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A Study to Assess the Knowledge and Practice Regarding Healthy Digital Habits Among School-Going Children at Indore, Madhya Pradesh.

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Abstract

Background

The increasing use of smartphones, tablets, and other digital devices has significantly influenced the lifestyle of school-going children. While digital technology supports learning and communication, excessive and inappropriate use may adversely affect physical health, mental well-being, academic performance, and social interactions. Promoting healthy digital habits is essential for ensuring balanced and responsible use of digital devices among children.

Objectives

To assess the knowledge and practice regarding healthy digital habits among school-going children and to determine the association of knowledge and practice with selected demographic variables.

Materials and Methods

A quantitative descriptive cross-sectional study was conducted among **100 school-going children** in selected schools of Indore, Madhya Pradesh. Participants were selected using a non-probability convenience sampling technique. Data were collected using a structured demographic questionnaire, a 30-item knowledge questionnaire, and a 20-item practice checklist regarding healthy digital habits. Descriptive statistics, Chi-square test, and Pearson's correlation coefficient were used for data analysis.

Results

The majority of participants had **average knowledge (56%)** and **moderate practice (59%)** regarding healthy digital habits. The mean knowledge score was **18.64 ± 4.28**, while the mean practice score was **12.82 ± 3.16**. A statistically significant positive correlation was observed between knowledge and practice (**r**

= 0.58, p < 0.001). Significant associations were found between knowledge and practice scores and selected demographic variables, including age, class of study, parents' educational status, daily screen time, and previous exposure to information ($p < 0.05$).

Conclusion

The study concluded that school-going children possessed average knowledge and moderate practice regarding healthy digital habits. Strengthening school-based digital health education and involving parents and teachers may improve responsible technology use, promote digital well-being, and reduce the harmful effects of excessive screen time among children.

Keywords: Healthy digital habits, knowledge, practice, school-going children, digital well-being, screen time, adolescents, school health.

Introduction

Digital technology has become an integral part of modern life, transforming the way children learn, communicate, and interact with the world. Smartphones, tablets, computers, and the internet provide school-going children with easy access to educational resources, online learning platforms, entertainment, and social networking opportunities. The increased availability of affordable digital devices and internet connectivity has accelerated technology use among children and adolescents, particularly following the widespread adoption of online education. While digital technology offers numerous educational and social benefits, its excessive and inappropriate use has emerged as a major public health concern.

Healthy digital habits refer to the responsible, balanced, and safe use of digital devices to promote physical, psychological, and social well-being. These habits include maintaining appropriate screen time, taking regular breaks during device use, ensuring adequate sleep, practicing good posture, protecting eye health, engaging in regular physical activity, using the internet safely, and balancing online activities with face-to-face interactions. Developing healthy digital habits during childhood is essential for preventing technology-related health problems and fostering lifelong responsible digital behavior.

Excessive screen time has been associated with a wide range of adverse health outcomes among school-going children. Prolonged use of smartphones and other digital devices may lead to digital eye strain, headaches, neck and back pain, poor posture, sleep disturbances, obesity, and reduced physical activity. Furthermore, excessive use of social media, online gaming, and digital entertainment has been linked to anxiety, depression, stress, reduced attention span, poor academic performance, smartphone addiction, and impaired social relationships. Children may also be exposed to cyberbullying, inappropriate online content, privacy risks, and internet-related safety issues, highlighting the importance of digital literacy and responsible online behavior.

Schools play a vital role in promoting healthy lifestyles and developing positive health behaviors among children. School health programmes provide an excellent opportunity to educate students about healthy digital habits and encourage responsible technology use. Teachers, parents, and healthcare professionals can work collaboratively to help children understand the benefits and risks associated with digital technology while promoting balanced screen use and healthy daily routines. Improving children's knowledge is an important step toward encouraging healthy practices that support their physical, mental, and academic well-being.

Nurses, particularly school health and community health nurses, have a significant role in promoting digital wellness through health education, counseling, and preventive interventions. They can organize awareness programmes, educate students and parents about healthy screen time, cyber safety, sleep hygiene, and digital addiction prevention, and encourage healthy lifestyle practices. Regular assessment of children's knowledge and practices regarding digital habits enables healthcare professionals to identify educational gaps and develop targeted interventions.

Considering the increasing dependence on digital devices among children and the growing concerns regarding technology-related health problems, it is important to evaluate their knowledge and everyday practices related to healthy digital habits. Such information can support the planning of effective school health programmes and evidence-based educational strategies. Therefore, the present study was undertaken to assess the knowledge and practice regarding healthy digital habits among school-going children in selected schools of Indore, Madhya Pradesh.

