



“Effectiveness of Self Instructional Module (SIM) on Knowledge regarding Impact of Mobile Phone Dependency On Health and Academics Among Adolescents Aged Between 13-18 years Studying In Selected Schools Of District Hisar, Haryana.”

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Abstract:

Introduction:

The mobile phone is a modern-day invention, which has managed to reach many parts of the world enabling telecommunications across areas where it was not possible before. In the year 2000, there were an estimated 500 million mobile phone users worldwide. Today, there are about 3.3 billion users. The use of mobile phones among young children and adolescents is also increasing dramatically. It is an intended need which is necessary to increase the awareness of the negative effects of excessive phone use on their sleep wake patterns, with serious health risks, as well as attention and cognitive problems. Hence it requires the assessment of knowledge regarding the hazards of mobile phones as they use this very frequently.¹²

Objectives:

The objectives of the study are; to assess the pre-test level of knowledge regarding impact of mobile phone dependency on health and academics among adolescents in experimental and control group, to develop and administer self instructional module (SIM) on knowledge regarding impact of mobile phone dependency on health and academics among adolescents in experimental group, to assess the post-test level of knowledge on impact of mobile phone dependency on health and academics among adolescents in experimental and control group after administering self instructional module (SIM), to assess the effectiveness of self instructional module

(SIM) on impact of mobile phone dependency on health and academics among adolescents in experimental group, to find out the association between the pre-test level of knowledge regarding impact of mobile phone dependency on health and academics among adolescents with selected socio demographic variables in experimental and control group.

Methods and materials:

An evaluator research approach with Quasi Experimental research design was adopted to achieve the objectives of the study. The samples were collected by using the purposive sampling techniques. The data was collected from participants by using a structured knowledge questionnaire. These are considered the best ways to assess effectiveness of self instructional module (SIM) on knowledge regarding impact of mobile phone dependency on health and academics among adolescent aged between 13-18 years studying in selected schools, of District Hisar, Haryana.

Results:

In experimental group the pre test knowledge score is 2(6.7%) of student have adequate knowledge, 18(60%) have moderate, 10(33.3%) have inadequate knowledge score and in post test 22(73.3%) of students have adequate knowledge, 5(16.6%) have moderate knowledge, 3(10%) have inadequate knowledge score so the difference of post test knowledge score shows the effectiveness of self instructional module (SIM).

In Controlled group, the pre test knowledge score is 3(10%) of student have adequate knowledge, 15(50%) have moderate, 12(40%) have inadequate knowledge score and in post test 5(16.7%) have adequate knowledge, 18(60%) have moderate knowledge and 7(23.3%) have inadequate knowledge score so the post test knowledge score more in control group also but experimental group post test score is higher than the control group so it shows the effectiveness of self instructional module(SIM) in the form of booklet.

The study finding shows that the result was significant. In pre test of experimental group knowledge score mean was 13.80, S.D. 4.730 and control group knowledge score mean was 13.267, S.D, 5.225. In post test of experimental group knowledge score mean was 22.33, S.D. 5.827 and control group knowledge score mean was 15.50, S.D. 4.918.

The study shows that the association between the level of pre test knowledge and socio demographic variable. Chi-square test was used to find out the associate between the level of knowledge and selected demographic variables. The calculated chi-square values were less than the table value at the 0.05 level of significance. The Chi-square value shows that there is no significance association between the level of knowledge and other demographic variables (Age, Gender, Education Level, Residence Area, No. of Mobile Phone Used, Years of Mobile Phone Using, Reason for Mobile Phone Using, Type of Family, Family Income, Source of Information)

Conclusion and recommendations:

The aim of the study was to assess the effectiveness of self instructional module (SIM) on knowledge regarding impact of mobile phone dependency on health and academics among adolescents aged between 13-18 years studying in selected schools of District Hisar, Haryana. The investigator was selected 30 students for experimental group and 30 for controlled group who fulfill the inclusion criteria as samples for study by using nonprobability purposive sampling technique. Structured questionnaire was distributed to every student to assess the knowledge level regarding impact of mobile phone dependency on health and academics taking pre test and post test were taken after one week of pre test. Reliability and validity of the tool was established by research committee of college of nursing. These are considered as the best way to assess the knowledge of adolescents regarding impact of mobile phone dependency on health and academics. The finding of the study showed that the post test knowledge score of experimental group is more than the post test knowledge score of controlled group. The difference showed the effectiveness of self instructional module (SIM) on enhance the knowledge regarding impact of mobile phone dependency on health and academics among adolescents aged between 13-18 years.

