

# ASSESS THE EFFECTIVENESS OF TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION OF HAZARDOUS EFFECTS OF SMARTPHONE AMONG THE HIGHER SECONDARY STUDENTS

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**Abstract :** This study evaluated the effectiveness of a Structured Teaching Programme on knowledge regarding smartphone hazards among 80 higher secondary students. A pre-experimental design was used, revealing that 55% of students initially possessed only average knowledge, while a mere 2.5% showed excellent understanding. The baseline assessment yielded a mean pre-test score of 9.4 with a standard deviation of 2.67. Following the educational intervention, there was a significant improvement in the students' knowledge scores across physical and psychological domains. The results demonstrate that the Structured Teaching Programme is a highly effective tool for increasing awareness and promoting preventive behaviors. The study concludes that regular school-based health education is vital to mitigate the hazard effects of excessive smartphone usage. This intervention serves as a critical step in fostering healthier digital habits among the adolescent population.

## INTRODUCTION

In the modern era, addiction has expanded beyond substance abuse to include behavioral dependencies like smartphone overuse, which mirrors the neurological patterns of drug addiction. As smartphones become 24/7 extensions of the self, higher secondary students are increasingly prone to "dependence syndrome," characterized by loss of impulse control and academic disruption. This digital dependency often manifests through DSM-5 criteria such as withdrawal, craving, and continued use despite physical or psychological harm. Despite the device's benefits as a tool for communication and learning, its ubiquity presents significant hazards to adolescent well-being. Consequently, there is an urgent need for structured interventions to bridge the knowledge gap regarding the prevention of these hazard effects. This research evaluates how a targeted teaching programme can empower students to transition from habitual overuse to a state of informed and healthy digital engagement.

## NEED OF THE STUDY

The rapid rise of smartphone "dependency syndrome" among higher secondary students has created a critical public health challenge, mirroring the addictive patterns of substance use disorders. Current data highlights that texting while driving is now six times more dangerous than drunk driving, contributing to over 3,000 teenage fatalities annually. Beyond physical risks, excessive usage triggers significant psychological distress, including "nomophobia," sleep deprivation, and a marked erosion of face-to-face social communication. The investigator's baseline assessment revealed that 60% of students possess inadequate or only average knowledge regarding these life-threatening hazards. This disparity between high device accessibility and low risk awareness necessitates an urgent, evidence-based intervention. Consequently, a Structured Teaching Programme is essential to bridge this knowledge gap, promote digital safety, and foster healthier lifestyle habits among the adolescent population.

## RESEARCH METHODOLOGY

The research methodology follows a structured Quantitative Approach, specifically designed to test the impact of an educational intervention. The details are as follows;

### 3.1 Population and Sample

The study targeted higher secondary students as the target population, representing a developmental group highly vulnerable to digital dependency. From this population, a sample of 80 students was selected using a purposive sampling technique to ensure the inclusion of active smartphone users. These participants were drawn from a selected higher secondary school to evaluate the specific impact of the teaching intervention. This sample size provided a sufficient basis for calculating the mean pre-test knowledge score of 9.4 and assessing the program's overall effectiveness.

### 3.2 Data and Sources of Data

A sample is a small portion of the population selected for observation and analysis. The sample for this study comprised of 80 Higher secondary students of selected school of Jaipur City.

### 3.3 Theoretical framework

The theoretical framework for this study is typically based on General Systems Theory or Imogene King's Goal Attainment Theory. It views the participants as an open system receiving "input" in the form of the teaching programme. This intervention serves as a "throughput" or process where learning occurs, leading to an "output" of increased knowledge. The framework illustrates how structured information transforms the participants' cognitive state, with the "feedback" loop being the post-test evaluation. Ultimately, this framework provides a logical structure to measure how the educational stimulus directly influences the outcome of improved understanding.

### 3.4 Statistical tools and econometric models

"Statistical tools and models represent the analytical framework used to quantify knowledge gain and determine the significance of the intervention's impact by comparing pre-test and post-test data."

