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ASSESSMENT OF PARENTAL FACTORS AND AWARENESS INFLUENCING SMARTPHONE USAGE AMONG PARENTS OF SCHOOL-AGE CHILDREN IN A SELECTED COMMUNITY, CHENGALPATTU DISTRICT

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Abstract

Background: The increasing integration of smartphones into family life has raised concerns regarding excessive screen exposure, inappropriate digital content, inadequate supervision, and unhealthy technology-use patterns among school-age children. Parents play an important role in shaping children's smartphone-related behaviours through awareness, monitoring, supervision, role modelling, and establishment of appropriate household rules. **Objectives:** The present study aimed to assess parental awareness regarding smartphone usage among parents of school-age children, identify parental factors influencing children's smartphone usage, determine the association between parental awareness and selected demographic variables, and examine the correlation between parental factors and parental awareness. **Methods:** A quantitative descriptive research design was adopted among 150 parents of children aged 6–15 years residing in a selected community at Poonjeri, Chengalpattu District, Tamil Nadu. Participants were selected using non-probability purposive sampling. Data were collected using a structured self-administered questionnaire comprising 45 items covering demographic characteristics, parental awareness, and parental factors influencing children's smartphone usage. Descriptive statistics, Chi-square test, and Pearson's product-moment correlation coefficient were employed for data analysis, with statistical significance set at $p < 0.05$. **Results:** Among the 150 participants, 77.3% were mothers, 66.0% were aged 31–40 years, 57.3% had no formal education, 55.3% were homemakers, 74.7% belonged to nuclear families, and 56.7% reported a monthly family income of ₹5,000–₹25,000. Regarding parental awareness, 95.3% demonstrated moderate awareness, 4.0% had poor awareness, and only 0.7% had good awareness. Regarding parental factors influencing children's smartphone usage, 81.3% demonstrated a moderate level, 17.3% had a low level, and 1.3% had a high level. No statistically significant association was identified between parental awareness and child's age, parental age, source of information, educational status, occupation, family structure, or monthly family income ($p > 0.05$). Pearson's correlation revealed a very weak positive correlation between parental factors and parental awareness ($r = 0.053$). **Conclusion:** The study demonstrated that parental awareness and parental factors influencing children's smartphone usage were predominantly at a moderate level, with very few parents demonstrating high awareness or highly protective practices. The absence of significant associations with demographic variables indicates the need for community-wide interventions. The very weak correlation between awareness and parental factors further suggests that awareness alone may not be sufficient to promote appropriate digital-parenting practices. **Implications:** Community-based digital-literacy programmes should be strengthened through home visits, school health education, community health centres, and structured parent-awareness sessions. Nursing and community-health professionals can support parents through counselling and practical strategies related to parental supervision, screen-time regulation, responsible role modelling, and establishment of technology-free family periods.

Introduction

The rapid proliferation of smartphone technology has transformed contemporary patterns of communication, education, information access, and entertainment within families. Smartphones have evolved beyond conventional communication devices into multifunctional digital platforms that provide immediate access to social networking, educational resources, multimedia content, gaming, online services, and virtual interactions. Although these technological developments offer substantial opportunities

for learning, communication, and connectivity, their increasing integration into family life has raised concerns regarding excessive, prolonged, and inadequately supervised digital engagement among children. Of particular concern is the progressively earlier introduction of smartphones during childhood, often within family environments in which parental technology-use patterns serve as important behavioral models.

