



STUDY OF SMARTPHONE ADDICTION AMONG MEDICAL STUDENTS: A CROSS-SECTIONAL STUDY

Community Medicine

Dr. Shalini Ojha Associate Professor Community Medicine Terna Medical College

Dr. Shashank Ojha Assistant Professor United Institute of Medical Sciences, Sr. Consultant Ojha Hospital

Dr. Adil Patel JR 1 Community Medicine Terna Medical College

ABSTRACT

Introduction- Smartphone has become an important device in current day living. estimated smartphone addiction magnitude in India ranged from 39%-44%. It has significant risks and consequences in physical and mental health. It has been shown that excessive smartphone use may lead to depression, anxiety and sleep disturbances. **Aims & Objectives-** To find out the prevalence of excessive smartphone use around medical in student & Association between excessive use of smart phone VS effect on mental, physical, social health of Medical students. **Methods-** STUDY DESIGN- Descriptive and Cross-sectional Study, STUDY POPULATION- 100 (53 Males & 47 Females) MBBS Students & Interns, STUDY PERIOD- January 2020 to February 2020, STUDY TOOLS - A predesigned structured score and Smart phone Addiction scale (Short Version) questionnaire was used for study, DATA ANALYSIS- By Excel sheet. **Results-** 100 Medical Students were selected for a month's time period among the medical students including Interns which meets the target to be achieved. 12% of the students were using mobile phone for <3 hours, 35% of the students were using mobile phone for 3-6 hours and 53% students were using mobile phones for >6 hours in a day, 69% were severely affected Mentally, Physically & Socially because of Phone Addiction. 33% of the students self-evaluated themselves as addicted to smartphone. **Conclusion-** The Study reveals that Medical Students somehow are addicted to Smartphones. Also, more than 60% were affected with the Addiction which is a concern.

KEYWORDS

Smartphones, Addiction, Mental Health, Medical Students

INTRODUCTION:

Smartphone has become an important device in current day living. Smartphone differs from regular phones as it has advanced features other than voice calling like internet access, social networking, games and many others. Smartphone has a variety of applications which contains information, communication, education and entertainment. With the advent of technology, smartphone has become a necessity of life.

Many terms are given for increased smartphone usage as smartphone addiction, mobile phone addiction, problematic mobile phone use etc.

Literature review suggest that problem of smartphone addiction is growing fast. According to literature the prevalence of smartphone addiction range from 0 to 38%; estimated smartphone addiction magnitude in India ranged from 39%-44%. It was found that smartphone addiction was more prevalent in younger adolescents when compared with young adults. The prevalence of smartphone addiction was quite high amongst students. There is a gender difference in smartphone addiction. Few studies show that smartphone addiction was more common in males.

Smartphone addiction has significant risks and consequences in physical and mental health. Research shows that excessive smartphone use may damage the interpersonal skills in adolescents.

It has been shown that excessive smartphone use may lead to depression, anxiety and sleep disturbances. Smartphone addiction affects social life, communication and causes difficulty in concentration. It generally coexists with addiction of alcohol and tobacco.

This study was conducted with the aim of knowing the magnitude of smartphone addiction amongst the students of Private medical college and hospital.

AIM:

- The aim of this study was to know the magnitude of smartphone addiction among the medical students in Thane District Maharashtra.

OBJECTIVES:

- To find out the prevalence of excessive smartphone use around medical in student
- To find out the common effects on the mental, physical, social health of medical student
- To find out methods to optimize the use of smartphone

METHODOLOGY:

- The study design was descriptive and cross sectional, conducted at Private Medical College and Hospital, Thane District Maharashtra between January 2020-February 2020 amongst medical students of sample size 100.
- The subjects were selected by convenience sampling.
- All the students age 18-25y gave their consent.
- They were interviewed with a well designed validated questionnaire to know about their outlook towards smartphone addiction.
- The questionnaire was then documented and arranged on excel sheet and total statistics was measured.
- The statistical data was analyzed.

Type Of Study: Cross sectional

Place Of Study: Private medical college and Hospital, Thane district Maharashtra.