#### 3.4.1 Descriptive Statistics

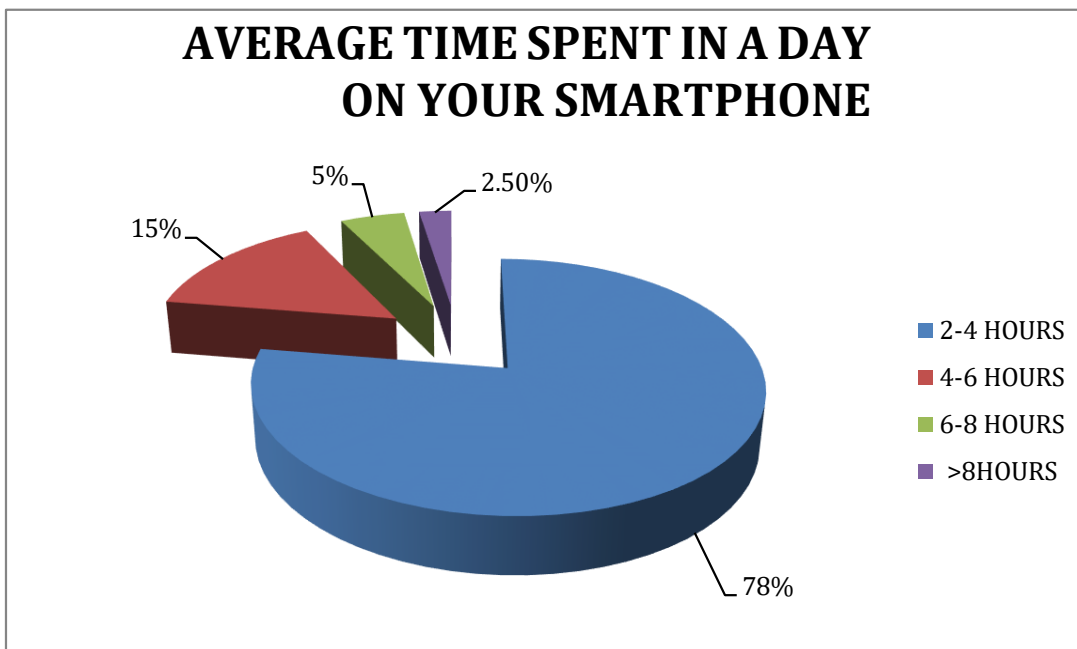
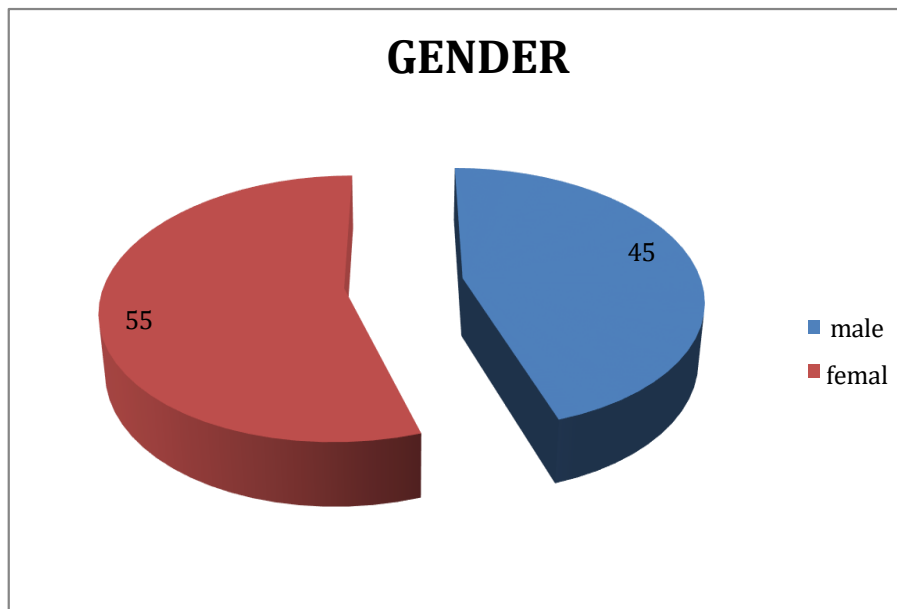
Descriptive statistics involve using frequencies and percentages to summarize the demographic profile of the participants. Additionally, mean and standard deviation are used to calculate the average knowledge scores and their spread, providing a clear comparison between pre-test and post-test results.