Key words: effectiveness, self instructional module (SIM), knowledge, mobile phone, dependency, health, academics, adolescents.

Introduction:

Technology, a word which has become the talk of the nation, is dominating people's life today. A technological invention has been carried out by modern people in easing their life to be more flexibility and reasonable in order to be able to overcome upcoming challenges and compatible to the globe such mobile phone has become such a massive part of our lives. Over last 15 years there has been tremendous growth in use of mobile phone because of usefulness in communication and interaction and the sphere of work and private life, beside communication, mobile phone have been used for other purpose like playing game and listening song and using internet for social network its helps to reduce the loneliness and making new friends and resultantly mobile phone have parcel part of life mobile phone users.¹

According to Cromer Mobile phones simply refer to a mobile electronic device which is the means of digital telecommunication. Mobile phones enable the owners or subscribers today to stay connect with their friends and family with the various functionality and applications provided through the running of an advance operating system. The information and communication technology which here refers to the mobile phones, develop extremely rapidly today has now become the most device in the globe. In the last 20 years, worldwide mobile phone subscriptions have grown from 12.4 million to over 5.6 billion, penetrating about 70% of the global population. Its usage has also become an important public health problem as there have been reports of plenty of health hazards, both mental and physical, in people of all age groups. On 31 May 2011 the World Health

Organization confirmed that cell phone use indeed represents a health means, and classified mobile phone radiation as a carcinogenic hazard, possibly carcinogenic hazard, possibly carcinogenic to humans.²

Over usage of mobile phones leads to physiological health hazards like headaches, ear aches, warmth sensation, fatigue and musculoskeletal symptoms. Apart from the various benefits of cell phone, it's over usage leads to mobile phone addiction. It is one of the biggest non drug addictions in the world. On 31 May 2011, the world health organization confirmed that mobile phone use may represent a long-term health risk, classifying mobile phone radiation as a "carcinogenic hazard" and "possibly carcinogenic to humans" after a team of scientists reviewed peer-review studies on cell phone safety. One study of past cell phone use cited in the report showed a "40% increased risk for brain cancer in the highest category of heavy users."³

A research conducted by IAMAI (Internet and Mobile Association of India) and IMRB International (Indian Market Research Bureau) in June 2013, indicates that the Internet usage in India has gone up with more and more Internet users using the Internet on a regular basis. In June 2013, India had 190 Million Internet Users, of this; 130 Million belonged to Urban India and the rest 60 Million were from Rural India. Rapid expansion and proliferation of the internet has provided better opportunities for communication, information and social interaction. However, the excessive undisciplined use by some individuals has led to the emergence of the concept of internet addiction.⁵

In a UK survey 2004, it was reported that almost half of the users said that when they lost their cell phone it would result in a sort of "bereavement". This did happen because many people are afraid to leave home without it, and feel uncomfortable when others peruse their mobile menus or messages. So, most adolescents carry their cell phones with them all the time, many keep it under their pillows or on their side table at night.⁸

M. Hakoama (2011) conducted a survey regarding the impact of cell phone use on social networking and development among 501 college students by using questionnaire method. The study results showed that 99% owned cell phones and nearly 90% have had cell phones for more than three years. Excessive internet use, along with pathological gambling and addictive disorder, health risk from cell phone radiation and cell phone dependency are the major social impacts found in teenagers. The study concluded that there is a negative impact of cell phone use on social networking among adolescents.²⁰ **Statement of the problem:**

"A Quasi Experimental study to Assess the Effectiveness of Self Instructional Module (SIM) on Knowledge regarding Impact of Mobile Phone Dependency On Health and Academics Among Adolescents Aged Between 13-18 years Studying In Selected Schools Of District Hisar, Haryana."

Objectives:

The objectives of the study is,

- ❖ To assess the pre-test level of knowledge regarding impact of mobile phone dependency on health and academics among adolescents in experimental and control group.

- ❖ To develop and administer self instructional module (SIM) on knowledge regarding impact of mobile phone dependency on health and academics among adolescents in experimental group.
- ❖ To assess the post-test level of knowledge on impact of mobile phone dependency on health and academics among adolescents in experimental and control group after administering self instructional module (SIM).
- ❖ To assess the effectiveness of self instructional module (SIM) on impact of mobile phone dependency on health and academics among adolescents in experimental group.
- ❖ To find out the association between the pre-test level of knowledge regarding impact of mobile phone dependency on health and academics among adolescents with selected socio demographic variables in experimental and control group.

