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Habit of Smartphone Usage and Its Impact on Behavior among Under Five Children as Perceived by Parents

Prashant Baburao Kulkarni[1], Dr. Anuradha Mhaske[2]

[1]PhD Scholar, MGM College of Nursing, N-6 CIDCO Aurangabad, 431003, Maharashtra, India
[2]Principal, MGM College of Nursing, N-6 CIDCO Aurangabad, 431003, Maharashtra, India

Corresponding Author: Prashant Baburao Kulkarni

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ABSTRACT

Background: The time that children spend using digital devices is increasing rapidly with the development of new portable and instantly accessible technology, such as smartphones and digital tablets. Although prior studies have examined the effects of traditional media on children's development, there is limited evidence on the impact of mobile device use. The current study aimed to assess the smart phone usage habits and its impact on behavior of under five children as perceived by their parents.

Methods: A purposive sample of 40 under five children was included in the study. Structured rating scales were used for assessing the smart phone usage and its impact on behavior as perceived by the parents. Data were analyzed using the descriptive and inferential statistics.

Results: 60% of the children had moderate habit and 37.5% had poor habit of Smartphone usage. 65% of children had moderate impact of Smartphone usage on their behavior and 37.5% children had high impact of Smartphone usage on their behavior as perceived by their parents. There is a significant positive correlation between habit of Smartphone usage and behaviour scores of children ($r=0.9972$, $p<0.001$)

Conclusion: Many parents are unaware about the impact of mobile on their children. Still there is a need to conduct so many studies on impact of mobile on physical, physiological and psychological health status among children.

Key words: Smartphone, Habit, Behavior, Under five children, Parents

INTRODUCTION

As smart phone has come into general use in recent years, the use of it by parents is becoming more common to their young children. The reason parents encourage their young children to use it is a high expected effect of self-regulation. In other words, the use of smart phone can provide young children with various opportunities to learn without the restrictions of space [1] and help them to have various kinds of indirect experiences [2]. there is great concern about smart phone addiction of as the principle of reinforcement can lead to the continuing use of it. Consequently, it is more likely to have the problems related to the use of it. But conducted studies up to now are focused on the effect of their use of it[3] and the intellectual development of them. Moreover, it is not possible to find studies on regulation and influence by self-control exploring the relationship with their use of it [4,5]. Over usage of mobile phones may cause psychological illness such as dry eyes, computer vision syndrome, weakness of thumb and wrist, neck pain and rigidity, increased frequency of De Quatrain's tenosynovitis, tactile hallucinations, nomophobia, insecurity, delusions, auditory sleep disturbances, insomnia, hallucinations, lower self-confidence, and mobile phone

addiction disorders[4] In animals, chronic exposure to Wi-Fi radiation caused behavioral alterations, liver enzyme impairment, pyknotic nucleus, and apoptosis in brain cortex.[5]

Excessive screen time is predominantly associated with sedentary behaviors in children and adolescents[6]. Excessive screen time is considered as one of the major role players in causing non-communicable diseases (NCDs) [7] and health risks [8] later in life.

The screen-media landscape has changed drastically during the last decade with wide-scale ownership and use of new portable touch screen-based devices plausibly causing changes in the volume of screen media use and the way children and young people entertain themselves and communicate with friends and family members. This rapid development is not sufficiently mirrored in available tools for measuring children's screen media use. Child mobile device use is increasingly prevalent, but research is limited by parent-report survey methods that may not capture the complex ways devices are used.

A root cause of the negative effects of smartphones on child development can come from an unexpected place. An article in the Atlantic stated that, before parents should be concerned about their children's smartphone usage, they should first consider their own. As the ultimate examples of their children, parents need to be mindful of their smartphone consumption since that kind of behavior will set the stage for how children will interact with technology. Parents must consider what image they express to their children and how they communicate responsible smart phone consumption. [9]

MATERIALS AND METHODS

Study Design and Participants

Present study was a descriptive cross sectional study conducted between Nov 2021 to Jan 2022. A purposive sample of 40 parents of under five children was selected from selected area of Aurangabad City. Parents willing to participate were included in the study. Permission to conduct study was obtained from Commissioner, Municipal Corporation, Aurangabad.