## IV. RESULTS AND DISCUSSION

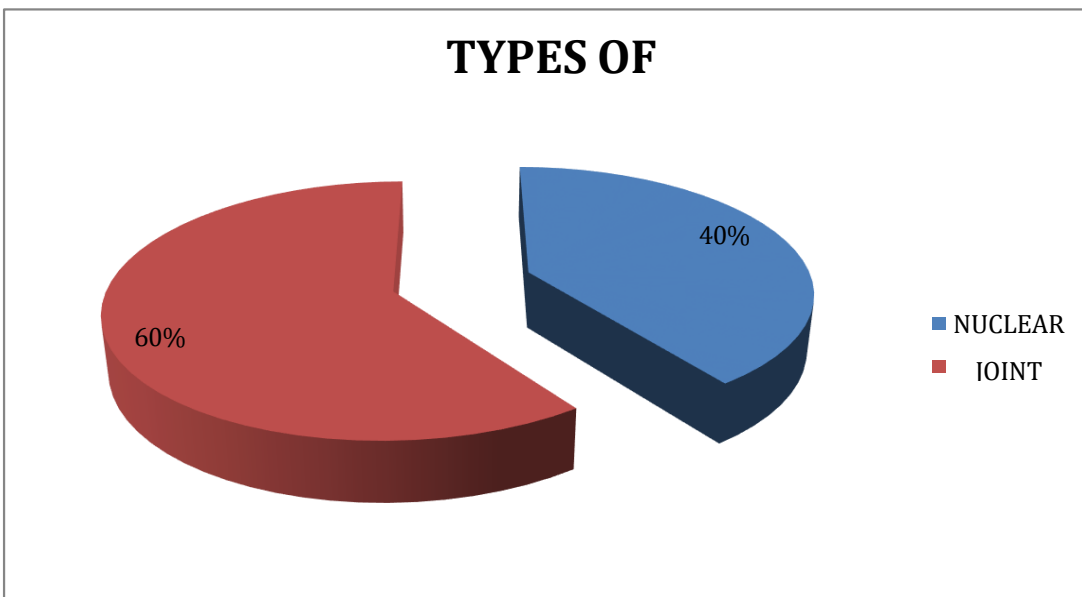
### 4.1 Results of Descriptive Statics of Study Variables

Frequency and percentage distribution of Higher Secondary Students characteristics

| S.No | Selected Demographic Variables                   | Frequency (N) | Percentage (%) |
|------|--------------------------------------------------|---------------|----------------|
| 1.   | Gender :                                         |               |                |
| a.   | Male                                             | 36            | 45%            |
| b.   | Female                                           | 44            | 55%            |
| 2.   | Type of family:                                  |               |                |
| a.   | Nuclear family                                   | 32            | 40%            |
| b.   | Joint family                                     | 48            | 60%            |
| 5.   | Average time spend in a day on your smartphone:  |               |                |
| a.   | 2-4 hrs                                          | 62            | 78%            |
| b.   | 4-6 hrs                                          | 12            | 15%            |
| c.   | 6-8 hrs                                          | 04            | 5%             |
| d.   | > 8 hrs                                          | 02            | 2.5%           |
| 6.   | Are you aware of health hazardous of smartphone: |               |                |
| a.   | Yes                                              | 44            | 55%            |
| b.   | No                                               | 36            | 45%            |

