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Original Research Article

Parents perception on pattern and effects of usage of electronic devices among school going children

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ABSTRACT

Background: Over usage of electronic gadgets has a serious impact on physical activity of children leading to obesity, depression, anxiety, poor scholastic performance, strain on the eyes and triggering factor for neck and back pain (due to spondylitis).It is very important to know how to control the screen time of children by parents.
Methods: Here, 75 parents were subjected to questionnaire study which contained questions on the information on usage of electronic devices among children and the adverse effects noticed. Results were analyzed using Microsoft excel software.
Results: Almost all the 75 cases had access to television, 64 had access to smart phones, 24 had access to IPAD/Tablet, 8 had access to laptop and 4 had access to gaming console. It was found that 45 % were depressed / anxious when gadgets were withdrawn from them. 21 kids had no idea what to do when gadgets were not available. 54 kids had no interest in outdoor playing and 38 children were found to have decreased interaction with other family members.
Conclusions: Exposure to gadgets in paediatrics population leads to poor scholastic performance, obesity, depression, decreased interaction with family and many other problems. So, it is very important to have control on child's day to day activities and have constant vigilance on their gadget usage.

Keywords: Depression, Electronic gadgets, Obesity, Spondylitis

INTRODUCTION

Teaching basics like food habits, toilet training, cleanliness, hygiene, discipline and mannerism and motivating out for play in childhood is a biggest challenge to the young parents, and their role is very important in establishing such healthy habits.[1] It is a well-known fact that every house, there is serious problem of lack of interaction, discussion on family bonding, family games, family time mainly due to overuse of gadgets by children, parents and grandparents as well. There is a total loss of control over the screen time, in every individual in urban area.[2]

It starts from early childhood, as example of showing the TV cartoon while giving the food, it is like a lucrative object to the child, this is how it starts, and it continues to adolescent thereafter adulthood with different forms of gadgets.[3] In developing countries like India, dealing with gadgets have taken over a huge share of the electronic market as a result, people have gadgets and internet access at an affordable price, thus keeping them occupied in gadgets and disrupting their daily commitments.

Prior to gadgets era, kids were exposed mainly to the outdoor play, cultural activities, helping parents in household works, whereas now there is significant impact of mobile, TV and other gadgets, that has deprived children of all the above activities.[4] Due to poor outdoor activities there is a very poor exposure to sunlight which leads to severe Vitamin D deficiency and Rickets in

many children.[5] Obesity in peadiatric age group is a major concern in all over the world, it is very well proved that there is a direct correlation between increased screen time and severity of the obesity mainly due to decreased physical activity, increased consumption of junk food, beverages, high calorie, low nutrient food marketing in television and media which influences children preferences.[6] More hours of screen time were associated with lower psychological wellbeing, including less curiosity, lower self-control, more distraction, more difficulty in making friends, less emotional stability and inability to finish tasks.[7]

METHODS

In this study 75 parents were subjected to questionnaire study which comprised of questions on the information on usage of electronic devices among children and the adverse effects noticed.

This study focused on parents of school going children as they will be exposed to community in the future. It is a cross section study, performed among parents of school going children working in a tertiary care centre in Mangalore. This study was approved by Institutional Ethics Committee. Total sample size was 75. The results were analyzed in Microsoft Excel and results were obtained.

Inclusion criteria

- All the parents who are willing to participate with providing complete information's related to the questionnaires.

Exclusion criteria

- Parents whose children are staying away either in hostels or relatives' houses.

Parents who are not spending adequate time with children at home. All the participants were given participant information brochure and were asked to sign the consent form. They were given the questionnaire, consisting of multiple choice questions which include information on usage of electronic devices among children and the adverse effects noticed. All the participants were informed that confidentiality will be maintained. The participants were not aware about the topic of the study till they received the questionnaires. The data was entered in Microsoft excel and results were analyzed. Frequency and percentages were obtained for each question of the questionnaire were compiled.

RESULTS

100% children are exposed to television, 85% exposed to smart phones, 32% exposed to IPAD/ Tablet, 5.3% exposed to gaming console, and 10% had access to laptop (Figure 1).

Out of 8 laptop users 6 were using for less than 1 hour per day and 2 were using it for 1-2 hours per day. 48 kids were using smart phones for 1-2 hours and 16 kids were using it for less than 1 hour. Out of 24 IPAD/ Tablet users, 14 were using it for less than 1 hour per day and 10 were using it for about 1-2 hours. 68 children were watching Television for 1-2 hours per day whereas 7 children were watching it for more than 2 hours .None of them had spent time on gaming and television watching for less than 1 hour, no kid had exceeded more than 2 hours in usage of laptop, smartphone, tablets and gaming (Table 1).

Among 46 parents were of the opinion that children were aware and talking about the trends on social media,12 parents felt that their children were benefited from new relevant information's on the internet, whereas 56 parents felt that they were asking questions regarding doubts on information they found on internet. 68 parents agreed that they had confiscated gadgets in order to maintain discipline, 62 parents felt that children's main activities were having connection with electronic gadget usage. 68 parents opined that their children had significant spare time and mainly it was spent on gadget usage. 24 parents observed that there is marked weight gain after being exposed to electronic gadgets. It is found that 45 were depressed / anxious when gadgets were withdrawn from them. 21 kids had no idea what to do when gadgets were not available. 54 kids were affected in outdoor playing and 38 children found to have decreased in their interaction with other family members (Table 2).

