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A Quasi: Experimental study to assess the effectiveness of structured teaching programme on knowledge regarding health hazards of mobile phone addiction among students in selected school, Distt. Mandi (H.P.) 2019-2021

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Abstract

Smartphone addiction is an overuse of mobile device, usually quantified as the number of times the users access their devices. Aim of study was to assess the effectiveness of structured teaching programme on knowledge regarding health hazards of mobile phone addiction. Quantitative research approach was used with Non-Randomized pre- test post-test control group design. Non-probability Convenient Sampling Technique was used to select sample. Sample size was 100 i.e. 50 for experimental group and 50 for control group. Result of the study revealed that Paired t-test in experimental group mean pre-test and post-test knowledge score was t=35.39 which was significant at 0.05 level of significance. In control group mean pre-test and post-test knowledge score was t=0.58 which was non-significant at 0.05 level of significance. Unpaired t-test in experimental and control group mean post-test knowledge score t=11.35 which was significant at 0.05 level of significance. Significant correlation in experimental group between, pre-knowledge and post knowledge r=0.92 and in control group pre-knowledge and post knowledge score r=0.94 at 0.05 level of significance. Association of knowledge score with selected demographic variables in experimental and control group was not statistically significant. Conclusion of the study showed that Structured Teaching Programme was effective in improving knowledge regarding health hazards of mobile phone addiction among school students.

Keywords: Assess; Effectiveness; Structured Teaching Programme; Knowledge; Mobile Phone Addiction; Health hazards; Students

1. Introduction

"Buyer should be aware that 'CELL' is a violent piece of work, which comes complete with zombies set in motion by bad cell phone signals that destroy the human brain."

Human communication is the process of making sense out of the world and sharing that sense with others. This transfer of information from one person to another person. This may be in form of sound transmission such as human speech, the beating of the drum, or even the bird's call. It can also be in a form that requires sight like writing, pictures, and signals, gestures and a form that requires the utilization of other senses. There are many means on how you can reach out to other people to communicate and one of this is the use of a mobile phone. It is used for business calls that binds two or group of people to convey messages to each other and these are possibly made for colleagues, employers, to conduct business and meetings anytime, anywhere.

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In human body system dopamine is responsible for the addiction because dopamine level impact on desire, ambition and addiction. There is one cycle that explains how the brain works with addiction. It is cycling to get more dopamine again and again.

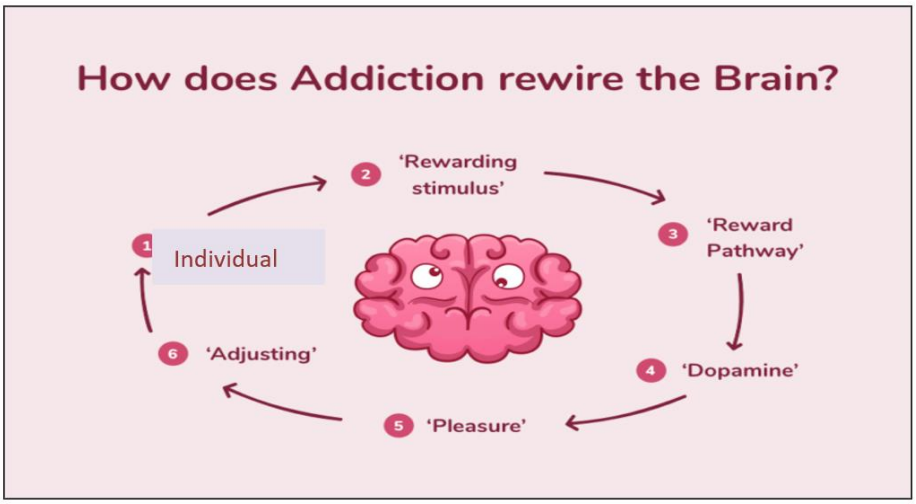

Figure 1 Depicts mobile phone addiction process

In this process a individual looking at Smartphone, and interacts with a "rewarding stimulus." A rewarding stimulus is something that provokes an action. So, the individual wants "to check device." Individual has taken the phone in hands and goes to Snapchat, Instagram, Facebook or an online game. When the "reward pathway" is stimulated, it triggers the release of dopamine. Dopamine tells the brain to pay attention: something is about to happen. Individual is on the way to check notifications, get new "likes" and new messages from social media. Individual brain heeds dopamine's message, shifting into a state of wanting, expecting, and desiring pleasure. Certain stimuli, such as addictive screen time, can trigger the release of more dopamine than natural rewards. It floods the brain with an acute sense of craving. Over time, the brain adjusts and becomes less sensitive to dopamine, meaning that individual physically cannot experience as much pleasure as they did before. Individual 'll need more of the rewarding stimulus to feel the same effect. Eventually, individual will need to interact with the phone just to feel normal. In this process individual overcome to the problem lead to change in behaviour and they come to the addiction.