Assumptions:

The Study assumes that

- ❖ The adolescent may not have adequate knowledge regarding impact of mobile phone on health and academics.
- ❖ The Post-test knowledge score will be highly significant after administrating self Instructional module.
- ❖ There will be significant association between the pre-test level of knowledge regarding impact of mobile phone dependency on health and academics among adolescents with selected socio demographic variables in experimental and control group.

Hypothesis:

H₀₁. There will be significant difference between pre-test and post-test knowledge score regarding impact of mobile phone on health and academics among adolescent.

H₀₂. There will be significant association between pre-test knowledge scores regarding impact of mobile phone on health and academics among adolescent with selected demographic variables.

Delimitations:

Delimitations of the study are:

1. Study is delimited to government school students studying in selected schools of District Hisar, Haryana.
2. Study is delimited to selected schools of District Hisar.
3. Sample size is delimited to 60 school students.

4. Study is delimited to school students between age group of 13 to 18 years in selected schools, of District Hisar, Haryana.

Conceptual framework:

The conceptual framework selected for the study will be based on Roy's adaption model.

Review of literature:

The review is organized in the following headings:

PART- A: Literature related to impact of mobile phone on health.

PART-B: Literature related to impact of mobile phone on academics.

PART-C: Literature related to effectiveness of self instructional module.

Methods and material:

In this study an evaluative research approach was used to assess the effectiveness of self instructional module (SIM) on knowledge regarding impact of mobile phone dependency on health and academics among adolescents aged between 13-18 years.

Research design:

The research design adopted for the study is quasi-experimental (pre-test – post-test control group design).

Research setting:

The study was conducted in following Government Schools of District Hisar, Haryana.

1. Government Senior Secondary School Dabra, District Hisar, Haryana.
2. Government Senior Secondary Girls School Gangwa, District Hisar, Haryana.
3. Government High School, Patel Nagar, District Hisar, Haryana.

Population:

The population for the present study comprises of adolescents aged between 13-18 year studying at Government School of District Hisar, Haryana.

Sample:

In this study, the sample consists of adolescent from selected Government Schools, of District Hisar, Haryana.

Sample size:

In the present study the sample size was 60 students from selected Government Schools, of District Hisar, Haryana.

Sampling technique:

In this study, the non probability purposive sampling technique was used.

Sampling criteria:

The samples were selected with the following predetermined set criteria during the period of study.

a. Inclusion criteria

- Students of selected Government Schools, of District Hisar, Haryana.
- The adolescent aged between 13-18 years.
- The adolescent who are willing to participate in this study
- The adolescent who are available during the period of data collection.
- The adolescents who are not co-operating with the study.
- Adolescent who are all not communicated with Hindi and English.
- Not interested to participate in the study.
- Not present at the time of data collection.
- Below the age of 13 years.

b. Exclusion criteria**Variables under study:**

In this study, there were independent variable, depended variable and demographic variables.

Independent Variable:

In this present study the independent variable is self instructional module (SIM) in the form of booklet on knowledge regarding impact of mobile phone dependency on health and academics among adolescents aged between 13-18 years.

Dependent Variable:

In this present study the dependent variable is knowledge level of adolescent regarding impact of mobile phone dependency on health and academics.

Demographic Variable

In the present study the extraneous variables were age, gender, education level, residential area, no. of using mobile phone, years of using mobile phone, most common reason for using mobile phone, type of family, monthly family income, source of information.

Selection and development of the research tool:

The tools of the study was developed after review of literature, exiting tools, discussion with the guide and the various experts in the field of nursing and based on the investigator's personal experience.

Description of the tool:

The instrument (self structured knowledge questionnaire) comprised of two sections:-

Section A: - Socio- Demographic data

The first part of the tool consisted of 10 items describing the socio-demographic variables of student's age, gender, educational level, residential area, no. of mobile phone using, using mobile phone since, most common reason to use mobile phone, type of family, monthly income, source of information.

Section B: - Questionnaire on knowledge regarding impact of mobile phone dependency on health and academics.

