P-ISSN: 2617-9806
E-ISSN: 2617-9814

Impact Factor: RJIF 5.89
www.nursingjournal.net

International Journal of Advance Research in Nursing

Volume 8; Issue 2; Jul-Dec 2025; Page No. 1058-1064

Received: 15-09-2025
Accepted: 17-10-2025

Indexed Journal
Peer Reviewed Journal

A study to assess the effectiveness of structure teaching programme on knowledge regarding hazardous effect of smart phone addiction in children among the mothers of under-five in community of Basnoor Himachal Pradesh

[1]Konika Choudhary, Seema Devi, Shalu Rana, Shivali, Shivani, Shree, Shruti Rana Sharma and [2]Sugain Kapoor

[1] Assistant Professor, Department of Child Health Nursing, Satyam College of Nursing, Kangra, Himachal Pradesh, India
[2] B.Sc. Nursing Students, Satyam College of Nursing, Kangra, Himachal Pradesh, India

Corresponding Author: Konika Choudhary

DOI: https://www.doi.org/10.33545/nursing.2025.v8.i2.J.612

Abstract
The study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding hazardous effect of smartphone addiction in children among the mothers of under-five. The literature indicates that structured teaching programs are a highly effective intervention for preventing the hazardous effects of smartphone addiction in children under five. Studies consistently show that these programs lead to significant improvements in mothers' knowledge (ranging from 60% to 80%) and behavior, with 60-75% of mothers reporting that they implemented new strategies to limit their children's screen time and obtained 't' value has been found statistically highly significant (21.205) at $p<0.001$ level of significance which shows the significant difference between pre-test and post-test knowledge score on knowledge regarding hazardous effect of smartphone addiction in children among the mothers of under-five. Hence, the research hypothesis H_1 was accepted and null hypothesis H_0 was rejected.
Conclusion: The evidence suggests that structured teaching programs are a crucial tool in promoting healthier digital habits and mitigating the risks associated with smartphone addiction in young children.

Keywords: Smartphone addiction, hazardous, addiction, structured teaching programme

1. Introduction

Smart phone is a mobile phone that can do more than other phones, they can work as a computer but are more mobile devices small enough to fit in a user's hand. In last 20 years, worldwide mobile phone subscriptions have grown 12.4 million to over 5.6 billion, penetrating about 70% of the global population. Its usage has also become an important public health hazard. The World Health Organization confirmed that cell phone use indeed represents a health menace, and classified mobile phone radiation as a cardiogenic hazard, possibly carcinogenic to humans. In spite of some knowledge on unfavourable health effects, the usage of mobile phones has increased dramatically especially since the time they have become more affordable and available all over the world. In India, we note that almost 90% of people from both rural and urban areas, educated and illiterate, and belonging to almost all ages; now dependent on cellular phone.

In India, technology adoption is advancing rapidly, with overall smartphone penetration exceeding 50 % by 2021, reaching higher in urban areas. Simultaneously, studies indicate that smartphone addiction among children is emerging even in preschool-aged populations. For example, research in South Kerala (2021) demonstrated that around 42 % of children aged 5-12 exhibited mobile phone addiction, with consequences including sleep troubles, headaches, and diminished attention.

Smartphones have become an integral part of daily life, extending their influence even to the youngest members of society. While these devices offer convenience and connectivity, their excessive or inappropriate use has raised growing concerns, especially when it comes to children under the age of five. These early years are a critical period for brain development, emotional growth, and social interaction, making it essential to ensure a safe and healthy environment for children. Unfortunately, the increasing trend of smartphone usage among infants and toddlers is emerging as a potential threat to their overall well-being.

Smartphone addiction in early childhood is often facilitated inadvertently by parents or caregivers who use mobile devices as a tool to pacify, distract, or entertain children. Prolonged screen exposure in young children has been linked to a range of developmental issues including speech delays, attention deficits, sleep disturbances, reduced parent-child interaction, and impaired cognitive growth.

