

Physical and Psychosocial impact of excessive Smartphone usage among Adolescents

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Abstract: Adolescents who uses Smartphone excessively are more likely to adopt a detached view of the society as well as suffers from serious physical and psychological health problems. The objective of the study was to assess the knowledge and evaluate the effectiveness of the Structured Teaching Program on knowledge regarding Physical and Psychosocial impact of excessive Smartphone usage among Adolescents. The research approach for the study was quantitative research approach and research design was pre experimental one group pre test post test research design. Non probability convenient sampling was adopted to obtain 30 Adolescents studying in selected school, Delhi/NCR. A Structured Knowledge Questionnaire of 40 questions regarding Physical and Psychosocial impact of excessive Smartphone usage among Adolescents was administered to Adolescents. Results of the study showed that the mean pre-test knowledge score of the sample was 17.8 with the standard deviation 3.69. The mean post-test knowledge score of the sample was 34.9 with the standard deviation 3.49. The mean difference was found 17.1. The obtained mean Difference was found to be statistically significant as evident from “t” value of 35.73. Fisher’s exact test was found the association between post test knowledge score with selected demographic variables and findings show that there was no significant association between post test knowledge score with the selected demographic variables at 0.05 level of significance. The Study concluded that the Structured Teaching Program was effective in improving the knowledge of the Adolescents regarding Physical and Psychosocial impact of excessive Smartphone usage and Adolescents can be educated by using different teaching methods to change their attitude towards Smartphone usage.

Key Words: Structured Teaching Program, Knowledge, Physical Impact, Psychosocial Impact, Smartphone, Adolescents

1. INTRODUCTION:

The Smartphone being a greatest invention in the twentieth century became an inherent part of human’s life which has combination of different sophisticated and unique features. ^[1] The Smartphone has made our day to day life easier by simplify our tasks. But every technology always has its pros and cons. ^[2] In case of excessive Smartphone usage , adolescence is a vulnerable period as they get strongly attached to the Smartphone. There are chances of becoming addicted with hours of long chatting and sending messages among adolescents. ^[3]

The continuous and excessive use of Smart phone may have adverse effect as it is a source of Radio Frequency radiation that can heat the tissues and affect the brain. ^[4] Adolescents experience many physical and psychological health impacts. Adolescents, as digitally oriented, get more interested in every new technology and addicted to the operation of Smartphone than of adults. Social media and Smartphones go hand in hand, documentation of dining, activities and feelings with pictures, selfies and videos on social media are growing up day by day. ^[3]

Adolescents spend most of the time on the Smartphone whenever they get free is becoming a matter to worry about because they do not understand the negative effects of excessive Smart phone usage. Smart phones can be harmful to the heart, brain and the body due to emission of electromagnetic waves and these waves from the Smartphone can cause the headache, which may even result in poor memory. ^[5]

Radio frequency waves exposure increases the risk of biological and psychological impact . It can lead to many symptoms including headaches, earache, blurred vision, memory loss, and numbness, tingling and burning sensations in fingers and thumb, insomnia, fatigue & anxiety, depression. Excessive use of Smartphone may affect the brain, causing damage which could lead to Alzheimer’s disease or Brain tumor, neurological effects and neurodegenerative diseases, immune system deregulation, allergic and inflammatory response and many more. ^[6]

Consequently, Smartphones play an important role in this modernized, technological world and has made revolutionary changes in our lives, but their excessive usage causes severe impacts on health. To reduce their harmful

effects, one should always use the Smartphone as a friend as a helper, not as a master, precisely, its excessive usage should be limited.^[7]

2. MATERIALS AND METHODS:

A Pre experimental one group pre test post test design was adopted to assess the knowledge regarding Physical and Psychosocial impact of excessive Smartphone usage among 30 Adolescents (13-18 years) from selected school in Delhi/NCR who were selected by non probability convenient sampling technique. Following research tools were used in the study:

2.1 Tool 1: Demographic data sheet

It is used to measure socio-demographic details of the Adolescents. It included items on Age, Gender of the adolescent, Occupation of the Father, Occupation of the Mother, Area of living, Family income (per month), Frequency of using Smartphone in a day, Number of Smartphone owned, Source of information.

