their regular check-up as the child has TV in their room and the amount of time spent in front of the screen. As per the newer guideline motivating the parents to interact with the child, limit the media hours and create a tech free zone for their kids.¹¹ According to WHO (World Health Organization) there should be absolutely no screen time for children less than five years and stress upon the physical activity of more than an hour to reduce the sedentary activity.

In recent times, researchers are focused on the association of parental mobile device and internet usage and association of the mobile device and decreased verbal and non-verbal interactions and support.¹² Further there is a association between the mobile device. The disruption in parent-child interaction due to technology has even been labelled “technoference”.¹³ Although internet benefits are innumerable, it also has several negative aspects if used in an unwise manner.^{14,15} In the eyes of parents, the Internet provides access to the whole world and is a tool for delivering information. In fact, parents are aware of the positive and negative impact of internet usage. To prevent and manage internet addiction, parents must know how to implement a strategic management plan.

Excessive use of internet is associated with the screen time with hyperactive, conduct and emotional problems, further it is associated with the negative impact on academic performance.^{16,17} The extensive exposure of rapid screen changes and during the brain development period that is between two to six years of age, tuned the mind of the children to expect the higher level of simulations, which can ultimately lead to the hyperactivity, cognitive problems, language difficulty in their real-life situation or human interaction.¹⁸ The psychological wellbeing to be progressively reduced from one hour per day to screen timing to greater than or equal to seven hour per day of screen timing.¹⁹ Further the viewing of television for more than three hours is associated with the increased screen timing of child, it shows the parents influences the screen timing on children.²⁰ Thus, there is a need to study the understanding of parents about the awareness of their child’s screen timing. The present study was conducted to understand the awareness among parents who are health care workers on their child’s screen timing and associated behavioural changes observed in their child/children post lockdown.

METHODOLOGY

A cross sectional survey was conducted among the health care workers, who are parents of child/ children aged between 3 - 18 years at Apollo Hospitals, Chennai, between December 2021 - Feb 2022. A questionnaire was prepared using Google Forms and were shared with the parents who

are health care professionals’ workers at Apollo Hospitals Chennai, through various social media platforms and the data collected were analysed. The study was approved by the Institutional Ethics Committee - Bio Medical Research (AMH-DNB-085/11/21), Apollo Hospitals Chennai

A 27-item structured questionnaire was used in the study to obtain the required data. The information related to parents (Father / Mother/ Guardian), details of child such as age, educational status, Types and usage of screen, weekly usage pattern, behavioural change in kids, related health outcomes of the kids were recorded accordingly. The baseline characteristics of the participants were presented as frequency and percentages. The data was analysed using SPSS version 22.0 (IBM). P value ≤ 0.05 was considered statistically significant for all analyses.

RESULTS

A total of 128 participants were responded, among which 105 were included in the study. The demographic characteristics of the healthcare workers was presented in Table 1. In the current study majority of the healthcare worker responders were father (47.61%), followed by mother (44.76%) and Guardian (7.61%). In the study population, Clinical Researchers were higher (39.04%) followed by Paramedics (36.19%), doctors (14.28%) and administrative sectors (10.47%). The daily time spent by parents with their child were 3 hours on an average. The number of electronic devices at home were on an average of five devices such as TV, Mobile, desk top, laptop, tablet) (Table 1).

The children’s demographic details were presented in Table 2. The children aged between 6 to 12 (42.85%) were more followed by children aged between 3 to 6 years (37.14%) and 12- 18 years (20%). In the present study majority of the child falls under secondary school level (29.52%), followed by primary school (27.6%). On an average the child’s screen time is 3 – 3.5 hours. Parents observed that majority of the children watching Mobile phones, followed by television, laptop, Desktop and Tablet.