Childhood represents a critical developmental period characterized by substantial physical, cognitive, emotional, social, and behavioral changes. During this stage, children are highly responsive to environmental influences and acquire behaviour through observation, imitation, and reinforcement. Parents therefore play an important role in shaping children's technology-related behaviour. The frequency, duration, purpose, and context of parental smartphone use may influence children's perceptions of appropriate digital behaviour. Repeated exposure to parental smartphone uses during meals, family interactions, leisure activities, and other routine situations may normalize such behaviour and increase the likelihood of imitation. In contrast, appropriate parental modelling, consistent boundaries, active supervision, and meaningful parent–child communication may support healthier and more purposeful patterns of digital engagement. Smartphones can provide educational and developmental opportunities when used appropriately and within an age-appropriate framework. Children may access educational resources, develop digital competencies, communicate with teachers and peers, explore creative materials, and obtain information beyond conventional classroom settings. However, these benefits may be compromised when smartphone use becomes excessive, unsupervised, compulsive, or developmentally inappropriate. Prolonged recreational screen engagement has been associated with concerns such as disrupted sleep, sedentary behaviour, reduced physical activity, difficulties with sustained attention, academic challenges, and behavioral problems. Unrestricted access to online environments may additionally expose children to cyberbullying, inappropriate content, privacy risks, problematic social-media engagement, and other forms of problematic digital behaviour.

Parental influence extends beyond direct monitoring of children's smartphone use. Parental awareness and digital literacy, attitudes towards technology, perceptions of its benefits and risks, family routines, communication patterns, socioeconomic circumstances, educational background, occupational demands, and personal smartphone-use practices may collectively influence children's interaction with digital technology. Effective parental mediation therefore involves more than imposing restrictions. It includes establishing age-appropriate expectations, explaining the rationale for digital rules, monitoring online activities, encouraging balanced routines, modelling responsible technology use, and maintaining open communication about children's experiences in the digital environment.

An emerging concern in contemporary digital parenting is the potential discrepancy between parental awareness and actual behaviour. Parents may recognize the potential adverse consequences of excessive smartphone use while simultaneously engaging in frequent or prolonged device use themselves. Such inconsistency may weaken the effectiveness of parental guidance and create contradictory behavioral messages within the household. When parents verbally discourage excessive smartphone use but frequently engage with their own devices, children may receive

conflicting cues regarding acceptable technology-related behaviour. Consequently, parental awareness alone may not be sufficient to promote healthy digital practices unless it is accompanied by self-regulation, consistent role modelling, supervision, and supportive family-level strategies.

The increasing digitalization of Indian households has further highlighted the relevance of this issue. The widespread availability of affordable smartphones, mobile internet connectivity, digital educational platforms, social-media applications, online entertainment, and technology-mediated communication has resulted in smartphones becoming increasingly integrated into everyday family life. The COVID-19 pandemic further accelerated dependence on digital technologies for education, communication, and access to services. While this transition facilitated educational continuity and information access, it also contributed to the convergence of educational, occupational, social, and recreational smartphone use within the home. Consequently, parents face the challenge of enabling children to benefit from digital technologies while simultaneously establishing practices that minimize potentially adverse effects.

School-age children constitute an important population for examining parental influence on smartphone-related behaviour. During this developmental stage, children progressively gain autonomy, expand peer relationships, assume greater academic responsibilities, and encounter increasing opportunities for digital engagement. However, their capacity for independent regulation of smartphone use may still be developing. Parental guidance, supervision, role modelling, and the establishment of structured household routines are therefore particularly relevant during this period. Establishing healthy digital practices during the formative school years may contribute to balanced development and reduce the potential for problematic technology-related behaviour.

Parental awareness is an important component of effective digital parenting. Adequate awareness may enable parents to recognize potentially harmful patterns of smartphone use, understand age-appropriate digital practices, identify warning signs of problematic use, appreciate the importance of sleep and physical activity, and implement appropriate preventive strategies. Nevertheless, awareness should be considered within the broader context of parental and family characteristics that influence technology-related practices. These may include parental patterns of smartphone use, occupational requirements, educational status, family structure, socioeconomic circumstances, availability of alternative recreational activities, perceptions regarding the usefulness of smartphones, and the quality of parent–child communication. Understanding these interconnected factors is essential for developing contextually appropriate interventions rather than relying solely on restrictive approaches.

