

Original Research Paper

Impact of Mobile Phones In Children's Lives And Factors Associated With Mobile Phone Addiction- A Prospective Observational Study

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Mobile phones play an important role in our lives. Early introduction of mobiles even from infancy and prolonged screen time is predisposing children to get addicted and they exhibit many behavioural problems like temper tantrums. This study was done to find the effects of mobile phones in physical and psychosocial health of children and also the factors predisposing to mobile phone addiction. We found that nuclear families, single child, both parents in busy jobs was associated with children using mobile phones for longer duration and increased frequency of throwing temper tantrums. The prevalence of overweight and obesity was significantly high while children playing outdoors or adopting other recreation activities was less in this study population.

Key words: Mobile phone addiction, temper tantrums, childhood obesity

INTRODUCTION:

Mobile phones have become an integral part of our society and their use has become mandatory in almost every aspect of life. In the recent times the usage of mobile phones has been progressively increasing in children less than 18 years of age [1]. Although this trend was initially started to improvise communication, later the use became highly variable and extensive. Some parents who are working find it difficult to explore more ways of feeding and pacifying children in a short duration. The imaging and graphics in mobile phones instantly attract the eyes of the child making them more habitual to such videos [2]. Parental usage of mobile phones has also influenced and increased the curiosity of children to handle them equally [3]. Hence when withheld results in tantrums and gross behavioral changes in the child. The effects of mobile phones in physical, mental and social health of children are being studied in the recent times [4]. This study was primarily done to explore Social and demographic factors associated with increased mobile phone usage in children between 2-15 years and to assess the prevalence of physical and psychosocial problems in children addicted to mobile phones. The secondary objective was to analyze the immediate response of children on mobile phone withdrawal and other methods adopted by parents to engage their children in leisure time

METHODOLOGY:

We did a prospective observational study among the children attending the pediatric outpatient department of a tertiary care hospital for routine health visits. Children between age 2 to 15 years were selected by Simple Random Sampling and the parents or Guardian consented were included in the study Children who did not cooperate, Physically challenged or any other Intellectual disability disorders or coexisting psychiatric disorders were excluded from the study. Children who were on medications for chronic illness were also excluded. Informed consent was obtained in written forms from the parents of children included in the study. Anthropometry and BMI calculation were done. Their parents were interviewed according to a structured proforma and data was entered in google forms and analyzed in Microsoft excel. Ethical committee clearance from the institution was obtained

RESULTS:

Out of the 100 children enrolled in the study 32 were in the age group of 2 to 5 years, preschoolers or studying in kindergarten, 34/100 in both 6 to 10 years and 11 to 15 years group respectively (Fig 1). 20 children started using mobiles under 2 years of age itself while 46% started using mobiles under 5 years of age. Only 16 children started to use mobiles after 8 years of age due to COVID lockdown and online schooling.

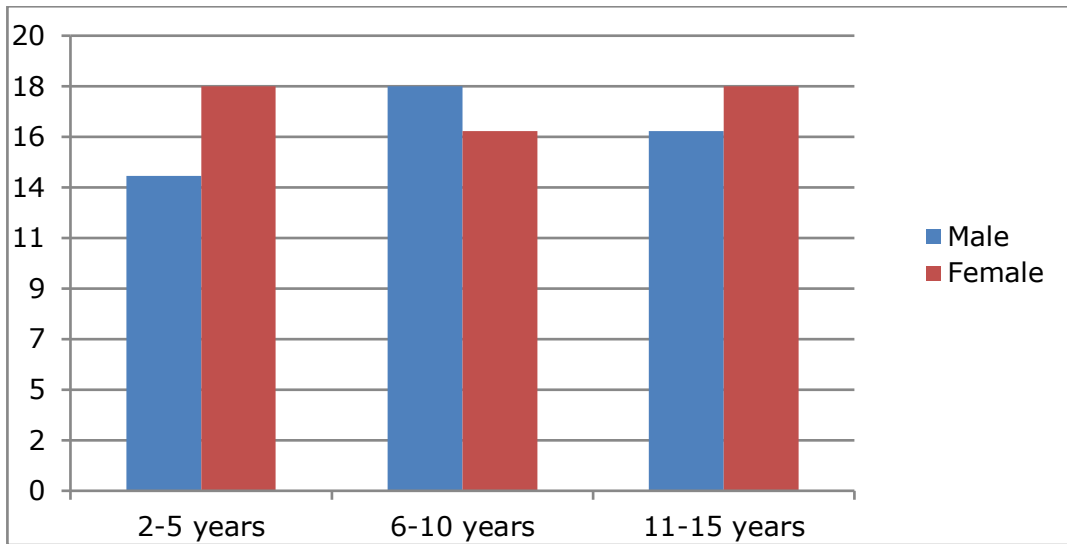


Fig 1: Age and sex distribution of the study participants

84% children who were enrolled in the study were from urban and semiurban background. 64% were from nuclear families and 90% parents were well educated (12th standard or graduate) 36% fathers and 48% mothers had work hours more than 10 hours per day. Most of the parents were working in stressful professions for long hours(Fig 2). The percentage of

working mothers is increasing in the recent years- 48% in our study. The quality time spent together with children as a family was less than 2 hours for 38% fathers and 10% of the mothers. Only 4 fathers and 28 mothers were able to spend more than 10 hours each day with their children.