The daily time spent with the child during week days were about 3 hours and during weekends it is more than 4 hours both parents follows the same pattern. Further the screen time shared by parents with the child were less during week day and slightly more during the weekends (Table 2). The type of screen usage and duration of usage during week days and weekends was presented in Fig 1. In the current study the healthcare workers reported that their child spends more hours in Online classes, followed by online videos/ movies, gaming and social media. Likewise, during weekends children concentrates more on online videos/ movies, gaming, social media and competitive exams.

Changes observed by parents in their child's activities

Parents observation in changing child's activity was presented in Figure 2a and Figure 2b. In terms of the child's activity about 27 % the child was engaged in sports, indoor games (27%), followed by yoga (21.3%), Watching movies, videos, online games (21.35%), playing musical instrument, singing and dancing, gardening (19.4%), art and craft (15.53%). In the current study Among 3- 6 yrs. age group Children were engaged in Playing games with friends and families (15.38%) and Watching movies, videos, online games (15.38%); followed by Indoor games (12.82%) and Playing musical instruments, singing and Dancing (12.82%). Among age group 6-12yrs children were engaged Indoor games (28.89%), followed by Watching movies, videos, online games (22.22%) and Sports (22.22%). Whereas in 12-18yrs age group children were engaged in Sports (71.42%), followed by yoga (57.14%), indoor games (47.61%) and gardening (38.09%) (Fig 2a). Parents observed that their child's concentration has been reduced, followed by decreased personal hygiene, increased anger, Difficulty in problem solving & creative thinking, lethargy, increased escapism, feeling of loneliness, decreased physical activity, increased irritability, Difficult to interact socially, Not interested in activities. Majority of the Responses were multiple responses (Fig 2b).

Among 3-6 years age group, parents observed there is a lack of concentration (38.8%), Followed by lethargy (33.33%), Angry (33.33%) and reduced physical activity, reduced personal (27.77%), reduced physical activity (27.77%), difficult to interact socially (22.22%), Anxiety (22.22%), Irritability (22.22%), Difficulty in problem solving & creative thinking (22.22%). Among 6-12 years of age group parent observed that majority of the children has reduced personal hygiene (56.09%), Angry, lethargic (48.74%), followed by Difficulty in problem solving & creative thinking (46.34%). Whereas among 12-18 years age group the changing behaviour was seen in lack of concentration and decreased personal hygiene (88.23%), followed by Irritability, escapism and Anxiety (70.58%).

About 70 % of the study population observed changes in their child's eating pattern. Majority of the parents reported that their child increased their consumption of junk food (43.84%) and consumption of the health food is decreased (35.62%), some children showed decreased appetite (41.10%). Majority of the children belong to 3- 6 years of age group showed decreased appetite (38.7%), whereas in 6 – 12 years age group majority showed decreased consumption of healthy food (51.61%) and 12-18 years group showed Higher consumption of junk food (66.66%). Parents observation on child's eating pattern due to excessive screen usage was depicted in Fig 3.

Sleeping pattern also changed due to prolonged use of screen timing and was presented in Figure 4. There is a significant

delay in the bedtime and wake up time (20.62%), followed by nightmares (20.62%), decreased (18.56%) or increased (16.49%) sleeping pattern, co- sleeping tendency (15.46%), disturbed wake ups (15.46%). Majority of the children belong to 3- 6 years of age group showed co-sleeping tendency (21.62%) and nightmares (21.62%), whereas in 6 – 12 years age group majority showed significant delay in bedtime and wakeup time (23.25%) and 13-18 years group showed decreased sleep (35.29%).

Parents observation on child's health issue was presented in Figure 5. About 47.61% of the study population observes that their child faced some of the health issues such as eye issues (46%) head ache (36%), body ache (30%) and weight loss/gain (20%, 16%) (Table 2). Eye issues is the major health related problem in 3-6 yrs (29.41%), 6- 12yrs (43.33%) and 12-18 (50%) years age groups respectively.