Despite the growing integration of smartphones into family life, there remains a need to examine children's digital exposure from a family-centred perspective, particularly by considering the role of parents as both regulators and behavioral models. Assessment of parental awareness together with factors influencing smartphone use can provide insight into the conditions under which effective parental mediation may be facilitated or constrained. Such evidence is relevant to nurses, educators, schools, community-health professionals, and other stakeholders involved in child and family health promotion.

In this context, the present study was undertaken to assess parental awareness and

identify factors influencing smartphone use among parents of school-age children in a selected community setting. Examining these dimensions together may provide a more comprehensive understanding of the parental environment surrounding children's smartphone use and may assist in identifying areas requiring targeted digital-health education and family-centred interventions. The novelty of the present study lies in its integrated examination of parental awareness and factors influencing smartphone use among parents of school-age children within a community setting. Rather than considering children's smartphone exposure solely as a child-level behavioral issue, the study adopts a family-centred and parent-mediated perspective, recognizing parents as both regulators of children's technology use and important behavioral models.

A further distinctive feature is the examination of the potential awareness–behaviour interface. Parental knowledge regarding the potential consequences of excessive smartphone use may not necessarily translate into effective digital parenting practices. Parents' own smartphone-use patterns, occupational requirements, family routines, perceptions of smartphone utility, and communication practices may influence the extent to which awareness is translated into supervision and behavioral regulation. Examining these dimensions together provides a broader perspective on the family environment in which children's digital behaviour develop.

The study also examines the relationship between parental awareness, smartphone-related factors, and selected demographic characteristics. This approach may help identify variations within the study population and provide evidence for developing targeted health-education strategies. The findings may be useful to nursing and community-health professionals in designing interventions that strengthen parental digital literacy, encourage responsible technology use, improve parent–child communication, and promote balanced digital routines within families.

Overall, the study contributes to the growing field of family-centred digital health by shifting the focus from children's screen exposure alone towards the parental and family context that shapes children's digital experiences. By examining parental awareness alongside factors influencing smartphone use, the study seeks to generate contextually relevant evidence to support preventive nursing interventions and health-promotion strategies for healthier technology use among families. The study aimed to assess the level of parental awareness and factors influencing smartphone use among parents of school-age children in a selected community and to determine their association with selected demographic characteristics.

Global Context

The widespread availability of smartphones and other digital technologies has made screen exposure an increasingly common component of childhood. Across different countries and socioeconomic settings, a substantial proportion of school-aged children have regular access to smartphones, tablets, computers, or other internet-enabled devices. Current estimates suggest that approximately 70–80% of school-aged children worldwide have routine access to smartphones or comparable digital devices. The increasing accessibility of these technologies has expanded opportunities for education, communication, entertainment, and information seeking. However, the growing frequency and duration of children's digital engagement have also generated concerns regarding excessive screen exposure, particularly when device use occurs without appropriate parental guidance, time boundaries, or supervision.

The extent and pattern of smartphone use may vary according to age, family environment, socioeconomic circumstances, educational requirements, and parental attitudes towards technology.

National Context

India has experienced rapid expansion in smartphone ownership, mobile internet connectivity, and digital services, resulting in substantial changes in technology-use patterns among children and families. Smartphone use among school-aged children increased considerably during and following the COVID-19 pandemic, when digital platforms became an important means of accessing education, communication, and other essential services. Available reports and studies indicate that more than 50–60% of school-aged children may exceed the commonly recommended daily recreational screen-time threshold of two hours. In urban settings, approximately 70% of children are reported to use smartphones on a daily basis, with common purposes including online education, gaming, entertainment, video consumption, and social-media engagement.

