Mini View

Effect of Electronic Gadgets and Mobile Games on the Health of Children in India

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Over the past decade, electronic gadgets and mobile gaming have become widespread in Indian households. While these technologies offer opportunities for education, entertainment, and social connection, growing evidence suggests they may also pose risks to children's physical, cognitive, emotional, and social health. This paper reviews empirical studies conducted in India that examine the health impacts of gadget use and mobile gaming among children, identifies key risk factors and gaps, and suggests recommendations for parents, policymakers, and health professionals.

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Introduction

India is experiencing rapid penetration of smartphones, tablets, and other digital devices even in semi-urban and rural areas. The increasing availability of mobile games and streaming content has led to longer screen time among children. Pediatric and public health concerns include sleep disturbance, obesity, visual strain, behavioral problems, attention deficits, language delays, and social/emotional impairments.

Objectives

To synthesize India-based research on these impacts, explore moderating variables (age, urban/rural, socioeconomic status, content, parental supervision), and propose recommendations.

Review of Indian Studies

Table 1 shows several studies from India that shed light on various dimensions of the problem.

Health Impacts

From the Indian studies, several health impacts stand out:

Sleep Disturbances

Poor sleep quality and shorter duration are consistently associated with higher screen time (especially use before bed). Daytime sleepiness is reported among adolescents and college students. ijlpr.com

Behavioral and Psychological Effects

Increased anxiety, attention problems, hyperactivity, irritability, and disruptive behaviors in children who play more mobile/video games. i-scholar.in Communication issues and lower pro-social behaviour in those with greater exposure. i-scholar.in

Cognitive & Developmental Effects

Among very young children (under 5), excessive exposure correlates with delays in language development and reduced cognitive performance. India TodayIn rural areas, mobile use possibly affecting attention span and learning readiness. ijpediatrics.com

Physical Health

Risk of obesity linked with sedentary behavior associated with prolonged gadget/screen use. ijpediatrics.com Eye strain, headaches are discussed in some descriptive reports (though more empirical longitudinal data is needed). (Mentioned in popular press/expert commentary) India Today

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Table 1: Review of Indian Studies

Study	*Population/Age*	*Key Findings*
Effect of Video and Mobile Games on Children's Behavior (Singh, Indian Journal of Health and Wellbeing)	160 school-going children aged 7–10 years	More video/mobile game use was associated with increased anxiety, communication problems, hyperactivity, disruptive behavior, attention issues, aggressive thoughts/behavior, and decreased pro-social behavior. i-scholar. in
Study of screen-time and sleep in children aged 3–15 years in Kanchipuram, Tamil Nadu	Children aged 3–15 years.	Higher screen time is associated with poorer sleep quality and quantity. ijpediatrics.com
A study on sleep patterns and sleep problems in children aged 6–15 years (Mangalore, Karnataka)	Children aged 6–15 years.	Parents reported sleep disturbances; gadget use was perceived as a contributing factor. ijpediatrics.com
Assessment of the Impact of Use of Electronic Gadgets on Sleep Pattern and Daytime Sleepiness Among Nonobese Students (Puducherry)	Adolescents (college students)	Use of gadgets before bedtime was linked with altered sleep patterns and increased daytime sleepiness. ijlpr.com
Impact of mobile use amongst children in rural Marathwada (Maharashtra)	Children in rural areas	High mobile use is associated with behavioral effects, attention span issues, and potential language/cognitive development implications. ijpediatrics.com
Screen use among Indian children under five (AIIMS Raipur meta-analysis)	Children under 5 years	Average screen time ~2.22 hours/day—twice as much as safe limits; excessive screen exposure in infants and toddlers linked to delayed language, lower cognitive ability, poor social behaviour, obesity risk, and disturbed sleep. India Today

Moderating/Risk Factors

Age

Younger children (toddlers/preschool) are especially vulnerable to language, social and cognitive impacts. indianpediatrics.net

Duration of Use

More hours per day correlate with more negative outcomes (sleep, behavior, cognition). ijpediatrics.com

Content & Timing

Use of gadgets (games/videos) before bedtime is particularly harmful for sleep outcomes. Violent or overstimulating content increases behavior problems. i-scholar.in

Urban vs Rural & Socioeconomic Status

Some differences in prevalence and impacts depending on urban/rural settings and school type (e.g., governmental vs private schools). IJSM

Parental Awareness/Supervision

Many parents are not aware of guidelines or potential harms, and for very young children, screen time begins early with minimal concern. indianpediatrics.net

Gaps & Limitations in Indian Research

Most studies are cross-sectional → cannot firmly establish causality. Many rely on self- or parent-reported screen time, sleep quality, and behavior, which may have recall bias. Less longitudinal research to see long-term effects into adolescence and adulthood. Sparse data on physical health outcomes (myopia progression, posture, metabolic disorders) and on quantifiable measures (e.g., BMI, glucose, etc.). Many studies focus on urban settings; need for more in rural and tribal populations. Little work has been done on interventions, i.e., what steps mitigate the negative effects, and how effective they are in Indian contexts.

Recommendations

Disseminate and enforce screen time guidelines specific to India (e.g., Indian Academy of Pediatrics and WHO), especially for children under 2 and under 5 years. Educate parents/guardians about the consequences of screen use, the importance of content quality, and screen-free times (especially before bed). Schools could integrate "digital health/screen etiquette" into the curriculum. Encourage physical activity, outdoor play, and non-screen hobbies. Encourage game developers to design content that is not overly stimulating, includes educational or healthy behavior components. Further research: longitudinal, objective measurement (use of apps, digital logs), more in rural/low-income settings, interventions to reduce harm. Reducing screen time in children is a complex, multifaceted challenge that necessitates a holistic approach encompassing various stakeholders, including parents, educators, and policymakers. A plethora of interventions have been developed and evaluated in the literature, ranging from parental education and counseling to environmental modifications in preschool settings and policy-level initiatives. These interventions

aim to foster a conducive environment for reducing screen time and promoting alternative, healthful activities among preschool-aged children.

Conclusion

In India, electronic gadgets and mobile games are increasingly central to children's lives. A growing body of research shows associations between high screen time and negative impacts on sleep, behavior, cognitive development, and physical health. While some effects are better documented than others, enough evidence exists to warrant concern and action. Balancing benefits with risks through thoughtful use, supervision, and policy is essential to protect children's health and development.

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