Challenges faced by parents due to excessive screen usage was presented in Figure 6. About 42% of the Parents feel that their monthly bills towards the mobiles/ screen apps were increased to on an average of 500rs per month. Nearly 30% of the study participants feels that there is no significant challenge faced by them due to child's increased screen usage. Perhaps 70% faced issues such as they met the expenses towards frequent recharges for mobile data/ OTT platforms or downloading paid apps, followed by demand for better gadgets and excessive online shopping and temper tantrums.

The benefits observed in child due to digital technology usages was presented in figure 7. The children were curious to learn new things followed by technologically advances, understands the concepts easily, improved learning outcomes. Majority of the parents feel that they need to find the right balance in the usage of the technology (39.4%) for the prolong use of the digital technology and some parents feels that using the digital technology by the child is a serious issue (32.38%). About 19.4% of the study population attend the awareness program for screen addiction in their child's school / college. The parents think that it would be beneficial for parents to attend the awareness session for better understanding of screen addiction and its impact on the child's health.

DISCUSSION

In the current study majority of the healthcare workers participated in the current study were males, in spite of the gender-based work allotment, especially in the country like India, parents there were aware of their child's screen timing and their behavioural changes. This might be due to the shift-based system in health care workers. The parents reported that they spent 3 hours on an average with their child and they can able to spend quality time with their child at during week days and weekends. This helps the parents to observe

the pattern and change due to prolonged screen timing of their child.

As a healthcare worker parents would be able to pick up the change in child's behaviour, when compared to, parents who were from non-health care sector. Due to exposure to social media through different screens, it's important to recognize the type of media child is exposed to and how that affects the child physically and emotionally.²¹ Younger adolescents <15yrs had higher prevalence of addiction than older adolescents.²²

Despite of long screen timing, children are engaged in sports activities, yoga, and some indoor games, some were learning musical instrument, sing and dancing, but some of the children choose online classes which also increases the screen timing. As a parent and also as a health care worker there is a need to create the awareness on screen addiction of children among other parents and also children. The increased screen time, significantly affects the eating and sleeping pattern of the child.

In term of eating pattern, appetite was decreased in children below the 6 -years of age, whereas children above the age of 6 years were showed decreased consumption of healthy food and increased consumption of junk foods due to screen addiction. Screen addiction also created a greater impact on sleeping pattern too. The co sleeping tendency was increased among the children under the age of six and significant delay in bedtime and wake up time was observed in children greater than six years of age. Eye issues was a major health related problem in all age groups who were screen addicted.

Even though the parents are working professionals, they are able to notice their child's changing behaviour. Due to the screen addiction, children were not able to focus or concentrate on particular work. In the worst scenario child's personal hygiene habits were changes and they face difficulty in problem solving and creative thinking. In children aged between 6 to 12 years of age, lethargic activities have been increased and due to that escapism behaviour was also observed by the parents. In all age group, children showed lack of concentration, perhaps reduced personal hygiene was specifically observed in children above 6 years of age, this shows that screen addiction create a greater impact on the personal habits of the children.

Excessive use of such technologies may put one at the risk of adverse effects such as isolation and feeling of loneliness, decreased interpersonal relationships, and social interactions in them.^{23,24} Psychologically, cell phone use is attributed to loneliness, fatigue and stresses and is a known precursor of consequent mental health problems.^{25,26} Neha et al. reported that excessive use of mobile phones on 212 young Indian adults is reflecting it a behavioural addiction.²⁷

In the present many children faced issues such as headache, body ache, eye related issues, such as burning sensation, irri-

tation, infection, redness, vision problem was higher among the age group of 12-18years. In worst case children faces weight related issues which is high among children greater than 12years of age. As their food habits changes it ultimately relates with the weight related issues both in weight gain and weight loss. The monthly bill towards mobile/ screen app were increased, which shows the screen addiction add the financial burden for parents. Because of the increased usage of child's screen time, parents have to spend on frequent recharges for mobile data or child were engaged in OTT platforms or engaged in downloading the paid apps, even some children were demanding for better gadgets. Due to the exposure to various online platform children were also been engaged in online shopping. In the worst case some children show temper tantrums and violence.