Duration Of Study: January 2020 to February 2020

Sampling Method: - Convenience sampling

Sample Size:- 100 (53 Males & 47 Females)

Tool: A predesigned structured score and scale questionnaire was used for study.

SAS-SV scale (Smart phone addiction scale -short version)

- Smartphone addiction scale - short version (SAS-SV) is a scale for smartphone addiction that consisted of 6 factors and 10 items with a six-point Likert scale (1: "strongly disagree" and 6: "strongly agree") based on self-reporting.
- Symptom severity scale: The Symptom Severity Scale is a self-administered questionnaire that has been developed to assess the severity of symptoms in students for smartphone addiction.

The questionnaire contains fourteen questions with multiple choice responses, with a score ranging from 0 point (none) to 4 points (most severe)

Statistical Tools:

Students were interviewed with a well designed validate questionnaire to know about their outlook towards Smartphone addiction.

The questionnaire was then documented and arranged on excel sheet and data was represented by using Pie charts and Bar graphs

Statistical significance of data was verified by using Chi square test.

ETHICAL CONSIDERATION:

The rights, anonymity and confidentiality of the respondents were respected during the period of study. Informed verbal consent was obtained from participants before data collection.

Analysis

Table 1 – Sex Distribution

Sex	Number of people
Male	53
Female	47

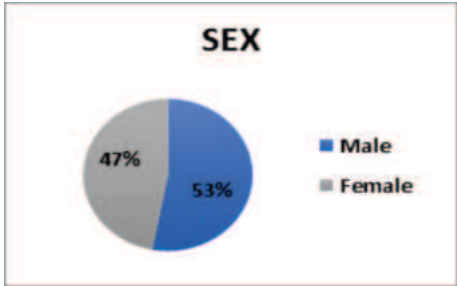


Table 2 – Age wise distribution

Age	Number of People	Percentage (%)
17 years	10	10
18 years	9	9
19 years	7	7
20 years	13	13
21 years	12	12
22 years	11	11
23 years	16	16
24 years	15	15
25 years	7	7

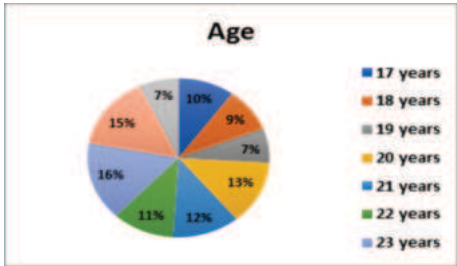


Table 3 – Daily Smartphone Usage Time

Response		Number of people	Percentage (%)
Daily smart phone usage time			
	<3hours	12	12
	3-6 hours	35	35
	>6hours	53	53

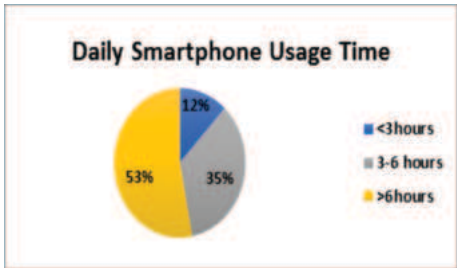


Table 4 – Purpose of Smartphone Use

Response		Number of people	Percentage (%)
Purpose of smartphone use	Messenger and sms	75	32
	Entertainment	82	36
	Study and web	73	32

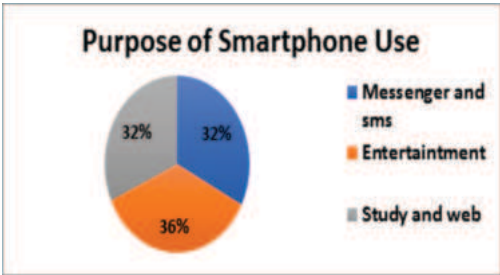


Table 5 – Self evaluation of Smartphone Addiction

Response		Number of people	Percentage (%)
Self evaluation of smartphone addictions	Non addiction	27	27
	Addiction	33	33
	Don't know	39	40

