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A Pre-Experimental Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Health Hazards of Using Mobile Phone Among School Going Children of Selected Schools of District Kangra, Himachal Pradesh

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ABSTRACT

Background: School going children represents a period of transition between childhood and adulthood. In recent years, adoption of mobile phones by school going children has been a global phenomenon. Several studies revealed that during use mobile phone and cordless phone emit radiofrequency (RF) radiation that can possibly cause cancer and long-term health issues. Therefore, children need awareness regarding health hazards of using mobile phone.

Material and methods: A quantitative research approach and pre-experimental research design was adopted to conduct study. The non-probability purposive sampling technique were used to select 60 school going children of District Kangra, Himachal Pradesh. A Self-structured knowledge questionnaire was used to assess knowledge score. Analysis of collected data was done according to the objectives of the study and data analyzed by using descriptive and inferential statistics.

Results: The mean pre-test knowledge score was 14.53 where 70% school going children were having moderately adequate knowledge, 25% were having inadequate knowledge and only 5% were having adequate knowledge. Whereas the mean post-test knowledge score was 20.77 where 55% were having adequate knowledge, 43.33% were having moderately adequate knowledge and only 1.67% having inadequate knowledge. Hence, results revealed that the post-test knowledge score (20.77) was significantly higher than pre-test (14.53) and obtained 't' value has been found statistically very highly significant (8.458) at $p<0.001$ level of significance.

Interpretation and conclusion: The study concluded that the video assisted teaching program was effective in improving the knowledge regarding health hazards of using mobile phone among school going children. As school going children were easily attracted toward video assisted teaching programme and show interest also.

Keywords: Mobile phone, Health hazards, School going children, Video assisted teaching program.

INTRODUCTION

"These days we have Smartphones, Smart cars, Smartboards, Smart everything, but consider this: if technology is getting smarter, does that mean humans are getting dumber?"

-(Rebecca McNutt)

School going children represented a period of transition between childhood and adulthood. It represents a child who is old enough to go to school.

Mobile phone is a portable, small communication device which provides two-way

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communication.[1] These days, we can say that mobile devices are beneficial for children but have some disadvantages too.[2] In recent times, the mobile phone industry has been one of the fastest growing industries. At present, India has 287 million mobile phone users.[3]

The concept of mobile phone was invented during the Second World War by the American Dr. Martin cooper in April 1973 at New York. Mobile phones were invented because people wanted to communicate faster at different locations. In India, Telephony was introduced in 1882. According to recent reports, India wanted to overtake China to become the world's largest mobile telecommunications market by the year 2013.[4] A world-wide popularization of smartphones and a less knowledge about their side effects triggered the author to start research on effects of smartphones on human health and life. According to the WHO, radiation from cell phones can possibly cause cancer.[5]

A study done by a Mumbai-based hospital (Lilavati) said 50% of Indian children and teenagers prone to excessive use of mobile phones. Excessive use of mobile phone can lead to a condition in teenagers called "text neck".[6]

Internet and Mobile Association of India survey in the 26 cities that covered 65,000 persons in 16,500 households, has shown 1.6 million school children use the internet for about 322 minutes a week.[7] In the present scenario, one of the powerful environmental factors that influence schooler's behavior is smart phone.[8]

Pathol Boil & Medical Journal indicates that excessive exposure of mobile phone usage can cause dizziness, extreme irritation, headache, forgetfulness, lack of concentration, memory loss, inability to learn, behavioral problem, hyperactivity, and neurophysiologic discomfort and feeling of uncomfortable restlessness when not using a cell phone.[9]

As prevention is better than cure, the hazards of the mobile's phones can be prevented at an early period through the video assisted teaching programme. Prevention of these problems is better than treating them so that the future complications and morbidity associated with that can be reduced to a greater extend. Regular eye checkups and the protection against glare also help to avoid visual problems that may result from mobile phone use.[10]

Statement of the Problem: "A pre-experimental study to assess the effectiveness of video assisted teaching programme on knowledge regarding health hazards of using mobile phone among school going children of selected schools of District Kangra, Himachal Pradesh".

OBJECTIVES OF THE STATEMENT

- To assess the pre-test knowledge scores regarding health hazards of using mobile phone among school going children.
- To assess the post-test knowledge scores regarding health hazards of using mobile phone among school going children.
- To compare the pre-test and post-test knowledge scores of school going children regarding health hazards of using mobile phone.
- To find out the association of post-test knowledge scores of the school going children with their selected socio demographic variables.

