

Parental knowledge, attitude, and practices regarding screen time in children aged 6 months to 2 years: A hospital-based cross-sectional study

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Abstract

Background:

Screen exposure in early childhood is linked to negative physical, behavioural, and developmental outcomes. There is limited data from India on parental understanding and management of screen time in infants and toddlers.

Objective:

To assess the knowledge, attitude, and practices (KAP) of parents regarding screen time in children aged 6 months to 2 years attending a tertiary care hospital.

Methods:

This was a single-centre, hospital-based, cross-sectional study conducted over 3 months. A total of 274 parents of children aged 6 months to 2 years were enrolled using convenience sampling. Data were collected using a pre-tested, semi-structured questionnaire through face-to-face interviews. Responses were analysed using descriptive statistics.

Results:

Only 47.1% of parents knew that screen time reduces physical activity, and 45.6% were aware of its impact on sleep. A total of 51.5% believed screen time could cause obesity, and only half recognised its link to behavioural problems. Around 51.5% found screen time difficult to manage, and 53.6% agreed that their own screen use influenced their child's usage. Only 3.28% of children had zero screen exposure. Nearly one-third (30.65%) were exposed for over 2 hours daily. Television (45.26%) and mobile phones (38.32%) were the most common devices.

Conclusion:

The study highlights a gap between parental knowledge and practice concerning screen time in infants and toddlers. Most children were exposed to screens despite existing guidelines. These findings underline the need for targeted parental education, paediatric counselling, and family-focused interventions to promote healthy screen habits from early childhood.

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Keywords:

- Screen time
- Infants
- Toddlers
- Parental practices
- Knowledge
- Attitude
- Mobile devices
- Television
- India
- Cross-sectional study.

Introduction

Screen-based devices such as televisions, smartphones, and tablets have become an essential part of everyday life.^[1] These devices are often used by adults and children for entertainment, education, and communication. However, there is growing concern among healthcare professionals, educators, and parents about the rising screen time in very young children.^[2] Children below two years of age are especially vulnerable because their brains are still developing. Exposure to screens at this age may affect their physical, social, and emotional development.^[3]from November 23, 2005, through January 14, 2008. Setting: An urban public hospital. Participants: Mothers with low socioeconomic status and their infants. Main Exposure: Duration and content of media exposure at age 6 months. Main Outcome Measures: Cognitive and language development at age 14 months. Results: Of 259 infants, 249 (96.1%The World Health Organization (WHO) defines screen time as the total time spent in sedentary behaviour while using screen-based electronic devices. WHO recommends no screen time for children under 2 years of age.^[4]

Research shows that excessive screen time is linked with several health problems.^[5-9] These include poor sleep quality, decreased physical activity, and increased risk of obesity. It may also lead to behavioural problems like irritability, poor attention span, and social withdrawal.^[5-9] In some cases, it interferes with parent-child interaction and family bonding. Factors such as parental knowledge, education level, family structure, and availability of devices at home play an important role in how screen time is managed for children.^[5-9] Parents are the primary decision-makers regarding their child's media use. Their knowledge, attitude, and practices (KAP) influence the screen exposure of children. Therefore, it is essential to assess these aspects to design better awareness programmes and interventions. Understanding what parents know, how they feel, and what they actually do can help identify the gaps between recommended and real-life practices.

In India, studies focusing on screen time in very young children are limited. Most research has focused on school-aged children and adolescents. There is a lack of data on the knowledge and behaviour of parents of children aged 6 months to 2

years regarding screen time. This study is important to understand the awareness, beliefs, and daily practices of parents in a hospital-based population. It also explores the factors that influence screen time, such as family structure and parental education. This information can help in designing public health campaigns, paediatric counselling strategies, and community education tools to reduce screen time in early childhood.

Aim

To assess the knowledge, attitude, and practices of parents regarding screen time in children aged 6 months to 2 years attending a tertiary care hospital.

