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Smartphone Addiction Among Young Medical Undergraduates: A Cross Sectional Study

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ABSTRACT

Background: Youths are nowadays glued to smart phones. Medical students are no exception. But, addiction towards its use has become a serious concern. This study was done to find out the level of smart phone usage among medical college students and to find out addiction of smart phone by using Smart phone addiction scale (SAS). **Methods**: A cross sectional study was conducted on two batches of a medical college in Bhagalpur form July to August, 2019. A self-administered SAS scale was used to assess the level of addiction. **Results:** Each and every one participated in study. Out of 182 smart phone users, 26.9 per cent were low users while 73.1 per cent were high users. In high user groups, females were more than males (77.7% vs 69.3%, p<0.05, significant). On analysis of SAS score, the difference between means of boys and girls was found to be statistically significant (p<0.05). **Conclusion**: The present study shows that smart phone addiction is present among medical students, more so among females.

Keywords: Smart phone addiction, Medical College, Bhagalpur.

INTRODUCTION

A mobile phone that performs multiple tasks and functions similar to computer, typically having a touch screen interface, internet access, and an operating system capable of running downloaded applications is known as a "smart phone". These features have made Smartphone use/ ownership a prevalent social phenomenon.[1]

Smart phones are not only used for communication but also used for browsing the internet for information, entertainment, and numerous other activities. Nonetheless, with the introduction of new technology both comfort and problems are inherited. Internet has become an important element in everybody's life. This has resulted in Smartphone addiction due to its easy and widespread access not only in general population but among students too. It is a major concern amongst medical students aiming to develop into health professionals. The implications of this addiction as well as its association with sleep and depression affects their studies, impacts their career goals and has detrimental consequences for society as a whole.[2]

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There are very few literature related to Smartphone addiction among medical students in Bihar. So, this study was done to investigate the level of smart phone usage among medical college students and to find out addiction of smart phone by using Smart phone addiction scale (SAS).

MATERIALS AND METHODS

A cross-sectional survey was done among second and third professional MBBS students enrolled in Jawaharlal Nehru Medical College (JLNMC), Bhagalpur, Bihar. The period of study was from July 2019 to August 2019. Approval from institutional ethical committee was taken for the study. Students were included in this study who were using smart phone for a period of more than six months duration and willing to participate. The purpose of study was well explained to the study participants and written informed consent was taken prior to the study. Students fulfilling the inclusions criteria were given a structured pre-tested proforma in a sealed envelope. A total of 182 students, 90 from second professional MBBS and 92 from third professional MBBS were included in the study. The proforma contained two parts that is socio-demographic profile, smartphone usage characteristics of participants along with a smart phone Addiction Scale (SAS).[3] Filled proforma were recollected from each participant.

Gathered data were coded and entered in Microsoft Excel, then transported and analysed by SPSS software version 16.0. Appropriate statistical tests were applied to find significance. Prevalence percentage was calculated using 'Z' test for proportion. The difference between the observed means in two independent samples were calculated using formula form website MedCalc.[4] For the entire test, a p value of < 0.05 was considered statistically significant.

RESULTS

A total of 182 undergraduate students of JLNMC, Bhagalpur were included for the study. Each and everyone participated in study. Out of total participants, 101 (55.5%) were males while 81 (44.5%) were females. The mean age of the students was 19.11±0.652 years. According to age group, 20.5 per cent students were of age group 17-18 years, 37.4 per cent were of 19-20 years while 42.3 per cent were of age more than 20 years. All students were using smart phones. [Table 1]

[Table 2] depicted distribution of smart phone users according to SAS scale. Out of 182 users, 26.9 per cent were low users while 73.1 per cent were high users. Statistically this difference is highly significant (Diff= 46.2%, 95% CI= 30.98- 63.02, Z value = 5.7, p value<0.0001). It showed that in our study group most of our students are high users of smart phones. The gender distribution between these two group shows that in low users group, males were more than females (30.7% vs 22.2%, p>0.05, non-significant). In high user groups, females were more than males (77.7% vs 69.3%, p<0.05, significant).