The family environment also plays an important role in determining children's access to smartphones. Approximately half of parents have been reported to permit smartphone use primarily for recreational purposes, particularly entertainment and gaming. At the same time, concerns regarding problematic smartphone use have emerged among adolescents and young people in India, with some studies reporting indicators of problematic or addictive smartphone-use patterns in approximately 25–30% of young people. These findings highlight the importance of considering children's smartphone exposure not only in relation to the availability of digital devices but also in terms of parental supervision, intended purpose of use, duration of exposure, and household technology practices.

Regional Context

Within Tamil Nadu, increasing access to smartphones and digital connectivity has contributed to the growing use of mobile devices among school-aged children. Children in urban and semi-urban communities commonly use smartphones for online educational activities, gaming, video streaming, social networking, and other forms of digital entertainment. Regional observations indicate that more than 65% of school-aged children in urban and semi-urban areas may use smartphones on a daily basis, with a proportion spending approximately two to three or more hours per day engaged with screen-based activities.

Family circumstances may further influence these patterns of use. In households where parents have substantial occupational or domestic responsibilities, smartphones may sometimes be used as a convenient means of engaging or occupying children while parents attend to work and household activities. This practice may be particularly relevant within nuclear-family settings, where parents may have fewer immediate sources of assistance in supervising children. Consequently, more than 60% of parents in some reported settings may permit children to use smartphones predominantly for entertainment, with varying degrees of parental monitoring and restrictions on duration of use.

The increasing prevalence of smartphone use among children in Tamil Nadu therefore warrants greater attention to the role of parents in establishing healthy digital practices. Understanding how parental awareness, attitudes, supervision, and personal smartphone-use behaviour influence children's access to and engagement with digital devices may provide

important evidence for developing contextually appropriate health-education and preventive interventions. From a nursing and community-health perspective, addressing these factors may support parents in balancing the educational and communicative benefits of digital technology with the need to establish appropriate limits, supervision, and healthy routines for school-aged children.

Objectives of the Study

- To assess the level of parental awareness regarding smartphone usage among parents of school-age children.
- To identify parental factors that influence children's smartphone usage.
- To determine the association between parental awareness level and selected demographic variables.
- To determine the correlation between parental factors and parental awareness

Methodology

A quantitative descriptive research design was employed to determine parental awareness concerning smartphone-associated risks, recommended usage practices, and safety guidelines applicable to school-age children, and to examine selected parental factors influencing children's smartphone utilization. The investigation was undertaken in a selected community situated at Poonjeri, Chengalpattu District, Tamil Nadu, India. The study population comprised parents of children aged 6–15 years residing within the selected community. The requisite sample size was determined by applying the formula $n = Z^2pq/d^2$, with a 95% confidence level, a standard normal deviate of 1.96, an anticipated proportion of 0.50, a complementary proportion of 0.50, and a permissible margin of error of 0.08. On the basis of these statistical parameters, the final sample consisted of 150 parents. Participants were recruited through a non-probability purposive sampling procedure, whereby individuals satisfying the predetermined eligibility criteria were identified and enrolled. Parents were eligible for inclusion when they had a child within the specified age range of 6–15 years, resided in the selected community, and demonstrated willingness to participate in the investigation. Written informed consent was obtained from all participants prior to their inclusion. Parents were excluded when they experienced difficulty in comprehending the questionnaire, had previously undergone formal instruction or training in child digital-safety practices, or had any condition that could potentially compromise their comprehension, communication, or capacity to provide appropriate responses.

Data were obtained through a structured, self-administered questionnaire formulated in accordance with the objectives and principal variables of the investigation. The instrument incorporated three sections comprising 45 items in total. The initial section contained 15 items pertaining to selected demographic characteristics of the parents and their children. These variables were collected to establish the sociodemographic profile of the participants and to facilitate subsequent examination of their association with the principal study variables. The second section comprised 15 items designed to ascertain parental awareness of smartphone-related risks and appropriate usage practices among children. The content addressed potential adverse consequences associated with inappropriate or excessive smartphone exposure, recommended patterns of device utilization, precautionary measures, parental guidance, digital safety practices, and relevant recommendations for responsible smartphone use. The awareness component yielded a total possible score ranging from 0

