

Original Research Article

Smartphone addiction among medical college students in the Andaman and Nicobar Islands

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ABSTRACT

Background: Smart phones have become an integral part of youth. But at the same time addiction towards its use have become a serious concern among them. The objective of this study was to evaluate the level of smart phone usage among medical college students and their demographic characteristics.

Methods: A cross sectional study was conducted on 192 medical students. A self administered SAS scale has been used to assess the level of smart phone addiction. Subjects were classified into smart phone non-user group, a low smart phone user group and a high smart phone user group.

Results: Out of 192 subjects who completed the questionnaires 85.40% (n=164) had smart phone addiction. Out of the total 192 students 28 students (14.60%) were low smart phone users, of which 9 were boys (14.30%) and 19 were girls (14.70%). Among 164 (85.40%) high smart phone users 54 students were boys (85.70%) and 110 were girls (85.30%) which was not statistically significant at 5% level (chi square=0.007, p=0.935).

Conclusions: Medical college students in Andaman and Nicobar Islands are more vulnerable for smart phone addiction.

Keywords: Smart phone addiction, Medical college, Students

INTRODUCTION

Mobile phones have become an unavoidable part of the youth's life.¹⁻³

Smart phones are attractive and a very handy technological appliance, competent to disperse a lot of information in finger tips and it also includes features like internet access, multimedia and GPS navigation in addition to its use for communication. The key point of difference between ordinary mobiles and newer smart phones is that smart phones offer much easy access to the web and other applications which can also be downloaded and stored in it.⁴ According to WHO Expert Committee – 1964, addiction to any particulate substance or any act is considered as dependence. It is continuous

use of something which is apparently believed to provide oneself a sort of relief, comfort, or stimulation, resulting in cravings when the same is absent.⁵

The overall increase in usage of smart phones in young and adolescent age group in their everyday life has made smart phone addiction a significant social morbidity in society.⁶ Its after effects due to increased usage include physical health-related problems, such as musculoskeletal disorders of the hand, wrist, cervical spine, back muscles, ocular manifestations and elevated risk of psychological disorders such as attention deficit, aggression and even sleep disturbance.⁷⁻¹¹

Smartphone devices using both android and iOS softwares are found to be carried everywhere like in bed,

at the dining table, at the restroom, at school or college, at work, at restaurants, while walking on road, driving etc.¹²

According to a new study by US-based media agency Zenith, China will be having the highest number of smart phone users in the world with 1.3 billion people, in 2018, followed by India with 530 million users.¹³ Smart phone usage among various countries varies. In Germany, the rate of usage among adolescents have increased from around 25% in 2011 to over 70% in 2013.¹⁴ In America it was found that more than 60% of families with young children own a smart phone, and around 40% of them own tablet computers.¹⁵ In South Korea the smart phone ownership rate among adolescents was found to be around 85%.¹⁶

The aim of this study was to evaluate the demographic profile of smart phone users among medical students and to classify them based on their extent of usage. The objectives were as follows:

- To investigate the level of smart phone usage among medical college students.
- To evaluate the demographic profile of smart phone users.

METHODS

The participants in the present study were 1st, 2nd and 3rd year's medical students of Andaman & Nicobar Islands Institute of Medical Sciences. The study included 192 students who were using smart phones which consisted of 63 boys and 129 girls. Study period comprised of 3 months from January 2017 to March 2017. An Informed consent was obtained from all participants prior to participation. An approved from the Institutional ethics committee was obtained prior to the conduct of the study,

Inclusion criteria

All the participants who were using smart phones and who were willing to give the consent were included in the study.

Exclusion criteria

Participants who were reported to be on treatment for psychiatric morbidities were excluded from the study.

Study instrument

A semi-structured proforma that included socio demographic profile and smart phone usage characteristics of participants along with a Smartphone addiction scale (SAS) consisting of 6 factors and 33 items with a six-point Likert scale and a total score ranging from 33 to 198.¹⁷

The participants were divided into low smartphone user group (SAS score the median value of 72) and a high smartphone user group (SAS score >the median value of 72). The Cronbach internal consistency coefficient of the present scale was calculated to be $\alpha=0.905$.

Higher scores indicate more severe addictions. Internal consistency of the SAS scale was tested using Cronbach's Alpha. The reliability analysis was carried out with the help of split-half and test-retest technique. SAS was found to be a relatively valid and reliable scale with Cronbach's alpha of 0.905. Data was collected from those using smart phone for at least last 3 months.

Statistical analysis

Data was collected and entered in Microsoft Excel. It was doubly checked for any errors and data were analysed using IBM SPSS Statistics 21.0 software (Chicago). Categorical data was summarized as proportion/percentage and numerical data was summarized as mean and standard deviation. Chi square test was used for comparing level of smart phone usage among participants based on demographic characteristics. Independent t test was used to analyze continuous variables.