This section consisted of 30 items on level of knowledge of adolescent regarding impact of mobile phone on health and academics. Items were categorized as follows:-

Part I: Items on general information about mobile phone: 7

Part II: Items on impact of mobile phone on health: 12

Part III: Items on impact of mobile phone on health: 6

Part IV: Items on prevention of harmful effect of mobile phone: 5

Scoring procedure: -The section consisted of 30 items. Out of total items have four options with one accurate answer. The score of correct response to each item was "one" and incorrect response was "zero". Thus for 30 items maximum obtainable score were 30 and minimum score was 0. To find out association with selected demographic variables and knowledge scores respondent were categorized into three groups:-

The differences in levels of knowledge are categorized as follows:-

- Inadequate knowledge – If obtained score was 0-10.
- Moderate knowledge - If obtained score was 11-20.
- Adequate knowledge - If obtained score was 21-30.

Content validity of tool:

The prepared tools along with objective and blue print and booklet were submitted to the 11 expert for content validity. Modification was made according to the suggestions given by experts and as per suggestions content was rearranged.

Reliability of the tool:

Reliability of the tool was determined by split half method. 6 students were selected for experimental group and 6 for controlled group and tool was implemented.

The reliability co-efficient obtained by raw score formula. Hence, the tool was considered reliable for proceeding with the pilot study. The reliability of the tool has found to be $r=0.808$ and tools were considered to be reliable and feasible for the study.

Statistical analysis:

The data collected were analyzed by using both descriptive and inferential statistics, i.e., mean, median, mode, standard deviation, percentage, frequency distribution, chi-square, paired, „t“ test and unpaired „t“ test.

Descriptive statistics includes:

1. Frequency and percentage distribution to assess the demographic variables.
2. Mean, median, mode, standard deviation, percentage, frequency distribution.

Inferential statistics include:

1. Paired, „t“ test and unpaired „t“ test to assess the effectiveness of self instructional module (booklet).
2. Chi-square test is used to assess the association between pre-test knowledge score and demographic variables.

Ethical consideration:

1. Confidentiality and anonymity of the subjects were maintained.

2. Prior permission was obtained from ethical committee of institution through Principal, MACON Agroha, Hisar.
3. Written permission was obtained from selected Government Schools of District Hisar.
4. Informed consent was obtained from all study subjects.
5. Study subjects were assured that the information collected from them will be kept confidential.
6. Study subjects were informed that their participants were voluntary and they had freedom to withdraw on their own at any time during study.

Results:

The findings based on descriptive and inferential statistical analysis are tabulated under the following heading:

Section 1:- Description of the demographic variables.

Section 2:- Description of frequency percentage and descriptive statistic of pre test knowledge score.

Section 3:- Description of frequency percentage and descriptive statistic of post test knowledge score.

Section 4:- Comparison of pre and post test knowledge score regarding impact of mobile phone dependency on health and academics.

Section 5:- Association between pre test knowledge score with demographic variables.

SECTION 1: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES.

Table 1.1: Frequency Distribution of Demographic variables of adolescent under 13 –18 years.

N=60

SECTION-1 Socio- Demographic Performa		Experimental f(%)	Control f(%)	Experimental (N=6)	Control (N=6)
Age	13-14 years	20%	37%	6	11
	15-16 years	57%	40%	17	12
	17-18 years	23%	23%	7	7
Gender	Boys	63%	40%	19	12
	Girls	37%	60%	11	18
Education	10th standard	60%	33%	18	10
Level	11th standard	40%	40%	12	12
	12th standard	0%	27%	0	8
Residence Area	Rural	70%	97%	21	29
	Urban	30%	3%	9	1
No. of Mobile Phone using	One	70%	43%	21	13
	Two	20%	43%	6	13

	More than 2	10%	13%	3	4
	No one	0%	0%	0	0
Years of Mobile Phone using	1 year	47%	13%	14	4
	2 years	17%	40%	5	12
	3 years	13%	17%	4	5
	More than 3 years	23%	30%	7	9
Reason for Mobile Phone using	Playing game	17%	23%	5	7
	Listening music	17%	23%	5	7
	For study purposes	40%	43%	12	13
	Using social networking site	27%	10%	8	3
Type of Family	Joint Family	27%	63%	8	19
	Nuclear Family	57%	33%	17	10
	Extended Family	17%	3%	5	1
Family Income	Less than Rs. 21,000	73%	97%	22	29
	Rs. 21,000 – 25,000	3%	3%	1	1
	Rs. 26,000 - 30,000	10%	0%	3	0
	Above 30,000	13%	0%	4	0
Source of Information	Family and friends	43%	63%	13	19
	News paper	30%	3%	9	1
	Mass media	23%	27%	7	8
	Networking	3%	7%	1	2