Now a day's, there is an increasing interest towards using technology in different fields of human life, particularly, in education. In addition, the use of technology has a significant effect in various social and cultural contexts, as helps in improving the language of children as well as increasing their cultural awareness.

As every innovation and technology has pros and cons, mobile use also has advantage and disadvantages. And ignorance of the disadvantage among children has lead to health hazards. There are fastest growing group of mobile phone users in the children and young people. On the basis of this entire information researcher found that Majority of them face addictive issues and growing Smartphone addiction. This may further cause physical and psychological health hazards among students. So, it is best to educate them regarding the ill effects to the beginners, which might prevent further chance of risk among population. The researcher finds the study plays a vital role in preventing the health hazards due to usage of mobile phone.

2. Methodology

Research methodology is the significant part of any research study, which enable the researcher to project a blue print of study, which enables the researcher to project a blue print of the research understanding. The research methodology includes strategies to be used to collect and analyse the data to accomplish the research objectives. The methodology of research indicates the general pattern organizing the procedure for gathering valid and reliable data for investigation. It deals with the description of methodology and different steps, where taken for gathering and organizing data for investigation. It includes research approach, research design, the setting, the population, and sample, and sampling technique, development and description of tool, procedure for data collection and the plan for data analysis.

The research approach adopted in the study was Quantitative research approach. A Quasi experimental "Non-randomized control group pre-test post-test design was selected for the present study. The study was conducted at

Government Senior Secondary School Knaid Distt. Mandi (H.P.) was experimental group and Government Senior Secondary School Bagla Distt. Mandi (H.P.) was control group.

The sample size for present study was 100 (50 experimental and 50 control group). With the extensive review of literature, guide's opinion, discussion with the experts and with the researcher's personal and professional experience, tools were developed and Blue Print was prepared to assess the knowledge regarding health hazards of mobile phone addiction. In the present study 'structured knowledge questionnaire' was used as a tool for data collection. The tool for the data collection was consists of three Parts. Part-A: Demographic variables is used to collect data about certain characteristics of sample population. Part-B: Structured questionnaires were developed to prepared to assess the knowledge regarding health hazards of mobile phone addiction. Validity of tool was established by experts from nursing field for content. Reliability of the tool was assessed by using the Test re-test method and tool was found to be highly reliable. The r value calculated by using $r=n(\sum xy)- (\sum x)(\sum y)/\sqrt{n\sum x2 -(\sum x)2\sqrt{n\sum y 2 -(\sum y)2}}$ of knowledge questionnaire was 0.91, hence the tool was considered reliable for proceeding with the main study. Ethical approval to conduct the study was obtained from the Principal and ethical committee of Shimla nursing college. Written consent was obtained from Deputy Director of Higher Education and Principal of GSSS Kanaid and Bagla. Informed consent was taken from the school students. Data collection will not interfere in the routine working of the area. Data collection will be carried out by using developed and validated structured questionnaire. The purpose and details of the study was explained to the study subjects. Assurance was given regarding the confidentiality of the data collected. The tool for the data collection was consists of three phases. Phase 1: assess pre-existing knowledge regarding health hazards of mobile phone addiction on 6th august 2021 at 11:00 am on experimental group and on 12:00pm on control group. Phase 2: On 7th august 2021 intervention given to experimental group in the form of structured teaching programme regrading health hazards of mobile phone addiction. Phase 3: after that on 15th august 2021 post-test was conducted to assess knowledge regarding health hazards of mobile phone addiction at 11:00 am on experimental group and on 12:00pm on control group. Researcher observed the language of the tool was clear and easily understood. After that researcher thanked the study subject.

3. Results

3.1. Section A: description of socio demographic variable among students in experimental and control group

Table 1 Frequency and percentage distribution of demographic variable age, gender, class of studying, stream of education, residential area, type of family, family income per month, father education status, mother education status, type of mobile phone you are using, duration of mobile phone use per day, purpose of mobile phone usage, have you ever heard about health hazards of mobile phone addiction among students in experimental or control group

Sr. no.	Socio Demographic Variable		Experimental Group(n=50)		Control group (n=50)	
			Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Age	16 years	41	82%	40	80%
		17 years	9	18%	10	20%
		18 years	0	0%	0	0%
2.	Gender	Male	21	42%	24	48%
		Female	29	58%	26	52%
3.	Class of studying	11th standard	25	50%	25	50%
		12th standard	25	50%	25	50%
4.	Stream of education	Arts	31	62%	43	86%
		Commerce	2	4%	1	2%
		Medical	10	20%	0	0%
		Non medical	7	14%	6	12%
		Other	0	0%	0	0%