The World Health Organization and the American Academy of Pediatrics have both issued guidelines recommending

limited and no screen time for children under the age of two, emphasizing the need for age-appropriate use of digital media.

The American academy of pediatrics (AAP) recommends limiting screen time for children under age of two and advices no more than one hour to five. However, in many households, these guidelines are often overlooked and children are exposed to smartphones for extended periods, contributing concerns about time their long time impact.

However, many are unaware of the potential long-term effects of excessive smart phone usage. A survey conducted in Tamil Nadu (2021) found that only 32% of mothers of under-five children were aware of the psychological risks associated with smart phone addiction (Ravi & Selvi, 2021). This highlights a critical need for structured educational interventions aimed at increasing awareness among mothers in community settings.

2. Materials and methods

- **Research Approach:** A quantitative research approach
- **Research Design:** A pre-experimental one group pre and post- test design was used to accomplish the objectives of the study.
- **Research Settings:** A study was conducted at the selected community of Basnoor.
- **Population:** The population of present study was all mothers of infant and pre-schooler from selected community of Basnoor.
- **Target Population:** The target population was mother under five children.
- **Accessible Population:** In this study accessible population was mothers of under-five children of selected community of Basnoor.

Sample and Sampling Technique

- **Sample:** In present study the sample was mothers of under-five children in selected community of Basnoor.
- **Sampling technique:** In present study sample was selected by non-probability convenient sampling technique

Criteria for Sample Collection

A. Inclusion Criteria: This study includes mothers of under-five children who will be

- Mothers of under-five in selected community of Basnoor.
- Basnoor Mothers who are willing to participate in the research study in the selected community of.
- Mothers of under-five, who are available on the time of data collection in selected community of Basnoor.

B. Exclusion Criteria: This study excludes mothers of under-five children who will be

- Mothers who have been sick at the time of data collection.
- Mothers of under-five who are not willing to participate in the study in selected community of Basnoor.
- Mothers of under-five who are not present during the time of data collection in selected community of Basnoor.

Research Variables

- **Independent variable:** In present study independent variable was structured teaching programme.
- **Dependent variable:** In present study dependent variable is knowledge of mothers under five children.
- **Demographic variables:** The demographic variables are: Age of mother, age of child, gender of child, family income, type of family, qualification of mother, occupation of mother, number of siblings, area of residence.

Selection and Devlopment of the Tool

Description of Tool: The tool consists of two parts.

- **Section-A: (Socio-demographic variables)**
  This section consists of the Demographic variables. This part consists of Nine items obtaining personal information about subject regarding age of mother (in years), age of child (in years), gender of child, type of family, family income, qualification of mother, occupation of mother, number of siblings, area of residence.
- **Section-B: (Self-structured questionnaires)**
  This section consists of self-structured questionnaire which consists of 30 (thirty) multiple choice questions. Each question consists of four options, score one is allotted for each correct response and Zero for unattempt or incorrect response.

Scoring Pattern: A self-structured knowledge questionnaire consisted of 30 multiple choice questions. In which right answer was documented as correct one mark and wrong were documented zero mark. The complete range was 0-30.

Knowledge score	Range	Percentage
Inadequate Knowledge	0-10	$\leq$ 33
Moderate Knowledge	11-20	34-66
Adequate Knowledge	21-30	$\geq$ 70

Testing of the Tool Content Validity

The tool was submitted to 5 experts of different field of nursing. Expert are requested to judge some item of tool for clarity, relevance, appropriateness, relatedness, and meaningfulness for the purpose of study and give their opinion and suggestion on the content, it's coverage, organization. There was almost 100% agreement of items in the questionnaire; however, there were few suggestions to modify some of the socio-demographic variables and self-structured questionnaire and they were incorporated in the final draft.

Language Validity: The developed tool was given to an English and Hindi language expert for the correction in the language of tool. As per the suggestions, the modification was implemented.

