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Original Research Paper

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PREVALENCE OF SMART PHONE ADDICTION IN MEDICAL UNDERGRADUATES - A CROSS – SECTIONAL STUDY.

Dr.Prabhukiran Vishwanath Gogi — Associate Professor of Psychiatry, Department of Psychiatry, ASRAM medical college, Eluru, West Godavari, Andhra Pradesh 534005

Dr.Anusha V Reddy* — Junior Resident of Psychiatry, Department of Psychiatry, ASRAM medical college, Eluru, West Godavari, Andhra Pradesh 534005 *Corresponding Author

Dr. Somasundara Babu Suryaprakash Rayala — Professor and HOD of Psychiatry, Department of Psychiatry, ASRAM medical college, Eluru, West Godavari, Andhra Pradesh 534005

ABSTRACT

Aim : To estimate the prevalence of potential excessive smart phone use in medical undergraduates and the demographic parameters associated with smart phone addiction in male and female students.

Materials and methods: A cross sectional study using smart phone addiction scale short version (SAS-SV), 150 medical undergraduates aged 18 to 25 years were assessed.

Results : There is a significant association between males (50%) , management fee /C category students (35.29%) and excessive smart phone use with $p < 0.0482$ and <0.010 respectively. Smart phone was most commonly used for messenger application (whatsapp, fb messenger, google hangouts, etc) followed by video streaming websites (youtube).

Conclusion: Smartphones can be appreciated by the advantages offered however adolescents need to be cautious about its addictive potential that will adversely affects the mental health.

KEYWORDS : Smartphone addiction, medical undergraduates, prevalence

Introduction:

Smart phones are a popular technological device, with increased capability to rapidly process information than other mobile phones and integrate many features such as internet, multimedia and navigation in addition to use for communication[1].

In today's world, addiction is not restricted merely to substances. Behavioural addiction is an emerging addiction these days. Rapid advances in technology, easy acessability , increasing desire to stay connected and affordability - which is contributing to upswing of excessive mobile phone use [2]

The primary difference between mobile phone and smart phone is that smart phones provide easy access to the internet and various applications that can be downloaded[3]

Smart phones have become a central part in students lives because they are multipurpose. They are more likely to be the hand held computers for configuring the daily schedules , saving large documents , for watching videos , listening music , chatting with friends , social networking sites , video conferencing and much more than a human mind can think[4]

Synonyms for smart phone over usage include "Smartphone addiction", " Mobile phone overuse" ," Mobile phone dependence " and " Problematic mobile phone use" are among others. The concept of addiction to mobile phone use was introduced at first by Bianchi and Phillips[5] and has since gained tremendous acceptance and research.

Addiction is considered by WHO as dependence , as the continuous use of something for the sake of relief or stimulation, which often causes cravings when it is absent[6]

Smart phones have become easily available and affordable today. Many applications are available 24/7 and are easily downloaded for free, a likely factor that makes individual dependent on a mobile phone[2]

Smart phone addiction is similar in many aspects to Internet addiction[7]. However, based on the definition of Internet addiction , smart phone addiction has been defined as the "overuse of smart phones to the extent that it disturbs users daily living". Moreover , smart phone overuse may lead to mental or behavioural problems. It may cause maladaptive behavioural difficulties , interfere with performance in school or work, reduce real-life social interaction , neglect of personal life, mental preoccupation, mood modifying experiences and can also lead to relationship disorders[8]

According to new research, one third of teenagers describe themselves as "highly addicted" to their smart phones. However, from some people's opinion , they just regard this phenomenon as normal, they don't think they became addictive because they believe smart phone is actually part of their life. The question falls on whether using smart phone is a need or just an addiction. It is very hard to distinguish a need or an addiction[9]

Materials and methods:

Aim:

(i) To estimate the prevalence of excessive smart phone use in medical undergraduates.

(ii) To study the demographic parameters associated with excessive smart phone usage.

Sample:

A total of 114 medical undergraduates (73 female and 41 male students) aged between 18 to 25 years who gave written informed consent were included in the study.

Tools:

Socio-demographic data sheet**:** It was prepared by the researcher for collecting Socio-demographic information on psychosocial variables related to technology addiction.

Smart phone addiction scale-short version: The SAS-SV is a validated scale originally constructed in South Korea, but published in English. It contains ten items rated on a dimensional scale (1"strongly disagree to 6"strongly agree"). It showed content and concurrent validity and internal consistency[10]

Procedure:

The study was done using smart phone addiction scale - short

version (SAS-SV) for a period of 2 months .The collected data was assessed using SPSS-version 15 ; chi-square test was applied for categorical variables.

The total score ranges from 10 to 60 , with the highest score being the maximum presence of "Smartphone addiction".