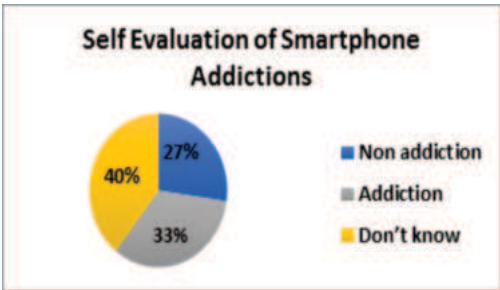


Table 6 Physical Symptoms

	None	Mild	Mode rate	Severe	Total	Chi square	P- Value	Sig. At 5% Level
Male	54	66	34	58	212	52.629**		
Female	106	48	23	11	188			
Total	160	114	57	69	400			

Table 7 Mental Symptoms

	None	Mild	Mode rate	Severe	Total	Chisquare	P- Value	Sig. At 5% Level
Male	114	84	32	88	318	67.623**	0.000	Yes
Female	179	45	38	20	282			
Total	160	114	57	69	600			

Table 8 Social Symptoms

	None	Mild	Moderate	Severe	Total	Chi square	P- Value	Sig. At 5% Level
Male	74	56	25	57	212	54.238	0.000	Yes
Female	131	31	14	12	188			
Total	205	87	39	69	400			

DISCUSSION

According to the smartphone addiction study conducted at Private Medical College and Hospital, Thane district Maharashtra, out of the 100 students who took part in the study, everyone had a smartphone. 12%of the students were using mobile phone for <3hours, 35% of the students were using mobile phone for 3-6 hours and 53% students were using mobile phones for >6 hours in a day

32% of the students were using mobile phone for messaging and SMS. 36% of the students were using mobile phone for entertainment. 32% of the students were using mobile phone for study and web browsing purposes

36% of the students were addicted to alcohol and 32% of the students were addicted to smoking

33% of the students self evaluated themselves as addicted to

smartphone

Thus, it showed that there is a positive correlation between smartphone addiction with other substance addiction such as alcohol and tobacco.

In other study done in the medical university in South India, out of the 328 students who took part in the study, everyone had a smartphone. 46% of the students were using mobile phone for 4-6hrs and 14% of the students were using phones for 7-9hrs in a day. 41% of the students were using smartphones for many purposes like social networking, entertainment, news, games and research work other than voice calling and text messages.

46% of the students using smartphone for social networking like Facebook, Instagram, WhatsApp and Twitter etc. Few, 8% of students were using it for games. 51% of the students reported that they would check their phone at night when they get up from sleep. 60% students reported that they would feel distressed at work if they forget to bring along their phones.

A study of Sosyl in Turkey showed that smartphone addiction was common in students around 20yrs old [12].

In another study done in the similar campus on postgraduate students by Shettar et al; showed that 26% of the students had Facebook addiction and also showed that there is a positive correlation between severity of Facebook addiction and extent of experience of loneliness [13].

Based on the cutoff values for SAS-SV given by Kwon et al; for males more than 31 and females more than 33, smartphone addiction was present in 36% of the students. This is similar to the results of Indian meta-analysis on assessment of smartphone addiction by Davey et al; which showed 39-44% [5]

Another study by Chen et al; in china showed the prevalence of smartphone addiction among medical college students was 29.8% [14]. 51% (81) male students are addicted to smartphone and 23.5% (40) female students were addicted to Smartphone. In their study smartphone addiction was more in males, similar to the study by Bisen S et al [10]; however it is in contrast to few other studies where it showed that smartphone addiction was more in females. [8,11] A study by Tang et al studied the addiction pattern among students in United States, China and Singapore, showed that students from countries China and Singapore was more addicted to Internet and Social networking and less for Games when compared to United States. [15]

The possible explanation for every one having smartphone and its increased usage among the university students could be due to the free uninterrupted availability of Internet facility everywhere in the campus. This study strengthens the previous studies on prevalence of smartphone addiction among young students.

CONCLUSION

According to chi square test, the value of the following questions was found to be < 0.05

- Feeling pain in the wrist or at the back of the neck while using a smart phone.
- Won't be able to stand not having a smartphone
- Feeling impatient and fretful when am not holding my smartphone.
- Having my smartphone in my mind even when am not using it.
- I will never give up using my smartphone even my daily life is already greatly affected by it.
- Constantly checking my phone so as not to miss conversation between other people on Twitter or Facebook.
- Using my smartphone longer than I had intended.