- **Pilot Study:** Findings of pilot study revealed that it was feasible to conduct the main study and criteria measures were found to be reliable. The plan of data collection remained same for the final study because the investigator did not face any major problem in conducting the pilot study.
- **Reliability of the Tool:** Reliability of tool was computed by applying *split half method* with *Karl Pearson's correlation coefficient formula*. The reliability of self-structured knowledge questionnaire was 0.76. So the tool was reliable.
- **Data Collection:** Data collection was done after taking permission from the Panchayat Ghar of Basnoor; final study was conducted in a month of June. The aim of study was to evaluate the effectiveness of structured teaching programme of the knowledge regarding hazardous effect of smart phone addiction in the children among the mothers of under-five in selected community of Basnoor. After obtaining permission from the concerned authorities, the investigators develop rapport and take consent from the mothers of under-five children. Total 60 samples were selected by the Non-probability convenient sampling technique
- **Duration of data collection:** The duration of data collection was 1 month.

Data Analysis

Descriptive statistics: The statistical analysis includes frequency, percentage mean, median and standard deviation.

Inferential statistics

- Paired t-test will be used to find out the significant difference between pre-test and post-test.
- Chi-square test will be used to find out the association of post-test knowledge score of mothers of under-five children with their selected demographic variables.

Probability p-value of less than 0.05 was considered as statistical significant.

SPSS (Statistical package of social system) version-18 software was used to analysis of data.

Ethical Considerations: A written permission was obtained from Principal, Satyam college of Nursing, Lanjot.

- Ethical clearance was taken from ethical clearance committee of Satyam college of Nursing.
- A written permission was obtained from the Panchayat Ghar of Basnoor.
- The whole information regarding the study was given to the subject before participation and a written consent was taken from the subjects. The respondents were assured that their responses would be kept confidential and used for research purpose only.

Analysis and Interpretation of Data

Data was entered in master sheet, for tabulation and statistical processing in order to analyse and interpret using descriptive and inferential statistics methods. The analysed data was organized according to the objectives and presented under the following sections:

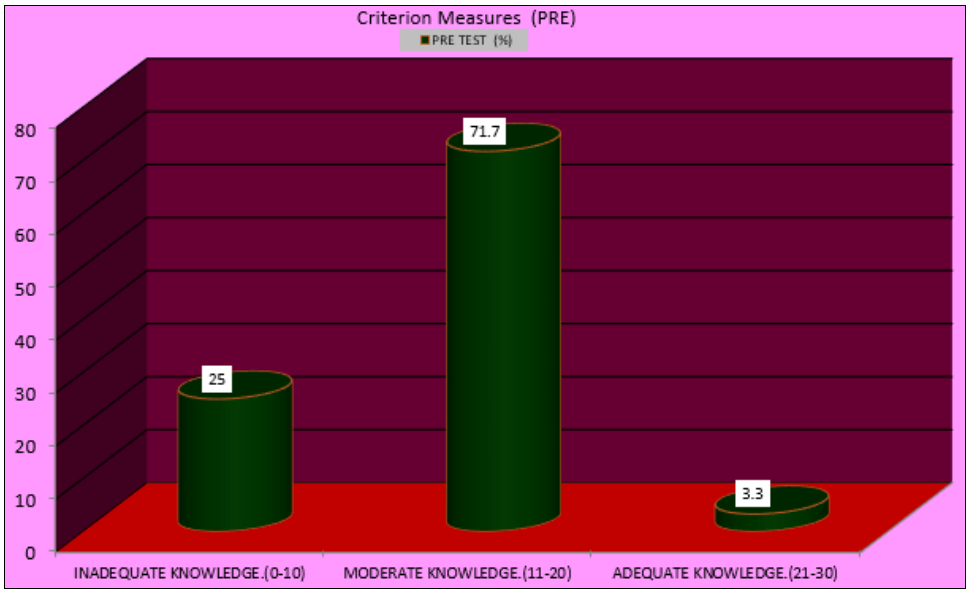
- **Section-I:** Distribution of socio demographic variables of study participants.
- **Section-II:** Assess the pre-test knowledge score regarding hazardous effect of smart phone addiction in children among the mothers of under-five.
- **Section-III:** Assess the post-test knowledge scores after intervention regarding hazardous effect of smart phone addiction in children among the mothers of under-five.
- **Section-IV:** Comparison between pre-test and post-test knowledge scores regarding hazardous effect of smart phone addiction in children among the mothers of under-five.
- **Section-V:** Association of post-test knowledge regarding hazardous effect of smart phone addiction in children among the mothers of under-five.