Hypothesis: Following hypothesis were tested at 0.05 level at significance:

- H_1- There will be a significant difference between mean pre-test and post-test knowledge scores regarding health hazards of using mobile phones among school going children.
- $H0_1$- There will be no significant difference between mean pre-test and post-test knowledge scores regarding health hazards of using mobile phones among school going children.
- H_2- There will be a significant association of post-test knowledge scores among school going children with their selected socio demographic variables.

- **H_{02}-** There will be no significant association of post-test knowledge scores among school going children with their selected socio demographic variables.

Assumptions: The proposed study assumes that:

- School going children may have some knowledge regarding health hazards of using mobile phone.
- Video assisted teaching programme may have some impact on the knowledge of school going children regarding health hazards of mobile phone.
- School going children may give accurate information.
- Knowledge questionnaire may help the researcher to collect relevant information related to the study.

Ethical consideration:

- All participants were informed that their participation in the study was voluntary, and they can refuse to participate and can withdraw from the study at any time.
- Apart from this, written informed consent was taken from each school going children, and permission has been taken from the authorities.
- Confidentiality and anonymity of the participants was protected throughout the study.

Operational definitions:

- **Assess:** It refers to gathering or collecting information regarding health hazards of using mobile phone among school going children.
- **Effectiveness:** In this study, it refers to the extent to which video assisted teaching programme regarding health hazards of using mobile phone is effective in improving the knowledge of school going children.
- Video Assisted Teaching Programme: In this study, it is planned video teaching programme, aimed to increase the knowledge and awareness outcome regarding the health hazards of using mobile phone and its prevention among school going children.
- **Knowledge:** In this study, it refers to the awareness or information about the health hazards of using mobile phone among school going children which was assessed by using self-structured knowledge questionnaire in terms of inadequate, moderately adequate and adequate knowledge.
- **Health Hazards:** In this study, it refers to the harmful effect which is happening by excessive use of the mobile phone among school going children.
- **Mobile phone:** In this study, it refers to an electronic device for communication purposes with additional support services such as text messaging, call and email etc.
- **School going Children:** In this study, it refers to the girls and boys who have not undergone puberty and has not reached maturity and lies between 8 to 15 years of age.

Research Methodology: Research methodology is the systematic, theoretical analysis of the methods applied to a field of study. Research methodology indicates the generalized pattern of organizing the procedure for gathering valid and reliable data for investigation.

Research Approach: Quantitative Research Approach.

Research Design: Pre-experimental one group pre-test post-test research design.

Variables: Variables are qualities, properties or characteristics of person, things or situations that change or vary, are manipulated or measured in research. In present study:

- **Independent variable**: Video assisted teaching programme on health hazards of using mobile phone.
- **Dependent variable:** Knowledge of school going children on health hazards of using mobile phone.

Study Setting: The study was conducted at following Schools of District Kangra, Himachal Pradesh.

- Himalayan Public Sen. Sec. School Paprola, District Kangra (H.P.)
- ND Memorial School Bir, District Kangra (H.P.)

Population: School going children

- **Target population:** The target population of the study was school going children of age group 8-15 years.
- **Accessible population:** The accessible population of the study was school going children of age group 8-15 years of selected schools of District Kangra, (H.P.).

Sample and Sampling Technique

Sample: The sample for present study consisted of 60 school going children of age group 8-15 years of selected Schools of District Kangra, (H.P.).

Sampling technique: Non-Probability Purposive sampling technique was employed in the present study to select the sample.

SAMPLING CRITERIA

Inclusion criteria:

The study includes school going children:-

- Who are in the age group of 8-15 years of selected Schools at District Kangra, (H.P.).
- Who read and write Hindi and English language.
- Who are willing to participate in the study.
- Present on the day of data collection.

Exclusion criteria:

The study excludes school going children:-

- Who are not willing to give consent.
- Who are physically and mentally challenged.
- Who are not present at the time of data collection.
- Who are less than 8 years and more than 15 years of age.

Sample Size Determination

Sample size determined by Slovin's farmula. The sample size calculated for the study was 58.59 by Slovin's farmula.

Slovin's farmula:

$$n = N\backslash 1+Ne^2$$

*Note n = Sample size

N = Population size (as per previous research studies)

e = margin error (decided by researcher as per previous study, so it is assumed to be 2% i.e. 0.02).