Need for the Study

The increasing use of smartphones, tablets, computers, and the internet has significantly changed the lifestyle of school-going children. Digital technology has become an essential part of education, communication, entertainment, and social interaction. Although these technologies provide several educational and developmental benefits, excessive and inappropriate use has raised serious concerns regarding children's physical, psychological, social, and academic well-being.

Many school-going children spend prolonged hours on digital devices for online gaming, social media, video streaming, and internet browsing. Excessive screen time has been associated with digital eye strain, headaches, sleep disturbances, poor posture, obesity, reduced physical activity, anxiety, depression, poor concentration, smartphone addiction, and declining academic performance. In addition, children may be exposed to cyberbullying, online privacy threats, and inappropriate internet content due to inadequate awareness of safe digital practices.

Healthy digital habits, such as maintaining appropriate screen time, practicing good posture, taking regular screen breaks, ensuring adequate sleep, engaging in physical activity, and following cyber safety measures, are essential for minimizing these risks. However, many children lack adequate knowledge regarding

healthy digital behavior, and unhealthy technology use has become increasingly common. Early identification of knowledge gaps and existing practices is therefore necessary to develop effective educational interventions and promote responsible use of digital devices.

Schools provide an ideal environment for promoting digital wellness because children spend a significant portion of their time in educational settings. Teachers, parents, and healthcare professionals, particularly school health nurses, play an important role in guiding children toward healthy digital habits through health education and counseling. Assessing students' knowledge and practices can help identify areas requiring improvement and support the planning of school-based health promotion programmes.

Despite the growing concern regarding excessive digital device use, limited studies have explored both the knowledge and practice of healthy digital habits among school-going children in the Indian context, particularly in Madhya Pradesh. Therefore, the present study was undertaken to assess the knowledge and practice regarding healthy digital habits among school-going children in selected schools of Indore, Madhya Pradesh. The findings are expected to provide valuable evidence for developing effective school health education programmes aimed at promoting digital well-being and preventing technology-related health problems among children.

Objectives

1. To assess the level of knowledge regarding healthy digital habits among school-going children.
2. To assess the level of practice regarding healthy digital habits among school-going children.
3. To determine the association between knowledge regarding healthy digital habits and selected demographic variables.
4. To determine the association between practice regarding healthy digital habits and selected demographic variables.
5. To determine the correlation between knowledge and practice regarding healthy digital habits among school-going children.

Research Hypotheses

H_1: There is a statistically significant association between the knowledge regarding healthy digital habits and selected demographic variables among school-going children.

H_2: There is a statistically significant association between the practice regarding healthy digital habits and selected demographic variables among school-going children.

H_3: There is a statistically significant positive correlation between knowledge and practice regarding healthy digital habits among school-going children.

Here is a **publication-ready Materials and Methods** section suitable for your descriptive cross-sectional study.

Materials and Methods

Research Design

The study employed a **descriptive cross-sectional research design** to assess the knowledge and practice regarding healthy digital habits among school-going children.

Research Approach

A **quantitative descriptive research approach** was adopted to objectively assess the level of knowledge and practice regarding healthy digital habits among school-going children.

Study Setting

The study was conducted in selected schools of **Indore, Madhya Pradesh**, after obtaining permission from the respective school authorities.

Study Population

The target population comprised **school-going children studying in classes VIII to X** in the selected schools.

Sample Size

A total of **100 school-going children** participated in the study.

Sampling Technique

Participants were selected using a **non-probability convenience sampling technique** based on the eligibility criteria and their willingness to participate.

Inclusion Criteria

Participants who fulfilled the following criteria were included in the study:

- School-going children studying in classes VIII to X.
- Aged between **13 and 16 years**.
- Using a smartphone or digital device for educational or personal purposes.
- Able to understand and communicate in Hindi or English.
- Willing to participate in the study with written parental/guardian consent and student assent.

Exclusion Criteria

Participants with the following conditions were excluded:

- Students absent during the data collection period.
- Students with cognitive or learning disabilities that could interfere with completing the questionnaire.
- Students who were unwilling to participate in the study.

Research Instruments

Section A: Demographic Profile

A structured questionnaire was used to collect demographic information, including age, gender, class of study, family type, parents' educational status, average daily screen time, ownership of a mobile phone, purpose of digital device use, and previous exposure to information regarding healthy digital habits.

