



EFFECTIVENESS OF INTERVENTIONS TO REDUCE SCREEN TIME IN THE PAEDIATRIC AGE GROUP POPULATION.

Ophthalmology

Dr. Kanavdeep Kapoor*

Post Graduate (Batch 2020), Ophthalmology, ASCOMS, Jammu *Corresponding Author

Dr Rushali Gupta Assosciate Professor, Ophthalmology, ASCOMS, Jammu

Dr Farah Deeba Senior Registraar, Ophthalmology, ASCOMS, Jammu

ABSTRACT

Screen is an important part of life. Now days screen viewing (i.e., watching TV, using computers, tablets, smart phones and playing on game consoles) is more among children which is resulting in various health issues, i.e. childhood obesity, metabolic risk, cognitive impairment, unfavourable dietary pattern, poor sleep quality and lower scores in their academics. The prolonged screen timing results in cognitive behaviour, impaired critical and reasoning abilities. The present study was conducted in the department of Ophthalmology at Acharya Shri Chander College of Medical Sciences and Hospital, Jammu, during the period December 2020 to November 2021. A total of 200 children attending the Eye Outpatient department were involved. The present study found that majority (21%) of the study participants were in the age group of 11-12 years, and majority of the study participants were male. The present study concluded that measures taken by parents / guardians to control the screen viewing in children had reduced the screen viewing among children.

KEYWORDS

Screen time, Problems, Paediatric / Children and Interventions.

INTRODUCTION

Screen is an important part of life. Now days screen viewing (i.e., watching TV, using computers, tablets, smart phones and playing on game consoles) is more among children which is resulting in various health issues, i.e. childhood obesity, metabolic risk, cognitive impairment, unfavourable dietary pattern, poor sleep quality and lower scores in their academics. The prolonged screen timing results in cognitive behaviour, impaired critical and reasoning abilities.^{1,2,3}

The world health organization has recommended that children should not spend more than two hours a day in front of the screen.⁴

Various studies observed that TV viewing is the most common form of viewing the screen, in children. It was observed that most of the preschoolers are engaged in regular screen viewing and by the start of primary school screen viewing is well established among children.^{5,6}

American Academy of Paediatrics Studies suggest that screen time may affect the normal development of fundamental learning, language, and emotional skills in young children.⁷ So, it is very much important to minimise the screen viewing among young population for better current and future health. Parent and guardians are the important ones who can influence the children's screen-viewing behaviours.

AIMS & OBJECTIVES

To study the effectiveness of interventions to reduce screen time in the paediatric age group population.

MATERIAL AND METHODS

The present study was conducted in the department of Ophthalmology at Acharya Shri Chander College of Medical Sciences and Hospital, Jammu, during the period December 2020 to November 2021 after obtaining approval from the institute ethical committee.

A total of 200 children attending the Eye Outpatient department were involved after obtaining the informed consent from all the study participants.

Inclusion Criteria

- The children presenting in Eye OPD with complains of eye sight, strain, itching and redness of eyes and prolonged headache.
- Age group 3-17 years.

Exclusion Criteria

- Study participants who were not willing to participate.
- Children with co morbidities

A detailed history was collected, eye examination was done. Details regarding screen time were collected from the parents of children with the help of structure questionnaire. Parents were advised to engage the

children in recreational activities (physical activity, playing, etc.), to monitor screen time, to increase the social interaction, to reduce video game play, reduce internet access, to reduce number of screens within the home to promote healthy sleep pattern, making access conditional to physical activity and to assist in academics through books than online mode.

Data was tabulated, organized, analyzed and interpreted in both descriptive and inferential statistics i.e. frequency and percentage distribution, by using statistical package for social science software (SPSS), version 20. Categorical variables were expressed as number and percentage.

OBSERVATIONS AND RESULTS

In the present study, 200 children presented with complain of vision, strain and prolonged headache attending the Eye Outpatient Department were included.

Table 1
Age Distribution

Age group	Frequency	Percentage
3-4	9	4.5
5-6	11	5.5
7-8	40	20
9-10	33	16.5
11-12	42	21
13-14	37	18.5
15-16	25	12.5
>16	3	1.5

Table 1 depicted, the majority (21%) of the study participants were in the age group of 11-12 years, followed by 7-8 years (20%), 13-14 years (18.5%), 9-10 years (16.5%), 15-16 years (12.5%), 5-6 years (5.5%), 3-4 years (4.5%) and >16 years (1.5).