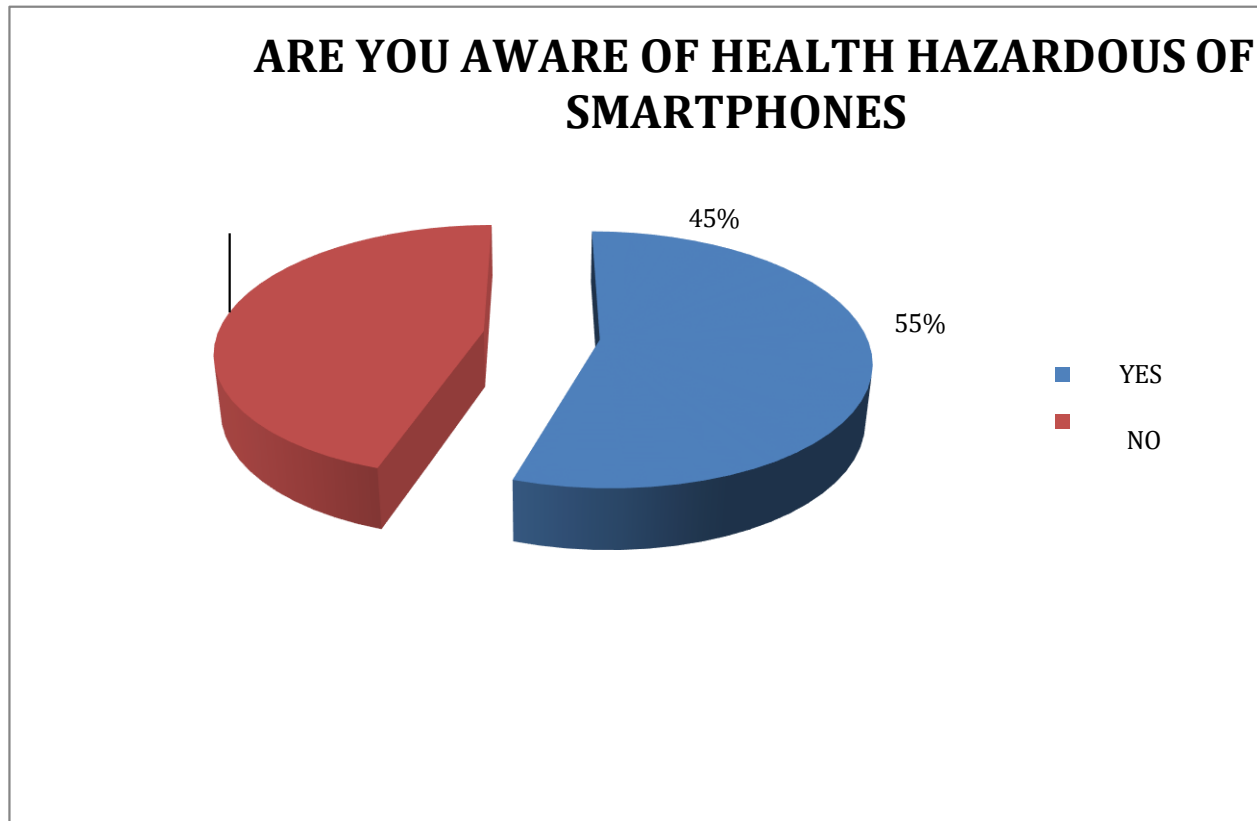


Data disclose that 55% of the subjects were aware of the health hazardous of the Smartphone, and 45% were unaware of the hazardous of the Smartphone.



Pie diagram showing the percentage distribution of Type of family of Higher Secondary Students

Pie Diagram showing the percentage distribution of Average time spend in a day on your Smartphone of Higher Secondary Students



Pie Diagram showing the percentage distribution of Are you aware of health hazardous of smartphone of Higher Secondary Students

The Pre-test Knowledge Score of Higher Secondary Students regarding prevention of hazardous effects of Smartphone. The assessment of existing knowledge was based on broad areas about hazardous effects of smartphone and prevention of hazardous effects of smartphone.

The pre-test awareness score is represented in Table

TABLE- Pre-test Knowledge Score of the Higher Secondary Students

| Grading   | Score  | Frequency (N) | Percentage (%) | Mean Score | Standard Deviation |
|-----------|--------|---------------|----------------|------------|--------------------|
| Excellent | 16- 20 | 02            | 2.5%           | 9.4        | 2.67               |
| Good      | 11-15  | 30            | 37.5%          |            |                    |
| Average   | 6-10   | 44            | 55%            |            |                    |
| Poor      | 0-5    | 04            | 5%             |            |                    |
|           | Total  | 80            | 100            |            |                    |

