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Original Research Article

Assessment of Compulsive Internet Use among I MBBS students of KAIMS Karwar, Karnataka using CIUS

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Abstract: Currently medical students have enormous opportunity to keep them updated with emerging and recent knowledge through internet. The use of internet has become part and parcel of their life. The study was done with the aimof assessing the compulsiveness of internet usage among medical students and the associated behavioral changes due to excessive use. A Cross-sectional study was conducted over I MBBS students. A self-reported proforma consisting of socio-demographic profile, duration of mobile use, purposes for which mobile used and time spent, opinion on internet use over mobile phone and behavioral changes associated, and Compulsive internet usage scale were given. Data was compiled and analyzed.11.21% had CIUS score >28. There was positive correlation between CIUS score and internet usage duration (r=0.41). Behavioral changes noted in the group with CIUS score >28 was significantly higher than the group with score ≤28 (p=0.02). Gender difference in behavioral change was noted in the group with CIUSscore >28.Though the compulsive internet use seem to be relatively less among medical students over usage of internet affects the health of medical students in the form unhealthy behavioral changes which could affect their academic performance.
Keywords: Compulsive internet use, CIUS, behavioral change.

INTRODUCTION:

Over a few decades internet usage has grown substantially, and has driven a dramatic change in us. It has enabled us to have information in the form of entertainment, academic material and has also brought people together from nuke and corner of the society by various varieties of inter personal communication in the form of e-mails, live video conferencing, social networking sites[1]. Statistics suggest that there were approximately 7 million of internet users in India in 2001, 40 million during 2006, which would creep upto 700 million by the year 2019[2]. Out of 51 million "active" internet users in India 40 million are urban and 11 million are rural users. The mobile internet usage is growing at the rate of nearly 85% per annum with 75% non-voice usage being utilized to entertainment in the form of video and music streaming [1].

The easy and rampant availability of data packs at economical price has led to extensive use of mobile internet usage and also has given an opportunity to medical students to keep updated with the medical knowledge. Over recent years medical schools in both developed and developing countries are utilizing internet as a teaching aid to bring about effective change in medical education [3]. Although internet use makes students' life easy, on the other hand it may lead to habituation, addiction as well as hamper the mental, physical and academic wellbeing of the student, which manifests in the form of pre occupation with the internet, inability to control the use, hiding or lying about the behavior, continued use despite consequences of the behavior [2]. There are different questionnaires to clinically assess problematic internet usage such as Internet Addiction Test [4], The generalized problematic internet scale [5], The internet addiction scale [6], The online cognition scale [7] and Compulsive Internet Usage Scale (CIUS) [8].The present study aims to assess the compulsiveness of internet usage among medical students using CIUS and the associated behavioral changes due to excessive use.

Aims & Objectives:

To assess the compulsive internet use among adolescents using Compulsive Internet Use Scale and the behavioral changes associated.

MATERIALS AND METHODS:

A cross-sectional study was conducted in Karwar Institute of Medical Sciences, Karwar, Karnataka. As it was the first batch of college the study was done on I MBBS students. Prior approval from Institutional Ethical Committee was taken before starting the study. All 150 students were using mobile phone for one or the

other reasons and majority were accessing internet over mobile phone. The intention of the study was explained to students and was assured that their identity will not be disclosed. The students who volunteered to participate were included in the study. The students who were not interested were excluded. A proforma was prepared in English consisting of socio-demographic profile, duration of mobile use, purposes for which mobile used and time spent respectively, opinion on internet use over mobile phone, behavioral changes associated. The clarity of contents of proforma was prior assessed by doing a pilot study over staff members of Physiology department and necessary changes were made. Along with the proforma a Compulsive Internet Use Scale (CIUS) was used to assess compulsive internet usage

Compulsive internet use scale [8]

Meerkerk et al designed a questionnaire to assess compulsive internet use. The Compulsive Internet Use Scale (CIUS) consisted of 14 items with a 5-point scale: 0-never, 1-seldom, 2-sometimes, 3-often, and 4-very often. The five dimensions extracted by 14 items that may be applicable to CIU as per criteria for DSM-IV dependence are tolerance, withdrawal symptoms, loss of control, preoccupation and conflict. The scale is reliable with Chronbach's α 0.89.The participants were made to assemble in the Lecture hall on one day morning in the month of December 2016. The proforma and CIUS was distributed to the participants. The contents of the proforma and CIUS were explained by one of the author to all the participants in common. They were asked to mark appropriately for each question in the proforma and the items in the CIUS. Queries regarding the different aspects in the proforma and CIUS were addressed separately to each student by rest of the authors. They were asked not to discuss among each other and to mark promptly for each question without hesitation. Adequate time as required by the participants was given for completing the proforma and CIUS and later collected. The data was compiled in Microsoft excel sheet. It was analyzed by applying appropriate statistical tests by using Microsoft excel 2010.

RESULTS:

129 out of 150 I MBBS students volunteered to participate in the study. There were 74 male and 55 female students. The average duration of mobile usage was about 22 months. 96 students used mobile for more than 1hr and 33 used less than 1hr. Maximum usage time less than 1hr was reported by 89 students and rest 40 reported maximum usage time more than 1hr. Majority of students used one mobile (92.2%) while few used more than one (8.8%). 123(95.3%) used mobile for internet of which 57(44.1%) spent more than 1hr. 6(4.6%) reported that they donot use mobile for internet. The common purposes for which the study group used internet in mobile phone were Academics and Information using wikipedia, Social media, Watching UTube videos, Connecting with people by using facebook, whats app, Online music and Online Gaming. Compulsive internet use assessed by using CIUS showed 13(11.21%) students to have score >28 of which 10 were male and 3 were female.