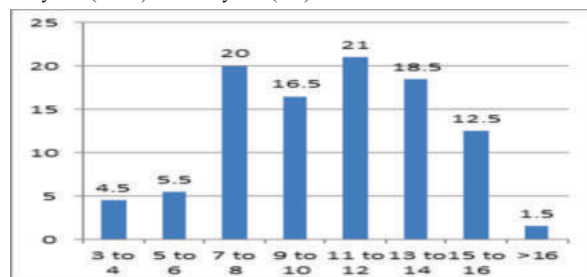


Figure 1. Age Distribution

Table 2
Gender Distribution

Gender	Frequency	Percentage
Male	112	56
Female	88	44

Table 2, represented that majority of the study participants were males (56%) followed by 44% females.

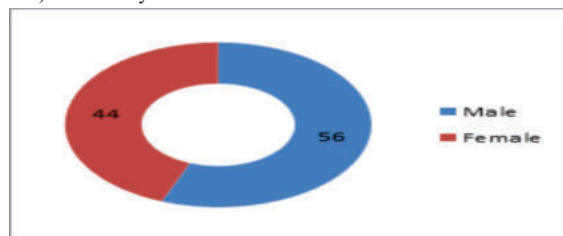


Figure 2. Gender Distribution

Table 3
Utilization of screen time

Usage of screen	Frequency	Percentage
Entertainment	78	39
Study	60	30
Playing games	62	31

Table 3, showed that majority of the study participants used screen for entertainment (39%), followed by playing games (31%) and study (30%)

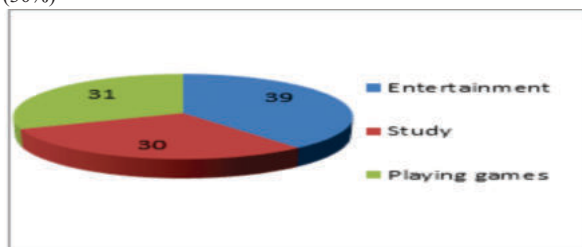


Figure 3. Utilization of screen time

Table 4
Average duration of screen time usages per day before intervention

Duration of screen use	Frequency	Percentage
<60 min	15	7.5
61-120 min	52	26
121-180 min	90	45
>180 min	43	21.5

Table 4. Showed the average duration of screen time use per day before implementation of intervention. It was observed that majority of the study participants uses the screen for 121 to 180 minutes (45%), followed by 61-120 minutes (26%), >180 minutes (21.5%), and <60 minutes (7.5%).

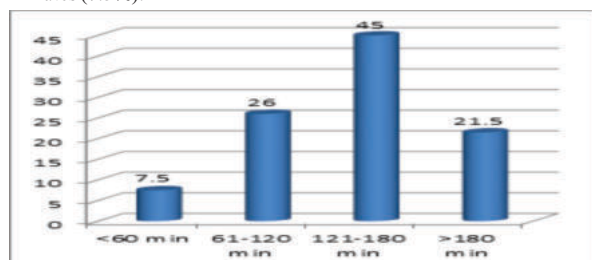


Figure 4. Average duration of screen time usages per day before intervention

Table 5
Average duration of screen time usages per day after intervention

Duration of screen use	Frequency	Percentage
<60 min	9	4.5
61-120 min	123	61.5
121-180 min	57	28.5
>180 min	11	5.5

Table 5, depicted the average duration of screen time use per day after implementation of intervention. It was observed that majority of the study participants uses the screen for 61-120 minutes (61.5%),

followed by 121-180 minutes (28.5%), >180 minutes (5.5%), and <60 minutes (4.5%).

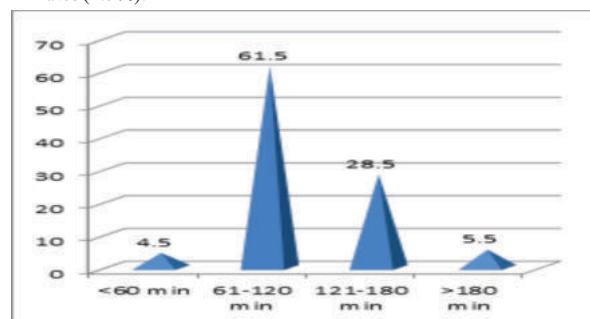


Figure 5. Average duration of screen time usages per day after intervention

DISCUSSION

In this study 200 children attending the Eye Outpatient department were involved. Detailed history was collected and parents and children were advised to implement the various measures to reduce the screen time. Data was analyzed and discussed with previous literature.

