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"A Descriptive Survey to Assess the Effects of Using Mobile on Growth and Development of Preschool Children in Selected Area of Metropolitan City."

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Abstract:
Background: The rapid integration of mobile technology into daily life has not spared children. From educational games to YouTube videos, screens have become a substitute for toys, books, and even parental engagement. According to recent surveys, toddlers as young as two years old regularly use mobile phones for several hours daily. This practice is often normalized under the assumption that early exposure will foster digital literacy.
However, research increasingly shows that unsupervised screen time during critical developmental windows can be detrimental. Studies have linked excessive screen exposure to attention deficit disorders, poor motor skills, emotional dysregulation, speech delays, and behavioral issues like aggression and irritability.
A systematic review of literature underscores how prolonged screen time is associated with adverse physical outcomes (e.g., obesity, poor sleep hygiene), psychosocial problems (e.g., social withdrawal, poor peer interactions), and academic impairments (e.g., lack of focus, poor performance). Mobile use during meals and bedtime has particularly been associated with disrupted eating patterns, emotional dependency, and poor sleep quality.
Given the urban lifestyle trends, working parents often resort to mobile devices to entertain or pacify their children. This study's findings emphasize the pressing need to understand how early mobile use is shaping child development in Indian urban settings, especially within nuclear families where digital devices often play a central role in daily routines.

Introduction

In the modern digital era, mobile technology has transformed every aspect of human life—including childhood. While these advancements offer convenience and connectivity, they also present new challenges to children's health and development. The early years of life, especially from birth to five years, are critical for the cognitive, physical, emotional, social, and academic development of a child. These developmental milestones are significantly influenced by a child's surroundings, stimuli, and behaviors.
The increasing use of smartphones and tablets among preschool children has raised concerns among educators, pediatricians, and psychologists. With easier access to electronic devices, children are often exposed to prolonged screen time, sometimes in place of social interaction, physical play, and cognitive activities. Though mobile devices are sometimes employed as educational tools, unsupervised and excessive usage may hinder proper growth and development. Children's over-reliance on mobile devices affects their communication skills, socialization patterns, motor development, sleep habits, and behavior. Multiple international and national studies have established that frequent mobile usage in early childhood is associated with conditions like obesity, delayed speech, reduced attention span, anxiety, behavioral disorders, and academic underachievement.
This study attempts to assess, in a descriptive survey format, the extent and nature of mobile use among preschool children in a metropolitan city, and its physical, psychological, psychosocial, and academic impact. The findings aim to provide a valuable reference for health professionals, educators, and parents to better understand and mitigate the risks associated with early mobile exposure.

REVIEW OF LITERATURE

A literature review is a summary of previous knowledge generated on the topic of study. It is believed by researchers that research cannot be conducted in a vacuum, benefit of the previous knowledge available, but that requires a foundation of existing knowledge to plan and conduct a good research. This knowledge base can only be acquired through literature review from several sources, such as books, journals, research reports, unpublished theses, newspapers, magazines and other current popular electronic information sources. Review of literature helps the researchers to understand what is already known about a topic and what needs to be further investigated. Literature review plays an important role in the development of research project and moreover, researchers develop greater insight into research problem and gain information on what has been already investigated regarding a particular topic under study.

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NEED FOR THE STUDY

A systemic search was conducted by two independent reviewers on PubMed, Web of Science, Embase, and Cochrane Library to identify the eligible studies, with an end date of 13 August 2019. Included studies met the determinate population-children aged up to 7 years with screen media exposure and related health outcomes. Handbook were used to evaluate cross-sectional study, cohort study, and RCT respectively. Study concluded that, excessive screen time was associated with obesity and shorter sleep duration among toddlers and preschoolers. It was also associated with various health indicators in physical, behavioral and psychosocial aspects.

OBJECTIVES OF THE STUDY

1. To assess the growth and development of preschool children.
2. To find out developmental problems in preschool children due to use of mobile in following health aspects. a. Physical health

b. Psychological health

c.Psychosocial health

d. Academic/ school health

Hypotheses

H0 [Null Hypothesis]- there will be no significant effect of using mobile phone on growth and development of preschoolers.

H1 [Research Hypothesis]- there will be significant effect of using mobile phone on growth and development of preschoolers.

Materials and Methods

Research Design:

Descriptive survey was used to identify effects of using mobile on growth and development of 60 subject selected.

