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Original Research Article

Mobile media uses and circumstances in which parents offer these devices to children: a cross sectional study in North India

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ABSTRACT

Background: To look into circumstances in which parents offer mobile media to their children in an urban, low-middle income community from North India.
Methods: Cross sectional study, enrolled 354 children from 6 months to 12 years coming for a well visit or immunization, at a tertiary care hospital from August 2016 to July 2017. A study questionnaire adopted from zero to eight common sense media nationwide survey 2013, USA used to assess the circumstances in which parents offer mobile media to their children.
Results: A total of 354 children were enrolled in the study; 56.5% were male and 43.5% female. All of study population had access to handheld mobile devices (75% to smart phones, and 25% to ordinary mobile phones). The most common reason for offering mobile phone to children in all age groups was to console them while crying (73.7%). Other reasons were making them calm while travelling (42.9%), feeding the child (31.6%), and household chores (22.0%). YouTube was the most frequently used app in all age groups.
Conclusions: Reasons for offering mobile media devices by parents to their children seen in this study were actually avoidable. It is the ease of parents and lack of awareness regarding optimal media uses which leads to these circumstances.

Keywords: Mobile phones, Smartphones, Children, Mobile media

INTRODUCTION

The exposure of mobile media devices such as smartphones, ordinary phones, tablets and ipad to children is increasingly seen in recent years. Due to advances in technology and market competition a wide variety of these gadgets are available at an affordable price. According to a survey in the USA, mobile devices are becoming the preferred media choice for children because of their screen size, mobility, and interactive capability and decreasing costs.[1] Similar exposure to these media devices is seen in developed countries. Surprisingly, parents often know that excessive use of media devices by children is harmful to their physical and mental health, despite that they are offering these devices to children for some or the other reason. These devices have gradually replaced up to some extent the ordinary toys, outdoor play activities and habit of reading books by children. This study has tried to look into the circumstances in which the parents offer these devices to children, which are avoidable. Since mobile phones (smartphone and ordinary mobile phone) are the most frequently and universally available devices, this study mainly focuses on them.

METHODS

Presented study was a cross-sectional study done from August 2016 to July 2017 at paediatrics department, Safdarjung hospital, a tertiary care hospital in Northern India. Inclusion criterion was all stable children between 6 months to 12 years who visited the hospital for wellness visit or vaccination. They were enrolled after informed and written consent. Sick children were excluded from study. The prevalence of mobile phone exposure was 73% from a pilot study in the department. Assuming 5% as an allowable error, using the formula;

$$n = 4pq/d^2$$

Where, p is prevalence (from a pilot study, 73%), q is (100–p) and d is allowable error, here 5%. The calculated sample size was 316.

Study questionnaire

A 30 item questionnaire (in English and Hindi) was adopted from zero to eight common sense media 2013 nationwide survey, USA.[2] All the questions were explained to the parents in their language. The demographic profile including child's age in years, gender, parental education and annual family income were recorded. The parents were asked about the availability of mobile phones (smartphone and ordinary mobile phone) in their households and the access of the child to these devices.

The circumstances in which parents offer the mobile phone to their child were recorded. We assessed the knowledge of the parents about an apps and the number of apps downloaded by them for their child. We assessed the ability of the child to operate a mobile phone independently, parental supervision on child's mobile phone uses and provision for the child to take the phone to the school.

Statistical analysis

Data were recorded on the pre-designed format and managed on an excel spreadsheet. Continuous variables were analysed by mean and standard deviation while categorical variables were analysed by Chi-square and Fischer's exact test. Reasons for offering mobile phones to children were assessed and written as a tabulated form. IBM SPSS 2017 software (SPSS, Chicago, USA) was used for statistical analysis.

RESULTS

A total of 354 children were enrolled in the study, 56.5% were male and 43.5% female. The mean age was 3.96± 2.87 years. For better understanding of the pattern of the exposure, we divided the children in 4 age groups, 6 months to 2 years (31.2%), 2-5 years (33.8%), 5-8 years (26.8%) and 8-12 (8.2%) years. Most of them were from urban area (84.2%). Parental education characteristics also reflected literacy levels of the general urban population of the country. The children from low-income groups outnumbered the other categories significantly (Table 1).