This table shows the frequency percentage distribution of sample according to socio demographic variables. As above table shows, the large number students belong to 15-16 years 17(57%) of experimental group and 12(40%) of control group, 17-18 years 7(23%) of experimental group and 7(23%) of control group, 13-14 years 6(20%) of experimental group and 11(37%) of control group. Out of them 19(63%) were boys and 11(37%) were girls in experimental and 12(40%) were boys and 18(60%) were girls in control group. Also large number 18(60%) students were belongs to 10th class, 12(40%) belongs to 11th class in experimental group and 12 (40%) belongs to 11th class, 10(33%) belongs to 10th class and 8(27%) belongs to 12th class in control group. According to residence most of students 21(70%) belongs to rural area and 9(30%) belongs to urban area in experimental group and 29(97%) belongs to rural area and 1(3%) belongs to urban area in control group. Large number of students 21(70%) have one mobile phone, 6(20%) have two mobile phone, 3(10%) have more than 2 mobile phone in experimental group and 13(43%) have one mobile phone, 13(43%) have two mobile phone, 4(13%) have more than two mobile phone in control group. Large number of students 14(47%) using mobile phone from one year, 7(23%) using mobile phone more than three years, 5(17%) using mobile phone from two years, 4(13%) using mobile phone from three years in experimental group and 12(40%) using mobile phone from two years, 9(30%) using mobile phone more than 3 years, 5(17%)

using mobile phone from three years, 4(13%) using mobile phone from one year in control group. Large number of students was using mobile phone for study purpose 12(40%), using social networking site 8(27%), playing games and listening music was 5(17%) in experimental group and using mobile phone for study purpose was 13(43%), playing games and listening music was 7(23%) and for using social networking site was 3(10%) in controlled group. According to type of family most of student belongs to nuclear family 17(57%), 8(27%) belongs to joint family, 5(17%) belongs to extended family in experimental group and 19(63%) belongs to joint family, 10(33%) belongs to nuclear family, 1(3%) belongs to extended family in controlled group. Large number has monthly family income less than Rs. 21,000 were 22(73%), above Rs. 30,000 were 4(13%), Rs. 26,000 – 30,000 were 3(10%), Rs. 21,000 – 25,000 were 1(3%) in experimental group and large number of students has family income less than Rs. 21,000 were 29(97%), Rs. 21,000 – 25,000 were 1(3%) in controlled group. According to source of information 13(43%) got from family and friends where as 9(30%) from news paper, 7 (23%) from mass media, 1(3%) from networking site in experimental group and 19(63%) students got information from family and friends, 8(27%) got through mass media, 2(7%) got from networking site and 1(3%) got from news paper in controlled group.

SECTION 2: DESCRIPTION OF FREQUENCY PERCENTAGE AND DESCRIPTIVE STATISTIC OF PRE TEST KNOWLEDGE SCORE.

Table 1.2: Showing pre-test knowledge score of adolescent regarding impact of mobile dependency on health and academic

N=60

CRITERIA MEASURE OF KNOWLEDGE SCORE		
Category Score	Frequency percentage	
	Pre Experimental	Pre Control
Adequate (21-30)	2(6.7%)	3(10%)
Moderate (11-20)	18(60%)	15(50%)
Inadequate (0-10)	10(33.3%)	12(40%)

Maximum=30

Minimum=0

The above Table depicts that 2(6.7%) of adolescent have adequate knowledge about impact of mobile phone dependency on health and academics, 18(60%) have moderate knowledge score and 10(33.3%) have inadequate knowledge score in experimental group and 3(10%) have adequate knowledge score, 15(50%) have moderate and 12(40%) have inadequate knowledge score in controlled group.

SECTION 3: DESCRIPTION OF FREQUENCY PERCENTAGE AND DESCRIPTIVE STATISTIC OF POST TEST KNOWLEDGE SCORE.