Screen time is the time, spent for watching television, playing online / video games, doing study etc. by using phone, computer and television. The prolonged usage of screen time is leading in the sedentary behaviour in all the age groups which is leading in several developmental changes among children and also increasing the risk of obesity and other health related issues. The recent guidelines of WHO advised that children aged under one year old should have no screen time, while children aged 2-5 years are recommended to have no more than 1 hour of sedentary screen time per day.⁸

Parents and guardians play an important role in limiting the screen time or making a healthy screen time schedule for their children. Children should be encouraged to indulge in physical activities more and to be socially active which will promote their overall health and development.⁹

The present study found that majority (21%) of the study participants were in the age group of 11-12 years, and majority of the study participants were male. The study participants used screen for entertainment mostly and before intervention the average duration of screen time use per day was 121 to 180 minutes which was decreased up to 61-120 minutes after implementation.

In a study conducted by Guerreo MD, et al. (2019), reported that majority of the study participants were in the mean age 9.91 years and most of the reported participants were male (52.13%). Further it was observed that the more screen time exposure was associated with behaviour problems of the children.¹⁰

In other similar studies conducted by Bleakley et al. (2013), Harrison et al. (2006), Schmidt et al. (2012), observed that educating parents about the relationship between their own and their child's viewing may be a useful strategy for interventions that aim to reduce children's excessive television viewing.¹¹

CONCLUSION

The present study concluded that measures taken by parents / guardians to control the screen viewing in children had reduced the screen viewing among children.

REFERENCES

- Jago R, Baranowski T, Baranowski JC, et al. BMI from 3–6 y of age is predicted by TV viewing and physical activity, not diet. *Int J Obes Relat Metab Disord* 2005;29:557–64. doi:10.1038/sj.ijo.0802969
- Ekelund U, Brage S, Froberg K, et al. TV viewing and physical activity are independently associated with metabolic risk in children: the European Youth Heart Study. *PLoS Med* 2006;3:e488. doi:10.1371/journal.pmed.0030488
- Page AS, Cooper AR, Griew P, et al. Children's screen viewing is related to psychological difficulties irrespective of physical activity. *Pediatrics* 2010;126:e1011–17. doi:10.1542/peds.2010-1154
- Roberta Roggia Friedrich, Jéssica Pinto Polet, Ilaine Schuch, Mário Bernardes Wagner. Effect of intervention programs in schools to reduce screen time: a meta-analysis. *Jornal de Pediatría (Versão em Português)*, Volume 90, Issue 3, May–June 2014, Pages 232–241.
- Biddle SJ, Pearson N, Ross M, et al. Tracking of sedentary behaviours of young people: a systematic review. *Prev Med* 2010;51:345–51. doi:10.1016/j.ypmed.2010.07.018.
- Vanderloo LM. Screen-viewing among preschoolers in childcare: a systematic review. *BMC Pediatr* 2014;14:205. doi:10.1186/1471-2431-14-205

7. Melissa Pandika. The unexpected effects of all that screen time. Rally, 2016.
8. Stiglic N, Viner RM. Effects of screentime on the health and well-being of children and adolescents: a systematic review of reviews. *BMJ Open*. 2019;9(1):e023191. Published 2019 Jan 3. doi:10.1136/bmjopen-2018-023191.
9. Guerrero, M.D., Barnes, J.D., Chaput, JP. et al. Screen time and problem behaviors in children: exploring the mediating role of sleep duration. *Int J Behav Nutr Phys Act* 16, 105 (2019). <https://doi.org/10.1186/s12966-019-0862-x>.
10. Benjamin Rosen. How to utilize the research about children and screen time. *Clinical science insights*, 2019; 1-11.
11. Yousuf, M.S., Harvey, H.L., Parahoo, S.K. et al. The effects of pediatric primary prevention programs on screen-time and reading habits of children in Jordan. *ICEP* 15, 14 (2021). <https://doi.org/10.1186/s40723-021-00092-8>