Apart from the harmful effects due to digital technology, children curious to learn new things, they are technologically advanced and learn the new concepts easily, which reflects in their learning outcomes. Further the child was able to access the learning outcomes and learn to adjust and share with others. The current study report was supported by the previous study conducted by Isil Kabakci.²⁸

In the current study the parents in the health care sector feel that they need to find the correct balance in prolonged usage of the digital technology. Perhaps, nearly 32% of the parents feel that the usage of the digital technology for longer time is a serious issue and need to focus on the minimization of child engaging in the digital screen and switch to other activities such as physical activities, sports and other activities which keeps the child active, instead of addicted to digital screen. The awareness programs on screen addiction was conducted by some of the schools and colleges and the percentage of parents attended the program was very less. Thus, there is a need to create an awareness program for the better understanding of the parents about their child's screen addiction and its impact on child's health. The study has various limitations such as the study was conducted among the single site further, Sample selection was not done based on probability proportion to size.

CONCLUSION

Screen addition among the younger age group is of grave concern as it can affect the physical, psychological and mental wellbeing of the children. The parent awareness on the usage of screen time by their children play a major role in monitoring children's changing behaviour due to screen addiction. Regardless of the study limitations, the current study throws a light on the awareness of parents who are health care workers and the study have important implications for researchers and practitioners working on health promotion or awareness on screen addiction especially among parents.

Multidisciplinary approach is needed among Health care providers, public health practitioners, and policy makers should support increased public awareness of how screens may affect familial relationships and child development.

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Authors' Contribution:

Nandhini. L, L.S. Thiruneelan, Hilda Solomon participated in the literature search, conduct of the study, data collection and analysis, and draft manuscript preparation. The concept of the study was by Mr. Sathyanarayana Kondati, who designed the study, Jayanthi Swaminathan and Anitha Rani reviewed, edited, and approved the final manuscript.

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Table 1: Health care worker's Demographic details.

Variables		N=105
Occupation	Doctors	15 (14.28%)
	Paramedics	38 (36.19%)
	Clinical researchers	41 (39.04%)
	Administrative sector	11 (10.47%)
Parents daily time with child	Week Days	3 hrs
	Week ends	>4 hours
Number of electronic devices at home		6 (2 - 7)
Screen sharing with child		45
No of hours screen shared with kids	Week Days	2 hrs
	Week ends	>4 hours

Table 2: Child's Demographic Details.

Variables		n=105
Childs Age group	3 - 6	39 (37.14%)
	6 - 12	45 (42.85%)
	12 - 18	21 (20 %)
Education of Child	Nursery	24 (22.85%)
	Primary school	29 (27.6%)
	Secondary school	31 (29.52%)
	Higher secondary	15 (14.28%)
	College	6 (5.71%)
Child's daily screen time (hrs)		3.5 (2 - 4.5)
Device	TV	49
	Mobile	135
	Desk Top	13
	Laptop	49
	Tablet	12
Daily time spent with child	Father's 3 hrs	3hrs
	>4 hrs	>4 hrs
	Mother's 3 hrs	3hrs
	>4 hrs	>4 hrs
Screen time spent with child	Father's 2 hrs	2 hrs
	>4 hrs	>4 hrs
	Mother's 2 hrs	2 hrs
	39 (37.14%)	3hrs

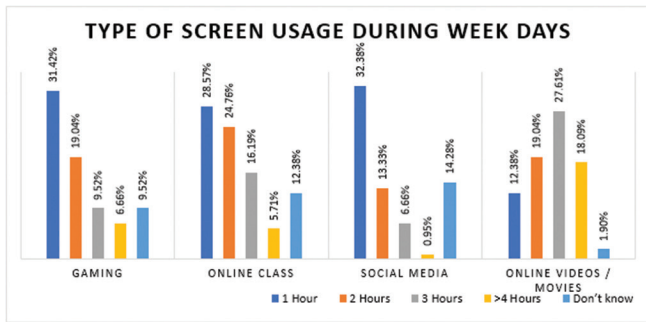


Figure 1: Type of screen usage and duration of the usage during week days and weekends.