On analysis of SAS score, for boys mean was found to be 97.4, SD=25.00, and SEM=2.49 and for girls mean was 101.6, SD=24.00 and SEM=2.67. The difference between these two means was found to be statistically significant (p<0.05). [Table 3]

Table 1: Age and Gender distribution (N=182)

Age (In Years)	Male n (%)	Female n (%)	Total N (%)
17-18 (37)	16 (15.84%)	21(25.93%)	37 (20.3%)
19-20 (68)	28 (27.72%)	40(49.38%)	68 (37.4%)
>20 (77)	57 (56.44%)	20(24.69%)	77 (42.3%)
Total (182)	101 (55.50%)	81(44.50%)	182

Table 2: Distribution of Smart phone users according to SAS (N=182)

User category	Male n (%)	Female n (%)	Z test, p value	Total
Low user	31 (30.70%)	18 (22.22%)	Z=-1.68, P=0.091#	49 (26.92%)
High user	70 (69.30%)	63 (77.78%)	Z=-3.001, P=0.002*	133 (73.08%)
Total	101 (100%)	81 (100%)	Z=4.307, P<0.0001**	182 (100%)

*Significant, **Highly significant, #Non-Significant

Table 3: Statistics for SAS score

Gender	N	Mean	SD	SEM	Statistics	t-stat, p value
Male	101	97.4	25	2.49	Diff= 4.20 SE= 3.66 95% CI= -3.02- 11.42	1.147, p=0.025
Female	81	101.6	24	2.67		

SD= Standard error, SEM=Standard error of mean,

DISCUSSION

Worldwide, smart phones were used by 1.85 billion people in 2014. This number was expected to be 2.32 billion in 2017 and 2.87 billion in 2020.[5] Smart phones offer several conveniences in our life, but we also need to be aware of the negative effects of smart phone use, the most concerning aspect being smart phone addiction. Smartphone addiction is a phenomenon that pertains to uncontrollability of smart phone use. People with this problem encounter social, psychological, and health problems.[6] Specifically, adolescents are a high risk group for smart phone addiction. Adolescents are strongly attached to their smart phone, and they regard a smart phone as their second self. Many smart phone users have reported that they would not be able to live without a smart phone.[7]

In our study we have observed that low smart phone users were only 26.9 per cent and more number of students was high smart phone users. In a similar study done by Sethuraman AR et al, 14.4 per cent were low users and 85.6 per cent were high users, very close to our results.[8] Gender wise, in our study girls were more in high user category. An important explanation of this may be attributed to most girls' students of this college dedicating themselves on online post graduate entrance training classes taken on smart phones. These days, several coaching institutes are offering online classes for PG entrance examinations. But a study done by Soni et al showed that boys had more usage of smart phones as compared to female students.[9] Although, most of the studies conducted in different parts of the globe have suggested that females are more addicted to smart phones as compared to males.[10,11] Some of the reasons cited were, women regard interpersonal interaction (development and maintenance of relationship) and quick communication more highly, which is fulfilled through various social media

platforms. In contrary, studies conducted by Basu and Ghosh among Indian medical students found more male students addicted to the smart phone than females.[12,13] A study done by Severin Haug et al on young people of Switzerland did not show much of difference in both genders.[14]

Most of the study participants, who self-reported about their smart phone addiction, were actually addicted to its use according to SAS questionnaire. Thus, the majority of the study participants were aware of their over-use of smart phones in our study. A study has also observed self-acknowledgement as a predictor of smart phone addiction.[15] We corroborate their finding and state that students are aware of being addicted to smart phone use.

Limitations

Smart phone addiction is nowadays a widely prevalent problem. So, a sample size of 182 students in one medical college cannot be generalized to all youth population. The current study did not differentiate between smart phone use for educational and other purposes. There are several complications of smart phone addiction like sleep disturbance, depression and functional impairments. These should have been included in the study. As, this was a preliminary descriptive study, it was not included. We plan to include them in future studies.

CONCLUSION

The results of the present study provide an initial insight into smart phone usage among medical college students in Bhagalpur. The present study shows that smart phone addiction is present among medical students, especially so among females.

Recommendation

Students should be counselled regarding the judicious use and negative effects arising from the excessive use of a smart phone. We also recommend more studies to generate more data on this issue from other colleges, the community at large, and also, for testing/evaluation of potential interventions to deal with this issue.

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