Table 1: Demographic profile and socio-economic status of the study population.

Parameters	Frequency	%
Age distribution; mean age, 3.96±2.87 (years)		
<2	110	31.1
2-5	120	33.9
5-8	95	26.8
8-12	29	8.2
Boys	200	56.5
Girls	154	43.5
Rural	56	15.8
Urban	298	84.2
Paternal education		
Illiterate	41	11.6
Up to 5th	139	39.3
6-12th	149	42.1
Graduate	19	5.4
Post graduate	6	1.7
Maternal education		
Illiterate	76	21.5
Up to 5th	160	45.2
6-12th	106	29.9
Graduate	11	3.1
Post graduate	1	.3
Annual income (lakhs)		
<2	210	59.3
2-5	125	35.3
>5	19	5.4

All the study population had access to handheld mobile devices (75% to smart phones, and 25% to ordinary mobile phones). Up to the age 8 years, the most common reasons for offering mobile phone to children are to console them while crying, while feeding them while doing house hold chores In the age group of 8 to 12 years, the reasons cited include parents watching television shows (27.5%) and taking rest (24%), beside the previous reasons. Overall, the most common reason for offering mobile phone to children in all age groups was to console them while crying (Table 2).

Around 38.9% of parents know what an app is and majority of them downloaded more than 10 apps, but only 23% of them downloaded apps for their children. YouTube was predominant content delivery app used by children of all age groups (74.8%) (Figure 1). Almost 42.5% of study children were able to open smartphones without any assistance.

Overall parental supervision on child media use was 39.5%. This remains same in children <5 years age, but

supervision on 5-8 years age children was more (58.9%) and on 8-12 years aged children is less (24.1%). Most of the parents (41.2%) believed media devices should be used by children under supervision and around 25% were also of opinion that children should not be allowed to use media devices. None of the parents agreed to allow their children to carry mobile devices to school. None of the parents under study were counselled by their paediatrician regarding the effects of usage of mobile media devices on children. It was also seen that none of the children are active on social media like facebook, twitter, instagram, whatsapp.

Table 2: Reason for offering mobile phones to children by parents.

Reason	Age groups				
	6 months-2 years (%)	2-5 years (%)	5-8 years (%)	8-12 years (%)	Total (%)
Make them calm while crying	86.3	79.1	74.7	0	73.7
Travelling	50.9	85.8	29.8	41.3	42.9
Feeding	24.5	47.5	29.4	0	31.6
House hold chores	19.0	18.3	18.9	58.6	22.0
Relaxing or to take rest	3.6	5.8	49.4	24.0	18.4
Watch own show	1.8	19	17.8	27.5	13.6
Outdoor work	8.0	6.6	16.8	24.1	11.2
Make them sleep	14.5	4.1	1.0	0	6.2
Do office work at home	0	4.1	10.5	7.6	5.1

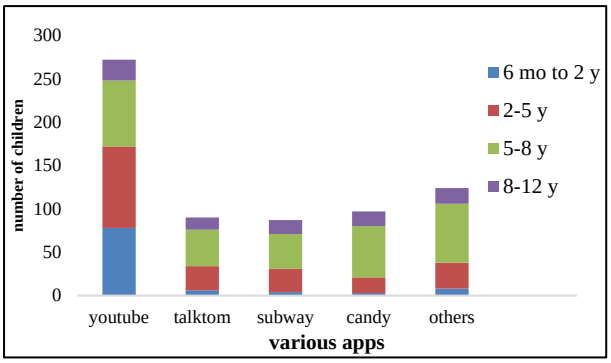

Figure 1: Age wise preferences in the type of app used by children on smartphone.

