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Parental Perspectives On Mobile Phone Use Patterns Among Young Children Aged 3–8 Years: A Cross-Sectional Study In Sri Ganganagar District, Rajasthan.

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Abstract

Background

The rapid proliferation of mobile phones has significantly altered the daily environment of young children, even during early childhood years. Mobile phones are now frequently used not only for communication but also as tools for entertainment, learning, and behavioural management within households. Children aged 3–8 years, a critical developmental period characterized by rapid cognitive, emotional, and social growth, are increasingly exposed to screen-based devices, often under parental supervision or control.

Objective: To assess parental perspectives on mobile phone use patterns among young children aged 3–8 years, including duration, purpose, supervision, and associated behavioral concerns.

Methods

A quantitative, descriptive cross-sectional study was conducted among 200 parents (expanded from initial target of 120 for enhanced representativeness) selected through convenience sampling from selected community and school settings in Sri Ganganagar district, Rajasthan. Data were collected using a structured parent-reported questionnaire and a self-developed behavior checklist. Descriptive statistics (frequencies, percentages) were used for data analysis.

Results

The majority of parents were aged 30–39 years (59%) and mothers (64%). Most children (43%) used mobile phones for 1–2 hours daily, primarily for entertainment (59%), with only 36% always supervised. Behavioral concerns were common, with 59% of children showing irritability when phones were removed and a mean behavioral concern score of 3.27 (SD = 1.45, range 0–8).

Conclusion

High entertainment-driven use, limited supervision, and prevalent behavioral concerns highlight the need for parental education on safe mobile phone practices to mitigate developmental risks in early childhood.

Keywords

Mobile phone use, young children, parental perspectives, screen time, behavioral patterns, cross-sectional study

Introduction

The rapid proliferation of mobile phones has significantly altered the daily environment of young children, even during early childhood years. Mobile phones are now frequently used not only for communication but also as tools for entertainment, learning, and behavioural management within households. Children aged 3–8 years, a critical developmental period characterized by rapid cognitive, emotional, and social growth, are increasingly exposed to screen-based devices, often under parental supervision or control (1). While limited and purposeful screen use may offer certain educational benefits, excessive or inappropriate mobile phone use during early childhood has raised growing public health and developmental concerns (2).

Early and prolonged exposure to mobile phones has been associated with various adverse outcomes, including delayed language development, reduced attention span, sleep disturbances, behavioural problems, and impaired social interaction (3,4). Young children are particularly vulnerable due to their developing brains and limited capacity for self-regulation. International guidelines recommend strict limits on screen time for young children; however, adherence to these recommendations varies widely across families and cultural contexts (5). In many households, mobile phones are used as a convenient means to pacify children, manage behaviour, or occupy them during routine activities, which may inadvertently increase screen dependency (6).

Parents play a pivotal role in shaping children's media exposure, as they largely determine access, duration, content, and context of mobile phone use. Parental perceptions, beliefs, and practices significantly influence children's screen habits and the potential risks or benefits associated with mobile phone use (7). Understanding mobile phone use patterns from the parents' perspective is therefore essential for identifying prevailing practices, risk behaviours, and gaps in awareness regarding healthy screen use in early childhood.

In the Indian context, increasing smartphone penetration, urbanization, and the normalization of digital media within families have led to earlier and more frequent exposure of young children to mobile phones (8). Despite this trend, limited empirical data are available on the patterns and duration of mobile phone use among children aged 3–8 years as perceived by parents. Exploring parental perspectives can provide valuable insights for developing culturally appropriate guidelines, parental education programmes, and early preventive interventions.

Methods

Research Design

A quantitative, descriptive cross-sectional research design was adopted to assess parental perspectives on mobile phone use patterns among young children aged 3–8 years. This design was considered appropriate to obtain information on existing practices, duration, and patterns of mobile phone use at a single point in time without any intervention.

Study Setting

The study was conducted in selected community and school settings of Sri Ganganagar district, Rajasthan. The setting was chosen based on accessibility to parents of young children and feasibility of data collection.