Table-1: CIUS scores in the study group

Gender	CIUS score		CIU Prevalence %
	0-28	29-56	
Male	64	10	13.51%
Female	52	3	5.45%
Total	116	13	11.21%

N=129

There was positive correlation between CIUS score and Mobile usage duration (r=0.43), Internet usage duration (r=0.41) and Maximum usage time (r=0.24).

Table-2: Prevalence of behavioral changes in the 2 groups based on CIUS score

Behavioral changes	CIUS	
	0-28	29-56
1.Keeping mobile under pillow	23 (19.83%)	4 (30.77%)
2.Midnight checking of mobile	15 (12.93%)	5 (38.46%)
3.Check first in the morning	59 (50.86%)	8 (61.54%)
4.Usage during Class hrs	1 (0.87%)	0(0%)
5.Usage in restroom	27 (23.28%)	6 (46.15%)
6.Usage while driving	3 (2.59%)	1 (7.69%)
7.Usage while charging	43 (37.07%)	10 (76.92%)
Total	116	13

N=129, Paired t test p value =0.02

On comparing the behavioral pattern among the groups with CIUS >28 and normal there is significantly higher change in behavioral pattern in the group with CIUS >28(p=0.02).

Table-3: Prevalence of behavioral change in males and females w.r.t CIUS

Behavioural change	CIUS score 0-28		CIUS score 29-56	
	% Males	% Females	% Males	% Females
1.Keeping mobile under pillow	15.63	25	30	33.33
2.Midnight checking of mobile	14.06	11.54	50	0
3.Check first in the morning	54.69	46.15	70	33.33
4.Usage during Class hrs	0	1.92	0	0
5.Usage in restroom	28.13	17.31	50	33.33
6.Usage while driving	3.13	1.92	10	0
7.Usage while charging	34.38	40.38	80	66.67
Paired t test	p value=0.39		p value <0.05*	

Behavioral changes on compulsive internet use seem to be higher in males than females (p <0.05) in the subgroup with CIUS score>28.Though majority of students reported usage of internet on mobile to be beneficial for studies (96.1%), required to get connected with people (90.6%), felt technology should be utilized (96.1%), usage can be restricted (81.3%) yet they felt internet usage as distraction (58.9%) and even hinder academics (47.2%).

DISCUSSION:

Mobile use is quite rampant among adolescents. Due to advancement in technology smartphones are being used not just for calling but for various purposes including accessing internet[9]. Information is available at a go with no pain of going to internet café for browsing. Internet is being used for social networking, academics, online gaming, online videos, online music, etc. With the ease of accessibility of internet over smartphones adolescents are becoming dependent on excessive use of internet for one or the other purposes. This is turning out to be an addiction due to compulsive internet use as noted for substance abus[10-12]. It is quite commonly seen that college students hang on mobile internet for social networking. Earlier studies have given the statistics of growing trend of excessive social networking among adolescents [2, 13]. The present study was done on elite group of I MBBS students. Majority of the participants were using smartphones and were accessing internet on mobile phone. 123(95.3%) used mobile for internet of which 57(44.1%) spent more than 1hr. 6(4.6%) reported that they donot use mobile for internet. The common purposes for which the study group used internet in mobile phone were Academics and Information using wikipedia, Social media, , Watching UTube videos, Connecting with people by using facebook, whats app, Online music and Online Gaming.

Compulsive internet use scale (CIUS) is used in this study.11.21% of students had a score of >28. This extent of score among medical students is also noted in earlier studies [1, 2]. This seems to be relatively less when compared to students of other profession [14]. CIUS score of >28 was observed among 13.51% of male and 5.41% of female students. This trend is similar to earlier studies [15- 17]. But, few studies have reported to have no gender difference [3, 18].Positive correlation between CIUS score and Mobile usage duration (r=0.43), Internet usage duration (r=0.41) and Maximum usage time (r=0.24) was noted in this study. Similar correlation is noted in the study done by Meerkerk *et al* [8].

Behavioral changes associated with excessive internet useon mobile phone

Due to compulsive internet use on mobile phones some behavioral changes are noted among adolescents [19, 20]. The changes are in the form of keeping mobile under pillow, Midnight checking of mobile, Checking first in the morning, Usage during Class hrs, Usage in restroom, Usage while driving, Usage while charging. The behavioral changes noted in this study group seem to be higher among the group with CIUS score >28(p=0.02). Further, behavioral changes on compulsive internet use ishigher in males than females (p <0.05) in the subgroup with CIUS score>28 suggesting of gender difference in behavioral changes. With the improvement of technology mobile phone is beneficial for studies and getting connected with people instantly. Study group felt internet on mobile as a distraction and it could even hinder their academics. Yet they feltaddicted use of internet on mobile could be restricted. Earlier self-reported studies have shown similar academic hindrance [13, 21, 22, 23] . Leisure boredom and sensation seeking are motives in adolescents with higher addictive mobile phone use tendencies [24] Distraction through technology is cause for compulsive gaming, surfing or smartphone use [25]. Excessive use during night will also affect sleep [26].

CONCLUSION:

Compulsive internet use seemed to be relatively less among medical students. Due to excessive use some behavioral changes are associated. Also excessive use seemed to be academic hindrance.

Proper counseling regarding appropriate use of internet and regulation of usage is highly required.

Limitations of the study:

The study is done over a small elite group. It is difficult to generalize the results of this study over adolescent population. So, a larger population based study is required to know the growing trend and the behavioral changes associated with internet use and the ill effects.

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