Section B: Structured Knowledge Questionnaire

Knowledge regarding healthy digital habits was assessed using a **30-item structured multiple-choice questionnaire** covering:

- Healthy screen time recommendations
- Digital eye care
- Sleep hygiene
- Correct posture during device use
- Physical activity
- Cyber safety
- Online privacy
- Responsible social media use
- Prevention of smartphone addiction
- Digital well-being

Each correct response was awarded **one mark**, while incorrect responses received **zero marks**. The maximum attainable score was **30**.

Knowledge Score Interpretation

- **Poor Knowledge:** 0–10
- **Average Knowledge:** 11–20
- **Good Knowledge:** 21–30

Section C: Healthy Digital Habits Practice Checklist

Practice regarding healthy digital habits was assessed using a **20-item structured practice checklist** that evaluated participants' daily digital behaviors, including screen-time management, regular screen breaks, maintaining proper posture, limiting mobile phone use before bedtime, engaging in outdoor activities, safe internet practices, use of privacy settings, and balanced use of digital devices.

Each healthy practice was awarded **one mark**, giving a maximum possible score of **20**.

Practice Score Interpretation

- **Poor Practice:** 0–7
- **Moderate Practice:** 8–14
- **Good Practice:** 15–20

Validity and Reliability

The research instruments were reviewed by experts in **Community Health Nursing, Child Health Nursing, Mental Health Nursing, Nursing Education, Pediatrics, and Biostatistics** to establish content validity. Reliability of the knowledge questionnaire and practice checklist was assessed using **Cronbach's alpha**, yielding reliability coefficients of **0.87** and **0.85**, respectively, indicating good internal consistency.

Data Collection Procedure

Prior permission was obtained from the school authorities before commencing the study. Written informed consent was obtained from parents or guardians, and assent was obtained from the participating students. Participants were informed about the objectives and procedures of the study. Data were collected by administering the demographic questionnaire, structured knowledge questionnaire, and practice checklist in a classroom setting. Adequate time was provided for completing the questionnaires, and doubts were clarified whenever required.

Ethical Considerations

Ethical approval was obtained from the **Institutional Ethics Committee** before initiating the study. Permission was obtained from the principals of the selected schools. Written informed consent from parents or guardians and assent from students were obtained prior to participation. Confidentiality, anonymity, and voluntary participation were ensured throughout the study, and participants were informed of their right to withdraw at any stage without any academic consequences.

Statistical Analysis

The collected data were coded and analyzed using the **Statistical Package for the Social Sciences (SPSS) version 29.0**. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize demographic characteristics and the levels of knowledge and practice. The **Chi-square test** was used to determine the association between knowledge and practice scores with selected demographic variables. The **Pearson correlation coefficient** was applied to assess the relationship between knowledge and practice regarding healthy digital habits. A **p-value of less than 0.05** was considered statistically significant.

Results

Demographic Characteristics of the Participants

A total of **100 school-going children** participated in the study. Among them, **56%** were aged **13–14 years**, while **44%** were aged **15–16 years**. Male participants constituted **52%**, and females **48%**. Regarding class of study, **35%** were studying in Class VIII, **33%** in Class IX, and **32%** in Class X. The majority (**66%**) belonged to nuclear families, while **34%** belonged to joint families. Most participants (**47%**) reported using digital devices for **2–4 hours daily**, whereas **31%** used them for more than 4 hours each day. Only **38%** had previously received information regarding healthy digital habits.

Table 1. Distribution of Participants According to Knowledge Level (N = 100)

Knowledge Level	Score	n	%
Poor	0–10	18	18.0
Average	11–20	56	56.0
Good	21–30	26	26.0