In the assessment of smart phone addiction and extra questionnaire was added to assess the purpose of smart phone usage by the medical students which included 5 sub -categories of various other applications giving scoring system from 1(minimum usage) to 6 (maximum usage).

The advantages of the SAS scale can be summarized as: being a short scale, being a multiple-choice , easy to understand, easily applicable and easy to rate. And the disadvantages of the current scale can be listed as : the diagnostic criteria of the smart phone addiction are not accurately certain and some of the items located in the scale are suitable for the young population that is familiar with social networking for friendship.[1]

The major purpose of using smart phones was assessed by the questionnaire added along with the SAS-SV which include [a] Messenger (Watsapp , Fb messenger, Google hangouts, We chat, etc,) [b] Social networking sites(SNS)—Facebook, Twitter, Instagram. [c] Entertainment (You tube) [d] Entertainment (pornography) [e] Internet [f] Games.

To assess the socio-economic status BG Prasad classification June 2016 is used giving grading as **1**- 6323 and above; **2**- 3161 to 6322 ;**3-** 1897 to 3160 ;**4-** 948 to 1896 ;**5-** 947 and below.

Results :

A total of 114 medical students were included in the study. Of the total 114 students, 73 (64.03%) were females and males were 41 (35.96%). Of all participants , 34 are high smart phone users and 80 students are low smart phone users. This Study shows 34 out of 114 subjects (29.8%) were dependent on smart phone .We found that SAS-SV scores were significantly higher in males than females with significant 'p' value of 0.0482.

The median value of SAS scores was found to be 32 according to Kwon et al, with high smart phone users >32 and low smart phone users <32. Of the participants enrolled in the present study 80 (70.2%) were in low smart phone user group and 34 (29.8%) were in high smart phone user group.

Table 1 :

	High smart phone users(%)	Low smart phone users(%)	P value	Chi-square value
Gender			**0.042***	4.144
Males	17(50%)	24(30%)		
Females	17(50%)	56(70%)		
Age			0.527	0.398
18-21yrs	12(35.29%)	35(43.75%)		
22-25yrs	22(64.7%)	45(56.25%)		
Lifestyle			0.771	0.085
Urban	28(82.35%)	64(80%)		
Rural	6(17.65%)	16(20%)		
Socio-economic status			0.603	1.010
High	31(91.17%)	75(93.75%)		
Middle	3(8.8%)	5(6.25%)		
Low	0	0		
Category			**0.010***	11.434
A	17(50%)	54(67.5)		
B	5(14.7%)	6(7.5%)		
C	12(35.29%)	20(25%)		

As table 1 shows there is a significant association between males , management fee /C category students and excessive smart phone use with $p < 0.0482$ and <0.010 respectively.

Smart phone was most commonly used for messenger application (eg: whatsapp,fb messenger, google hangouts, etc) followed by video streaming websites (eg: youtube),then comes internet ,online games and then pornography which are listed in hierarchial order.

Discussion:

There are a few studies that have been conducted , especially among adolescents with respect to smart phone addiction. This study is a preliminary step towards understanding the extent of smart phone addiction among adolescents in medical undergraduates. Our study found out that 29.8% are dependent upon smart phone usage after applying smart phone addiction scale-short version (SAS-SV). The SAS-SV mean score was 27.89% in the present study which is almost similar to the results of study conducted by Kwon et al 25.26[11]

The SAS-SV score of males students was significantly higher than that of female students in this study, difference may be related to usage pattern or purpose, such as increased use of social networks , which goes in accordance to kwon et al (2013), Soni et al (2017) and Sharma et al [12] (2017). And the highest usage was for messenger application and video streaming websites which was similar to kwon et al (2013) study. In descending order of use includes " messenger applications" like watsapp, facebook messenger , snapchats, (31.5%) followed by video streaming websites like "you tube"(29.8%).

Category C students were found to have significant ' p' value of 0.010 than other category students.

Interestingly no significant 'p' value was found in high socio-economic subjects this is probably due to the use of modified BG Prasad classification June (2016) where 6323 and above per month income is considered as high socio economic status.

Limitations:

Smart phone addiction is a widely prevalent problem so a small sample of medical students cannot be generalised to whole of adolescent's population.

Cross-sectional design, which is not the best way to evaluate causal relations , also limited the results.

Conclusion:

With increasing popularity of smart phones, one can always appreciate the advantages offered by this technology however adolescents need to be cautious about its addictive potential that is adversely affecting the mental health. In addition , the SAS-SV can be used to identify a potential high-risk group for smart phone addiction, both in the community and educational fields. Further investigation of their characteristics in the future, development of program, and arrangement of plans should be taken into consideration for the prevention of smart phone addiction . Therefore, further larger studies with well-controlled clinical settings and various participants are suggested wider longitudinal studies are required to plan interventional strategies in decreasing the prevalence of smart phone addiction.

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