to 15, with the obtained score representing the participant's level of awareness regarding safe and appropriate smartphone use among children. The third section incorporated 15 items intended to identify parental factors that may influence children's smartphone utilization. The items addressed parental practices associated with device use, including smartphone engagement during family interactions, monitoring of children's activities, supervision of device utilization, establishment of usage boundaries, regulation of screen exposure, and implementation of household rules governing smartphone access. The cumulative score for this component ranged from 0 to 15 and was used to characterize the extent of the identified parental factors.

The content validity of the research instrument was established through expert evaluation by a specialist in Child Health Nursing. The instrument was critically examined with respect to the pertinence, comprehensibility, clarity, adequacy, and appropriateness of individual items in relation to the objectives of the investigation. Recommendations provided by the expert were considered during the refinement process, and necessary modifications were incorporated to enhance the linguistic clarity, conceptual appropriateness, and comprehensibility of the questionnaire. The revised instrument was subsequently utilized for the principal data-collection process.

Ethical safeguards were instituted throughout the investigation. Prior authorization was obtained from the Institutional Human Ethics Committee before commencement of the study, and requisite administrative permission was secured from the appropriate authorities. The participants were adequately apprised of the purpose of the investigation, the procedures involved, the nature of their participation, and the intended utilization of the information provided. Participation was entirely voluntary, and the participants were informed of their prerogative to decline participation or discontinue their involvement at any stage without experiencing any adverse consequence. Written informed consent was obtained before administration of the questionnaire. Measures were implemented to preserve participant anonymity and maintain the confidentiality of all information obtained during the investigation. The collected information was utilized exclusively for scholarly and research purposes.

Data collection was undertaken among eligible participants following completion of the ethical and administrative formalities. The researcher provided standardized instructions regarding completion of the questionnaire and allowed adequate time for each participant to record their responses independently. Clarifications concerning the procedure or interpretation of the instructions were provided when required, without directing or influencing the participants' responses. Upon retrieval, each completed questionnaire was examined for completeness and internal consistency. The responses were subsequently coded, systematically organized, and entered into an appropriate statistical database for analysis. Precautionary measures were adopted during data processing to minimize transcription and coding errors and to safeguard the confidentiality of participant information.

Statistical analysis was performed in accordance with the objectives, characteristics, and measurement levels of the study variables. Descriptive statistical procedures, including frequency, percentage, arithmetic mean, and standard deviation, were employed to summarize the demographic characteristics of the participants and to describe the distribution of parental awareness and parental-factor

scores. Inferential statistical procedures were subsequently applied to determine whether statistically significant associations existed between selected demographic characteristics and the principal study variables. The specific inferential procedures were selected according to the nature and measurement characteristics of the variables under examination. Statistical significance was established at a probability value of less than 0.05. The methodological framework thus facilitated a systematic quantification of parental awareness concerning smartphone-associated risks and safety practices, together with an assessment of parental factors potentially influencing smartphone utilization among school-age children within the selected community.

Results

The study comprised 150 parents who satisfied the predetermined eligibility criteria and participated in the investigation. Analysis of their sociodemographic characteristics revealed that mothers constituted the predominant proportion of respondents (77.3%). Regarding parental age, 66.0% belonged to the 31–40-year age group. In terms of educational attainment, 57.3% of the participants had no formal education, while 55.3% were homemakers. With respect to family structure, the majority (74.7%) belonged to nuclear families. Furthermore, 56.7% of the respondents reported a monthly family income ranging from ₹5,000 to ₹25,000. Overall, the sociodemographic profile indicated that the study population predominantly comprised mothers aged 31–40 years, with limited formal educational attainment, homemaker status, nuclear family backgrounds, and relatively low monthly household income.