Instruments

Structured Rating Scale for assessment of Smart Usage Habit

Smart Phone usage habit among parents of under five children was measured using the structured rating scale, a 16 item 4 point Likert type of scale. Response options range from 1 to 4for each item. Scores range from 16 to 64, with high scores indicating poor habit. Scale was translated to Kannada and then back translated to English. For the present study reliability was calculated by administering scale to 10 parents and Cronbach's alpha coefficient obtained was 0.80.

Structured Rating Scale for assessment of behavior of under five children perceived by parents.

Impact of Smart Phone usage habit on behavior under five children as perceived by parents was measured using the structured rating scale, a 23 item 4 point Likert type of scale. Response options range from 1 to 4for each item. Scores range from 23 to 92, with high scores indicating high impact. Scale was translated to Kannada and then back translated to English. For the present study reliability was calculated by administering scale to 10 parents and Cronbach's alpha coefficient obtained was 0.88.

Socio-demographic Variables and Clinical characteristics

Socio-demographic and clinical variables included Age, gender of child, Class of study, duration using the mobile, and purpose of using the smart phone.

Data Collection Procedures

Prior permissions were taken from relevant institutions before the beginning of data collection procedure. The study participants were identified during the study period at selected area of Aurangabad. Every parent who fulfilled the inclusion criteria was

approached for data collection. Consent was obtained by the parents. Purpose of the study was explained to the participants in the language understandable to them.

Data Analysis

Descriptive univariate statistics such as frequencies and percentages were used for categorical variables. Correlation between smart phone usage habit and its impact on behavior was assed using Pearson's correlation coefficient.

RESULTS

Description of socio-demographic data

Table 1: Socio-Demographic data of preschool children

S No	Demographic data	Frequency	%
1	**Age in years**		
	Three	10	25
	Four	15	37.5
	Five	10	25
	Six	5	12.5
2	**Gender of the child**		
	Male	23	57.5
	Female	17	42.5
3	**Class of the study**		
	Nursery	10	25
	LKG	15	37.5
	UKG	10	25
	1st Std	5	12.5
4	**Duration of using mobile/ smart phone in a day**		
	< two hours	4	10
	2-3 hours	15	37.5
	3-4 hours	18	45
	>4 hours	3	7.5
5	**Purpose of using smart phone**		
	Movies	2	5
	Home videos	35	87.5
	Music	27	67.5
	Photos	20	50
	Video chatting	3	7.5
	Talking on phone	31	77.5
	Texting/ instant messaging	5	12.5
	Games for fun	40	100
	Games for learning	16	40
	Social networking	21	52.5
	Email	0	0
	General internet use	20	50
	Others	10	25

The above table shows that 25% of children belong to age group of three, 37.5% belongs to age group four, 25% belongs to age of five and 12.5% belong to age group of six. 57.5% of preschool children belong to male gender and 42.5% of children belong to Female gender. 25% of preschool children studying Nursery, 37.5% studying LKG, 25% studying UKG and 12.5% studying 1st std as a class of the study. 10% of children using mobile less than two hours, 37.5% of children using 2-3 hours, 45% of children using 3-4 hours and 7.5% of children using more than four hours in a day. 100% of children use for playing games, 87.5% use for watching videos, 67.5% of children listening the music, 50% children taking photos, 77.5% for talking, 40% use for games for learning, 52.5% for social networking and 5% children are watching movies.

Habit of smart phone usage among under five children

Table 2: Represents categorization of Habit of smart phone usage among under five children

S No	Grades	Scores	Frequency	%
1	Poor habit	44-64	15	37.5
2	Moderate	22-43	24	60
3	Good habit	0-21	1	2.5
		Total	**40**	**100**

The above table shows that 37.5% children had poor habit of usage of mobile, 60% had moderate habit and 2.5% had good habit of using mobile.