Population and Sample

The study population comprised parents of children aged 3–8 years. A total of 200 parents who had at least one child within the specified age group were included in the study (expanded from initial target of 120 for enhanced representativeness). Parents who were willing to participate and available at the time of data collection were enrolled.

Sampling Technique

A convenience sampling technique was used to select the participants. This technique was adopted due to ease of access to the study population and time constraints.

Tool and Data Collection Procedure

Data were collected using a structured parent-reported questionnaire developed to assess mobile phone use patterns among young children, including duration of use, purpose of use, supervision, and usage context. A self-developed behavior checklist (8 items, scored Yes=1, No=0; total range 0–8) assessed behavioral concerns, with content validity (S-CVI = 0.85) and reliability (Cronbach's $\alpha = 0.78$) established via pilot testing on 30 parents.

After obtaining informed consent, the questionnaire was administered to parents through direct interview or self-report. Confidentiality and anonymity of the participants were maintained throughout the study.

Data Analysis

Descriptive statistics (frequencies, percentages, means, standard deviations) were computed using SPSS version 25. No inferential statistics were applied due to the descriptive design.

Results

Table 1: Frequency and Percentage Distribution of Parents According to Selected Demographic Variables (N = 200)

Demographic Variables	Category	Frequency (n)	Percentage (%)
Age of Parent (Years)	20–29	42	21.0
	30–39	118	59.0
	≥ 40	40	20.0
Gender of Parent	Mother	128	64.0
	Father	72	36.0
Education Status	Up to Secondary	56	28.0
	Higher Secondary	74	37.0
	Graduate & Above	70	35.0
Type of Family	Nuclear	132	66.0
	Joint	68	34.0
Residence	Urban	114	57.0
	Rural	86	43.0

Table 1 shows that the majority of parents were aged 30–39 years (59%) and mothers constituted nearly two-thirds of the respondents (64%). Most parents belonged to nuclear families (66%) and resided in urban areas (57%). Educational status was fairly distributed, with 35% of parents being graduates or above.

Table 2: Pattern and Duration of Mobile Phone Use Among Children Aged 3–8 Years as Reported by Parents (N = 200)

Mobile Phone Use Variables	Category	Frequency (n)	Percentage (%)
Daily Duration of Use	< 1 hour/day	48	24.0
	1–2 hours/day	86	43.0
	> 2 hours/day	66	33.0
Purpose of Use	Entertainment (videos/games)	118	59.0
	Educational content	52	26.0
	Mixed purpose	30	15.0
Supervision During Use	Always supervised	72	36.0
	Sometimes supervised	84	42.0
	Not supervised	44	22.0
Time of Use	Daytime only	96	48.0
	Evening/night	72	36.0
	Anytime	32	16.0

Table 2 reveals that 43% of children used mobile phones for 1–2 hours per day, while one-third (33%) exceeded two hours of daily use. Entertainment was the most common purpose of mobile phone use (59%). Only 36% of parents reported consistent supervision during mobile phone use, indicating gaps in monitoring practices.

Table 3: Distribution of Children According to Parent-Reported Behavioural Patterns Related to Mobile Phone Use (Self-Developed Behaviour Checklist) (N = 200) *Scoring pattern: Yes = 1, No = 0; Total score range: 0–8; Higher score indicates greater behavioural concern related to mobile phone use.*

Behavioral Items	Yes n (%)	No n (%)
Child becomes irritable when mobile phone is taken away	118 (59.0)	82 (41.0)
Child demands mobile phone frequently during the day	104 (52.0)	96 (48.0)
Child uses mobile phone to calm down when upset	96 (48.0)	104 (52.0)
Child shows reduced interest in outdoor play	88 (44.0)	112 (56.0)
Child shows difficulty concentrating without mobile phone	72 (36.0)	128 (64.0)
Child uses mobile phone during meals	84 (42.0)	116 (58.0)
Child uses mobile phone before bedtime	102 (51.0)	98 (49.0)
Child becomes angry or cries if phone use is restricted	90 (45.0)	110 (55.0)

The most common concern was irritability upon removal (59%), followed by frequent demands (52%) and pre-bedtime use (51%).