It was 58.59 but only 60 samples were covered in given time frame.

Development and Description of the Tool: As the study is concerned with effectiveness of video assisted teaching programme on knowledge regarding health hazards of using mobile phone and its prevention; So self-structured knowledge questionnaire was used to assess the knowledge scores of school going children**.**

Selection and Development of Tool: The tool was formulated after an extensive review of literature and discussion with the experts and guides.

The tool was consisting of two parts:-

Part-I: Socio-demographic variables: It consists of selected socio-demographic variables to obtain personal and general information of school going children.

Part-II: Section-A: Self structured knowledge questionnaire: It consists of 30 questions to assess the knowledge regarding health hazards of using and its prevention mobile phone among school going children.

Section-B: Video assisted teaching programme: It consists of systematically designed video assisted teaching programme regarding health hazards of using mobile phone and its prevention among school going children.

Interpretation of knowledge questionnaire: The self-structured knowledge questionnaire consisted of 30 questions. In which, right answer was documented as correct one mark and wrong were documented as a zero mark. The maximum score was 30 and minimum score was 0. The complete ranged from 0 to 30.

Scoring pattern:

Level of knowledge	%	Score
Inadequate	≤33%	0-10
Moderately adequate	34-66%	11-20
Adequate	≥67%	21-30

Data analysis and interpretation: The analysis was made on the basis of objectives and hypothesis. Both descriptive and inferential statistics were used for data analysis, such as:

1. Frequency and percentage distribution of the demographic data were analyzed.
2. Paired "t" test were used to find out the difference between mean pre-test and post-test knowledge scores.
3. Chi-square test was used to find out the association of post-test knowledge scores of school going children with their selected socio demographic variables.

Probability p-value of less than 0.05 was considered as statistically significant. SPSS (Statistical Package for Social System) version-18 software was used for analysis of data.

Interpretations: The result of analysis of data have been organized and presented under following sections:

Section-I: Description of socio-demographic variables of study participants (n=60): Majority of school going children (55%) were age group of 12-13 years. Most of school going children (56.67%) were female. Majority of school going children (48.33%) father were having secondary education. About (53.33%) mothers of school going children were having secondary education. Majority of school going children (53.34%) fathers were in private sector. Majority of school going children (15.00%) mothers were in private sector. About 50% families were joint family. Majority of school going children (66.67%) family monthly income was less than Rs.10,000. Most of school going children (66.67%) were reside in rural area. About (36.76%) of school going children were having one sibling. Majority of school going children (76.67%) were having previous knowledge regarding health hazards of using mobile phone.

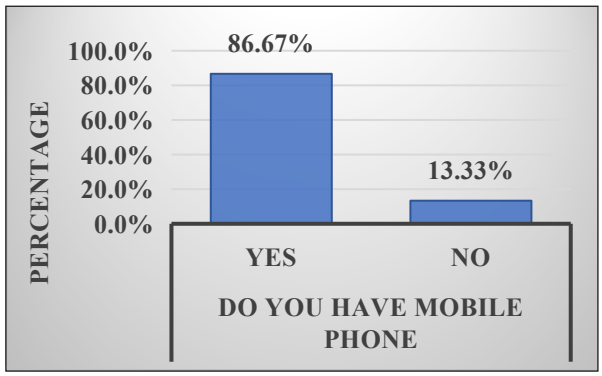

Fig.1: Bar diagram representing the percentage distribution of respondent by distribution on the basis of having mobile phone (n=60).

Figure 1 shows that majority of school going children (86.67%) were having mobile phone and only (13.33%) were having no mobile phone.

Section-II: Assess the pre-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

This figure 2 shows that majority of schools going children i.e. 70% were having

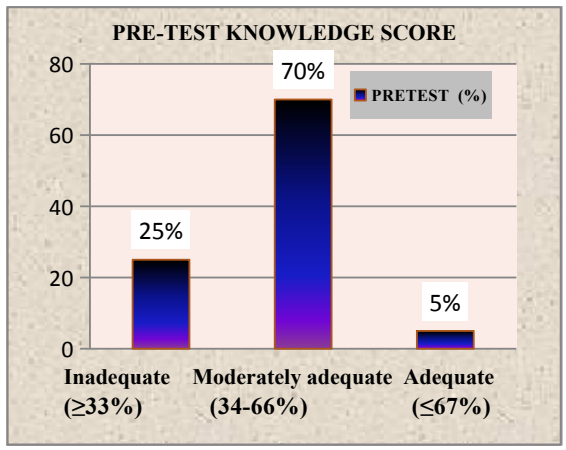

Fig. 2: Bar diagram representing Pre-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

moderately adequate knowledge, 25% were having inadequate knowledge and only 5% were having adequate knowledge regarding health hazards of using mobile phone during their pre-test.