5.	Residential area	Urban	8	16%	7	14%
		Rural	39	78%	42	84%
		Semi urban	3	6%	1	2%
6.	Type of family	Joint family	29	58%	32	64%
		Nuclear family	19	38%	16	32%
		Extended family	2	4%	2	4%
		Expanded family	0	0%	0	0%
7.	Family income	<Rs. 10,000	15	30%	16	32%
		Rs. 10,001-Rs. 20,000	7	14%	11	22%
		Rs. 20,001-Rs. 30,000	3	6%	7	14%
		>Rs. 30,000	4	8%	3	6%
		Not known	21	42%	13	26%
8.	Father education status	No formal education	7	14%	4	8%
		Primary education	4	8%	14	28%
		Secondary education	18	36%	23	46%
		Graduate or above	21	42%	9	18%
9.	Mother education status	No formal education	8	16%	4	8%
		Primary education	1	2%	6	12%
		Secondary education	30	60%	33	66%
		Graduate or above	11	22%	7	14%
10.	Type of mobile phone you are using	Smartphone	43	86%	44	88%
		Simple hand set (mobile)	7	14%	6	12%
11.	Duration of mobile phone use per day	1-3 hrs./day	42	84%	43	86%
		3-6 hrs./day	6	12%	3	6%
		6-9 hrs./day	1	2%	1	2%
		More than 9 hrs./day	1	2%	3	6%
12.	Purpose of mobile phone usage	Social media usage	1	2%	1	2%
		Gaming	2	4%	2	4%
		Education	28	56%	25	50%
		Phone call	2	4%	4	8%
		Watching video	1	2%	1	2%
		All of the above	16	32%	17	34%
13	Have you ever heard about health hazards of mobile phone addiction	Yes	43	86%	38	76%
		No	7	14%	12	24%

Table 1 Showed the frequency and percentage distribution of Age, Gender, Class of studying, Stream of education, Residential area, Type of family, Family income, father education status, mother education status, type of mobile phone

you are using, duration of mobile phone use per day, purpose of mobile phone usage, have you ever heard about health hazards of mobile phone addiction among students in both experimental and control group.

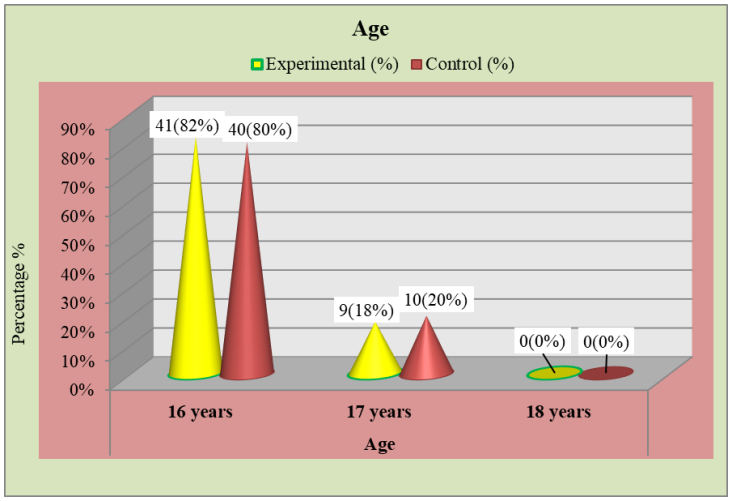

Figure 2 Depicts conical diagram regarding distribution of students as perage

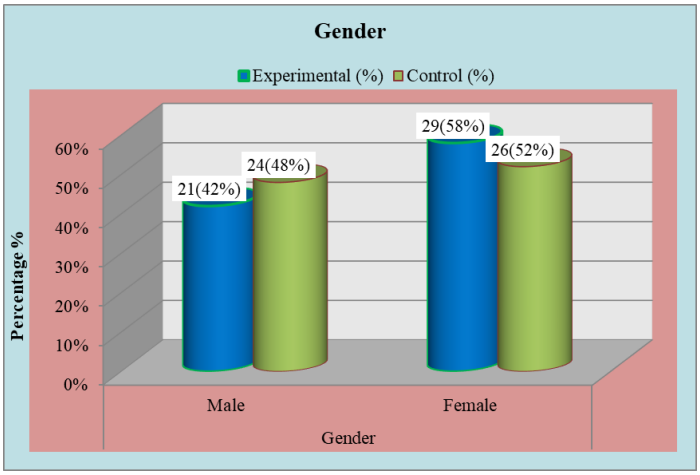

Figure 3 Depicts bar diagram regarding distribution of students as per gender

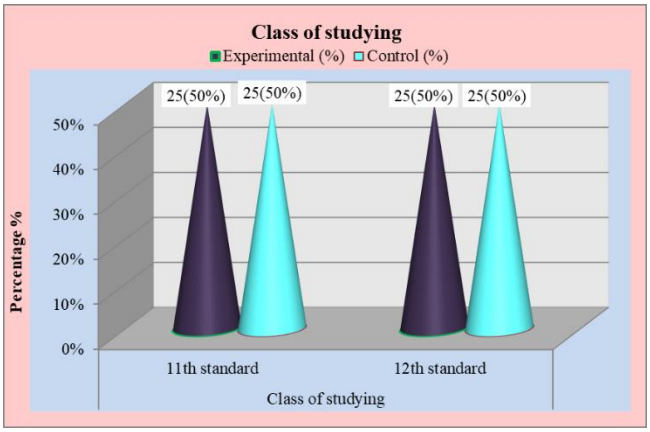

Figure 4 Depicts conical diagram regarding distribution of students as per class of studying