Table 1.3: Showing Post Test knowledge score

CRITERIA MEASURE OF KNOWLEDGE SCORE		
Category Score	Frequency percentage	
	Post Experimental	Post Control
Adequate (21-30)	22(73.3%)	5(16.7%)
Moderate (11-20)	5(16.7%)	18(60%)
Inadequate (0-10)	3(10%)	7(23.3%)

Maximum =30 Minimum =0

The above Table depicts that 22(73.3%) of students have adequate knowledge regarding impact of mobile phone dependency on health and academics, 5(16.7%) have moderate knowledge, 3(10%) have inadequate knowledge of experimental group and 5(16.7%) have adequate knowledge, 18(60%) have moderate knowledge score and 7(23.3%) have inadequate knowledge score about impact of mobile phone dependency on health and academics of controlled group.

Table 1.4: Descriptive statistics of Post Test knowledge score

Descriptive statistics		Mean	S.D.	Median	Maximum	Minimum	Range	Mean%
Post Test Score	Experimental group	22.33	5.827	23	28	7	21	74.44
	Controlled group	15.50	4.918	16.5	24	8	16	51.67

Maximum =30 Minimum=0

Above table, it is observed that the students of experimental group have adequate knowledge regarding impact of mobile phone dependency on health and academics. The mean of post test knowledge score was 22.33; S.D. was 5.827, median 23, range 21, mean% 74.44, maximum score of post test knowledge score was 28 and minimum score was 7. For the students of controlled group the mean of post test knowledge score was 15.50; S.D. was 4.918, median 16.5, range 16, mean% 51.67, maximum score of post test knowledge score was 24 and minimum score was 8.

SECTION 4: COMPRESSION OF PRE AND POST TEST KNOWLEDGE SCORE REGARDING IMPACT OF MOBILE PHONE DEPENDENCY ON HEALTH AND ACADEMICS.

Table 1.5: Showing comparison of Pre and Post Test knowledge score

Criteria measure of knowledge score				
Score level	Pre Experimental	Pre Control	Post Experimental	Post Control
Adequate(21-30)	2(6.7%)	3(10%)	22(73.3%)	5(16.7%)
Moderate(11-20)	18(60%)	15(50%)	5(16.6%)	18(60%)
Inadequate(0-10)	10(33.3%)	12(40%)	3(10%)	7(23.3%)

Maximum -30 Minimum=0

The above table has show the post test knowledge score of experimental group is more than the post test knowledge score of controlled group the difference shows the effectiveness of self instructional module (SIM) and the post test knowledge score is also high in experimental and controlled group than the pre test.

In experimental group the pre test knowledge score is 2(6.7%) of student have adequate knowledge, 18(60%) have moderate, 10(33.3%) have inadequate knowledge score and in post test 22(73.3%) of students have adequate knowledge, 5(16.6%) have moderate knowledge, 3(10%) have inadequate knowledge score so the difference of post test knowledge score shows the effectiveness of self instructional module (SIM).

In Controlled group the pre test knowledge score is 3(10%) of student have adequate knowledge, 15(50%) have moderate, 12(40%) have inadequate knowledge score and in post test 5(16.7%) have adequate knowledge, 18(60%) have moderate knowledge and 7(23.3%) have inadequate knowledge score so the post test knowledge score more in control group also but experimental group post test score is higher than the control group so is shows the effectiveness of self instructional module(SIM) in the form of booklet.

Table 1.6: Description of descriptive statistics of pre and post test of experimental and control group.

		KNOWLEDGE Score				Paired T Test		
		Pretest		Posttest				
Group	N	Mean	SD	Mean	SD	df	T	Result
Experimental Group	30	13.80	4.730	22.33	5.827	29	7.661	Significant
Control Group	30	13.267	5.225	15.50	4.918	29	2.026	Non Significant
Unpaired T Test	df	58		df	58			
	T	0.414		T	4.908			
	Result	Non Significant		Result	Significant			

Maximum = 30 Minimum = 0

The above table shows that the result was significant. In pre test of experimental group knowledge score mean was 13.80, S.D. 4.730 and control group knowledge score mean was 13.267, S.D, 5.225. In post test of experimental group knowledge score mean was 22.33, S.D. 5.827 and control group knowledge score mean was 15.50, S.D. 4.918. The above table shown that the post test score is higher than pre test score and the mean difference between experimental group pre test and post test was 8.53 and between control group pre test and post test was 2.24 so, the mean difference of experimental group was higher shows the effectiveness of self instructional module in the form of booklet. The paired T test value was 7.661 and the result was significant.

SECTION 5: ASSOCIATION BETWEEN PRE TEST KNOWLEDGE SCORE WITH DEMOGRAPHIC VARIABLES.