Effect of smart phone on behavior children

Table no 3: Depicts that effect of mobile phone on children

S No	Grades	Scores	Frequency	%
1	Low impact	23-31	1	2.5
2	Moderate impact	32-63	26	65
3	High impact	64-92	13	37.5
		Total	**40**	**100**

The above table and diagram shows that 65% of children having moderate impact of mobile on children, 37.5% had high impact by mobile and 2.5% had low impact of mobile.

Correlation between habits of smart phone usage with behaviors of children

Table No 4: Correlation between habits of smart phone usage with behaviors of children

variables	Mean	Median	Range	SD	R value	Significance
Habit	40.4	40	11-56	4.9	0.9972	Significant
Behavior	58.52	58	15-81	6.36		

The above table explains that there is a significant correlation between smart phone usage with behaviors of children i.e. r=0.9972. The mean score of habit is 40.4, median is 40, and SD is 4.9. Whereas behavior mean is 58.52, median is 58 and SD is 6.36. Hence research hypothesis is accepted and null hypothesis is rejected.

DISCUSSIONS

The present study conducted among under five children and in that 12.5% children belongs to age group of 06 years, 57.5% children belong to male gender, 45% children using smartphone 3-4 hours/ day. Similar study conducted shows that 54.88% children belong to male gender, 87.2% children started to use screen at the age of three and the study was conducted among preschool children age less than 06 years[10]. The presents study highlights that 65% children had moderate impact of smartphone and 37.5% children suffered with high impact of smartphone on their behaviour. A similar study shows that impact of smartphone on children like Physical morbidities like decreased physical activity in 189 (45.8%) children, laziness in 143 (34.7%) children, pain in fingers and wrist in 76 (18.5%) and eyes symptoms in 148 (35.7%) children. While mental issues faced were, throwing tantrums if mobile not given in 187 (45.3%) children, not obeying parents 110 (26.6%), reduced grades in school 89 (21.4%)[11]. The presents study shows that 37.5% of children had poor usage of mobile, 60% of children are using moderately among under five children. The similar study conducted shows that. Children's overall exposure to mobile devices was 75.6% (n=319). Of the children, 24.4% (n=103) had never used a mobile device. Among the children that had used a mobile device, 20.6% (n=66) were aged between 1 and 12 months; 24.5% (n=78) were aged between 13 and 24 months. The median age at the first time use of a mobile device was 12 months[12]. The conducted study results shows that 100% of children use for playing games, 87.5% use for watching videos, 67.5% of children listening the music, 50% children taking photos, 77.5% for talking, 40% use for games for learning, 52.5% for social networking and 5% children are watching movies. The results of Similar study conducted among preschool children shows that the average daily watching alone time was 0 to 2 hours among 53.4% (46/86), and daily co viewing time with parents of children was 0 to 2 hours among 62.7% (54/86) of children below 2 years of age. Regarding parents' monitoring their children's computer use (n=178), 35.4% (63/178) of the parents prefer coviewing, 13.5% of the parents use a family filter (24/178), and 33.1% (59/178) of the parents prefer to check Web history. Approximately 71.2% (237/333) of the participants had an iPad/tablet in the house, 84.3% (200/333) of the parents give their children permission to use the iPad/tablet. Of the parents, 22.5% (45/200) noted that their children used the iPad/tablet at the table during lunch/dinner and 57.9% (26/45) of these children were aged 5 years and below[13]. The present study indicates that there is a significant correlation between habit of usage of smart phone and its impact on behaviour among preschool children r=0.9972. The similar study shows that the use of mobile phones by young generation has increased resulting physical, social and psychological impact. It's the role of family to regulate the use and guide the children for proper usage of mobile phones[11].

CONCLUSIONS

The overall conclusion of the research study is that the increase hour of exposure of smartphone had a high impact of on children health status and behavioral status. There is a need of hour to aware the parents regarding the impact of screen time habits on their children irrespective of age and gender.

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