As the value of the above questions is < 0.05 , it is significant to our hypothesis.

The study showed the magnitude of smartphone addiction in students of Medical students. Smartphone addiction is a growing public health problem across the world particularly in developing countries like India where the youth population is high.

Smartphone addiction causes a significant effect on the physical, mental, social & psychological health of students. Hence there is

definite need to identify students with smartphone addiction and plan interventional strategies.

Strengths of the study are

It has a fairly good sample size

It focuses on students where the problem is high It represents students from the age group of 18-25 years in the same medical college.

Limitations:

The study cannot be generalized to the general population. Future studies are needed in this area on general population with interventional programmes.

Recommendation:

Certain changes on both social and personal level can help reduce phone usage and hence the health hazard by it.

At Personal Level

1. Delete unnecessary applications like gaming apps.
2. Restrict usage of phone at night before sleeping.
3. make meals a phone free zone.
4. Turn off notifications ;no notification = no need to check your phone.
5. Have a phone detox! Decide not to use your phone once a week.
6. Don't charge your phone near bed, switch off your cellular data before sleeping.
7. Set time period in which you use your phone.
8. Using phone settings like Zen mode, do not disturb mode to reduce phone use.

At Social Level:

1. Making offices, colleges phone free zone.
2. Having cell phone jammers in lecture halls, practical halls, meeting rooms.

REFERENCES

1. Lin Y-H, Chang L-R, Lee Y-H, Tseng H-W, Kuo TBJ, Chen S-H. Development and validation of the Smartphone addiction inventory (SPA1). *PLoS ONE*. 2014; 4: 9(6).
2. Griffiths M. Gambling on the internet: A brief note. *J Gambl Stud*. 1996; 12: 471-3.
3. Grant JE, Potenza MN, Weinstein A, Gorelick DA. Introduction to behavioral addictions. *Am J Drug Alcohol Abuse*. 2010; 36: 233-41.
4. Perez EJP, Monje MTR, Leon JMRS. Mobile phone abuse or addiction. A review of the literature. *Adicciones*. 2012; 24: 139-52.
5. Davey S, Davey A. Assessment of Smartphone addiction in Indian adolescents: A mixed method study by systematic- review and meta-analysis approach. *Int J Prev Med*. 2014; 5: 1500-11.
6. Haug S, Castro RP, Kwon M, Filler A, Kowatsch T, Schaub MP. Smartphone use and smartphone addiction among young people in Switzerland. *J Behav Addict*. 2015; 4: 299-307.
7. Smetaniuk P. A preliminary investigation into the prevalence and prediction of problematic cell phone use. *J Behav Addict*. 2014; 3: 41-53.
8. De-Sola Gutiérrez J, Rodríguez de Fonseca F, Rubio G. Cell phone addiction: A review. *Front Psychiatry*. 2016; 7: 175.
9. Bisen S, Deshpande Y. An analytical study of Smartphone addiction among engineering students: A gender differences. *Int J Indian Psychol*. 2016; 4: 70-81.
10. Kuss DJ, Griffiths MD, Karila L, Billieux J. Internet addiction: a systematic review of epidemiological research for the last decade. *Curr Pharm Des*. 2014; 20: 4026-52.
11. Demirci K, Akgonul M, Akpinar A. Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *J Behav Addict*. 2015; 4: 85-92.
12. Sosyal BD. Effects of Smartphone addiction level on social and educational life in health sciences students. *Euras J Fam Med*. 2016; 5: 13-9.
13. Shettar M, Karkal R, Kakunje A, Mendonsa RD, Chandran VM. Facebook addiction and loneliness in the post-graduate students of a university in southern India. *Int J Soc Psychiatry*. 2017; 63: 325-9.
14. Chen B, Liu F, Ding S, Ying X, Wang L, Wen Y. Gender differences in factors associated with smartphone addiction: a cross-sectional study among medical college students. *BMC Psychiatry*. 2017; 10: 17.
15. Tang CS-K, Koh YW, Gan Y. Addiction to internet use, online gaming, and online social networking among young adults in China, Singapore, and the United States. *Asia Pac J Public Health*. 2017; 29: 673-82.