Assessment of parental awareness regarding children's smartphone use revealed that the prevailing level of awareness was moderate. Among the 150 respondents, 143 parents, representing 95.3% of the sample, obtained awareness scores within the range of 6–10 and were consequently categorized as having a moderate level of awareness. Six participants (4.0%) obtained scores ranging from 0–5, indicating a poor level of awareness. In contrast, only one participant (0.7%) achieved a score within the 11–15 range, corresponding to a good level of awareness. Thus, the distribution was markedly concentrated within the moderate category, with only a small proportion of parents demonstrating either inadequate or high awareness. These findings indicate that although the majority of parents possessed a basic or intermediate understanding of issues associated with children's smartphone use, comprehensive awareness of potential risks, protective practices, and recommended guidelines was evident in only a very limited proportion of the respondents.

The assessment of parental factors associated with children's smartphone utilization demonstrated a similar predominance of the moderate category. A total of 122 parents (81.3%) were classified as having a moderate level of parental factors, whereas 26 participants (17.3%) demonstrated a low level. Only two parents (1.3%) were categorized within the high-level group. The findings indicate that practices such as parental monitoring, direct supervision, regulation of smartphone access, establishment of usage boundaries, and enforcement of household rules were generally present at an intermediate level. The relatively small proportion of participants in the high category suggests that consistent and comprehensive parental regulation of children's smartphone use was not prevalent among the study population.

The association between parental awareness and selected demographic characteristics was examined using the Chi-

square test. The analysis did not demonstrate any statistically significant association between the level of parental awareness and the demographic variables included in the investigation. Specifically, child's age was not significantly associated with parental awareness ($\chi^2 = 5.25$, $p = .262$). Similarly, no significant association was identified between parental age and awareness ($\chi^2 = 0.77$, $p = .993$). The source of information or informer also failed to demonstrate a statistically significant association with parental awareness ($\chi^2 = 3.88$, $p = .144$). Educational status showed no significant relationship with awareness ($\chi^2 = 5.49$, $p = .483$), and the same pattern was observed for parental occupation ($\chi^2 = 7.03$, $p = .318$). Although the type of family demonstrated a comparatively lower p-value, the observed association remained statistically non-significant ($\chi^2 = 5.06$, $p = .080$). Monthly family income likewise showed no statistically significant association with parental awareness ($\chi^2 = 1.52$, $p = .958$). Since each of the obtained p-values exceeded the predetermined significance level of 0.05, the null hypothesis of no statistically significant association was retained for all demographic characteristics examined. Accordingly, within this study population, variations in parental awareness could not be attributed to differences in child's age, parental age, source of information, educational status, occupation, family structure, or monthly household income.

The interrelationship between parental factors and parental awareness was additionally evaluated using Pearson's product-moment correlation coefficient. The mean score obtained for parental factors was 7.33, with a standard deviation of 1.82, whereas the corresponding mean awareness score was 7.99, with a standard deviation of 1.28. The correlation analysis yielded a correlation coefficient of $r = 0.053$, demonstrating a very weak positive association between the two variables. Although the direction of the correlation was positive, the magnitude of the coefficient was minimal, indicating that an increase in parental practices related to monitoring, supervision, regulation, and rule-setting was not accompanied by a meaningful corresponding increase in parental awareness. The finding therefore does not support the presence of a substantial linear relationship between parental awareness and the identified parental factors within the study population. In practical terms, parents who demonstrated relatively greater involvement in regulating their children's smartphone use did not necessarily possess a correspondingly higher level of awareness regarding smartphone-related risks and recommended safety guidelines.