Major Findings

Section I: Finding related to selected socio -demographic variables: The majority of mothers were in the age group of 26-30 years (45.0%, n=27), followed by those aged 20-25 years (31.7%, n=19). A smaller proportion were between 31-35 years (21.7%, n=13), and only one mother (1.7%) was aged 36-40 years. More than half of the children were aged 2-3 years (53.3%, n=32). The next common groups were 3-4 years (21.7%, n=13) and 1-2 years (20.0%, n=12), while a few were aged 4-5 years (5.0%, n=3). The distribution of gender was fairly balanced, with a slight majority of females (53.3%, n=32) compared to males (46.7%, n=28). Most children belonged to nuclear families (61.7%, n=37), whereas 38.3% (n=23) were from joint families. More than half of the families reported a monthly income of Rs. 30,000 (53.3%, n=32). Other income groups included Rs. 40,000 and above (23.3%, n=14), Rs. 10,000 (13.3%, n=8), and Rs. 20,000 (10.0%, n=6). The largest proportion of mothers were 12th pass (45.0%, n=27), followed by 10th pass (25.0%, n=15). A smaller group were graduates or postgraduates (20.0%, n=12), and 8th pass (10.0%, n=6). A majority of the mothers were housewives (71.7%, n=43), while others worked as teachers (6.7%, n=4) or were engaged in other occupations (21.7%, n=13). More than half of the children had one sibling (53.3%, n=32). Others had two siblings (16.7%, n=10), three siblings (6.7%, n=4), or four and more (23.3%, n=14). All participants (100%, n=60) were from rural areas, with no representation from urban regions.

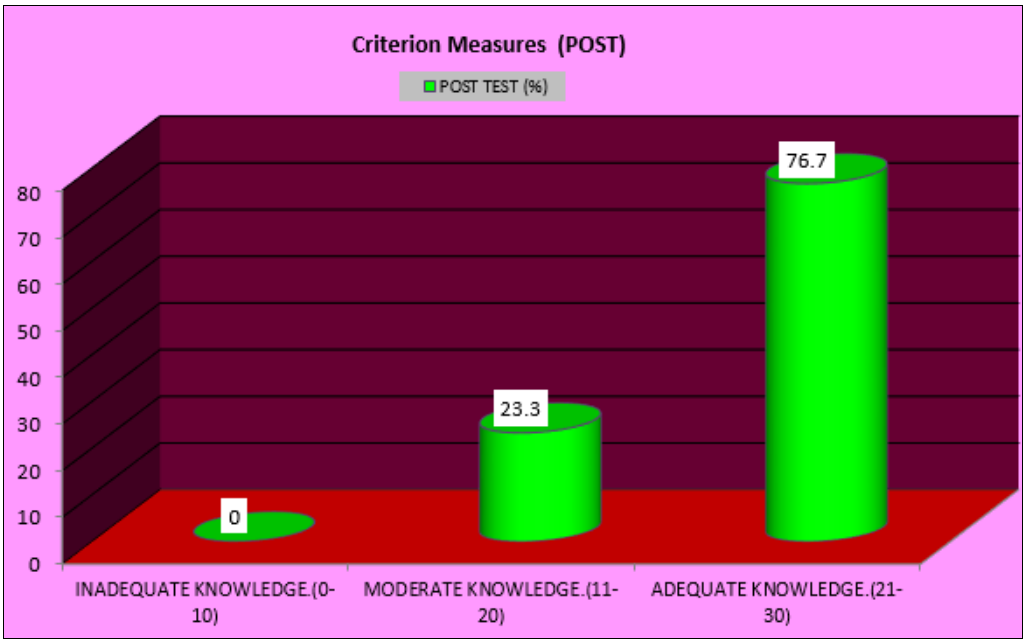
Variables	Opts	Percentage	Frequency
Age of Mother	20 -25 Years	31.7%	19
	26 -30 Years	45.0%	27
	31 -35 Years	21.7%	13
	36 -40 Years	1.7%	1
Age of Child	1-2 Years	20.0%	12
	2-3 Years	53.3%	32
	3-4 Years	21.7%	13
	4-5 Years	5.0%	3
Gender of Child	Male	46.7%	28
	Female	53.3%	32
Type of Family	Nuclear family	61.7%	37
	Joint family	38.3%	23
Family Income	Rs. 10,000	13.3%	8
	Rs. 20000	10.0%	6
	Rs. 30000	53.3%	32
	Rs. 40000 and More	23.3%	14
Education of Mother	8th pass	10.0%	6
	10th pass	25.0%	15
	12th pass	45.0%	27
	Graduated and post-Graduated	20.0%	12
Occupation of Mother	Housewife	71.7%	43
	Teacher	6.7%	4
	Other	21.7%	13
Number of Siblings	One	53.3%	32
	Two	16.7%	10
	Three	6.7%	4
	Four and more	23.3%	14
Area of Residence	Rural	100.0%	60
	Urban	0.0%	0