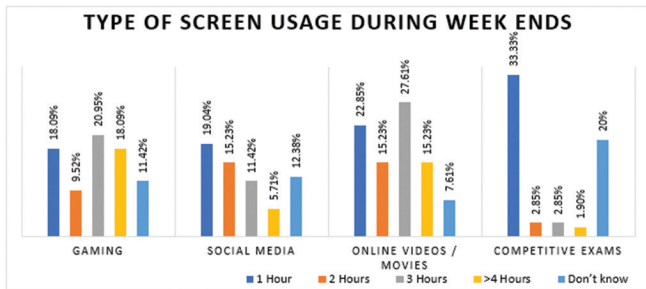


Figure 2: Parents observation in changing child's activities:

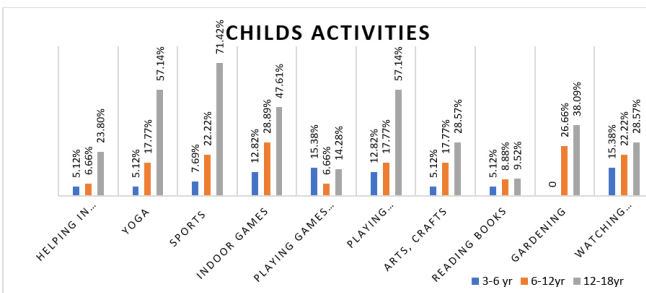


Figure 2a: Parents observation in child's activities:

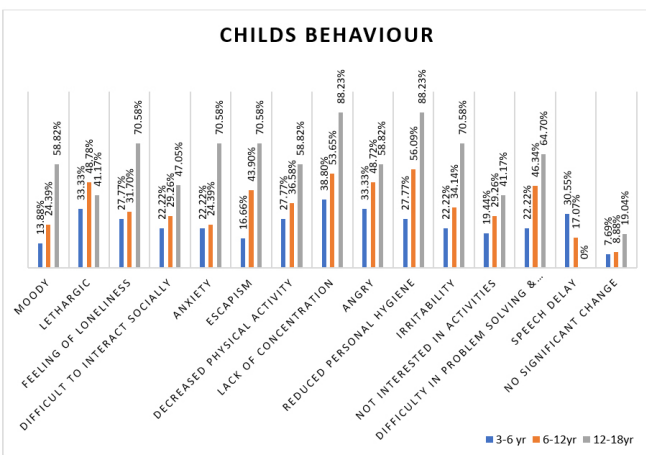


Figure 2b: Parents observation in changing child's behaviour.

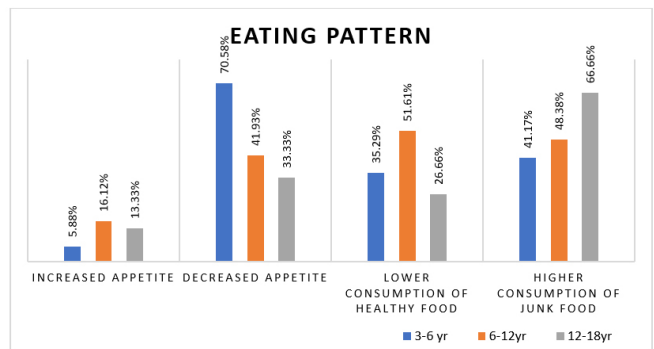


Figure 3: Parents observation on child's eating pattern issue due to excessive screen usage.