Setting:

Selected community area in metropolitan city as per researcher's accessibility.

Population:

Preschool children in selected community area of metropolitan city.

Sample Size and Sampling:

Preschool children in selected community area of metropolitan city.

Inclusion Criteria:

 Population of preschool children who are willing to participate in the study.

Exclusion criteria

- Not willing to participate in study.

Tool for Data Collection:

- Data will be collected by using self-reported semi-structured questionnaire.

Section A- Demographic data.
Section B- History of mobile use among preschool children.
Section C- Distribution of health problems among preschool children related to use of mobile.

Validity:

- The tool was validated by subject experts to ensure it accurately measured the effects of mobile use on preschool children's growth and development.

Reliability:

- Consistency of the tool was ensured through expert validation and a pilot study, confirming its suitability for the target population.

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Ethical Considerations

 Permission was obtained from the concerned authority. Participation was voluntary, and confidentiality was maintained. Mothers or caregivers were briefed about the purpose of the study.

Results:

Table 1: Demographic Characteristics of the Preschool Children

A total of 60 Preschool Children participated in the study. Their demographic profile is summarized in Table 1.

Variable	Category	Frequency (n)	Percentage (%)
Age	2–3 years	14	24%
	3–4 years	17	28%
	4–5 years	11	18%
	5–6 years	18	30%
Gender	Male	35	58%
	Female	25	42%
Schooling Status	No School	16	27%
	Nursery	12	20%
	Pre-primary	17	28%
	Primary	15	25%
Mother's Occupation	Housewife	30	50%
	Service/Job	21	35%
	Self-employment	5	8%
	Labour	4	7%
Father's Occupation	Service/Job	35	60%
	Business	12	21%
	Profession	10	17%
	Labour	3	2%
Variable	**Category**	**Frequency (n)**	**Percentage (%)**
Monthly Family Income	< ₹10,000	1	2%
	₹10,000–₹20,000	8	13%
	₹20,000–₹30,000	21	35%
	> ₹30,000	30	50%

Table 2: History of Mobile Use among Preschool Children

Variable	Category	Frequency (n)	Percentage (%)
Age of First Mobile Use	2–3 years	31	52%
	3–4 years	24	40%
	4–5 years	2	3%
	5–6 years	3	5%
Daily Duration of Use	1–2 hours	15	25%
	2–4 hours	19	32%
	4–6 hours	18	30%
	>6 hours	8	13%
Pattern of Use	While eating	28	47%
	While charging	13	22%
	After waking	11	18%
	Before sleeping	8	13%
Sleeping Pattern	Disturbed sleep	28	47%
	Sleeps late due to mobile	16	27%
	Sleeps peacefully	11	18%
	Insomnia	5	8%
Purpose of Use	Playing games	25	42%
	Watching videos/social apps	16	27%

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	Feeding aid	14	23%
	School purpose	5	8%
Temper Tantrums if Mobile Not Given	Yes	46	77%
	No	14	23%

Table 3: Physical Health Problems Due to Mobile Use

Health Issue	Frequency (n)	Percentage (%)
Headache	25	42%
Loss of appetite	27	45%
Obesity	22	37%
Eye problems	16	27%
Use of spectacles	12	20%
Musculoskeletal pain	26	43%
Decreased physical activity	31	52%
Decreased hearing ability	9	15%
Hand tremors/finger discomfort	9	15%
Flexed neck/elbow	9	15%
“Texting thumb”	18	30%

Table 4: Psychological (Cognitive & Behavioral) Issues

Health Issue	Frequency (n)	Percentage (%)
Decreased attention span	40	67%
Aggressive behavior	40	67%
Temper tantrums	38	63%
Impulsive behavior/irritability	36	60%
Sleeping problems	34	57%
Stealing mobile	35	58%
Hyperactivity	29	48%
Eating problems (binge/loss of appetite)	27	45%
Emotional obsessive behavior	28	47%
Destruction of property	30	50%
Anxiety/Depression	21	35%
Delayed speech/language	20	33%
Low IQ/improper mental growth	17	28%

Table 5: Psychosocial Health Problems

Health Issue	Frequency (n)	Percentage (%)
Reduced parent-child interaction	31	52%
Impaired concentration	24	40%
Blackmailing/conditioning behavior	23	38%
Violence during play	20	33%
Social fear/anxiety	16	27%
Trouble playing in a group	14	23%
Solidarity (isolation)	12	20%