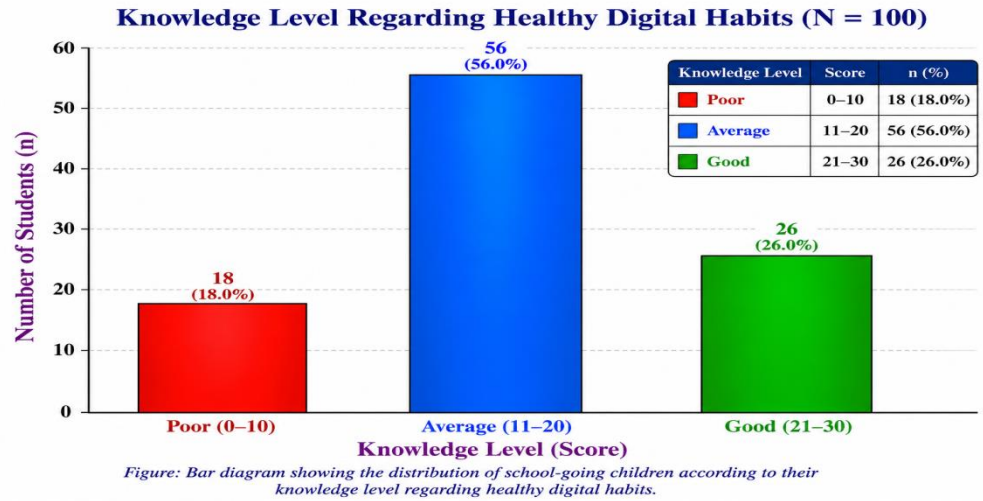


Figure: Bar diagram showing the distribution of school-going children according to their knowledge level regarding healthy digital habits.

The majority of participants (**56%**) had an **average level of knowledge**, followed by **26%** with good knowledge and **18%** with poor knowledge regarding healthy digital habits.

Table 2. Distribution of Participants According to Practice Level (N = 100)

Practice Level	Score	n	%
Poor	0–7	21	21.0
Moderate	8–14	59	59.0
Good	15–20	20	20.0

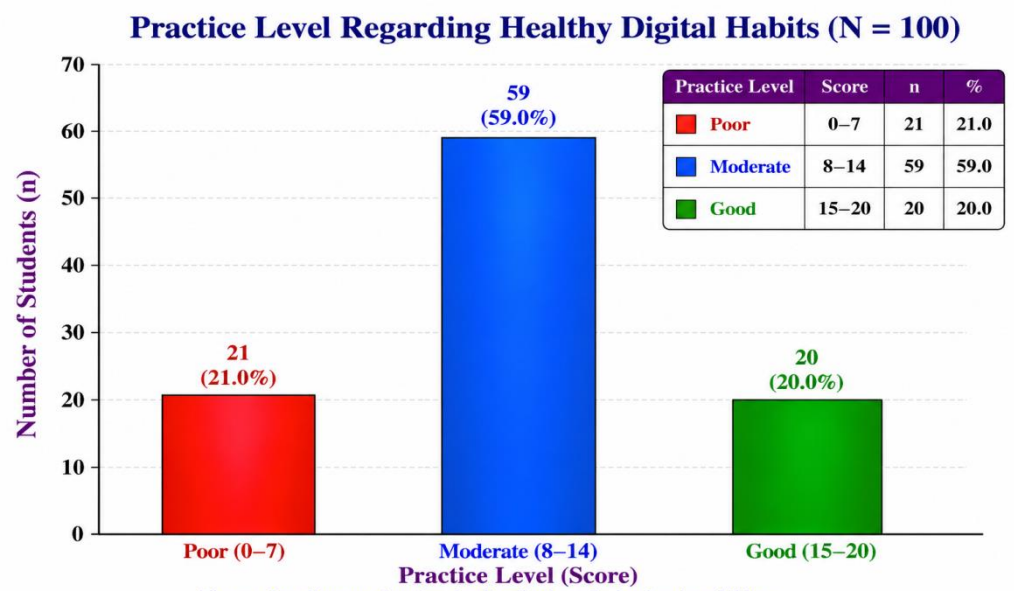
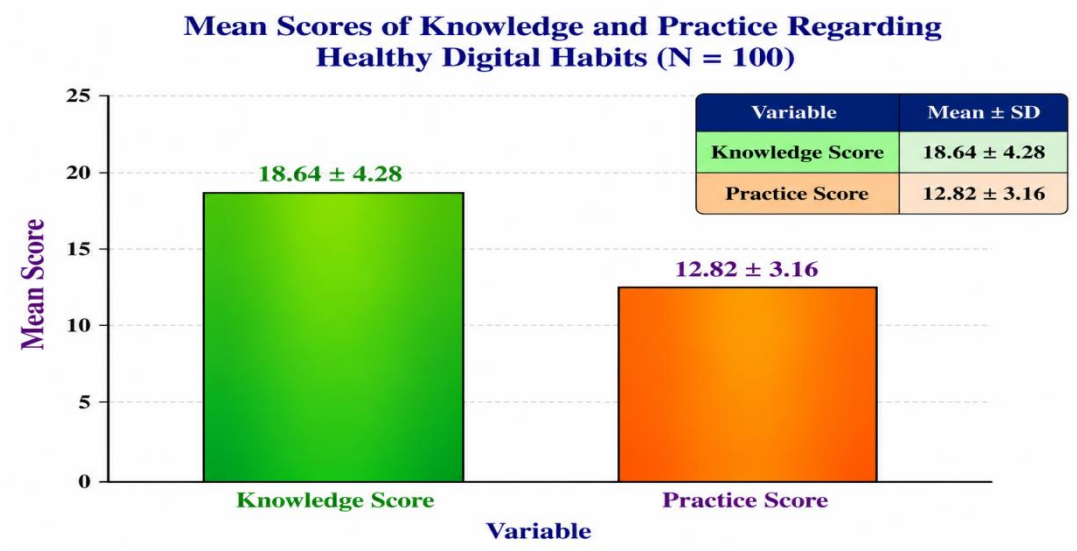


