INTERNET ADDICTION AMONG UNDERGRADUTE MEDICAL STUDENTS IN HYDERABAD, PAKISTAN.

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ABSTRACT

BACKGROUND: Technology evolution and internet availability has brought several innovations in the field of science and technology. With these advances, internet addiction is appeared as serious obsessive conditions that have numerous dreadful effects on human physical and mental health. **OBJECTIVE:** To determine the level of internet addiction among medical undergraduate students of Isra University, Hyderabad. **METHODOLOGY:** Cross sectional survey was conducted at the Isra University, Hyderabad from August 2018 to January 2019. All medical (MBBS) undergraduate students of either sex were included. Stratified sampling technique is used for selection of participants. A structured questionnaire for internet addiction was used for collection of participant's information. One way ANOVA and students t-test was used to analyze the gathered data. **RESULTS:** Total 263 undergraduate medical students participated in the study. Majority (56.65%) of them were male while over half (51.71%) of them were from age group 21-22 years. Over two-third (85.17%) participants were found to be internet addict. Of these internet addicts, 63.84% were mild or minimal internet addict while 12.05% were severely addict participants. There was a statistically significant difference ($p<0.05$) was observed between gender, age groups, year of study and current residential status of participants. **CONCLUSION:** Internet addiction is high prevalent among undergraduate medical students especially those belongs age group (19-20) years and males are mainly addicted to internet.

KEY WORDS: Internet Addiction, Medical Students, Technology

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INTRODUCTION

The world has transformed over recent years in the field of technology. The availability of the internetis one of the major contributing factors to this milestone. Increased consumer demand has led to competition among the electronic suppliers leading to a fall in the prices of desktop computers, laptops, pads and mobile phones.[1] The number of people using the internet worldwide is growing exponentially; the current report indicated that more than 4 billion people are using the internet globally. As such, over half of the world's population is now online, with about a quarter of a billion new users recorded for the first time in 2017.[2] Subsequently of these advancements, the use of the internet has sky rocketed; not only as means of communication, but also as a vital tool for information in the quest for knowledge and as a medium for marketing.

Furthermore, increases in internet coverage, especially among developing countries and rural areas, have made the internet a source of entertainment and infact, is fast becoming a part of daily life.[1, 3] The use of the internet as brought several advantages in the field of education. The abundance of electronic books, encyclopedias and dictionaries has made these arches for knowledge more accessible and faster. Moreover, simulation videos, Power Point presentations and online slides provide a more precise, unambiguous and elaborate view of the topic under study.[4, 5] Despite several advantages of the internet described above, many adverse effects are becoming more apparent. These involve economic issues such as income spent on internet subscriptions, time spent on

internet surfing; mental health problems like anxiety, depression, broken relationships and loss of work. Arguably the most concerns manifestation of this is pathological internet addiction.[1, 6] Specifically, internet addiction can be defined as the use of internet devices for 7 hr or more per day, which predisposes one to dependence and mental health problems.[7] Additionally, health problems include sleep disturbance, neck pain, eye strain, road accident, etc.[1,3, 8] Pathological internet addiction is a new mental disorder with growing health concerns globally. Signs and symptoms of pathological internet use include compulsive behavior, neglect of social and occupational responsibility as well as poor academic performance.[9,10] Other signs include cravings to use social media, such as Facebook, Twitter, Instagram, Snapchat, WhatsApp, etc. In addition, various specific activities engaged in on the internet were identified as a common cause of internet addiction. Examples include such as online gaming, downloading films and music, online shopping and gambling.[1, 11]

Presently, internet addiction can be diagnosed based on 8 diagnostic questions; as such, giving responses to these queries can reveal the individuals' type of internet addiction.[12, 13] Pathological internet addiction is more common among college and university students.[14] As such, the prevalence of internet addiction among medical students calls for serious concern. In addition, several studies have found an association between the medical profession and academic stress and between internet addiction and academic anxiety.[6, 15] The objectives of the study were to determine the level of internet addiction among undergraduate medical students of Isra University, Hyderabad.

MATERIALS AND METHODS

A cross-sectional study was conducted among the undergraduate medical students of Isra University, Hyderabad from August 2018 to January 2019. Stratified random sampling method was applied for selection of participants while sample size of 260 was calculated using online calculator (Open Epi). All medical students of 1st, 2nd, 3rd, 4th, and 5th year MBBS of both gender, any age group and given consent to participate were included. Those who didn't gave consent were excluded. As a compensation for participating in the study, incentives such as medical textbooks and/or dictionaries were provided to the students.

The study was ethically approved by the ethical review board of Isra University, Hyderabad while informed consent was also sought from all the participants after explaining the purpose, concept,aims and objectives of the study.