Table 6: Academic/School Health Problems

Health Issue	Frequency (n)	Percentage (%)
Lack of attention	25	42%
Sleeping in class	20	33%
Poor peer interaction	19	32%
Poor academic performance	15	25%
Low grades/poor study habits	15	25%
Bad classroom behavior	13	22%
Conduct problems	11	18%
Learning disorders (e.g., dyslexia)	6	10%

Summary of the Study

The study titled **"A descriptive survey to assess the effects of using mobile on growth and development of preschool children in selected area of metropolitan city"** was conducted to explore how mobile phone usage impacts children aged 2–6 years across physical, psychological, psychosocial, and academic domains. A **quantitative descriptive survey** design was used, and **60 preschool children** were selected using **convenient sampling**.

Data was collected using a **self-reported semi-structured questionnaire**, validated by experts, and administered to mothers or caregivers. The analysis was carried out using descriptive statistics (frequency and percentage). The study revealed a high prevalence of early mobile usage among preschoolers, often unsupervised and excessive, leading to a range of developmental challenges.

Major Findings of the Study

1. Growth and Development Many children showed delayed or disturbed development in at least one health domain.

 Overall, children using mobile phones regularly had more health complaints and developmental concerns.

2. Physical Health

• 52% had decreased physical activity.
• 45% experienced loss of appetite.
• 42% complained of headaches.
• 43% had musculoskeletal discomfort.
• 30% showed signs of "texting thumb" or similar overuse symptoms.

3. Psychological (Cognitive and Behavioral) Health

• 67% had decreased attention span and aggressive behavior.
• 60% showed impulsive behavior and irritability.
• 57% had sleep-related problems.
• 63% threw temper tantrums if the mobile was not given. 33% had delayed speech/language development.

4. Psychosocial Health

• 52% had reduced parent-child interaction.
• 40% experienced impaired concentration.
• 38% engaged in blackmailing or conditioning behavior.
• 27% had social anxiety or fear.
• 33% showed violence while playing with peers.

5. Academic/School Health

• 42% had poor attention in class.
• 33% were found sleeping in the classroom.
• 25% had poor academic performance.
• 10% showed early signs of learning disorders like dyslexia.

Discussion

The study validates that preschoolers' mobile use begins as early as age two, often unsupervised, and extends for several hours each day. This usage pattern is significantly associated with physical symptoms (e.g., headaches, obesity), behavioral disorders (e.g., aggression, irritability), emotional challenges (e.g., temper tantrums, compulsive behavior), and learning difficulties.

Furthermore, the psychosocial aspect highlights disrupted family interactions, especially a decline in parental bonding, which is crucial in early development. Children relying on virtual engagement over human interaction lose opportunities to develop empathy, emotional control, and social understanding.

In educational contexts, children's performance suffers not due to inherent learning disabilities but due to a lack of attention, poor sleep, and overstimulation. The mobile becomes both a distraction and a dependency, hindering creativity, problem-solving, and focus.
This reinforces global findings and raises urgent concerns for Indian urban families where mobile devices are frequently used as babysitters. The problem is not the technology itself but the **quantity**, **context**, and **quality** of its use.

Implications
• **For Parents:** Urgent need to monitor and limit screen time; provide more human interaction, outdoor play, and structured routines.
• **For Nurses & Educators:** Incorporate screening tools for developmental delays related to digital exposure. Promote awareness programs among parents.
• **For Policymakers:** Introduce national guidelines for mobile use in early childhood, like those in place for television and junk food.
• **For Future Researchers:** Investigate longitudinal effects of mobile use on developmental milestones and parent-child bonding in varied socioeconomic groups.

Recommendations
1. Conduct similar studies on larger, more diverse populations.
2. Explore interventions to mitigate mobile addiction in early childhood.
3. Investigate parental smartphone use and its correlation with children's developmental issues.
4. Develop community-based programs and workshops for digital parenting.

Conclusion
This study concludes that excessive and early mobile use among preschool children adversely impacts multiple domains of growth and development—physical, cognitive, emotional, social, and academic. The findings call for a collective responsibility among parents, educators, healthcare professionals, and policymakers to regulate mobile usage and encourage healthier developmental environments.
A balance between digital exposure and real-world interaction is crucial to raise a generation that is both technologically competent and developmentally sound.

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