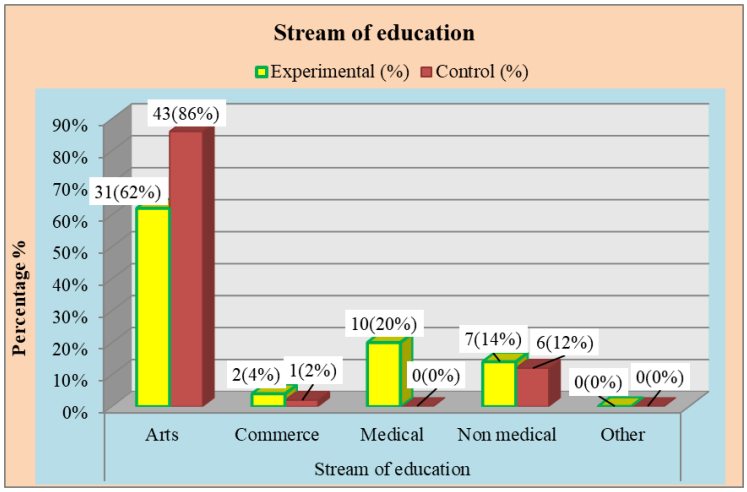

Figure 5 Depicts bar diagram regarding distribution of students as per streamof education

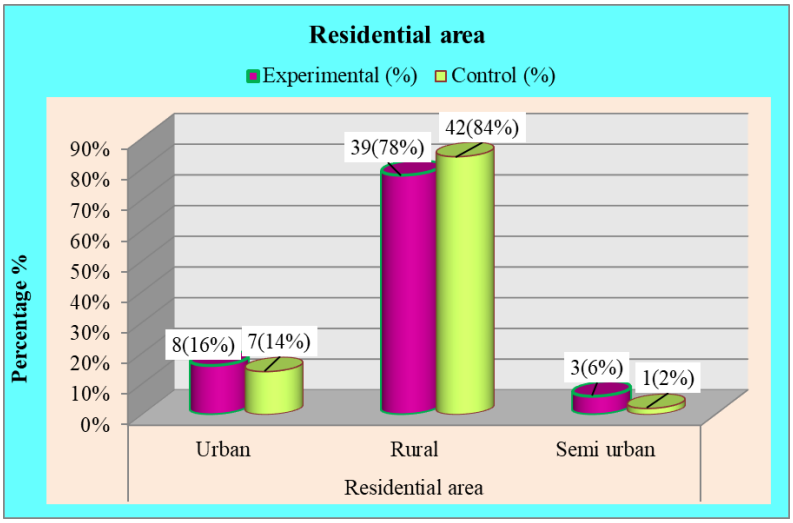

Figure 6 Depicts cylindrical diagram regarding distribution of students as perresidential area

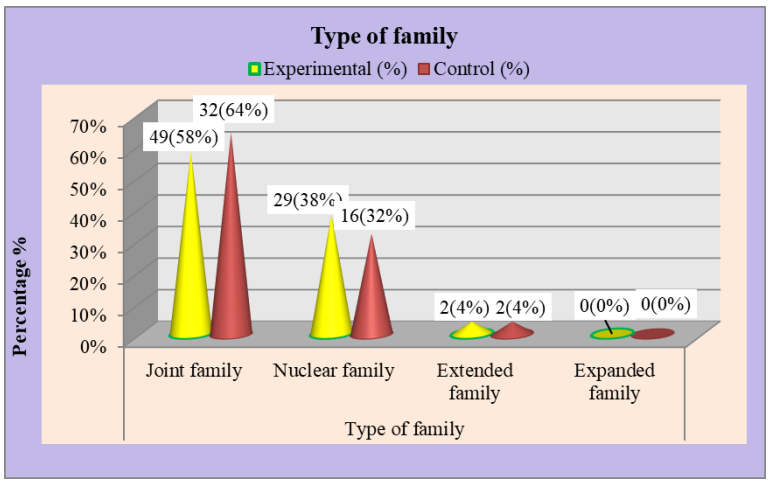

Figure 7 Depicts conical diagram regarding distribution of students as per typeof family