A written questionnaire was used to gather socio-demographic details of all students including age, gender, marital status, ethnicity, religion and year of study etc. While a structured questionnaire consists of a 5-point Likert scale questions adopted from Dr. Kimberly Young was used as a tool for internet addiction test (IAT). The IAT is used to measure the severity of self-reported compulsive use of the internet. Internet addiction scores were categorized according to the scores of the total 20 items ranged from 20 to 100. The overall IAT scores less than 20 represent Normal internet users, Mild addiction if score of 21-49, moderate addiction if IAT score of 50-79 and severe addiction score 79-100. All the questionnaires were distributed to the respondent after morning lectures so that the majority of them were able to fill and return them on time.

The collected data was analyzed using SPSS ver. 23. The descriptive statistics were performed to summarize demographic data. Quantitative variables were analyzed using student's t-tests and One-Way ANOVA. Statistical significance was set at $p<0.05$.

RESULTS

A total of 300 questionnaires were distributed to first, second, third, fourth and final year undergraduate medical students of which 263 agreed to participate and completely filled questionnaire giving the response rate of 87.66%.

Table I below is demonstrating the socio-demographic features of study participants. Among the total of 263 that filled and returned the questionnaire, 149 (56.65%) were males, 114(43.34%) were females. Age range of the respondents was from 19 to 24 years with the mean age of 21.26 ± 3.44. Highest numbers of participants were of 21-22 years. Majority of respondents were from 2nd year MBBS while small numbers of respondents were from 5th year MBBS while most of the respondents were day scholar. (Table I)

Table I: Socio-demographic details of study participants (n=263)

Variables	n (%)
Gender	
Male	149 (56.65)
Female	114 (43.34)
Age group	
19-20 years	104 (39.54)
21-22 years	136 (51.71)
23-24 years	23 (8.74)
Year of study	
1st year	63 (23.96)
2nd year	81 (30.79)
3rd year	67 (25.47)

4th year	31 (11.78)
5th year	21 (8.00)
Present residence	
Hostler	79 (30.03)
Day scholar	184 (69.97)

Figure 1 is reporting the status of internet addiction among medical students. Based on the findings of IAT, majority of the study participants were found to be addicted to internet and scored 20-100 while only small proportion of participant were normal user of internet (scored <20) (Figure 1)
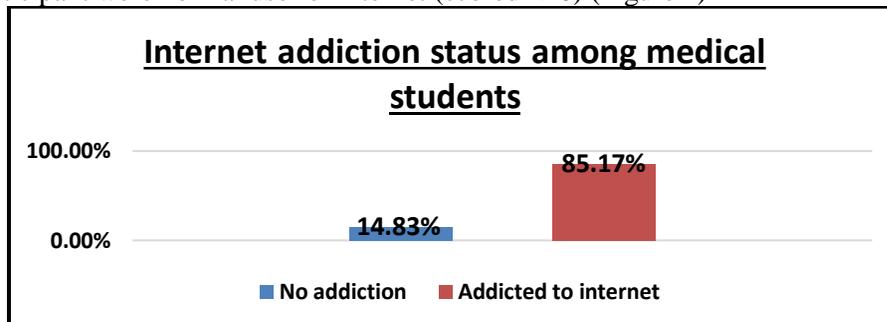

Figure 1: Status of internet addiction among medical students (n=263)

Table II is demonstrating the distribution of participant's level of internet addiction with score of all the internet addicted respondents based on the internet addiction scale by Dr. Kimberly young. Out of the 224 addicted respondents, majority of them were mild or minimal internet addicts. (Table II)

Table II: Distribution of participant's level of internet addiction with score (*n*=224)

Level of internet addiction	Frequency (%)	Total Score Range
Mild/ Minimal	143 (63.84)	20-49 points
Moderate	54 (24.11)	50-79 points
Severe	27 (12.05)	80-100 points

Based on the respondents' choices for each statement in the questionnaire, 196 (74.5%) strongly agreed that they often stay online longer than intended. Total 103 (39.16%) of the respondents also agreed they prefer the internet excitement to intimacy with their friends or family. Moreover, 105 (39.92%) reported they feel moody, nervous or depressed, when they become off-line while this feeling disappears once they back on-line.

The findings for gender has shown that there was a statistically significant (p<0.05) difference in internet addiction scores between male and female medical students. Male medical students are found to be more addicted to the internet comparison with their counterpart. The mean internet addiction score was highest among the age group 19-20 while lowest in 23-24 years group. There was a statistically significant difference (p <0.05) in internet addiction score between all three age groups.