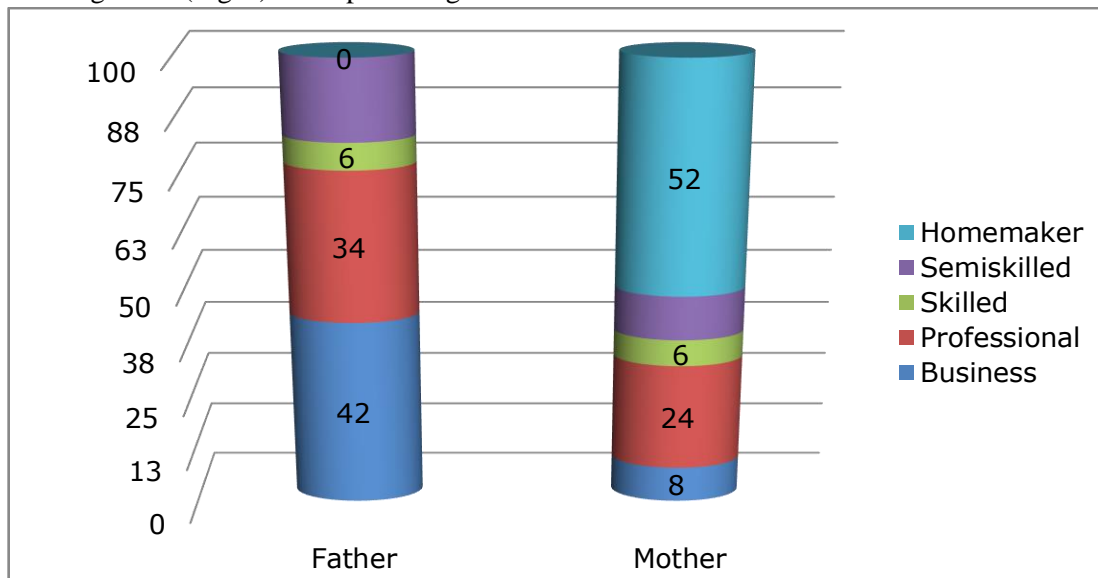


Fig 2: Type of Profession of Parents who participated in the study

44% children had no siblings and 56% had one or more than 1 sibling. Out of these 56 children with siblings, 42 shared mobiles and watched together but 32 had frequent fights due to mobiles. 74/100 children preferred to use the mobiles alone without parental supervision or help. 12 of them had their own mobile phone while 28 of them always owned their parent's mobile. 80% of the children started using the mobile for education purpose, but 32 of them started watching YouTube videos, cartoons also over time. Only 6 used

it exclusively for education purpose. 50 used mobile phones for playing games. 10 used it exclusively for watching cartoon and YouTube videos during eating. 42 children went out to play outdoor games and among them, only 12 played for more than 2 hours. 34 children either played indoor games or listened to stories from family members. 24 children never played indoor or outdoor games. The response of children to withdrawal of mobile phones was variable; 24% showed no response and another 24% just requested to

use the mobile for some more time in a soft tone. 18% were frustrated and did some self-hurting behaviors. 20 children yelled at parents and 10 were violent behavior. 4 children were blackmailing their parents. After 10 minutes of withdrawal of mobiles, 30 children were normal and another 26 showed tantrums for less than 2 minutes and settled. The remaining 44 children had significant response to mobile withdrawal with signs of addiction even after 10 minutes like tantrums for up to 10 minutes and among them 18 children continued to throw tantrums till they got their mobiles back. 18% children used mobiles for less than an hour while 50% used mobiles for 1 to 3 hours and 32 children used it for more than 3 hours in a day. On evaluating the anthropometric data, 38% children had BMI in the obese range and 18% were overweight. Only 44 children had a normal BMI or weight for height for their age and sex. 32 out of the 52 girls (61.5%) and 24/48 boys (50%) were either overweight or obese. One fourth of the parents felt that their academic performance worsened after their mobile usage increased. Parents' perception on influence of mobiles on eating habits was varied. 32% felt watching mobiles during eating did not have any impact on their children. 28 children were found to be eating more slowly if they watched mobiles but 40% parents felt that children were eating faster when they watched mobiles. 48 children were mostly using mobiles even in a social gathering, avoiding interaction with their relatives. The social and communication skills of 28 children were below average according to their parents. They preferred to stay alone watching their mobiles instead of playing with other children. 20 children had some physical problems like refractive error (12), chronic headache (8) Mental issues like mood and behavior problems (6) were also prevalent among the children, with some children being aggressive and adopting antisocial mannerisms .