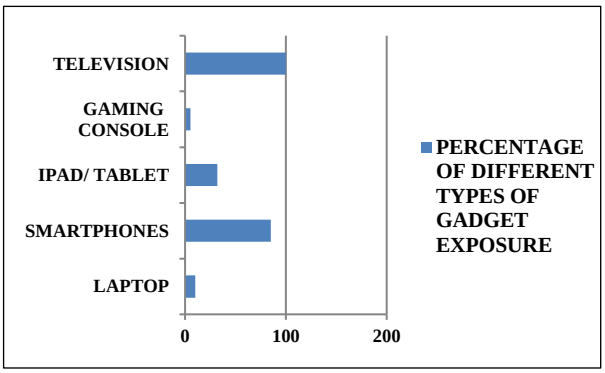

Figure 1: Percentage of different types of gadget exposure.

Table 1: Time spent by using electronic device by your children.

Gadget	< 1 hour/ day	1-2hours/ day	>2 hours/ day
Laptop	6	2	Nil
Smartphone	16	48	Nil
IPAD/tablet	14	10	NIL
Gaming	NIL	4	NIL
Television	NIL	68	7

Table 2: Answers of questionnaires given to the parents.

Questions	Yes	No	May be
Does your child talk about trends on social media?	46	24	5
Do you feel your child finds new relevant information on the internet?	12	37	26
Does your child ask you questions on things they find on the internet?	56	19	Nil
Have you confiscated your child's gadget in order to discipline him/her?	68	7	Nil
Do you feel that child gets nervous/ depressed / anxious when you take away the gadget?	45	20	10
Do you feel that your child's activities are mainly connected with an electronic gadget?	62	2	11
Do you think that your child has spare time, he/ she spends it playing a game or on social media?	68	NIL	7
Do you think that your child knows what to do during free hours without his gadgets?	18	21	36
Do you think the usage of gadgets has impact on outdoor activities of your child?	54	NIL	21
Do you think that your child has gained weight excessively after starting to use electronic gadgets?	24	11	40
Do you think that your child's interaction with other children and family members has decreased after gadget usage?	38	15	22

DISCUSSION

Study done by Hillary L Burdette has shown that whole study group (57% boys and 43% girls) had access to gadgets, which is similar to this study.[8]

Study done by Elizabeth et al, showed 75% children were watching television whereas in this study 100% children were having access to television. In the same above study,32% of the kids were using DVD/ video where as in this study showing only very small number were exposed to DVD/ Video, i.e. only 5.3 % because of easy availability of other sophisticated gadgets like IPAD/ Tablet in 32%, Laptop in 10%, smart phones in 85%.[9]

Keiko Wada et al, conducted study revealed out of 3141, 2572(81%) were using T.V. 95% of children were using it for less than 1 hour, 37% of the children were using it for 1-2 hours, 32% were using for 2-3 hours and 20% were using for more than 3 hours, whereas in this study 64% of children were seeing television for 1-2 hours, 34% of the kids were using for >2 hours. Out of 3141 children, 2014 children (64%) were exposed to computers, in that 21% of the children were used computer for <0.5 hours, 31% for 0.5-1 hour, 28% for 1-1.5 hours and 18% >1.5 hours. Whereas in our study, 8% of kids were using laptop for less than one hour and 3% of the children were using for 1-2 hours, in addition 5% of the children were using gaming devices for 1-2 hours. IPAD was also used by 18% of the kids for <1 hour and 13% of the kids were using it for 1-2 hours and none were using above 2 hours. Lastly smart phones were the main distracting gadget in this study group, about 21% of the kids were using smart phones for less than 1 hour and 48% of the study group were using it for 1-2 hours and none of them have crossed 2 hours duration of smart phone usage.[10] Study done by Arlinda Sari Wahyuni et al, proved that 4% children in study using gadgets for 1-3 days per week are having abnormal mental and emotional disturbance, it steeply raised to 16% when the usage increased to 6-7 days per week. In this study 50% parents agreed that their children are affected emotionally and there is significant reduction in interaction with other siblings, parents and family members. 60% of parents said that children are getting anxious, depressed when gadgets are taken away from them. About 61% parents feels that their children are more interested and curious about changing social trends.[11]

Miriam E Bar conducted a survey which showed that children's have learned pro social content of the television program and were able to apply that learning to a number of real-life situations. According to this study 16 % of parents feels that they are getting relevant useful information and 49% of study group disagree for that. However, this study group majority (79%) say that their children are asking doubts about the things they found in the internet.[12]

Samantha John et al, in their study revealed that when children are withdrawn from smartphones they were distressed and anxious, depressed, angry and develop sleep disturbances, whereas in this study showed 60% of the study group had the same experience.[13]

Nirman Kaur et al, depicts that there is a steep rise in screen time in small age group, children who had screen time <1 hr at 14 months of age started watching screen for >2 hours/ day when they are 30 months of age. In this study 82% of the study groups felt that their children activities are mainly connected with electronic gadgets.[14]

Study done by Michelle D Guerrero et al, showed that there are problematic behavioral changes due to screen time in children.[15] Jennifer et al, in a study concluded that television which remains the steadiest source of food advertisement was most consistently associated with BMI gains among girls.[16]

Fang K et al, did study which revealed there is positive association between different types of screen time and overweight/ obesity among children. However, in this study the overweight noticed in only 18% of total study group.[17]

CONCLUSION

Over the past decade there is a huge transformation of the world from real life to gadget life. There are large number of side effects due to over usage of gadgets in the form of lack of good inter relationship, lack of physical activity, acquiring diseases at early age, poor scholastic performances and many more. Over usage of gadgets lead to over stimulation of the brain and view reality as boring, it is high time to stop gadget use and spend more time with your children which helps in reverting the damage occurred to your brain and body.

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