Original Research Paper

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Paediatrics

STUDY ON EFFECT OF SCREEN TIME AND PROBLEM BASED BEHAVIOURS IN UNDER FIVE CHILDREN.

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ABSTRACT **INTRODUCTION:** Excessive screen time in early childhood may lead to poor physical and psycho-social health and poor cognitive development. This study aimed to know the impact of screen time in under five children.

AIMS AND OBJECTIVES: To study the duration and effect of screen time on behaviour in under five children.

METHODOLGY: This cross-sectional observational study was conducted at Alluri Sitarama Raju Academy of Medical Sciences, Eluru, Andhra Pradesh from February 2020 to March 2020 among 100 children fulfilling the inclusion and exclusion criteria. Details regarding screen time use were collected from the parents using a predesigned questionnaire and analyzed using suitable statistical methods.

RESULTS:-A total of 100 children were studied out of which 45 children are toddlers (1-3 years) age group and 55 are preschoolers (4-5 years) age group. Majority of them had screen time duration between 2-4 hours 46.6% among 1-3 year age group and 50.9% among 4-5 years age group and they did not meet WHO and AAP recommenadtions of screen time.Children's screen time increased along with increase inparent's device usage (p value-0.04) which is statistically significant. Majority of the children (24%) had tantrum behaviour after device removal. In this study we have seen that 53 of children in 4-5 years age group were inattentive while watching screen.

CONCLUSION-Average screen time exceeds the currently WHO and AAP recommended duration of 1hour/day. Parent's awareness regarding increased child's screen use, exposing them to lesser devices, encouraging them for outdoor play time, good parent – child interaction and healthy sleep habits helps us in overcoming this problem.

KEYWORDS : Screen time duration, AAP and WHO screen time recommendations.

INTRODUCTION:

Screen time or digital screen exposure is the duration of time spent by the individual in using electronic/digital media like television, smart phone, tablet or computer[1].

WHO guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age, 2019 recommends no screen time under two years of age and to limit screen time in children 2 to 5 years to not more than 1 hour per day [2].

AAP guidelines (2016)[3] recommends that children under 18 months avoid use of screen media other than videochatting. It recommends that parents of children 18 to 24 months of age who want to introduce digital mediashould choose high-quality programming and watch it with their children to help them understand what they are seeing. Kids between 2 to 5 years are recommended limit their use to an hour of high quality program, and that ideally parents should co-view media with children. It is also recommended to designate media-free times together, such as dinner or driving, as well as media-free locations at home, such as bedrooms.

Excessive screen time is predominantly associated with sedentary behaviours in children[4]. Excessive screen time is considered as one of the major role players in causing non-communicable diseases (NCDs) [5] and health risks[6] later in life.Further, screen time has been associated with impairments in language development [8,9] and behavioral[7], psychosocial, academic and physical wellbeing[9].

There are limited studies on screen time and its effects among Indian children which drawed our attention purposefully to conduct this study, as early childhood is a period of rapid development and lays foundation for lifelong lifestyle routines and health.

AIMS AND OBJECTIVES:

To study the duration of screen time in under five children.
To study the effect of screen time on behaviour of children.

METHODOLOGY:

This cross sectional observational study was conducted in wellbaby clinic, ASRAMS Hospital, Eluru, Andhra Pradesh.

This study was conducted over 2 months from February 2020 to March 2020, among 100 children.

INCLUSION CRITERIA : children under five years age group attending well baby clinic.

EXCLUSION CRITERIA: children with developmental delay, intellectual disability, hearing impairment, behavioural disorders.

After obtaining institutional ethical committee clearance and informed consent, data was collected from the parents using a predesigned questionnaire.

The details regarding duration of screen time, contents, type of devices, behavioural problems were collected by recall method.

STATISTICALANALYSIS:

The data collected entered in Microsoft Excel and analyzed using SPSS 23 version**.** The data analyzed was expressed using chi-square test, T-test, bar diagrams, pie diagrams & graphs.

Statistical significance was assessed at 5 % level of significance (p value <0.05).

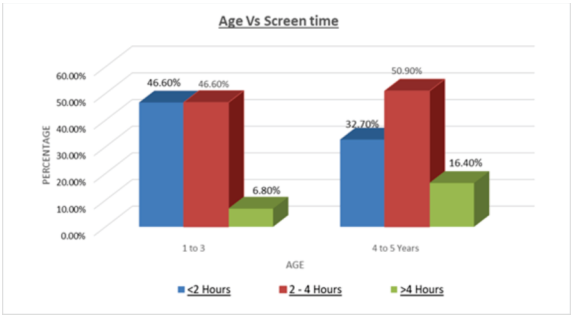
RESULTS:

In this study out of 100 children 45 children are toddlers (1-3 years) age group and 55 are preschoolers (4-5 years) age group. Majority of them had screen time duration between 2-4 hours 46.6% among 1-3 year age group and 50.9% among 4- 5 years age group as shown in figure(1)and as the age increased duration of screen time also increased and p value (0.005) is statistically significant.

In our study we can see that parent's screen time duration is a positive predictor of increased child screen time duration and p value (0.04) which is statistically significant.