DISCUSSION:

The effects of early exposure to screen or excessive screen time have been studied in many studies, especially in adolescents. Over the past 3 years due to COVID lockdown and children remaining indoors most of the time, the prevalence of mobile phone addiction is increasing worldwide, Preschool and school going children are facing many physical and behavioral problems due to this excess screen time. Indian academy of Pediatrics has come up with recent guidelines on screen time and digital wellness for infants, children and adolescents. Indian studies

demonstrate shows a similar trend as western world with initial exposure to screen-based media as early as 2 months of age; and median age of first exposure to screen at 10 months. Most children are exposed to screen-based media by 18 months of age; with greater usage of smart phones (96%) than television viewing (89%). In 2019, WHO, in its global action plan on ending childhood obesity and physical activity, advocated no sedentary screen time for 1-year-olds and screen exposure of less than 1 hour/day in 2-5 years old; lesser the better. IAP guidelines suggest [5] that Children below 2 years age should not be exposed to any type of screen. Screen media (e.g., smartphones, tablets, television) should not be used to facilitate feeding or to calm a crying/distressed child. For children between 2 to 5 years, screen time should be limited to 1 hour and it needs to be always supervised by the caregivers. We should promote shared use of screen media between child and families to ensure interaction and quality exposure and ensure that the content being watched is educational, age-appropriate, non-violent, healthy, and preferably interactive. Children above 5 years should mainly use screen time for the purpose of education, learning, and social interaction. Recreational screen time should be kept to a minimal and they should use their parent's devices under supervision. In our study, all children were exposed to mobile phones but only 18% used it for less than an hour. 80% of the parents started to give mobile phones to their children for educational purpose even before their first birthday. The increased use of mobile phones can be attributed to the nuclear families, increased work hours for parents and lack of siblings. Most of the preschoolers were found to be watching YouTube videos and rhymes while food was fed to them. 40% of parents felt that the children ate faster when they were watching the mobiles. 52% showed some features of mobile phone addiction and behavioral problems like temper tantrums. 26% of parents felt their children academic performance worsened after their mobile phone usage increased. 28% of the children were lagging behind in their social and communication skills. Among the physical problems, overweight and obesity were the commonest and it was more prevalent among girls more than boys (61.5% vs 50%). 38% of the children were obese and 18% were overweight according to their BMI charts. The childrens lifestyle was predominantly sedentary and almost 58% of them never played any outdoor games while 36% played for

less than an hour. In our study, 74% of the study population, even under 5 children, used the mobiles by themselves without supervision. Around 12% of the children above 5 years had their own mobile phones. The prevalence of mobile phone addiction is more in under 5 age group leading to temper tantrums. 52% of the children cried incessantly or showed violent behavior on withdrawing phone and they continued to show tantrums even up to 10 minutes. 44% continued to cry or shout or blackmail their parents even after 10 minutes or till they got back their mobile phones. It even affects their social interaction, language skills developments and behavioral problems like aggression, oppositional deviant behavior.

In a Canadian study done in 1983 children attending kindergarten [6], their developmental health was assessed in five domains: physical health and wellbeing (13 items); social competence (26 items); emotional maturity (30 items); language and cognitive development (26 items); and communication skills (8 items). Children with screen time of > 1 h per day compared to screen time of ≤ 1 h in a day were 41% more likely to be vulnerable regarding their physical health and wellbeing, 60% more likely to be vulnerable regarding their social competence, 29% more likely to be vulnerable regarding their emotional maturity, 81% more likely to be vulnerable regarding their language and cognitive development and 60% more likely to be vulnerable regarding their communication skills. A systematic review of the peer-reviewed literature done by Paudel et al [7] showed that . Older children, children better skilled in using mobile screen media devices, those having greater access to such devices at home and whose parents had high mobile screen media use were more likely to have higher use of mobile screen media devices. The limitation of our study is that our sample population was predominantly from urban and literate population. The data was collected based on interviewing parents to identify the prevalence of mobile phone addiction in the form of temper tantrums and its associated problems like obesity, decreased outdoor activity etc .An Indian cross sectional study [8], done in 189 kindergarten children also showed that Screen use was much higher than the recommended daily limit of 1 h per day and there was inconsistent parental supervision. There is paucity of scientific data on the neurodevelopmental impact of screen time on the developing brain. There is less conclusive evidence to prove this due to very few systematic reviews in world literature [9,10], It would be better to objectively measure the prevalence of developmental and psychologic problems in children by a prospective longitudinal study

CONCLUSION:

Mobile phones are proving to be a stumbling block for our growing children in various aspects of life. It is mandatory to have strict regulations on restricting its use in under five children as per the Indian and international guidelines. Early signs of mobile phone addiction should be identified and early intervention like counseling has to be done to prevent long term consequences in future. We need to do a large-scale study in Indian children from all socioeconomic groups to objectively measure the developmental problems associated with excess, unsupervised screen time in our children. The need of this hour is to educate parents about the pros and cons of early introduction or prolonged use of screen time in preschool and schoolgoing children.

Declaration: This article has not been published in any other journal

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