MATERIAL AND METHODS

- **Study Design :** This study was a single-centre, hospital-based, cross-sectional observational study.
- **Study Setting :** The study was conducted in the Paediatrics Outpatient Department of a LN Medical College, Bhopal.
- **Study Duration :** The study was carried out over a period of 3 months.
- **Study Outcomes :** The primary outcome was to assess the knowledge, attitude, and practices (KAP) of parents regarding screen time for children aged 6 months to 2 years.
- **Measurement of the Outcome:** A semi-structured questionnaire was used to assess the knowledge of parents about recommended screen time, their attitude towards screen exposure, and their actual practices in managing screen time.
- **Study Participants :** Parents of children between the age of 6 months and 2 years who attended the Paediatrics OPD during the study period were included.
- **Inclusion Criteria:**
 - i. Parents of children aged 6 months to 2 years.
 - ii. Willing to participate and provide informed consent.
- **Exclusion Criteria:**
 - i. Parents of children with any developmental delay or chronic illness.
 - ii. Parents who did not give consent.

- **Sample Size** : A total of 274 parents were enrolled in the study.
- **Sampling Methodology** : Convenience sampling was used to recruit participants during the OPD visits.
- **Participant's Recruitment** : Eligible parents were identified during routine OPD hours. They were informed about the purpose of the study and invited to participate voluntarily.
- **Obtaining Informed Consent** : Written informed consent was obtained from all participants after explaining the study objectives and procedures in their preferred language.
- **Data Sources** : Primary data were collected directly from the participants using the questionnaire.
- **Data Collection Procedure** : Data collection was carried out over a period of three months in the Paediatrics Outpatient Department. Parents of children aged between 6 months and 2 years were approached during their OPD visit. Each parent was first screened for eligibility as per the inclusion and exclusion criteria. Eligible participants were given a detailed explanation of the study purpose and procedures. Those who agreed to participate were asked to provide written informed consent. Data were collected through face-to-face interviews conducted by trained medical personnel. A predesigned, semi-structured questionnaire was used as the data collection tool. The questionnaire was prepared in English and translated into the local language for ease of understanding. It was pilot-tested on a small sample before the actual study to ensure clarity and reliability. The questionnaire consisted of four main sections:

1. **Socio-demographic information** - including age and gender of the child, parental age, gender, education, occupation, type of family (nuclear or joint), and number of children.
2. **Knowledge assessment** - questions focused on awareness of national and international screen time guidelines for children under two years of age, understanding of potential harms, and recommended practices.
3. **Attitude assessment** - items explored

parents' beliefs about screen time, including whether they believed it was harmful, beneficial, or necessary for calming the child, and their level of concern.

4. **Practice assessment** - this section asked about the actual screen usage habits at home, including types of devices used (TV, smartphone, tablet), duration of exposure, timing (e.g., during meals, before bedtime), and whether parents set limits on screen time.

5. Interviews were conducted in a private area to maintain confidentiality and to avoid distractions. Each interview lasted approximately 15 to 20 minutes. All responses were recorded immediately by the interviewer. The data were then entered into a digital spreadsheet for analysis.

- **Statistical Analysis Plan**: Data were entered into Microsoft Excel and analysed using Stata version 17. Descriptive statistics were used, including frequencies, percentages, and proportions. Results were presented in tables, charts, and graphs wherever appropriate. Appropriate tests of significance were applied to assess associations between variables.
- **Funding**: No external funding was received for this study.
- **Conflict of Interest**: The authors declared no conflict of interest.

Result

During the period of data collection, a total of 301 parents were approached for enrolment in the present study- 10 parents refused to participate in the study, 12 parents were excluded, the interview with 4 parents was interrupted before the completion of the questionnaire and 274 parents completed the questionnaire. Among the participants- 97 (35.4%) were the father of the children and the remaining 177 (63.6%) were the mother of the children.

The mean age was 15.3 months (\pm 2.2) and median age was 16 months. More than half of the children were girls (n=151, 55.11%) while boys accounted for 44.89% (n=123). Regarding siblings, 37.9% of children (n=104) had no siblings, 41.2% (n=113)

had one sibling, and 20.8% (n=57) had two siblings. Nuclear families accounted for 52.19% (n=143), while joint families comprised 47.81% (n=131). The number of children living in the household varied. About 28.83% (n=79) of households had no other children. One child was present in 23.36% (n=64) of households. Two children lived in 13.50% (n=37) of households. Households with three children made up 9.85% (n=27), four children were present in 11.68% (n=32), and five children in 12.77% (n=35)

of households. In 30.29% (n=83) of families, a nanny helped as a primary caretaker. Grandparents took this role in 31.02% (n=85), and relatives in 38.69% (n=106) of cases. Most parents lived together in the same city (n=197, 71.90%), while 28.10% (n=77) lived in different cities. Socioeconomic status varied across the sample. Low socioeconomic status was reported in 16.06% (n=44), low middle in 17.88% (n=49), middle in 22.63% (n=62), upper middle in 24.09% (n=66), and upper in 19.34% (n=53).