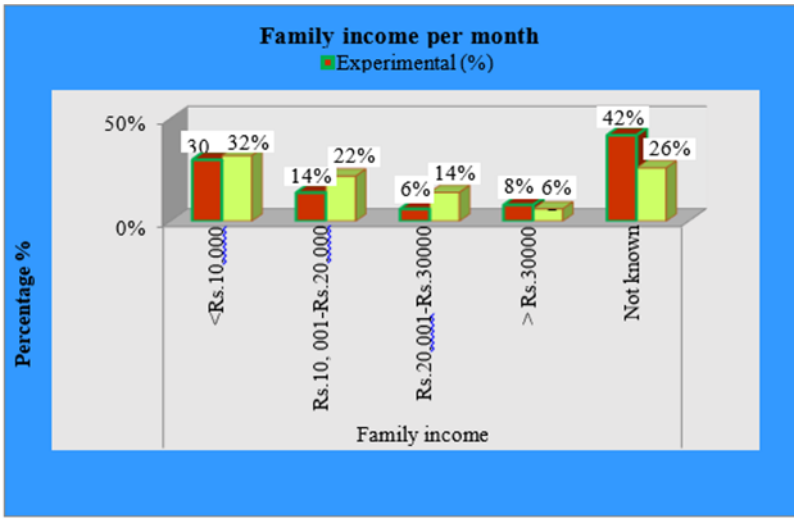

Figure 8 Depicts bar diagram distribution of students as per family incomeper month

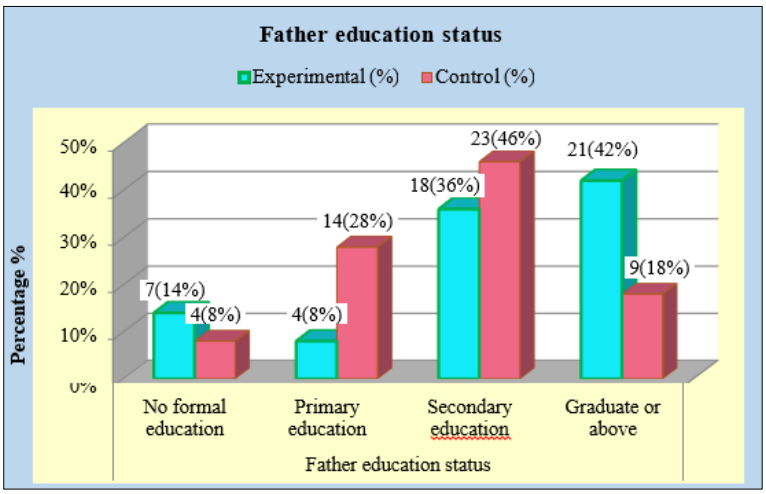

Figure 9 Depicts bar diagram distribution of students as per father'seducational status

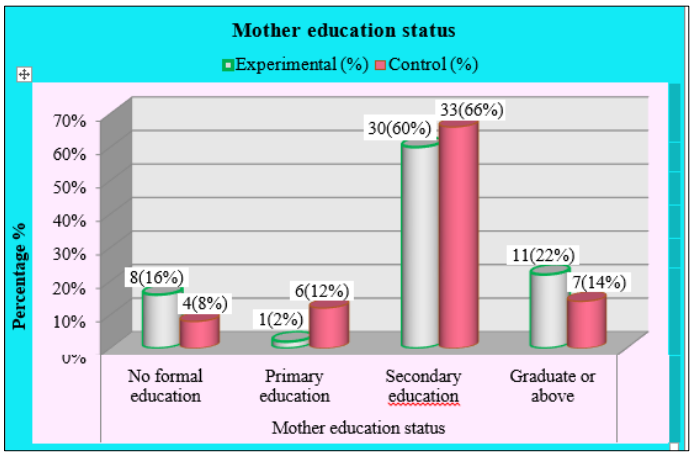

Figure 10 Depicts cylindrical diagram distribution of students as per mother'seducational status

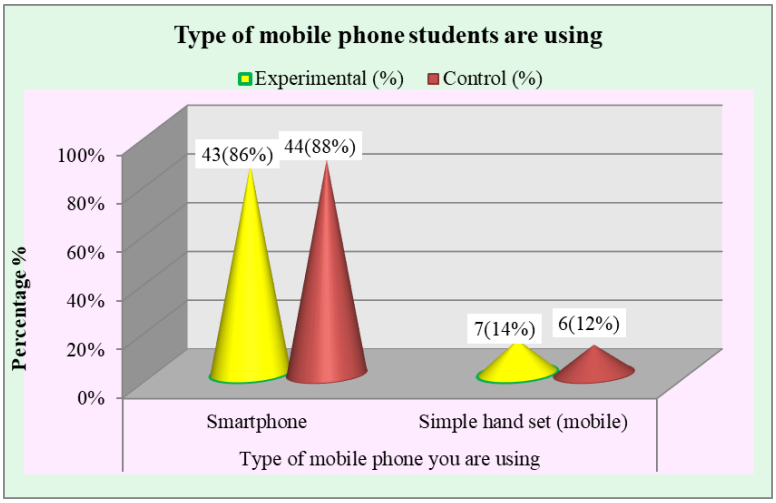

Figure 11 Depicts conical diagram distribution of students as per type ofmobile phone students are using