In figure (2) we noted children behaviour after withdrawal of screen where majority (24%) had crying behaviour. In figure (3) majority of the children were inattentive while watching screen and which is more 53% among 4-5 years age group.

Figure. 1 Age Vs Screen Time



Chi square test value is =24.3 p-value = 0.005 (<0.05) Significant.

Figure: 2

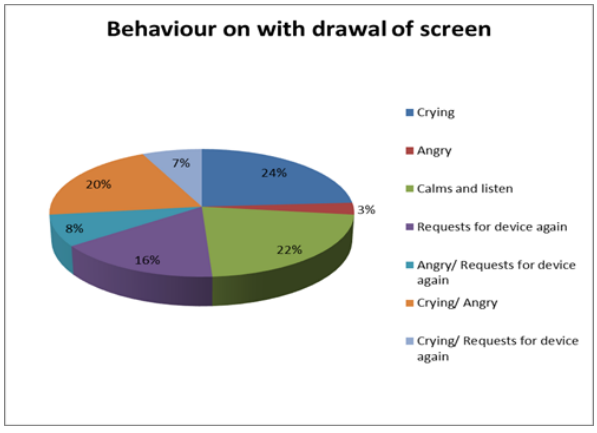
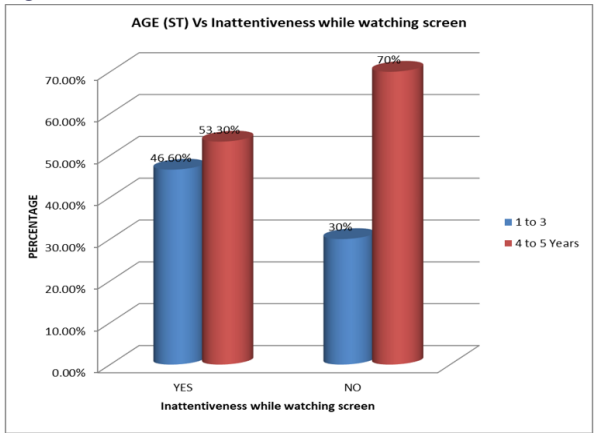


Figure: 3



DISCUSSION:

This study represents screen time and its effects in early childhood. The percentage of children watching screen for 2-4 hours was more in 4-5 years age group than in 1-3 years age group. We found that majority of the children in our study did not meet WHO and AAP recommendations which was similar to a study done by Shirley et al[10], in which only 14.2% participants met AAP recommendation.

A study on four year-old Swedish children in 2017 by Berglind D et al, 97% and 86% of children exceeding the 1 hour guideline for screen-time on weekend days and weekdays respectively[11] .

High screen time of parents was significantly associated with increased screen time in children (p value -0.04) in both the age groups. The mean screen watching among parents was 2-3 hours per day in our study.

The above observation in our study was similar to a study done on screen time usage among preschoolers aged 2-6 in rural Western India by Shah R R et al 2019(12), where smart phone usage by parents increased the odds of screen time by 60% and two - folds, respectively(p value – <0.01).

A study done by kourlaba et al (2018)[13] also showed a significant relationship between parent's screen time and children screen time.

The current study found that parents screen time significantly and independently predicted their child's screen time, which replicates findings from a systematic review[14]. This suggests that parent's screen time may be a key target for intervention. Parent to child interaction could play a major role in reducing the duration of screen time in children in this age group.

In our study we can see that majority of the children had crying behaviour on withdrawal of screen and 90% of the children were inattentive while watching screen as the consequences of exposing preschoolers to screen time of > 60 min is that they are at higher risk of negative effects on temper, character, and vulnerability to inattention and Attention Deficit Hyperactivity Disorder symptoms as in previous study done by Tong et al[15] showed that there was an increased Attention Deficit Hyperactivity Disorder symptoms in children and this was associated with the overuse of electronic devices, eating while using electronic devices, and delaying bedtimes to snack and use electronic devices.

A Japanese study observed that children aged 30 months, had increased chances of being hyperactive / inattentive due to excessive TV-viewing[16].

Christakis et al[17] reported that hours of TV viewing per day at ages 1 and 3 were associated with attention problems at age 7.

Excessive screen time among toddlers may have impact on cognitive milestones of the children. A study done by Verma et al (2018)[18] showed 5 of 18 among 1-2 years age children had more impact of electronic gadgets i.e. they had shown delayed or regression of cognitive milestones.

CONCLUSION:

1. In this present study it was found that most of our children did not meet the WHO and AAP screen time recommendations. The results of this study have showed that there is a high prevalence of excessive screen time among under-five children. There are several health impacts of excessive screen time including emotional, sleep, behavioural issues impairing the growth and cognitive development of under-five children.
2. Increased screen time among children whose household had two or more devices and increased parent's screen usage consequently affected the child's sleep quality.
3. Parent's awareness regarding the recommended levels of screen time, say no to children's request to engage in screen time, exposing them to lesser devices, encouraging them for outdoor play time, good parent – child interaction and healthy sleep habits helps us in overcoming this problem.
4. For the proper growth and development of children, the use of digital-media should be restricted while eating meals, or one hour before sleep.

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