Table 1: Knowledge of the parent about the effects of excessive screentime (n=274)			
	Father	Mother	Total
Excessive screen time decreases physical activity			
No	52	93	145
	52.5%	53.1%	52.9%
Yes	47	82	129
	47.5%	46.9%	47.1%
Screen time decreases the quality and quantity of the Sleep			
No	58	91	149
	58.6%	52.0%	54.4%
Yes	41	84	125
	41.4%	48.0%	45.6%
Excessive screen time can make the child obese			
No	55	78	133
	55.6%	44.6%	48.5%
Yes	44	97	141
	44.4%	55.4%	51.5%
Excessive screen time leads to an increase in the consumption of junk food			
No	50	87	137
	50.5%	49.7%	50.0%
Yes	49	88	137
	49.5%	50.3%	50.0%
An increase in Screen time leads to emotional, mental and behavioural problems among children			
No	51	79	130
	51.5%	45.1%	47.4%
Yes	48	96	144
	48.5%	54.9%	52.6%

Uncontrolled screentime can make a child addicted to these devices			
No	51	86	137
	51.5%	49.1%	50.0%
Yes	48	89	137
	48.5%	50.9%	50.0%

Table 1 illustrates parental knowledge about the effects of excessive screen time (n=274). Only 47.1% (n=129) of parents correctly identified that excessive screen time reduces physical activity, while 52.9% (n=145) did not. A total of 45.6% (n=125) acknowledged that screen exposure affects sleep quality and duration, while 54.4% (n=149) disagreed.

Table 2: Attitude of the parents toward exposure of children to screentime (n=274)			
Interviewed Parent			
	Father	Mother	Total
The responsibility to control our child(ren)'s screen time			
Disagree	48	85	133
	48.5%	48.6%	48.5%
Agree	51	90	141
	51.5%	51.4%	51.5%
Not concerned about our child's screen time			
Disagree	52	98	150
	52.5%	56.0%	54.7%
Agree	47	77	124
	47.5%	44.0%	45.3%
Challenging to manage our child(ren)'s screen time			
Disagree	46	87	133
	46.5%	49.7%	48.5%
Agree	53	88	141
	53.5%	50.3%	51.5%
It is difficult to supervise children when there is increased household work			
Disagree	43	89	132
	43.4%	50.9%	48.2%
Agree	56	86	142
	56.6%	49.1%	51.8%
Do not consider my child's level of screen time to be a serious matter if they are active			
Disagree	51	92	143
	51.5%	52.6%	52.2%
Agree	48	83	131
	48.5%	47.4%	47.8%

Engagement with screen time is influenced by our use of screen-based devices			
Disagree	42	85	127
	42.4%	48.6%	46.4%
Agree	57	90	147
	57.6%	51.4%	53.6%
A child's use of a screen device interferes with our family quality time.			
Disagree	45	90	135
	45.5%	51.4%	49.3%
Agree	54	85	139
	54.5%	48.6%	50.7%
Concerned about our children's unhealthy food intake when engaging in screen-based activity			
Disagree	45	88	133
	45.5%	50.3%	48.5%
Agree	54	87	141
	54.5%	49.7%	51.5%

Table 2 presents parental attitudes towards screen exposure in children aged 6 months to 2 years (n=274). Managing screen time was reported as challenging by 51.5% (n=141), while 48.5% (n=133) did not find it difficult. Around 51.8% (n=142) agreed that supervising children becomes harder when household work increases. In contrast, 48.2% (n=132) did not see it as a problem. When asked if they dismissed concerns about screen time if their child was active, 52.2% (n=143) disagreed, while 47.8% (n=131) agreed.