Section-II: Finding related to pre-test knowledge score regarding hazardous effect of smart phone addiction in children among the mothers of under-five**:** The distribution of pre-test knowledge scores among mothers revealed that the majority, 71.7% (n=43), had moderate knowledge (score range 11-20). A quarter of the participants, 25.0% (n=15), demonstrated inadequate knowledge (0-10), indicating limited awareness on the subject. Only a very small fraction, 3.3% (n=2), achieved adequate knowledge (21-30).



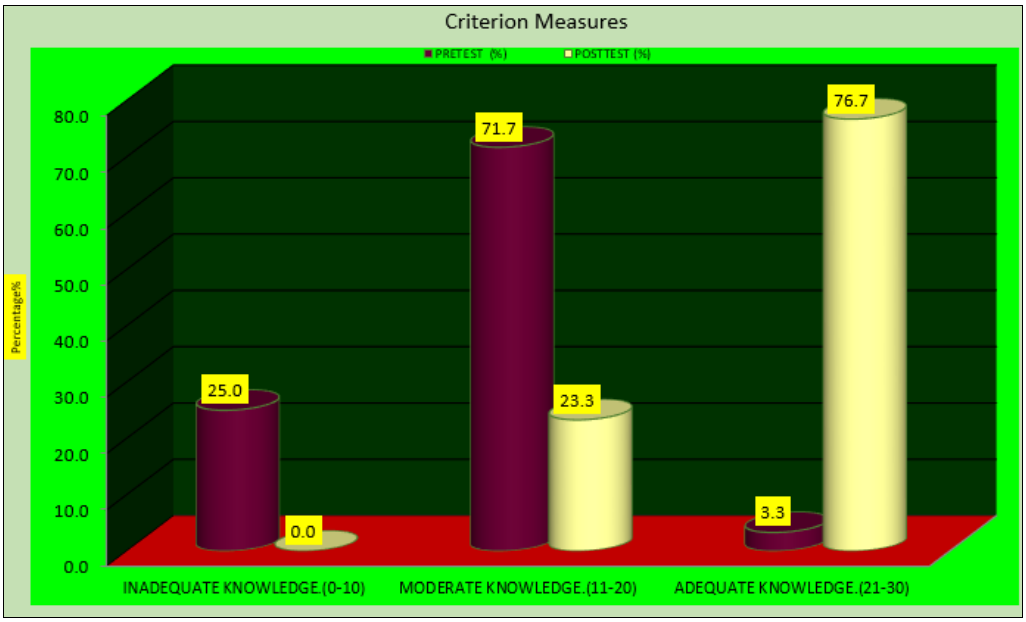
Section-III

Finding related to post-test knowledge scores after intervention regarding hazardous effect of smart phone addiction in children among the mothers of under-five: The post-test knowledge scores of mothers demonstrated a marked improvement compared to the pre-test. A majority, 76.7% (n=46), achieved adequate knowledge (score range 21-30), reflecting a strong enhancement in awareness levels following the intervention. Another 23.3% (n=14) of participants scored within the moderate knowledge range (11-20). Notably, none of the mothers (0%) remained in the inadequate knowledge category (0-10).



Section-IV

Finding related to comparison of frequency & percentage distribution of pre-test and post-test level of knowledge scores regarding hazardous effect of smart phone addiction in children among the mothers of under-five: The mean post-test knowledge score was 23.8±3.49 (79.3%) was higher than mean pre-test knowledge score 12.6±3.76 (42.0%) and obtained 't' value has been found statistically highly significant (21.205) at $p<0.001$ level of significance which shows the significant difference between pre-test and post-test knowledge scores regarding hazardous effect of smart phone addiction in children among the mothers of under-five. Hence, the research hypothesis H1 was accepted.