Taken collectively, the findings demonstrate that parental awareness and parental practices concerning children's smartphone use were predominantly situated at a moderate level. The concentration of participants within the moderate categories, together with the very limited representation in the high-awareness and high-parental-factor groups, indicates the need for strengthening parental knowledge and regulatory practices. Furthermore, the absence of statistically significant associations between awareness and the selected demographic characteristics suggests that educational interventions should not be restricted to particular sociodemographic groups. Instead, community-oriented educational strategies may be beneficial across the wider parent population. The very weak correlation between awareness and parental factors further indicates that possessing awareness alone may not necessarily translate into consistent monitoring, supervision, or enforcement of smartphone-related household rules. Interventions may therefore need to address both parental knowledge and

the practical application of appropriate digital parenting strategies.

Discussion

The present investigation demonstrated a pronounced predominance of moderate parental awareness regarding children's smartphone use, with 95.3% of the respondents falling within the moderate-awareness category and only 0.7% attaining a good level of awareness. This distribution indicates that although most parents possessed a fundamental recognition of the potential concerns associated with children's smartphone exposure, their knowledge may not have extended to the more specific dimensions of digital safety and healthy technology-use practices. Parents may therefore be familiar with general concerns such as excessive screen exposure, reduced physical activity, or inappropriate content, while having comparatively limited familiarity with specific recommendations concerning age-appropriate screen-time regulation, parental digital engagement, phubbing, and strategies such as digital detoxification. The marked concentration of respondents within the moderate category may consequently be interpreted as an indication of generalized rather than comprehensive digital-health literacy. In the context of the present sample, this finding may also be considered alongside the relatively low educational attainment of the participants, as 57.3% reported having no formal education. Nevertheless, the absence of a statistically significant association between educational status and awareness indicates that educational attainment alone cannot be presumed to account for the observed awareness pattern.

The findings concerning parental factors influencing children's smartphone utilization revealed a comparable concentration within the moderate category, with 81.3% of parents demonstrating a moderate level of such factors. The identified parental practices included checking or handling smartphones while spending time with the child, interrupting parent–child interaction to attend to notifications, and engaging in work-related smartphone activities in the child's presence. These behaviours are particularly relevant because parental smartphone use constitutes an important component of the child's immediate digital environment. Even when parents possess an understanding of the potential adverse consequences of excessive smartphone exposure, habitual device engagement may interfere with sustained interpersonal communication, responsiveness, and quality family interaction. Such behaviour can be conceptualized within the broader phenomenon of technology-related parental interference, in which digital-device engagement competes with or disrupts parent–child interaction. The finding therefore suggests that parental awareness and actual behavioral practice may represent distinct dimensions that do not necessarily develop concurrently.

The absence of statistically significant associations between parental awareness and the demographic characteristics examined including child's age, parental age, source of information, educational status, occupation, family structure, and monthly family income constitutes another important finding of the investigation. This observation indicates that the level of awareness was relatively consistent across the demographic subgroups represented in the sample. The result contrasts with findings from certain previous community-based investigations in which educational attainment, socioeconomic status, or other sociodemographic characteristics have been identified as

determinants of digital-health knowledge and awareness. The discrepancy may be attributable, at least in part, to the characteristics of the present study population. The selected community demonstrated relatively limited heterogeneity with respect to certain sociodemographic characteristics, particularly educational and economic circumstances. When participants possess relatively similar demographic profiles, the degree of variability available for statistical differentiation becomes restricted. Consequently, a genuine contextual influence may not necessarily manifest as a statistically significant association within a comparatively homogeneous sample. The finding also emphasizes that parental digital awareness may be influenced by factors beyond conventional demographic characteristics, including exposure to health education, access to reliable digital information, personal technology-use patterns, parental beliefs, digital literacy, and previous experience with children's smartphone-related behaviours.