Table 3: Household practices of the parents regarding exposure to screen time (n=274)			
	Interviewed Parent		
	Father	Mother	Total
Actively encourage my child(ren) to play with toys or talk face-to-face			
No	56	93	149
	56.6%	53.1%	54.4%
Yes	43	82	125
	43.4%	46.9%	45.6%
I take away my child's screen-based devices at home and outside			
No	45	80	125
	45.5%	45.7%	45.6%
Yes	54	95	149
	54.5%	54.3%	54.4%

I try to limit or not use screen-based devices whenever I am with my child			
No	47	88	135
	47.5%	50.3%	49.3%
Yes	52	87	139
	52.5%	49.7%	50.7%
I give screen-based devices to my child(ren) to keep them temporarily occupied and quiet, especially in a time when I am busy and when he/she gets fussy or moody.			
No	53	85	138
	53.5%	48.6%	50.4%
Yes	46	90	136
	46.5%	51.4%	49.6%
I usually stop my child(ren)'s screen time at least an hour before bedtime to get him/her to fall asleep			
No	39	87	126
	39.4%	49.7%	46.0%
Yes	60	88	148
	60.6%	50.3%	54.0%
I offer screen time to my child(ren) as a reward for good behaviour and remove it as a punishment for bad behaviour			
No	54	85	139
	54.5%	48.6%	50.7%
Yes	45	90	135
	45.5%	51.4%	49.3%
I do not allow my child(ren) to have any kind of screen-based devices during family time (e.g. meal time) or in his/her/their bedroom.			
No	47	78	125
	47.5%	44.6%	45.6%
Yes	52	97	149
	52.5%	55.4%	54.4%

Table 3 describes household practices of parents regarding screen time in children aged 6 months to 2 years (n=274). Only 45.6% (n=125) of parents reported actively encouraging face-to-face interaction or play with toys, while 54.4% (n=149) did not. A total of 54.4% (n=149) took away their child's screen devices at home or outside, whereas 45.6% (n=125) did not. Half of the parents (50.7%, n=139) said they tried to limit their own device use when with their child. The remaining 49.3% (n=135) did not. About 49.6% (n=136) admitted to giving screen devices to their child to keep them quiet or occupied, while 50.4% (n=138) denied doing so.

In the present study only 3.28% (n=9) had zero screen exposure. A total of 12.04% (n=33) were exposed for up to 30 minutes daily, and 11.68% (n=32) for 30 to 60 minutes. About 14.23% (n=39) had screen time between 60 and 90 minutes, while 13.50% (n=37) were exposed for 90 to 120 minutes. Exposure of 120 to 150 minutes was seen in 14.60% (n=40), and 20.07% (n=55) had 150 to 180 minutes of screen time daily. A further 10.58% (n=29) were exposed for more than 180 minutes per day.

Regarding the type of device used, television was the most common (45.26%, n=124), followed by mobile phones (38.32%, n=105) and tablets (16.42%, n=45).

Discussion

The present study investigated the knowledge, attitude, and practices (KAP) of parents regarding screen time among children aged 6 months to 2 years in a tertiary care hospital setting. The findings reveal significant insights into screen time exposure and device type usage, highlighting a concerning gap between recommended guidelines and actual practices. Only 3.28% (n=9) of children had zero screen exposure, despite recommendations from the World Health Organization (WHO) and the Indian Academy of Paediatrics (IAP) advocating for no screen time for children under 2 years of age.^[10,11] impacting many aspects, from academic to socialization. Children of today's generation are growing up with digital devices, such as mobile phones, iPads, computers, video games, and smart gadgets; therefore, screen time has become ubiquitous in children's daily routines. This paper provides a review of screen time usage and its impact in children across multiple developmental domains: cognitive, language, physical, and socio-emotional domain of children under eight years of age. The cognitive domain considers factors such as attention span and memory; language domain examines vocabulary, speech, and language development; physical domain focuses on motor development, exercise, sleep, and diet; and social-emotional domain considers relationships, self-identity, and emotional behaviors/regulation. Our findings are mixed, as there are both benefits and drawbacks in technology use, but screen time in children requires controlled observation and monitoring for sustainable improved progress across developmental domains. Specific recommendations

advise that children's screen time per day should be limited to zero minutes (min). The majority of children were exposed to screens for durations far exceeding these guidelines, with 20.07% (n=55) experiencing 150 to 180 minutes daily and 10.58% (n=29) exceeding 180 minutes. Television was the most commonly used device (45.26%, n=124), followed by mobile phones (38.32%, n=105) and tablets (16.42%, n=45).