Section-V: Finding related to association of post-test knowledge scores among mothers of under five year children with their selected socio-demographic variables: It was observed that there is no significant association of post-test knowledge scores with their selected socio-demographic variable i.e. (age of mother, age/gender of child, family type, occupation, number of siblings). This indicates that the intervention was effective in bridging knowledge gaps across most demographics, though income and education continued to play an important role in knowledge outcomes. According to all socio-demographic variables, obtained Chi-square value was less than the table value so there is no association between post-test knowledge scores among mothers of under-five children at 0.001 and 0.05 level of significance. Hence, research hypothesis H2 was accepted.

Table 1: Association of Pretest Knowledge Scores with Selected Socio-Demographic Variables

Variables	Opts	Adequate Knowledge	Moderate Knowledge	Inadequate Knowledge	Chi Test	P Value	df	Table Value	Result
Age of Mother	20-25 Years	0	4	15	73.982	0.000	6	12.592	Significant
	26-30 Years	0	27	0					
	31-35 Years	1	12	0					
	36-40 Years	1	0	0					
Age of Child	1-2 Years	0	0	12	84.401	0.000	6	12.592	Significant
	2-3 Years	0	29	3					
	3-4 Years	0	13	0					
	4-5 Years	2	1	0					
Gender of Child	Male	2	26	0	18.700	0.000	2	5.991	Significant
	Female	0	17	15					
Type of Family	Nuclear family	2	35	0	32.454	0.000	2	5.991	Significant
	Joint family	0	8	15					
Family Income	Rs. 10,000	0	0	8	60.953	0.000	6	12.592	Significant
	Rs. 20000	0	0	6					
	Rs. 30000	0	31	1					
	Rs. 40000 and More	2	12	0					
Education of Mother	8th pass	0	0	6	48.251	0.000	6	12.592	Significant
	10th pass	0	6	9					
	12th pass	0	27	0					
	Graduated and post-Graduated	2	10	0					
Occupation of Mother	Housewife	0	28	15	14.171	0.007	4	9.488	Significant
	Teacher	0	4	0					
	Other	2	11	0					
Number of Siblings	One	0	17	15	23.185	0.001	6	12.592	Significant
	Two	0	10	0					
	Three	0	4	0					
	Four and more	2	12	0					
Area of Residence	Rural	2	43	15	NA				
	Urban	0	0	0					

Limitation: The study was limited to

- The sample size was only 60.
- The data collection period was limited to one month.
- They study was limited only on selected mothers of under-five children.