Discussion

The findings of this study reveal substantial mobile phone exposure among children aged 3–8 years in Sri Ganganagar, with 76% using devices for at least 1 hour daily, predominantly for entertainment (59%), and only 36% under consistent supervision. These patterns align with emerging evidence from low- and middle-income contexts, where early screen introduction is normalized despite parental reservations. Entertainment dominance over educational purposes (26%) underscores passive content's appeal, potentially displacing interactive play. This is consistent with global trends, where non-educational media prevails in early childhood. The prevalent behavioral concerns—irritability on removal (59%), frequent demands (52%), and anger on restriction (45%)—indicate emerging dependency, with a mean checklist score of 3.27 signaling moderate risk. These align with longitudinal meta-analyses showing bidirectional links: excessive screen time (>1 hour/day for ages 2–5) heightens externalizing behaviors like aggression and hyperactivity, while emotional dysregulation prompts coping via screens, particularly gaming.

Recent prospective cohort studies reinforce these associations. In a nationwide U.S. sample of 9-11-year-olds, Nagata et al. (11) found higher recreational screen time prospectively linked to increased disruptive behavior disorders, with video chatting showing protective effects against conduct issues. Similarly, a Chinese study of kindergarteners (ages 3-6) by Wang et al. (12) reported that total screen time, irrespective of content (e.g., videos vs. games), was consistently associated with elevated internalizing and externalizing problems, mediated by disrupted sleep and reduced physical activity. Among U.S. children

aged 3-17, Qu et al. (13) analyzed NSCH data (2018-2020, extended to 2023 trends) showing boys with >2 hours daily screen time had 1.5-2.0 odds of developmental delays and behavioral issues, including attention deficits.

In European and Asian cohorts, sleep emerges as a key mediator. Iglesias-Vázquez et al. (14) in a Spanish sample of 3-6-year-olds demonstrated that exceeding 1 hour screen time daily amplified emotional/behavioral difficulties (OR=1.4-1.8), moderated by short sleep duration (<10 hours/night), aligning with our bedtime use (51%). A Japanese cross-sectional study by Matsui et al. (15) linked evening screen exposure in 4-7-year-olds to chronotype disruptions, indirectly worsening hyperactivity via behavioral dysregulation. In young school children (ages 5-8), You et al. (16) confirmed excessive screen time (>2 hours) predicted emotional/behavioral problems (β=0.25), fully mediated by sleep disturbances like delayed onset.

Maternal and prenatal factors also interplay. Li et al. (17) in a Chinese birth cohort found maternal pregnancy screen time (>3 hours/day) associated with offspring externalizing behaviors at age 4-6 (OR=1.32), suggesting intergenerational transmission. Ghosh Roy et al. (18) in an Indian cross-sectional study of <5-year-olds reported excessive screen time doubled risk of socio-cognitive and behavioral problems (OR=2.1), more pronounced in urban settings like ours (57% urban).

Intervention trials offer hope. Schmidt-Persson et al. (19) in a Danish RCT reduced screen time by 1 hour/day in 6-10-year-olds, yielding significant SDQ improvements in emotional symptoms (d=0.45), emphasizing feasibility in family settings. Yu et al. (20) using NHIS 2022 data on U.S. children/adolescents (including 3-8 subgroup) linked >4 hours screen time to anxiety/depression (OR=1.6), advocating content moderation. Sidiq et al. (21) in Saudi school children (ages 6-10) found screen time predicted BMI and behavioral symptoms (r=0.28), with academic underperformance as a downstream effect.

Demographically, urban nuclear families (57% urban, 66% nuclear) reported higher durations, possibly due to device accessibility, while mothers' overrepresentation (64%) reflects gendered caregiving burdens in shaping habits. Parental education varied evenly, suggesting awareness alone insufficient without targeted guidance.

These insights reinforce WHO and AAP guidelines advocating ≤1 hour supervised educational screen time for ages 2–5, extending to 3–8 years. In India, where smartphone penetration surges, interventions like community workshops on co-viewing and alternatives to digital pacifiers are imperative. Pediatric screenings could integrate use assessments, fostering balanced habits to avert long-term developmental risks. Future longitudinal designs should explore causality, incorporating device tracking for precision.

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