RESULTS

A total of 192 students were included, out of which 63 were males (32.81%) and 129 were females (67.18%). The mean age of students was 18.15 ± 0.740 . The students belonged to 17 to 20 years of age group. The mean age of male and female students were 18.22 years with SD =0.771 and 18.12 years with SD=0.725 respectively. All students were using smart phones. Out of the total 192 students 28 students (14.60%) were low smart phone users, of which 9 were boys (14.30%) and 19 were girls (14.70%). Among 164 (85.40%) high smart phone users 54 students were boys (85.70%) and 110 were girls (85.30%) which was not statistically significant at 5% level (chi square=0.007, p=0.935).

Table 1: Age-sex distribution.

Age (in years)	Male		Female		Total	
	n	%	n	%	n	%
17	8	12.7	25	19.4	33	17.2
18	38	60.3	66	51.2	104	54.2
19	12	19.0	36	27.9	48	25.0
20	5	7.9	2	1.6	7	3.6
Total	63	100.0	129	100.0	192	100.0

Table 2: Distribution according to the smart phone use.

SAS	Sex				Total	
	Male		Female		n	%
	n	%	n	%		
Low smart phone use	9	14.3	19	14.7	28	14.6
High smart phone use	54	85.7	110	85.3	164	85.4
Total	63	100.0	129	100.0	192	100.0

Chi-square=0.007, p=0.935, not significant at 5% level.

Table 3: Descriptive statistics for SAS score.

Gender	N	Mean	SD	SEM	t-stat	P-value
Male	63	99.30	27.00	3.40	-0.72	0.472*
Female	129	102.22	26.00	2.29		
Total	192	101.26	26.30	1.88	--	--

*Not significant at 5% level of significance.

The mean SAS score was 101.26 (SD=26.30, SEM=1.88).

On analysis of descriptive statistics for SAS score, for boys mean was found to be 99.30, SD=27.00 and SEM=3.40 and for girls mean was found to be 102.22, SD=26.00 and SEM=2.29, t-stat -0.72 and p=0.472 which was not significant at 5% level.

Table 4: Descriptive statistics for age.

Sex	Mean	N	SD
Male	18.22	63	0.771
Female	18.12	129	0.725
Total	18.15	192	0.740

DISCUSSION

Smart phones are definitely useful in this scientific era, but the more one uses it, the higher the risk of getting addicted to it. This is a preliminary study to observe the extent of smart phone usage among youths.

In our study we have observed that low smart phone users were only 28 (14.4%) and more number of students were high smart phone users 167 (85.60%). In a similar study done by Soni et al 53.60% were low smart phone users and 33.30% were high smart phone users and it was observed that male students had more usage of smart phones compared to female students.¹⁸

In another study done on dental students in Saudi Arabia were the researchers used smartphone addiction scale (SAS-SV) smart phone addiction was seen among 71.9% students.¹⁹ Smart phone addiction was found to be very low among medical students of China 29.8% (30.3% in males and 29.3% in females).²⁰ Study done in South Korea among junior high school students prevalence of Smartphone addiction was 24.8%.²¹

Prevalence was found to be 12.8% and 21.5%, respectively among students and staff in Spain and Belgium.²² In another study done on Swiss vocational school prevalence of smartphone addiction was evaluated to be 16.9%.²³

The reason for high smart phone usage in our study could be because of absence of recreational and other source of entertainment in these islands like absence of shopping complexes, gymnasiums, very few theatres, no coaching classes for extracurricular activities etc. Therefore the students find phone as their only source of entertainment. Our study did not show much of difference of high smart phone usage among girls and boys (85.7% among boys and 85.3% among girls). Similar study done by Severin Haug et al on young people in Switzerland did not show much of difference in both genders.²³

It has been observed that there is a constant obsession among youths of taking selfies and posting them on social media. There are various smart phone social networking applications, chat sites and gaming applications, which makes smartphones more attractive and indispensable. This overuse of smartphones has an effect on their psychological well being and making them psychologically addicted.

Regardless of the advantages related to smart phones like instant information on various subjects, better social networking its overuse interferes with daily life activities.^{24,25}

It can sometimes have an effect on safety, health of an individual, and can result in functional impairments such as blurred vision, pain in the wrists and neck.^{17,26-28}

Excessive use of smart phones can result in mental and behavioral problems too. It can bring change in their attitude towards school, college, degrade their academic performance and result in decline in social interaction in their existing life.^{1,2,3,29}

Limitations

Smart phone addiction is a widely prevalent problem therefore a sample of 192 cannot be generalized to whole of youth population.

Sleep disturbance and depression and functional impairments and also purpose of Smartphone usage were not studied.

CONCLUSION

The results of the present study provide an initial insight into smart phone usage among medical college students in Andaman and Nicobar Islands and suggest that they are more vulnerable for smart phone addiction. Therefore it is the requirement of the hour for planning of intervention programs at college settings involving the parents, psychiatrists, counselors, and other mental health professionals emphasizing the addictive potential of smart phones and finding remedies like involving them in sports, dance drama, book reading in library etc. during their free hours to wean them off from these technological addiction.

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