Section-III: Assess the post-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

This figure 3 shows that majority of schools going children i.e. 55% were having adequate knowledge, 43.33% were having moderately adequate knowledge and only 1.67% having inadequate knowledge through self-structured knowledge questionnaire regarding health hazards of using mobile phone among school going children after their post-test

Section-IV: Comparison between pre-test and post-test knowledge scores (n=60): The paired t-test is used to compare the pre-test and post-test knowledge scores regarding health hazards of using mobile phone among school going children.

Table-1 shows the findings related to comparison between pre-test and post-test knowledge scores regarding health hazards of using mobile phone among school going children.

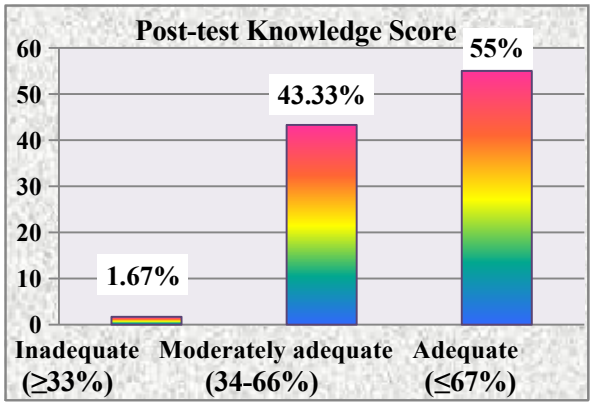

Fig.3: Bar diagram representing post-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

The data depicts in table-1, that the post-test knowledge score was significantly higher than pre-test. The mean post-test knowledge score was higher than (20.77) mean pre-test knowledge score (14.53) and 't' value has been found statistically very highly significant (8.458) at p<0.001 level of significance. The study concluded that the video assisted teaching program was effective in improving the knowledge on health hazards of using mobile phone among school going children.

Section-V: Association of post-test knowledge scores among school going children with their selected socio demographic variables (n=60):

The data revealed that Chi-square had no significant association of post-test knowledge scores with their selected socio demographic variables i.e. age, gender, education of father, education of mother, occupation of father, occupation of mother, type of family, monthly family income, area of residency, number of siblings, previous knowledge regarding health hazards of mobile phone, do you have mobile phone. Therefore, selected socio demographic variables had no impact on knowledge regarding health hazards of using mobile phone among school going children.

Discussion

This chapter relates the findings of the present study in accordance with the studies done earlier.

Analysis of the study indicated that in the present study, the mean of post-test score was 20.77 with standard deviation 3.407 and 't' value has been found statistically very highly significant (8.458) at p<0.001 level of significance. Similar findings had been found by J. Indhuja 2016 the mean post-test score was 21.96 with the standard deviation of

Table-1: Comparison between pre-test and post-test knowledge regarding health hazards of using mobile phone among school going children (n=60).

Knowledge scores	*Mean*	*SD*	*Mean difference*	*Paired t test*	*df*	*P value*	*Table value 0.05*
Pre-test Knowledge	14.53	4.237					
			6.240	8.458 *	59	<0.001	2.00
Post-test Knowledge	20.77	3.407					

P value<0.05=Significant; <0.01=Highly significant; <0.001= Very highly significant