Moreover, the mean internet addiction score was highest in 2nd year MBBS students while lowest in 5th year medical students. The statistically significant difference of internet addiction was demonstrated between the students of all five years (p<0.05). There was a statistically significant difference in (p<0.05) internet addiction, between hostlers and day scholars (Table III).

Table III: Analysis of mean internet addiction scores based on demographic information (n=263)

Variable	Internet addiction score	
	Mean (± S.D)	**p-value**
Gender		
Male	52.77(±14.67)	0.0001[*]
Female	39.28(±13.38)	
Age group		
19-20	57.30(±14.42)	
21-22	55.75(±14.59)	0.033**
23-24	48.52(±14.40)	
Year of study		
1st year	48.69(±16.66)	
2nd year	52.39(±16.03)	
3rd year	46.62(±16.96)	0.007**
4th year	45.19(±16.52)	
5th year	37.33 (±16.45)	
Present residence		
Hostel	55.75(±17.55)	0.004*
Day scholar	48.82(±17.89)	

* Student's t-tests for gender and present residence
** ANOVA for age group and year of study

DISCUSSION

With every passing day and advancement of technology, utilization of internet facility has become a necessity in our daily lives. Every age group and gender needs internet facility in their routine life for different purposes. Despite many advantages of internet usage, there are several adverse effects of its utilization are evident. Youngsters especially students at all levels are more likely to fall victim to internet addiction. Keeping in view these harmful effects, this study was planned to estimate the magnitude of internet addiction among medical students. The response rate in the study was 87.66% which was encouraging. This could be due to the incentive given to the students and a proper explanation of the

study's aims and objectives. In the present study 85.17% participants were internet addicted which is a large number. Ali et al also reported that 85% of their participants were internet addict. These findings are consistent were our study.[17] This high number is quite alarming and this could be because medical students of Isra University had an easy access to internet facility and internet utilization by students may not regulated.The results of present study have revealed that only 14.83% of the respondents were regular internet users. As the number is very low, it indicates that internet addiction is rampant in the cohort of this study. Similar findings are also reported by Ali et al. and Ahmer et al. in their study.[17, 18]While these findings are inconsistent with the findings of Nduanya et al. reported the higher prevalence than our study.[19]Our study discovered that 12.05% respondents were severely addict to internet, many of the studies have reported the lower prevalence of severely internet addicts in their study.[19, 20, 21]Interestingly, an Iranian study by Hashemian et al. reported no severely internet addict respondent in there study.[22]Moreover, our studyrevealed that 63.84% of the respondents were mild or minimal and 24.11% were moderate internet addicts. These findings was comparable with studies by Ahmer et al., Chaudhari et al., and Haqueet al.[18, 23, 24]Results of the current study also revealed that male medical students were more addicted to the internet than their female counterparts. The result is comparable to the outcome of other studies by Javaeed et al., Imani et al. and Upadhayayet al.[21, 26, 27]In addition, the meta-analysis of 26 studies from China by Shao et al. further confirmed male students are more addicted to the internet than females.[28]Moreover, these findings are in contrast with the findings of Hashemian et al and Ahmer et al that reported more internet addiction among females comparison with male.However, Ranganatha et al. haven't found any difference in the mean internet addiction scores in terms of gender their study.[29]In this study, youngest age group 19-20 years had the highest mean internet addiction score, while 23-24 years had the lowest internet addiction score. This signposted that the younger the medical students are the more addicted to the internet. This may possibly because that with advancing age and maturity, medical students perhaps engaged and focus on other more important responsibilities than internet surfing. These findings are consistent with the findings of earlier studies reported the similar pattern.[17, 18, 24]Conversely, these findings are in contrast with the findings of Hashimianet al.[22]Subsequently, one study reported no difference in the mean internet addiction scores in terms of age.[2]It was also demonstrated that medical students of 2nd year of MBBS had the highest internet addiction scores compared to other year students. This could be explained because they have more numbers by far compared to others in this study. Lastly, it has been found that students residing in hostel had the highest mean internet addiction score comparison with day scholars. This could also be explained because student's hostels being alone may become boredom in hostel environment and that's the reason they spend longer duration using internet for change of mind.The study has certain limitations. Foremost, this study was conducted in only one public sector medical university. The information gathered from participants was only regarding the internet usage while data related to determinants of excess usage of internet, time spend on internet on which particular website or social media, impact of internet addiction on mental health etc. was not collected. Further studies are recommended in future to address this issue more extensively.

CONCLUSION

The study concluded with highlighting the troubling reality of thehigher prevalence of IA among medical undergraduate students. Younger age group (19-20) years and males are mainly addicted to internet. This higher burden of internet addiction forecasts a potential rise in number of severe addicts in the medical field in the near future.

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