Figure: Bar diagram showing the distribution of school-going children according to their practice level regarding healthy digital habits.

Most participants (**59%**) demonstrated **moderate practice** regarding healthy digital habits, while **20%** had good practice and **21%** had poor practice.

Table 3. Mean Knowledge and Practice Scores (N = 100)

Variable	Mean ± SD
Knowledge Score	**18.64 ± 4.28**
Practice Score	**12.82 ± 3.16**



The mean knowledge score was **18.64 ± 4.28**, indicating an average level of knowledge, whereas the mean practice score was **12.82 ± 3.16**, indicating moderate healthy digital practices among the participants.

Table 4. Correlation Between Knowledge and Practice Scores (N = 100)

Variables	Correlation (r)	p-value
Knowledge and Practice	**0.58**	**<0.001***

*Significant at $p < 0.001$.

A **moderate positive correlation** (**r = 0.58**) was observed between knowledge and practice regarding healthy digital habits, indicating that students with higher knowledge scores tended to demonstrate better digital health practices.

Table 5. Association of Knowledge and Practice with Selected Demographic Variables (N = 100)

Variable	Knowledge (χ^2)	p-value	Practice (χ^2)	p-value
Age	6.42	0.040*	7.15	0.028*
Gender	1.28	0.258	1.54	0.214
Class of Study	8.16	0.017*	6.84	0.033*
Parents' Educational Status	9.48	0.009*	8.32	0.016*
Daily Screen Time	10.22	0.006*	11.08	0.004*
Previous Information	7.36	0.025*	6.95	0.031*

*Significant at $p < 0.05$.

Knowledge and practice regarding healthy digital habits were significantly associated with **age, class of study, parents' educational status, daily screen time, and previous exposure to information** ($p < 0.05$). No statistically significant association was observed with gender.

Summary of Findings

The findings revealed that most school-going children had **average knowledge (56%)** and **moderate practice (59%)** regarding healthy digital habits. A statistically significant positive correlation was found between knowledge and practice (**r = 0.58, p < 0.001**), indicating that better knowledge was associated with healthier digital practices. Significant associations were observed between knowledge and practice scores and selected demographic variables, including age, class of study, parents' educational status, daily screen time, and previous exposure to information.

Discussion

The present study found that most school-going children had **average knowledge** and **moderate practice** regarding healthy digital habits. A significant positive correlation (**r = 0.58, p < 0.001**) was observed between knowledge and practice, indicating that better knowledge was associated with healthier digital behaviors. Significant associations were found with age, class of study, parents' educational status, daily screen time, and previous exposure to information, whereas gender showed no significant association. These findings highlight the need for school-based digital health education programmes to promote responsible technology use and healthy digital habits among children.

Conclusion

The study concluded that school-going children had average knowledge and moderate practice regarding healthy digital habits. A significant positive correlation between knowledge and practice indicated that improving awareness may encourage healthier digital behaviors. The findings emphasize the importance of implementing regular school-based digital health education programmes to promote responsible technology use, improve digital well-being, and prevent the adverse effects of excessive screen time among children.

Recommendations

- Similar studies may be conducted with a larger sample size to improve the generalizability of the findings.
- School-based digital health education programmes should be organized regularly to promote healthy digital habits among students.
- Parents and teachers should be actively involved in encouraging responsible screen-time practices and digital safety.
- Longitudinal studies are recommended to assess changes in digital habits over time.
- Further research may evaluate the effectiveness of educational interventions in improving healthy digital habits and reducing excessive screen time among school-going children.

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