Recommendation: Keeping in view of the present research study findings, the following recommendations have been made

- A similar study can be replicated on a large-scale basis.
- A study to assess the effectiveness of structured teaching programme on knowledge regarding smart phone addiction (nomophobia) and its prevention among adolescent.
- A study to assess the effectiveness of a structured teaching programme on knowledge and attitude regarding smartphone separation anxiety among tenth standard students.
- A descriptive study to assess the knowledge of influence of smart phones on behavioral changes of preschoolers among the mothers at OPD in selected hospitals of Pune City.

Conclusion: The result from the study reveals that the knowledge regarding hazardous effect of smart phone addiction among mother of under five children was adequate. As mother of Preterm infant were easily attracted and shows interest toward structure teaching programme. Chi-square value had no significant association between knowledge score regarding hazardous effect of smart phone addiction in children among the mothers of under-five with were selected socio demographic variables so it is concluded that socio demographic variable had no effect on knowledge regarding hazardous effect of smart phone addiction among mother of under five children because structured teaching programme was found to be effective in improving knowledge. We hypothesized that providing structured teaching programme may improve the knowledge on regarding hazardous effect of smart phone addiction in children among mother of under-five. This hypothesis was supported by the finding of current study as score of knowledge improved significantly after structured teaching programme.

Summary: The use of structured teaching programme is an effective strategy for improving knowledge regarding hazardous effect of smart phone addiction among mother of under five children.

References

1. Patel M, Sharma R. Effectiveness of a structured teaching program on digital device impact among parents of toddlers. Indian Journal of Public Health Research & Development. 2022;13(1):85-90.
2. Kaur S, Singh P. Educational intervention to reduce smartphone addiction in children: a parental perspective. Asian Journal of Nursing Education and

Research. 2023;13(2):112-114.
3. Bai X, Cheng H, Zhang L. The relationship between screen time and developmental delays in children under five. Journal of Pediatric Health. 2021;23(4):75-81.
4. Harten N, Zhang Y, Liang J. Digital media consumption in early childhood: correlates of attention deficit behaviors and sleep disturbances. Child Development Research. 2019;12(1):30-37.
5. Liu J, Wang L, Li Z. Smartphone addiction in young children and its effects on physical and cognitive development. Journal of Pediatric Behavioral Health. 2021;15(2):43-50.
6. Lwin M, Tan J, Lee W. Parental habits and their children's screen time: impact on child development. International Journal of Child Psychology. 2020;18(3):122-130.
7. Choudhary R, Jain A, Kumar P. Impact of a structured teaching program on knowledge and practice regarding harmful effects of mobile usage among parents of young children. International Journal of Community Medicine and Public Health. 2019;6(10):4412-4416.
8. Domoff SE, Borgen AL, Foley RP, Maffett A. Excessive use of mobile devices and children's mental health: a systematic review. Journal of Child Psychology and Psychiatry. 2019;60(3):321-332. doi:10.1111/jcpp.13073
9. Radesky JS, Schumacher J, Zuckerman B. Mobile and interactive media use by young children: the good, the bad, and the unknown. Pediatrics. 2015;135(1):1-3. doi:10.1542/peds.2014-225
10. Lin LY, Cherng BL, Chen YC, Chen YL, Yang CC. Effects of screen time on the health of children and adolescents: a systematic review. BMC Public Health. 2017;17:1-10. doi:10.1186/s12889-017-4867-2 Statista. Share of children with access to smartphones in urban India [Internet]. 2023 [cited 2025 Mar 17]. Available from: Statista database.
11. Sharma R, Gupta N, Mehta A. Screen addiction and behavioral outcomes in preschoolers. Indian Journal of Pediatrics. 2022;89(3):215-220.

How to Cite This Article
Choudhary k, Devi S, Rana S, Shivali, Shivani, Shree, Sharma SR, Kapoor S. SA study to assess the effectiveness of structure teaching programme on knowledge regarding hazardous effect of smart phone addiction in children among the mothers of under-five in community of Basnoor. Himachal Pradesh. International Journal of Advance Research in Nursing. 2025;8(2):1058-1064