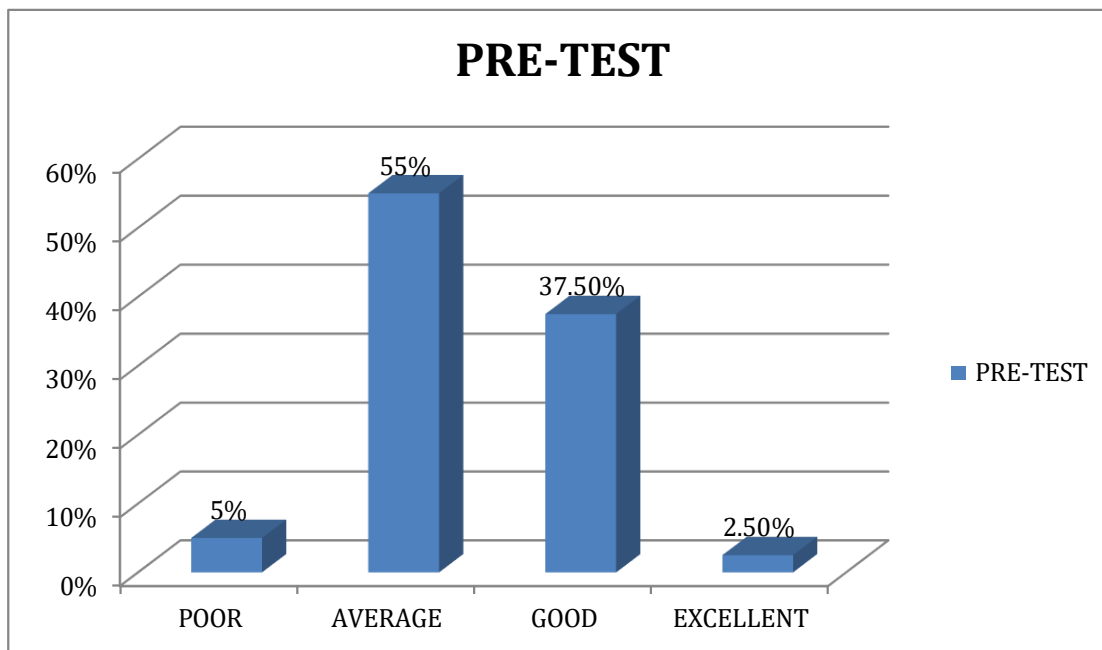


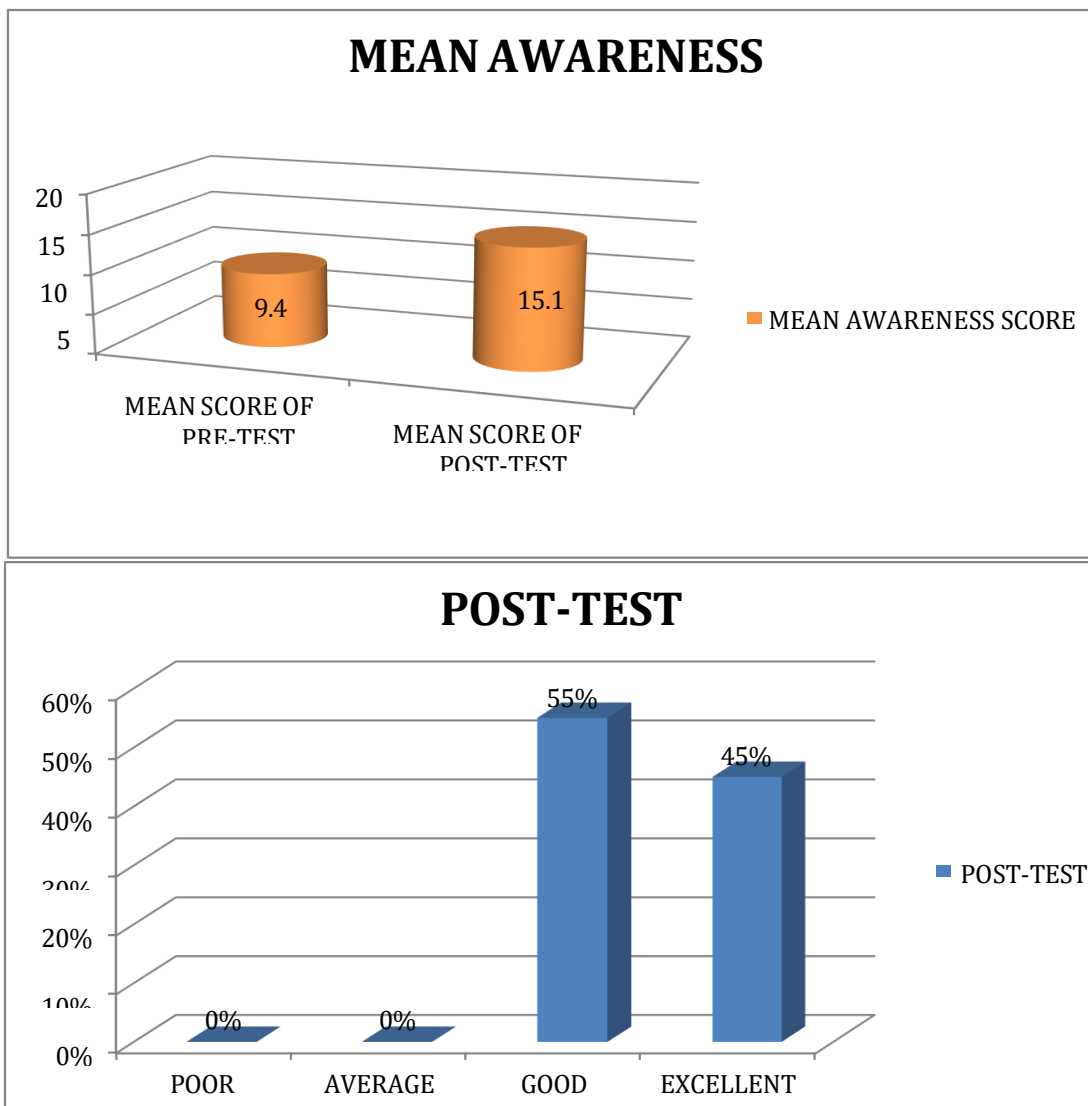
FIG 4.4 Bar Diagram showing the percentage distribution of pre-test knowledge scores of Higher Secondary Students regarding prevention of hazardous effects of Smartphone

The post-test knowledge score of subjects regarding prevention of hazardous effects of Smartphone.