2.2 Tool 2: Structured knowledge questionnaire

Structured knowledge questionnaire was used to evaluate the knowledge of adolescents regarding Physical and Psychosocial impact of excessive Smartphone usage.

Part I of the tool contained 2 items related to introduction, part II contained 22 items related to physical impact of excessive Smartphone usage and part III contained 16 items related to psychosocial impact of excessive Smartphone usage. The reliability was calculated by Kuder Richardson formula ($r = 0.73$).

3. DISCUSSION:

The present study was conducted to evaluate the effectiveness of Structured Teaching Program on knowledge regarding Physical and Psychosocial impact of excessive Smartphone usage among Adolescents in selected School, Delhi/NCR.

The finding in the present study revealed that in pre-test the mean score of the sample had average knowledge (17.8). After intervention, the Adolescents to Structured Teaching Program the mean score of the Adolescents had excellent knowledge (34.9) which were significantly higher than their pre test knowledge score. Thus the Structured Teaching Program found to be effective in increasing the knowledge of Adolescents.

In one of the recent descriptive study which was conducted on a sample of total 1,000 medical students aged between 17 and 24 years who were using mobile phone for at least 1 year. The Result showed that among the total 1,000 students, all of them possessed their own mobile phone, with about 76.4% students having smart phones. Night time usage of mobile phone was highly significantly ($p < 0.0001$) associated with difficulty in waking up, waking time tiredness, decline in study habits, difficulty in concentration, increase in missed classes, and going late for classes. Total time spent on mobile phones was significantly ($p < 0.05$) associated with waking time tiredness and difficulty in waking up and highly significantly ($p < 0.001$) with decline in study habits, increase in missed classes, and going late for classes and concluded that Besides the positive role of mobile phones in our daily lives, its overuse presents negative impact on psychological health, sleep, and academic performance of students.^[8]

Another descriptive study was conducted to investigate the health risk perception as well as to assess the prevalence of self symptoms attributed to electromagnetic fields and other environmental exposures among 2048 samples over 14 years old at Switzerland Swiss population. The result of the study showed that prevalence of 5% for electromagnetic hypersensitivity and the common health complaints of sleep disorders (43%) and headaches (34%) which were mostly attributed to power lines and mobile phone handset. 53% were worried about adverse health effects from electromagnetic frequency without attributing their own health symptoms.^[9]

4. RESULT:

Majority of Adolescents (100%) were in 15-16 years age group, male (70%), Adolescent's Father (43.3%) were in government job, mothers of Adolescents (76.7%) were in other. They (70%) belonged to urban area and (63.3%) Adolescents had family income more than or equal to Rs.15,00. Adolescents (70%) used Smartphone 1-3 hours and (46.7%) had one Smartphone. They (40%) had got information through family and friends.

The knowledge score of Adolescents in pre-test was assessed which revealed 86.7% of the Adolescents had Average knowledge, 10% had Good knowledge, 3.3% had Poor knowledge and 0% had Excellent and in post-test, it reveals that 86.7% of the Adolescents had Excellent knowledge, 0% had Good knowledge, 0% had Average knowledge and 0% had poor knowledge regarding Physical and Psychosocial impact of excessive Smartphone usage.

The mean pre-test knowledge score of the sample was 17.8 with the standard deviation 3.69. The mean post-test knowledge score of the sample was 34.9 with the standard deviation 3.49. The mean difference was found 17.1. The obtained mean difference was found to be statistically significant as evident from "t" value of 35.73 which is greater

than table value (2.05) for df (29) at 0.05 level of significance. Thus it was evident that Structured Teaching Program was effective in improving the knowledge of Adolescents. There is no significant association between post-test knowledge score with the demographic variables.