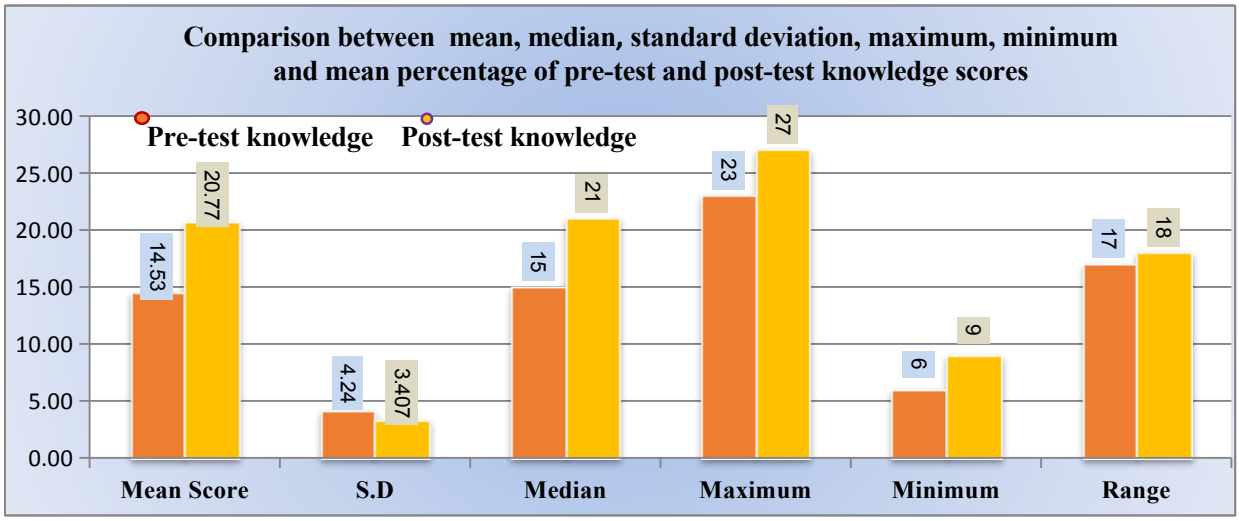

Figure 4: Bar diagram representing the comparison of mean, median, standard deviation, maximum, minimum and mean percentage of pre-test and post-test knowledge scores regarding health hazards of using mobile phone among school going children.

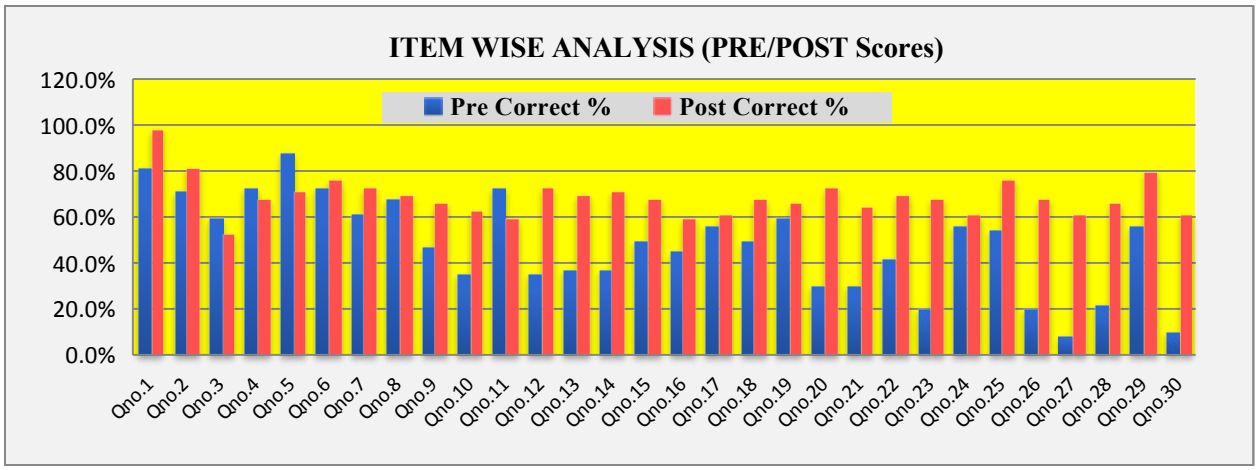

Fig. 5: Bar diagram representing item wise analysis of self-structured knowledge questionnaire among school going children (n=60).

4.05. The mean difference was 73.20. The obtained Paired 't' test value was 9.304 which is more than the table value (p=2.00), which shows that video teaching was effective in improving knowledge.

CONCLUSION

The result from the present study reveals that implementation of video assisted teaching programme to assess the knowledge regarding health hazards of using mobile phone was adequate. As school going children were easily attracted toward video assisted teaching programme and show interest also. And the chi-square value had no-significant association between knowledge score of students regarding health hazards of using mobile phone with selected demographic variables.

Source of funding: Self

Ethical clearance: The ethical clearance was taken from the institutional ethical committee, NSCN, Palampur, Himachal Pradesh with IEC study reference number 7288/19-21/02.

Conflict of interest: Nil

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