Internet Use and Its Addiction Among Medical Students in Hyderabad, Pakistan

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ABSTRACT

Background: With the advances in information and technology, internet addiction appears as a serious obsessive condition that has numerous dreadful effects on human physical and mental health. The objective of the study was to determine the level of internet addiction among medical undergraduate students of Isra University, Hyderabad.

Methods: A cross-sectional survey was conducted at the Isra University, Hyderabad from August to December 2019. All medical (MBBS) undergraduate students of either sex were included. A stratified sampling technique was used for the selection of participants. A structured 5-point Likert scale questionnaire for the internet addiction test was adopted from Dr. Kimberly Young and used for the collection of participant’s information and measurement of their level of addiction.

Results: A total of 263 undergraduate medical students participated in the study. The majority (56.65%) were males while 51.71% were from the age group 21-22 years. Over two-thirds (85.17%) of participants were found to be internet addicts. Of these internet addicts, 63.84% were mild or minimal internet addicts while 12.05% were severely addicted participants. 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 was highly prevalent among undergraduate medical students, specially in the age group (19-20) years, hostlers, 2nd year of study and males

Keywords: Internet addiction, Medical, Students, Technology

Authors’ Contribution: ¹Conception; Literature research; manuscript design and drafting; ²Critical analysis and manuscript review; ³Data analysis; Manuscript Editing.

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Article info: Received: June 2, 2021
Accepted: December 3, 2021


Funding Source: Nil
Conflict of Interest: Nil

Introduction

The world has transformed over recent years in the field of technology while the availability of the internet is one of the major contributory factors to this milestone.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 2017.¹ An 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.\(^{(2)}\) Subsequently of these advancements, the use of the internet has skyrocketed; 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, an increase in internet coverage, especially among developing countries and rural areas, have made the internet a source of entertainment and in fact, is rapidly becoming a part of daily life.\(^{(3)}\) The use of the internet has brought several advantages in the field of education. The abundance of electronic books, encyclopedias, and dictionaries has made the search for knowledge more accessible and faster. Moreover, simulation videos, PowerPoint presentations, and online slides provide a more precise, unambiguous, and elaborate view of the topic under study.\(^{(4)}\) Despite several advantages of the internet described above, many adverse effects are becoming more apparent. These involve economic issues such as income spent oninternet subscriptions, time spent on internet surfing; mental health problems like anxiety, depression, broken relationships, and loss of work.\(^{(5)}\) Arguably, the most concerning manifestation of this is pathological internet addiction. Specifically, internet addiction can be defined as the use of internet devices for 7 hours or more per day, which predisposes one to dependence and mental health problems.\(^{(6)}\)

Additionally, health problems include sleep disturbance, neck pain, eye strain and road accident etc. 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.\(^{(7)}\) Other signs include cravings to use social media, such as Facebook, Twitter, Instagram, Snapchat and WhatsApp etc. In addition, various specific activities on the internet were identified as a common cause of internet addiction. Examples include online gaming, downloading films and music, online shopping and gambling.\(^{(8)}\)

Presently, internet addiction can be diagnosed based on 8 diagnostic questions; giving responses to these queries can reveal the individual type of internet addiction.\(^{(9)}\) Pathological internet addiction is more common among college and university students. High prevalence of internet addiction among medical students calls for serious concern. In addition, several studies have found an association between internet addiction and academic anxiety.\(^{(6, 10)}\) Limited information is available regarding internet addiction among the students. No study has been conducted on internet addiction among undergraduate medical students in Hyderabad so far. This study will help to get an insight into this issue that can help policy makers in devising strategies for its prevention and control.

**Methodology**

This cross-sectional study was conducted among undergraduate medical students of Isra University, Hyderabad from August to December 2019. Stratified random sampling technique was used for the selection of participants. The sample size of 237 was calculated, using the formula for anticipated population proportion (Raosoft). The confidence level of 95%, 5% margin of error and 19% anticipated proportion were used in the formula \(^{(11)}\).\(^{(12)}\) A total of 263 participants were included by applying calculation for Design Effect; to reduce the possibility of non-responsiveness. All medical students from 1\(^{st}\) to Final year MBBS, who gave consent to participate were included. 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 written informed consent was also sought from all the participants.

Socio-demographic details of all students (age, gender, marital status, ethnicity, religion and year of study, etc.) were gleaned, followed by a structured
questionnaire consisting of 5-point Likert scale questions adopted from Dr. Kimberly Young, as a tool for internet addiction test (IAT). The IAT is a valid inventory that 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, the maximum score 100 was considered as the extreme usage/severe addiction. The overall IAT scores less than 30 represented normal internet users, 31-49 mild addiction, 50-79 represented moderate addiction and 80-100 showed severe addiction. 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.