This section deals with the findings related to the association between pre test knowledge score and selected demographic variables. The chi-square test was used to determine the association between the pre test knowledge score levels and selected demographic variables.

Table 1.7: Table showing association of pre test knowledge score and demographic variables.

N=60

Demographic Variables		Association of KNOWLEDGE Score with Demographic variables (Pre TESTKNOWLEDGE) Experimental Group							
Variables	Opts	Adequate	Moderate	Inadequate	Chi Test	P Value	df	Table Value	Result
Age	13-14 years	1	1	4	7.831	0.098	4	9.488	Not Significant
	15-16 years	0	12	5					
	17-18 years	1	5	1					
Gender	Boys	0	11	8	4.689	0.096	2	5.991	Not Significant
	Girls	2	7	2					
Education Level	10th standard	1	10	7	0.648	0.723	2	5.991	Not Significant
	11th standard	1	8	3					
	12th standard	0	0	0					
Residence Area	Rural	2	12	7	0.952	0.621	2	5.991	Not Significant
	Urban	0	6	3					
No. of Mobile Phone using	One	2	12	7	3.286	0.511	4	9.488	Not Significant
	Two	0	3	3					
	More than 2	0	3	0					
	No one	0	0	0					
Years of Mobile Phone using	1 year	2	7	5	7.576	0.271	6	12.592	Not Significant
	2 years	0	4	1					
	3 years	0	1	3					
	More than 3 years	0	6	1					
Reason for Mobile Phone using	Playing game	1	2	2	3.306	0.770	6	12.592	Not Significant
	Listening music	0	4	1					
	For study purpose	1	7	4					
	Using social networking site	0	5	3					
Type of Family	Joint Family	0	7	1	4.434	0.350	4	9.488	Not Significant
	Nuclear Family	2	8	7					
	Extended Family	0	3	2					
Family Income	Less than Rs. 21,000	1	12	9	5.025	0.541	6	12.592	Not Significant
	Rs. 21,000 – 25,000	0	1	0					
	Rs. 26,000 - 30,000	0	2	1					
	Above 30,000	1	3	0					
Source of Information	Family and friends	2	8	3	9.231	0.161	6	12.592	Not Significant
	News paper	0	3	6					
	Mass media	0	6	1					
	Networking	0	1	0					

The above table shows that the association between the level of pre test knowledge score and socio demographic variable. Based on the 5th objectives used to Chi-square test used to associate the level of knowledge and selected demographic variables. The Chi-square value shows that there is no significance association between the level of scores and other demographic variables (Age, Gender, Education Level, Residence Area, No. of Mobile Phone Used, Years of Mobile Phone Using, Reason for Mobile Phone Using, Type of Family, Family Income, Source of Information) The calculated chi-square values were less than the table value at the 0.05 level of significance.

Table 1.8: Table Showing Association of pre test knowledge Scores and Demographic Variables

N=60

Demographic Variables		Association of KNOWLEDGE Score with Demographic variables (Pre Test KNOWLEDGE) Control Group							
Variables	Opts	Adequate	Moderate	Inadequate	Chi Test	P Value	df	Table Value	Result
Age	13-14 years	2	5	4	2.747	0.601	4	9.488	Not Significant
	15-16 years	0	6	6					
	17-18 years	1	4	2					
Gender	Boys	0	5	7	3.958	0.138	2	5.991	Not Significant
	Girls	3	10	5					
Education Level	10 th standard	2	4	4	3.450	0.486	4	9.488	Not Significant
	11 th standard	0	6	6					
	12 th standard	1	5	2					
Residence Area	Rural	3	14	12	1.034	0.596	2	5.991	Not Significant
	Urban	0	1	0					
No. of Mobile Phone using	One	2	8	3	3.192	0.526	4	9.488	Not Significant
	Two	1	5	7					
	More than 2	0	2	2					
	No one	0	0	0					
Years of Mobile Phone using	1 year	1	2	1	6.900	0.3302	6	12.5915872	Not Significant
	2 years	2	7	3					
	3 years	0	1	4					
	More than 3 years	0	5	4					
Reason for Mobile Phone using	Playing game	1	4	2	6.407	0.379	6	12.592	Not Significant
	Listening music	0	4	3					
	For study purposes	2	7	4					
	Using social networking site	0	0	3					
Type of Family	Joint Family	2	11	6	2.529	0.639	4	9.488	Not Significant
	Nuclear Family	1	4	5					
	Extended Family	0	0	1					
Family Income	Less than Rs. 21,000	3	15	11	1.552	0.460	2	5.991	Not Significant
	Rs. 21,000 – 25,000	0	0	1					