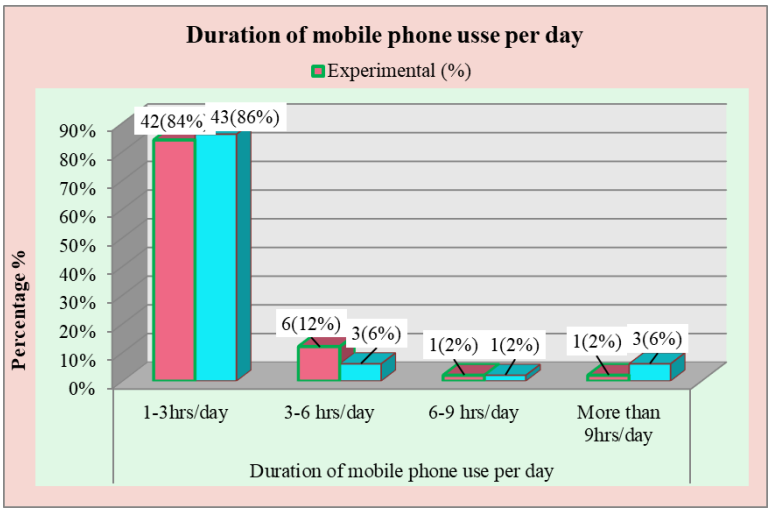

Figure 12 Depicts bar diagram distribution of students as per duration ofmobile phone use per day

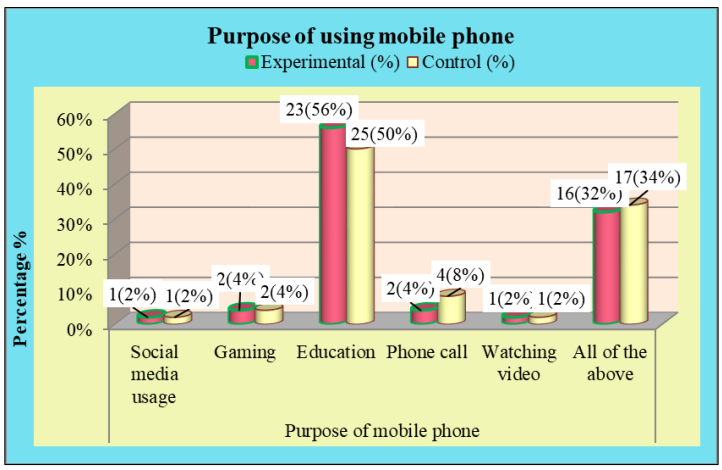

Figure 13 Depicts cylindrical diagram distribution of students as per purpose of using mobile phone

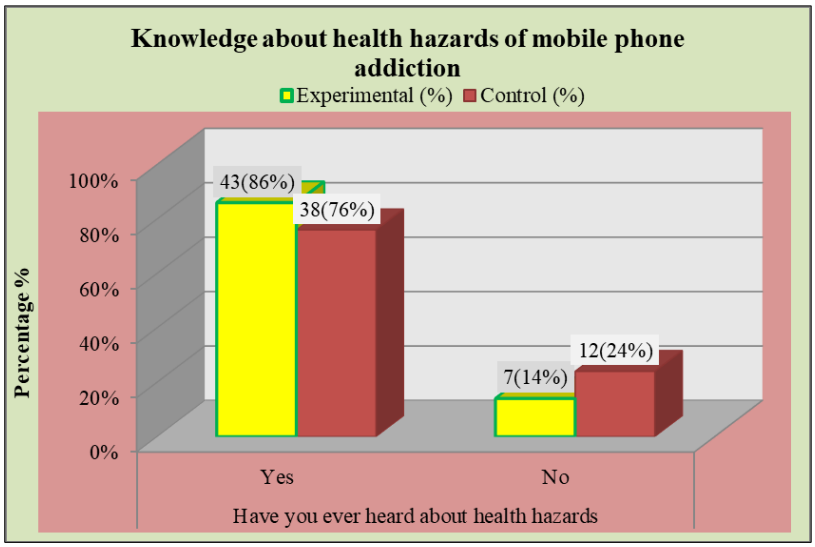

Figure 14 Depicts bar diagram distribution of students as per knowledge about health hazards of mobile phone addiction

3.2. Section –B Assessment of the pre-test and post-test knowledge score regarding health hazards of mobile phone addiction in experimental and control group