Table 1-Frequency and percentage distribution of pre test and post test of adolescents regarding physical and psychosocial impact of excessive Smartphone usage among Adolescents

N=30

CRITERIA	PRE TEST		POST TEST	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor (0-10)	1	3.3	0	0
Average (11-20)	26	86.7	0	0
Good (21-30)	3	10	4	13.3
Excellent (31-40)	0	0	26	86.7

Figure 1- Bar Graph showing the percentage distribution of pre-test and post-test regarding Physical and Psychosocial impact of excessive Smartphone usage among Adolescents

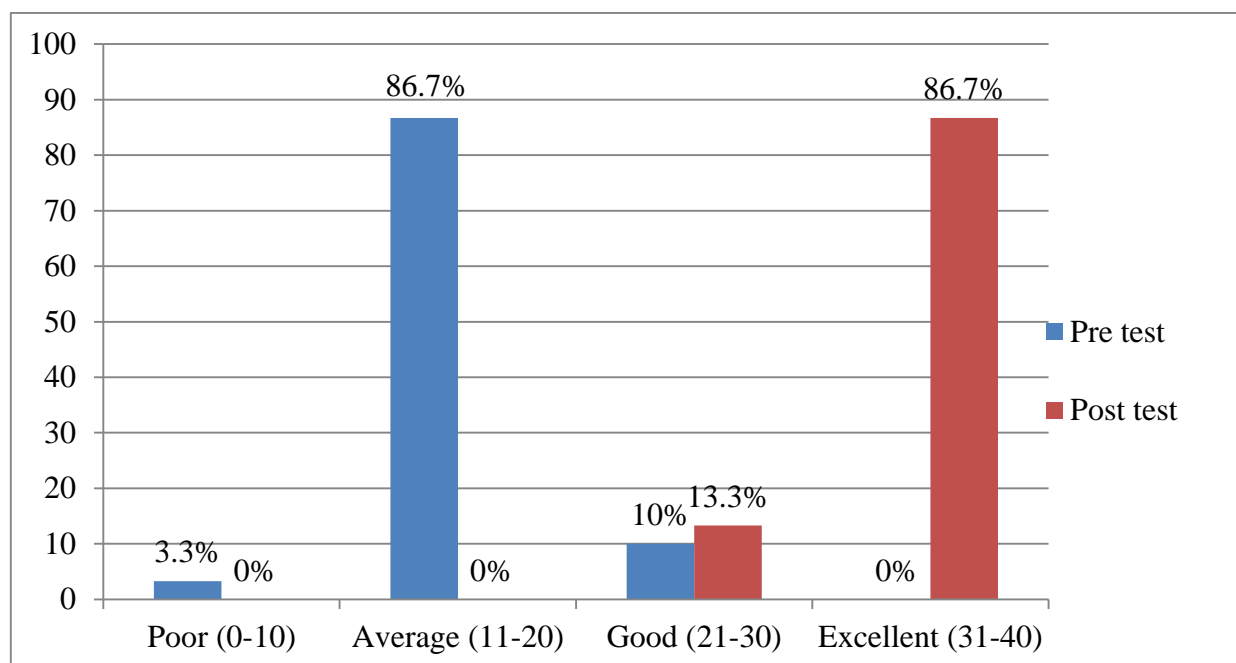


Table 2-Mean, Median, Mean Difference, Standard Deviation and t- Test Value of Knowledge Scores of Adolescents Regarding Physical and Psychosocial Impact of Excessive Smartphone Usage among Adolescents

N=30

TEST	MEAN	MEDIAN	MEAN DIFFERENCE	STANDARD DEVIATION	t- VALUE
Pre test	17.8	17	17.1	3.63	35.73*
Post test	34.9	35		3.49	

*df (29)=2.05 at 0.05 level of significance

5. CONCLUSION / SUMMARY:

Study concluded that after providing Structured Teaching Program to the 30 samples of Adolescents knowledge has increased as evident from pre test and post test scores of Adolescents regarding Physical and Psychosocial impact of excessive Smartphone usage.

Study recommends that the study can be replicated on large sample in different setting on any other sample like school age children, young adults, office workers etc. A comparative study can be conducted on males and female,

adolescents and adults to evaluate the effectiveness of Structured Teaching Program on knowledge regarding Physical and Psychosocial impact of excessive Smartphone usage.

Despite of these findings, some research limitations need to be mentioned. The study was conducted on a small number of Adolescents those who have age between 13 to 18 years and was limited to one selected school in Delhi/NCR which limits the generalization of the findings.

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