	Rs. 26,000 - 30,000	0	0	0					
	Above 30,000	0	0	0					
Source of Information	Family and friends	2	11	6	2.829	0.830	6	12.592	Not Significant
	News paper	0	0	1					
	Mass media	1	3	4					
	Networking	0	1	1					

The above table shows that the association between the level of score and socio demographic variable. Based on the 5th objectives used to Chi-square test used to associate the level of knowledge and selected demographic variables. The Chi-square value shows that there is no significance association between the level of scores and other demographic variables (Age, Gender, Education Level, Residence Area, No. of Mobile Phone Used, Years of Mobile Phone Using, Reason for Mobile Phone Using, Type of Family, Family Income, and Source of Information). The calculated chi-square values were less than the table value at the 0.05 level of significance.

Discussion:

An evaluator research approach with Quasi Experimental research design was adopted to achieve the objectives of the study. The samples were collected by using the purposive sampling techniques. The data was collected from participants by using a structured knowledge questionnaire. These are considered the best ways to assess effectiveness of self instructional module (SIM) on knowledge regarding impact of mobile phone dependency on health and academics among adolescent aged between 13-18 years studying in selected schools, of District Hisar, Haryana.

In experimental group the pre test knowledge score is 2(6.7%) of student have adequate knowledge, 18(60%) have moderate, 10(33.3%) have inadequate knowledge score and in post test 22(73.3%) of students have adequate knowledge, 5(16.6%) have moderate knowledge, 3(10%) have inadequate knowledge score so the difference of post test knowledge score shows the effectiveness of self instructional module (SIM).

In Controlled group, the pre test knowledge score is 3(10%) of student have adequate knowledge, 15(50%) have moderate, 12(40%) have inadequate knowledge score and in post test 5(16.7%) have adequate knowledge, 18(60%) have moderate knowledge and 7(23.3%) have inadequate knowledge score so the post test knowledge score more in control group also but experimental group post test score is higher than the control group so it shows the effectiveness of self instructional module(SIM) in the form of booklet.

The study finding shows that the result was significant. In pre test of experimental group knowledge score mean was 13.80, S.D. 4.730 and control group knowledge score mean was 13.267, S.D, 5.225. In post test of experimental group knowledge score mean was 22.33, S.D. 5.827 and control group knowledge score mean was 15.50, S.D. 4.918.

The study shows that the association between the level of pre test knowledge and socio demographic variable. Chi-square test was used to find out the associate between the level of knowledge and selected

demographic variables. The calculated chi-square values were less than the table value at the 0.05 level of significance. The Chi-square value shows that there is no significance association between the level of knowledge and other demographic variables (Age, Gender, Education Level, Residence Area, No. of Mobile Phone Used, Years of Mobile Phone Using, Reason for Mobile Phone Using, Type of Family, Family Income, Source of Information)

The finding shows the post test knowledge score of experimental group is more than the pre test knowledge score of controlled group. The difference shows the effectiveness of self instructional module (SIM). Hence, the research hypothesis **H0₁**- The mean post test knowledge score will be higher than mean pre test knowledge score after administering the self instruction module (SIM) at 0.05 level of significance was accepted.

Chi-square test was used to identify the association between pre-test knowledge level regarding impact of mobile phone on health and academics among adolescent with selected demographic variables. Hence, the research hypothesis **H0₂**- There will be significance association between mean pre test knowledge score and selected demographical variables at 0.05 level of significance was rejected.

Recommendations of the study:

On the basis of the findings of the study, following recommendations have been made for future research:-

1. A similar study can be done on large samples to validate and generalize the result.
2. A similar study can be conducted by using pre experimental research design.
3. A similar study can be conducted among college students regarding impact of mobile phone dependency on health and academics.
4. A similar descriptive study can be conducted among adolescents in community settings to assess the impacts of mobile phone on health and academics.
5. A follow up study can be conducted to evaluate the effectiveness of self instruction module.
6. A similar study can be done by using other teaching strategies i.e., plan teaching programme, video teaching programme, audio cassettes etc.

Implications of the study:

The findings of the study are important for nursing profession in the following areas i.e. nursing practice, nursing education, nursing administration and nursing research. This will help student nurse to improve their knowledge by providing them information regarding impact of mobile phone dependency on health and academics.

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