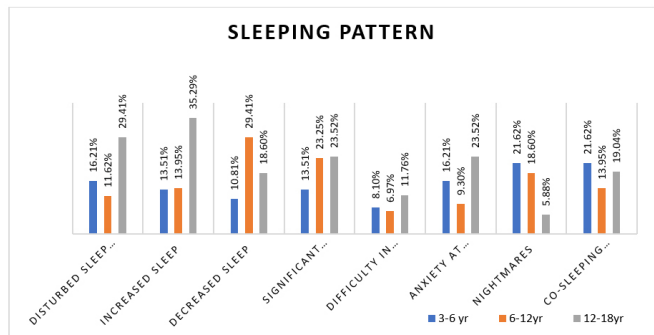


Figure 4: Parents observation on child's sleeping pattern due to excessive screen usage.

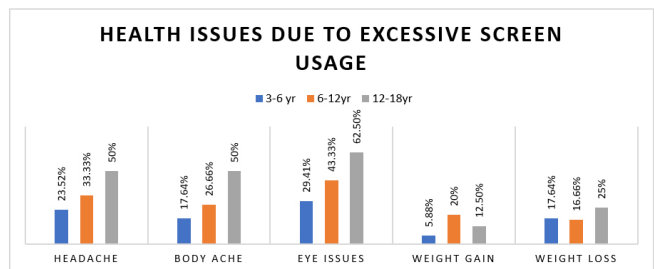


Figure 5: Parents observation on child's health issue due to excessive screen usage.

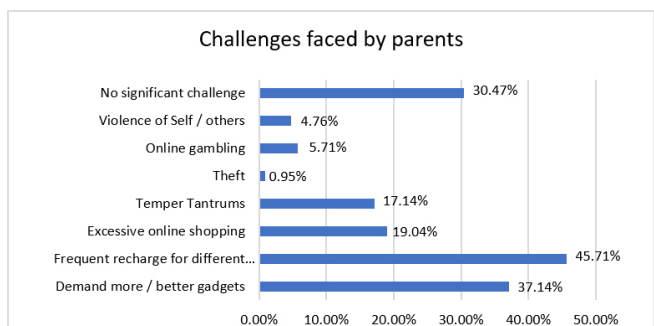


Figure 6: Challenges faced by parents due to excessive screen usage.

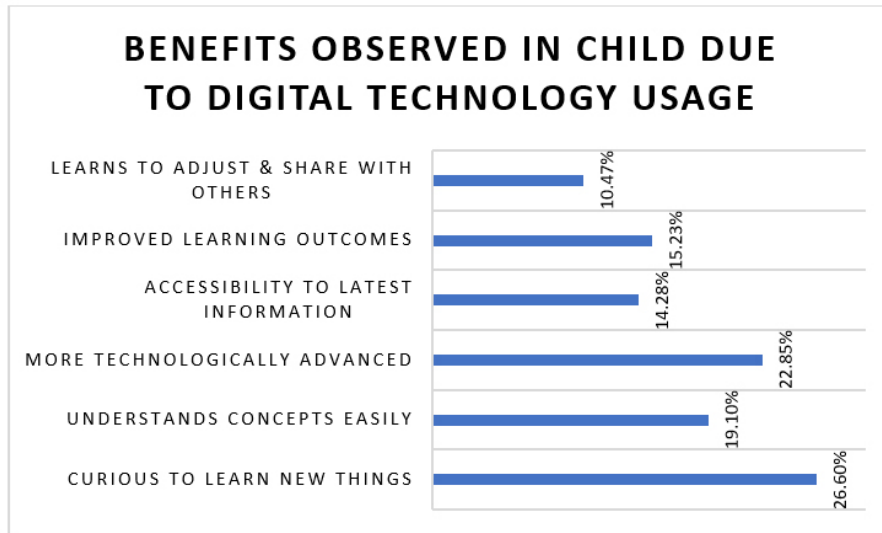


Figure 7: Benefits of screen usage due to digital technology.