Table 2 Depicts frequency and percentage distribution of pre-test knowledge score in experimental group and control group (N=100)

			Experimental group		Control group	
Sr. no.	**Level of knowledge**	**Range of knowledge score**	**Frequency (f)**	**Percentage (%)**	**Frequency (f)**	**Percentage (%)**
1.	Below average	0-10	8	16%	8	16%
2.	Average	11-20	41	82%	40	80%
3.	Good	21-30	1	2%	2	4%

Maximum=30 Minimum= 0

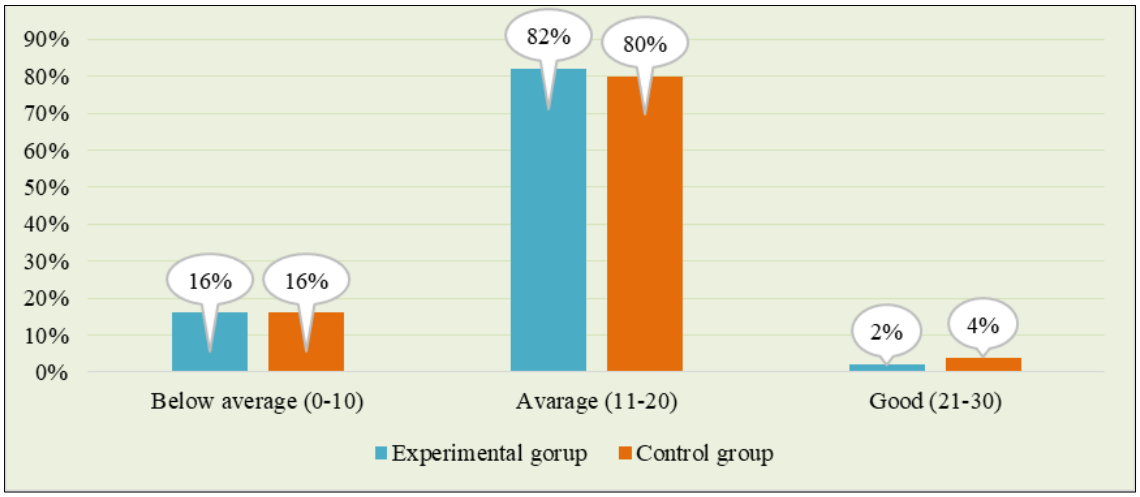

Figure 15 Pre-test knowledge score

3.2.1. Pre-test

This showed frequency and percentage distribution of pre-test knowledge score in Experimental Group and Control Group.

In experimental group Majority of the students 41(82%) were having average knowledge, 8(16%)had below average knowledge, 1(2%) had good knowledge.

In control group Majority numbers of students (80%) were having average knowledge, 8(16%) were having below average knowledge, 2(4%) were having good knowledge.

Table 3 Frequency and percentage distribution of Post-Test knowledge scorein experimental Group and Control Group (N=100)

			Experimental group		Control group	
Sr. no.	**Level of knowledge**	**Range of knowledge score**	**Frequency (f)**	**Percentage (%)**	**Frequency (f)**	**Percentage (%)**
1.	Below average	0-10	0	0%	2	4%
2.	Average	11-20	10	20%	35	70%
3.	Good	21-30	40	80%	13	26%

Maximum=30 Minimum= 0

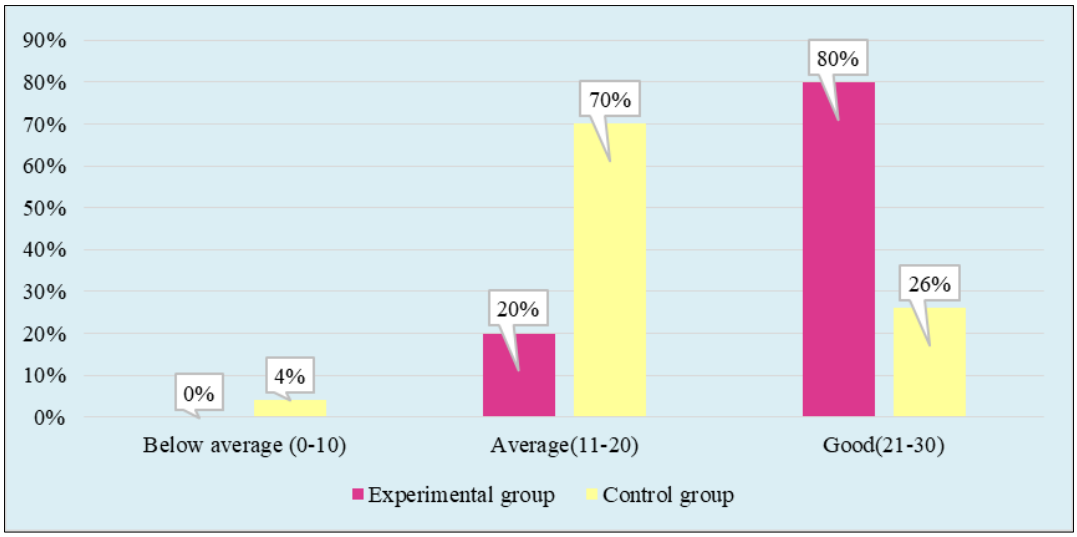

Figure 16 Post- test knowledge score

3.2.2. Post test

This showed frequency and percentage distribution of post-test knowledge score in Experimental Group and Control Group.