Pearson's correlation analysis demonstrated a very weak positive relationship between parental factors and awareness, with a correlation coefficient of r = 0.053. The magnitude of this coefficient indicates that the two variables exhibited minimal linear correspondence within the study population. In practical terms, parents with comparatively greater awareness of smartphone-related risks did not necessarily demonstrate substantially more protective or regulatory behaviour in relation to their own smartphone use and their children's device exposure. The finding is consistent with the broader behavioral-health concept of an intention–behaviour discrepancy, whereby knowledge or recognition of a health-related risk does not invariably culminate in corresponding behavioral modification. Parents may understand that frequent device checking can disrupt family interaction, yet continue to respond habitually to notifications, examine their phones during conversations, or use smartphones for occupational responsibilities in the presence of their children. Such behaviours may be reinforced by routine, occupational demands, social expectations, notification-driven attention, and the habitual nature of smartphone engagement.

The very weak correlation consequently suggests that increasing awareness alone may be insufficient to produce sustained modification of parental smartphone-related behaviour. A more comprehensive intervention framework may be required to translate cognitive awareness into consistent behavioral practice. Parent-focused Programmes could therefore incorporate practical skill development, behavioral rehearsal, self-monitoring, establishment of technology-free family periods, notification management, structured household rules, and strategies for reducing habitual device checking. Such approaches would extend beyond the simple dissemination of information and emphasize the practical application of digital-parenting competencies within everyday family contexts. Behavioral interventions may be particularly relevant because smartphone engagement is frequently embedded within established routines and may occur automatically rather than as a consciously considered decision.

Taken together, the findings indicate that parental awareness and parental factors associated with children's smartphone use were predominantly situated at a moderate level, while the proportion of parents demonstrating a high level in either domain was notably small. The lack of significant demographic associations further suggests that interventions should not be narrowly targeted according to age, education,

occupation, family structure, or income alone. Instead, community-based strategies may be designed to reach parents across diverse demographic groups while addressing the specific knowledge and behavioral dimensions of digital parenting. Educational initiatives delivered through community health services, schools, parent meetings, home-based health education, and other accessible platforms could provide parents with practical guidance regarding appropriate smartphone use, supervision, parental modelling, and strategies for maintaining meaningful family interaction. The findings ultimately suggest that effective digital-parenting interventions should integrate knowledge enhancement with behavioral skill acquisition so that awareness can be translated into sustainable protective practices within the family environment.

Conclusion & Recommendation

The findings of the present investigation emphasize the necessity of instituting community-oriented digital literacy Programmes to enhance parental awareness and promote responsible smartphone-use practices among school-age children. These initiatives should be implemented through domiciliary health visits, school health education activities, community health centers, and structured parent-awareness sessions. Educational interventions should address smartphone-associated risks, age-appropriate screen-time regulation, digital safety measures, parental supervision, and the establishment of consistent household rules. Particular emphasis should be placed on translating theoretical knowledge into sustainable behavioral modifications, including minimizing smartphone engagement during parent-child interactions, regulating notification-related interruptions, and establishing technology-free family periods. Community health nurses can facilitate these initiatives by assessing parental digital habits, providing individualized counselling, demonstrating appropriate digital behaviours, and reinforcing recommended practices during routine family contacts. Educational resources should be linguistically comprehensible, culturally appropriate, and accessible to parents with diverse educational backgrounds.

Future investigations should employ longitudinal research designs to examine temporal changes in parental awareness and smartphone-related practices and to elucidate the factors contributing to sustained behavioral modification. Interventional studies could evaluate the effectiveness of structured digital-parenting education, behavioral counselling, and nurse-led community Programmes in improving parental awareness, supervision, and regulatory practices. Research involving larger sample populations and multiple communities across Tamil Nadu would enhance the representativeness of findings and facilitate comparisons across diverse sociodemographic settings. Further investigations should also incorporate additional determinants, including parental digital literacy, smartphone dependency, perceived risks, occupational demands, technology-related interruptions in family interactions, and household screen-time practices. Mixed-methods approaches may provide deeper insights into the contextual and behavioral barriers that prevent parents from translating awareness into protective action. Such evidence would contribute to the development of empirically informed, contextually appropriate interventions for promoting responsible smartphone use and strengthening digital-parenting competencies.

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