DISCUSSION

In this study, all the children had access to mobile phones (smartphones and ordinary mobile phones). Due to advances in technology, low cost and portability, mobile devices are preferred by children as seen in previous such studies.[1]

The common reasons for giving mobile phones to the child were mainly to console them while crying, during travelling and feeding. Giving mobile phones to children to console them while crying and during travelling was seen in all age groups. Feeding as a reason to give mobile to children aged 6 months to 2 years decreased as age advances and replaced in the age group of 5-8 years by reason like parents want to take rest and getting household chores done. Getting the chores done and keeping them calm and occupied were the most prominent reasons for giving mobiles to the children in previous similar studies. Parents quoted education, entertainment and babysitting as major reasons for media exposure in their children younger than 2 years.[1,3] A study from the Southern part of the country showed that 87% of the children were using smart phones mostly for entertainment purposes as in this study.[4] Another study from Korea also suggested similar findings.[5]

Most of the reasons for giving mobile devices to the children in our study are avoidable. It is convenient for the parents to give mobile devices to children and keep them busy and calm while doing household chores, feeding them, to pacify them during crying and while going outdoor with them. Due to the above reasons Kabali et al had shown that mobile devices were used as digital pacifiers for children.[1] Mobile media exposure may have both positive and negative implications for a child's learning, growth, and development. In one study a positive correlation between television/video viewing habits and adiposity was seen.[6] Similarly, the practice of giving mobile devices to children during feeding may lead to overeating and obesity although this has to be proven by further studies.

The awareness regarding what an app is very low in our study. But despite this fact, the number of apps downloaded by the parents was significantly high. This may be because most of the apps are freely downloadable and lack of awareness regarding the appropriateness of an app. Almost one third of the apps were for a child's use. Of them, gaming apps were predominant, followed by video apps. YouTube was popular and most commonly used app across all age groups. This may be because it is relatively easy to operate and children found the content of their choice in the app.

In one previous study, maximum parents were aware of what an app is and downloaded half or more of the apps for their children's use including educational, entertainment, and content delivery apps. YouTube, a content delivery application, was popular among children less than 2 years of age.[1] This disparity might be due to a gap in the education level between communities under study.

In current study, the children with a smaller age group needed more assistance to operate a mobile device while more children in a similar age group used these devices independently as reported by a previous similar study.[1] This may be due to early independent exposure of children to these devices in their study.

The media supervision by parents on children increased to 8 years thereafter, more children use it without supervision. Most of the parents believed that media devices are to be used by children under supervision and some were also of opinion that children should not be allowed to use media devices. None of the parents were ready to allow their children to carry mobile devices to school. Parental supervision was necessary to guide the children about harmful and useful content available on media. The type of content viewed can have a significant impact on child behaviour. In one study, parental monitoring of children's media influences children's sleep, school performance, and prosocial and aggressive behaviours and that these effects are mediated through total screen time and exposure to media violence.[7]

None of the study children were active on social media like facebook, twitter, instagram, whatsapp. Whereas, one study showed that around half of the study children below 13 years had a facebook account.[8]

It is of significant note that none of the parents under study were counselled by their paediatrician regarding the effects of usage of media devices on children and parents also did not actively seek advice. With increasing evidence in favour of negative health impacts on children from smart phone addiction, it is time to orient both the parents and the doctors to this modern menace.[9]

The present study has certain limitations; current study is confined to one hospital, being one of them. The results cannot be extrapolated to a larger section of society. Also the significant population under study was mostly from lower income groups in an urban setting.

CONCLUSION

This study mainly highlighted various reasons for which parents often offer mobile phones (smartphone and ordinary mobile phone) to their children. Most of them are avoidable, but without paying due attention to the consequences parents found it easy just to offer the mobile phone to the child and get rid of the situation at that particular time. This is seen as a universal phenomenon in other studies too. This is how the child starts his phone seeking behaviour. This may be then the root cause of so many problems found in children nowadays like anxiety, aggression, and short temper and so on. Further studies are still needed to find out a correlation between mobile media exposure and these behavioural problems in children.

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