In experimental group majority of the students 40(80%) were having good knowledge, 10(20%) werehaving average knowledge, 0(0%) were having below average knowledge.

In control group majority of students 35(70%) were having average knowledge, 13(26%) were having below good knowledge, 2(4%) were having average knowledge.

3.3. Section –C Comparison of pretest and posttest knowledge score regarding healthhazards of mobile phone addiction in experimental and control group to determine effectiveness of structureteaching programme

Table 4 Depicts comparisons of knowledge score within and between group regarding health hazards of mobile phone addiction in experimental and control group(N=100)

		Knowledge Score				Paired t Test		
		Pre-test		Post-test				
Group	**N**	**Mean**	**SD**	**Mean**	**SD**	**df**	**T**	**P value**
Experimental Group	50	16.58	3.50	23.44	3.15	49	35.39	0.01*
Control Group	50	15.64	3.24	15.74	3.61	49	0.58	3.73 NS
Unpaired t Test	df	98		df	98			
	t	1.39		t	11.35			
	P value	0.16 NS		P value	0.00001*			

*Significant, NS Non-Significant *Significant at 0.05 level

Table 4 Showed comparisons of knowledge score within and between group regarding health hazards of mobile phone addiction in experimental and control group to assess the effectiveness of structure teaching programme.

With regard to comparison within experimental group, mean post-test knowledge score 23.44 was significantly higher than the pre-test knowledge 16.58 as evident from 't' value 35.39 significant at 0.05 level of significance, it showed that Structured Teaching Programme was effective in improving knowledge of students in experimental group.

4. Discussion

Smartphone, tablet, or computer can be a hugely productive tool, compulsive use of these devices can interfere with work, school, and relationships. When we spend more time on social media or playing games than we do interacting with real people, or we can't stop own self from repeatedly checking texts, emails, or apps-evenwhen it has negative consequences in our life. There are fastest growing group of mobile phone users in the children and young people This may further cause physical and psychological health hazards among students. So it is best to educate them regarding the ill effects to the beginners, which might prevent further chance of risk among population. The objective of study was: To assess the pre-test level of knowledge. In experimental group pre-test knowledge score Majority of the students 41(82%) were having average knowledge. In control group pre-test knowledge Majority number of students 40(80%) was having average knowledge. To compare pre-test and post-test knowledge score: after conducting pre-test and post-test there is significant improvement in the result. In experimental group mean post-test knowledge score 23.44 was higher than the pre-test knowledge 16.58. the knowledge regarding health hazards of mobile phone addiction among school students is significantly improved to some extent. Some of literature related to the research were also reviewed as followed: K. Ramu et.al. (2018**)** a Quasi-experimental study to assess the effectiveness of organized teaching programme on knowledge regarding hazards of using mobile phones among high students in selected school at Bangalore, Karnataka, India. Aim ofstudy to assess the effectiveness of structured teaching program on knowledge regarding hazards of using mobile phones among high school students. An evaluation research approach was used for the study. The result of study Majority of the students got information on hazards of using mobile phones through from friends 10(33.3%). Majority of the students 18(60%) were not having any knowledge regarding side effects of mobile phones. The mean pre scores were inadequate (70%). The mean post-test knowledge score was improved and it was found adequate (72%). Conclusion: There is significant difference between pre and post- test knowledge scores and it is evident that STP is significantly effective in improving knowledge regarding hazards of using mobile phone, high school student

5. Conclusion

The conclusion of the study revealed that there was a significant improvement in the knowledge among student regarding health hazards of mobile phone addiction after implementation structured teaching programme.

Recommendations

Based on the result of the study following recommendation were made. A descriptive study to assess the mobile phone addiction among adolescent age group in selected schools of Shimla H.P. A pre-experimental study to assess the knowledge regarding mobile phone addiction among adolescent age group in selected school of Kinaur H.P. A quai-experimental study to assess the knowledge attitude regarding mobile phone addiction among adolescent age group in selected school of Kangra H.P. A pre-experimental study to assess the effectiveness of structured teaching programme on knowledge regarding mobile phone addiction and its prevention among adolescent students of a selected school of Una H.P. A comparative study to assess the knowledge and attitude regarding health hazards of mobile phone addiction among adolescent in urban and rural schools.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

No conflict of interest.

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