SPSS-23 was used for both the descriptive and inferential statistical analysis of data. Qualitative data was presented as numbers and percentages. Quantitative variables were measured as mean and standard deviation and analyzed using student t-tests or one-way ANOVA, based on the classification of data available.

**Results**

The age range of the respondents was from 19 to 24 years with the mean age of 21.26 ± 3.44 years. The majority of respondents were from 2nd-year MBBS while most of the respondents were day scholars (Table I).

<table>
<thead>
<tr>
<th>Table I: Socio-demographic details of study participants (n=263)</th>
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<tr>
<td>Variables</td>
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<td>Gender</td>
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Table II: Distribution of participant’s level of internet addiction (n=263)

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<tr>
<th>Level of internet addiction</th>
<th>Frequency (%)</th>
<th>Total Score Range</th>
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<tbody>
<tr>
<td>No addiction</td>
<td>39 (14.83)</td>
<td>&lt; 30</td>
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<tr>
<td>Mild</td>
<td>143 (54.37)</td>
<td>31-49</td>
</tr>
<tr>
<td>Moderate</td>
<td>54 (20.53)</td>
<td>50-79</td>
</tr>
<tr>
<td>Severe</td>
<td>27 (10.27)</td>
<td>80-100</td>
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The majority of study participants (n=224) scored between 31 and 100 in IAT and were found to be addicted to the internet (Figure 1).

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

Out of the 224 addicted respondents, the majority of them were mild or minimal internet addicts (Table II).

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 that they prefer the internet excitement to intimacy with their friends or family. Moreover, 105 (39.92%) reported that they feel moody,
nervous, or depressed when they become off-line while this feeling disappears once they are back online.

There was a statistically significant (p<0.05) difference in internet addiction scores between male and female medical students. Male medical students were found to be more addicted to the internet compared with their counterparts. The mean Internet addiction score was statistically highest among the age group 19-20 while lowest in the 23-24 years group.

Moreover, the mean internet addiction score was statistically highest in 2nd-year MBBS students while lowest in 5th-year medical students. There was a statistically significant difference in internet addiction between hostlers and day scholars (Table III).

**Discussion**

Despite many advantages of internet usage, there are several adverse effects of its consumption which are evident. Adolescents especially students at all levels are more likely to become 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% of participants are internet-addicted which is a large number. Ali et al reported 85% of their participants to be internet addicts. These findings are consistent with our study.\(^{14}\) This high number is quite alarming and this could be because medical students of Isra University have easy access to an internet facility and internet utilization by students is not regulated.

The results of the 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\(^{14, 15}\) while these findings are inconsistent with the findings of Nduanya et al who reported higher prevalence than our study.\(^{16}\)

Our study discovered that 12.05% of respondents were severely addicted to the internet, many of the studies have reported the lower prevalence of severe internet addiction.\(^{16-18}\) Moreover, our study revealed that 63.84% of the respondents were mild or minimal and 24.11% were moderate internet addicts. These findings are comparable with studies by Ahmer et al., Chaudhari et al., and Haque et al.\(^{1, 15, 19}\)

Results of the current study also reveal 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 Upadhayay et al\(^{9, 18, 20}\). In addition, the meta-analysis of 26 studies from China by Shao et al further confirmed male students to be more addicted to the internet than females.\(^{21}\)

These findings are in contrast with the findings of Ahmer et al where internet addiction among females was found to be more as compared to
males. However, Ranganatha et al. haven’t found any difference in the mean internet addiction scores in terms of gender in their study.

In this study, the 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, the more addicted they are, to the internet. This is possibly because with advancing age and maturity, medical students engage and focus more on other important responsibilities and trend of internet surfing decreases. These findings are consistent with the findings of earlier studies that reported a similar pattern.

Lastly, it has been found that students residing in the hostel had the highest mean internet addiction score compared with day scholars. These findings are consistent with the findings of Qadir et al. This can also be explained as students residing in hostels, being alone, get bored and spend longer duration using the internet for change of mind.

The study has certain limitations. Foremost, it 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 the internet, time spent on the particular website or social media, the impact of internet addiction on mental health, etc. was not collected. Further studies are recommended in the future to address this issue more extensively.

**Conclusion**

Students between the age group (19-20) years, hostlers, in 2nd year of study and males were mainly addicted to the internet. This higher burden of internet addiction forecasts a potential rise in the number of severe addicts in the near future.

**References**