TABLE Post-test knowledge score of the Higher Secondary Students

| Grading   | Score | Frequency (N) | Percentage (%) | Mean Score | Standard Deviation |
|-----------|-------|---------------|----------------|------------|--------------------|
| Excellent | 16-20 | 36            | 45%            | 15.1       | 1.95               |
| Good      | 11-15 | 44            | 55%            |            |                    |
| Average   | 6-10  | 00            | 00%            |            |                    |
| Poor      | 0-5   | 00            | 00%            |            |                    |
|           | Total | 80            | 100            |            |                    |

The data in Table exhibits that 45% of subjects had acquired excellent knowledge score ranging between (16-20) and 55% of subjects had gained good knowledge score ranging between (11-15) and only 0% of subjects were remained in average group and poor group where knowledge score was between (6-10) and (0-5) regarding prevention of hazardous effects of Smartphone. The Mean post-test score was 15.1 and Standard deviation was 1.95.



Bar diagram showing the percentage distribution of post-test knowledge scores of Higher Secondary Students regarding prevention of hazardous effects of Smartphone

Cylindrical shaped diagram showing comparison between the mean value of pre-test and post-test knowledge scores of High secondary students regarding prevention of hazardous effects of smartphones.

Effectiveness of Teaching Programme in terms of enhancement in Knowledge scores

This section deals with analysis and interpretation of the data in order to evaluate the effectiveness of Video Assisted Teaching Programme in terms of enhancement in Knowledge score.

Comparison between Mean, Standard deviation and paired 't' value of Pre-test and Post-test Knowledge score of Higher Secondary Students

| Awareness Score | Mean | Standard Deviation<br>$\Sigma$ | Mean Difference | Degree of freedom (df) | Paired 't' value |
|-----------------|------|--------------------------------|-----------------|------------------------|------------------|
| Pre-test        | 9.4  | 2.67                           | 5.7             | 39                     | 11.9*            |
| Post-test       | 15.1 | 1.95                           |                 |                        |                  |

' $t_{39}$ ' = 2.023  $P \leq 0.05$  \*Significant

Grading comparison between pre-test and post-test knowledge score of Higher Secondary Students

| Grading   | Score | Pre Test      |                | Post Test     |                |
|-----------|-------|---------------|----------------|---------------|----------------|
|           |       | Frequency (N) | Percentage (%) | Frequency (N) | Percentage (%) |
| Excellent | 16-20 | 02            | 2.5%           | 36            | 45%            |
| Good      | 11-15 | 30            | 37.5%          | 22            | 55%            |
| Average   | 6-10  | 44            | 55%            | 00            | 00%            |
| Poor      | 0-5   | 04            | 5%             | 00            | 00%            |

Data in Table shows that in post-test knowledge score maximum number of Higher Secondary Students i.e. 45% had score ranging between 16-20 and 55% Higher Secondary Students had scoring ranging between 11-15 and 0% Higher Secondary Students had score between 6-10 and 0-5 compared to pre-test knowledge score where maximum of the Higher Secondary Students i.e. 55% obtained score ranging between 6-10 and 15 Higher Secondary Students i.e. 37.5% obtained score ranging between 11-15 and 2.5% got the score between 16-20 and 5% got the score between 0-5. It indicates a significant enhancement in knowledge scores and the effectiveness of Video Assisted Teaching programme.

## SUMMARY

Analysis and interpretation of data collected from 80 Higher Secondary Students, Jaipur, regarding prevention of hazardous effects of smartphone.

Descriptive and inferential statistics were used for analysis. It was found that mean post-test knowledge score (15.1) was higher than the mean pre-test awareness score (9.4).

The computed paired 't' value ( $t_{39} = 11.9$ ,  $P \leq 0.05$  level), showed significant difference suggesting that the Video Assisted Teaching Programme was effective for enhancing the knowledge Higher Secondary Students of selected schools of Indore city.

## I. ACKNOWLEDGMENT

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