These findings align with a systematic review and meta-analysis by Khobragade AW et al., (2025), which reported a pooled daily screen time of 2.22 hours (95% CI: 1.80-2.63) among under-five children in India, exceeding recommended limits.^[12] Their study noted that television and mobile phones were predominant devices, consistent with our results, reflecting the accessibility and widespread use of these devices in Indian households.^[4,10] The high prevalence of television use in our study may be attributed to its common presence in homes and its perceived role as a passive entertainment source, often used to occupy children during parental tasks. Mobile phones, being portable and multifunctional, were also frequently used, suggesting their convenience for parents as a tool to manage child behavior, as 49.6% (n=136) admitted to using devices to keep children quiet or occupied.

Comparatively, a study by George et al. (2021) in Kerala, India, found that 89.4% of preschool children aged 2-5 years had excessive screen time (>1 hour/day), with an average of 2.14 hours, primarily through television and mobile phones.^[13] Although their study focused on a slightly older age group, the similarity in device preference and excessive screen time underscores a broader trend of non-compliance with screen time guidelines in Indian settings.^[5] This trend is further supported by international studies, such as a Pew Research Center survey (2020), which reported that 88% of U.S. parents noted television as the most common device for young children, followed by tablets (67%) and smartphones (60%).^[14] The consistency in device type usage across contexts suggests that television and mobile phones are globally dominant due to their availability and cultural integration into family routines.

The excessive screen time observed in our study has potential implications for child development^[15-17] Research by Madan et al. (2019) indicates that

high screen exposure in infants and toddlers is associated with language delays and reduced parent-child interaction, which are critical for cognitive and socioemotional development.^[10] In our sample, only 45.6% (n=125) of parents actively encouraged face-to-face interaction or toy play, suggesting that screen time may displace valuable developmental activities. Moreover, the use of screens to calm fussy or moody children, reported by nearly half of the parents, aligns with findings by Mupalla et al. (2024), who noted that parents often use devices as a “babysitter” or distraction tool, potentially fostering dependency on screens for emotional regulation.^[18]

Device type also plays a role in the nature of screen exposure. Television, as a passive medium, may limit interactive engagement compared to tablets, which can offer educational apps. However, our study found that tablets were the least used (16.42%), possibly due to lower affordability or familiarity in the study population. A study by Yadav et al., (2022) in India highlighted that parents of children with autism spectrum disorder (ASD) and typically developing children frequently used mobile phones over tablets, citing ease of access and cost-effectiveness.^[19] This preference for mobile phones and televisions may exacerbate risks, as passive screen activities (e.g., watching videos) have been linked to poorer cognitive outcomes compared to interactive content, as noted by Radesky et al. (2018).^[1]

Parental knowledge gaps further compound the issue. Only 47.1% (n=129) of parents recognized that excessive screen time reduces physical activity, and 45.6% (n=125) acknowledged its impact on sleep quality. These findings are consistent with Kushima et al. (2022), who reported that 76.4% of parents had adequate knowledge about screen time risks but struggled with implementation,

particularly in supervising content.^[20] In our study, 51.8% (n=142) of parents found supervision challenging due to household responsibilities, which may explain the reliance on screens as a temporary caregiving tool. This is particularly relevant in nuclear families (52.19%, n=143), where the absence of extended family support, such as grandparents (present in 31.02% of cases), may increase parental dependence on devices.

The study’s limitations include its hospital-based setting and convenience sampling, which may not fully represent the broader Indian population. Self-reported data may also introduce bias, as parents might underreport screen time due to social desirability. Future research should explore longitudinal effects of device-specific screen time and incorporate objective measures, such as device logs, to validate parental reports. Moreover, qualitative studies could provide deeper insights into cultural and socioeconomic factors influencing device preferences in India.

In conclusion, this study highlights the pervasive use of screens among children aged 6 months to 2 years in India, with television and mobile phones being the most common devices. The findings underscore the urgent need for targeted interventions to bridge the gap between parental practices and guideline recommendations. Public health campaigns should focus on educating parents about the risks of excessive screen time, promoting alternative activities, and providing practical strategies for supervision, especially in resource-constrained households. Healthcare professionals, particularly pediatricians, can play a pivotal role in counseling parents to foster healthier screen time habits, ultimately supporting optimal child development.

Conflict of Interest None

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