FREQUENCY OF INTERNET ADDICTION AMONG MEDICAL STUDENTS; MALES VS. FEMALES

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ABSTRACT

Background: With the progressing easier access to internet; its addiction is increasing in students. This study shows the percentage of students who are mildly or severely addicted to internet and also compares the prevalence between the male and female gender. The study also throws lights on at which age the students are most likely to become addicted. Objective: Assess the frequency of internet addiction among medical students. Material and Methods: Study Design: Descriptive Survey. Study Settings: Capital Development Authority (CDA) Hospital, Islamabad, Pakistan. Duration of Study: 1st May 2014 to 1st October 2014. Inclusion criteria: Medical students who were willing to participate in the study. Boys and girls will be included in the study. Data Collection and analysis: An internet addiction Performa will be given to participants. Collected data will be analyzed using descriptive and inferential statistics. Results: The internet addiction criteria showed that 20.3% of students had problems due to internet usage. Male gender is more affected than female gender with 26.7% of males being addicted to internet and 14% of females addicts. Only 19.4% of students in age range of 17-20 years were addicted to internet; whereas it was much higher in age group 21-24 years with 21%. Conclusions: Male students are suffering from internet addiction more than female students. Students above the age of 20 years are more addicted to internet.
KEYWORDS: Internet addiction, Comparison, Frequency, Gender, Medical Students.

INTRODUCTION

Internet addiction disorder is an interdisciplinary phenomenon and it has been studied from different viewpoints in terms of various sciences such as medicine, computer, sociology, law, ethics, and psychology. The aim of this study is to determine the association of psychiatric symptoms with Internet addiction while controlling for the effects of age, gender, marital status, and educational levels. It is hypothesized, that high levels of Internet addiction are associated with psychiatric symptoms and are specially correlated with obsessive-compulsive disorder symptoms. Research on Internet addiction originated in the US by Dr. Kimberly Young. In 1996, she presented the first paper on the topic at the American Psychological Association’s annual conference held in Toronto entitled, “Internet Addiction: The Emergence of a New Disorder”. Since then, studies have documented Internet addiction in a growing number of countries such as Italy, Pakistan, Iran, Germany, and the Czech Republic. Reports also indicate that Internet addiction has become a serious public health concern in China, Korea, and Taiwan. Treatment centers have emerged across the US and abroad.

It is quite cumbersome to determine how prevalent this issue really is. Researchers from the Stanford University’s School of Medicine conducted a study and concluded that, on an average, one out of eight Americans suffer from problematic internet use. It is quite cumbersome to define how widespread this issue really is. The results from a survey at the Stanford University School of Medicine showed that one out of every eight internet users show signs of problematic internet use (Stanford et al 2006). In fact, internet addiction is now being added as a mental disorder in DSM-V criteria (Ronald et al 2009).

It doesn’t really matter where you go or where you travel to, you can take with yourself a laptop despite all inconveniences. Also, access to internet is just as important as eating, drinking or breathing. Although it is a necessity now, but some people get indulged in the world of internet more than the other. This is when negative impacts of “internet abuse” start to surface. This is what researchers label as the internet addiction disorder (IAD) (Yung et al 2015).

The rationale of this study is that in a developing country this issue has never been high lightened and there is excessive use of internet among students especially undergraduates.
This study will probe into frequency and characteristics of internet addiction disorder among medical students.

**Objectives:** The objective of this study is to:

- To assess the frequency of internet addiction among medical students.

**Operational definitions**

**Internet addiction disorder**

Internet addiction disorder be diagnosed on the Axis I Scale of the DSM through Internet Addiction Diagnostic Questionnaire (IADQ). Meeting five of the symptoms in the questionnaire will be considered as medical student suffering from internet addiction disorder. (See annex II).

**MATERIALS AND METHOD**

**Study Design:** Cross sectional study.

**Study setting:** Capital Development Authority (CDA) Hospital, Islamabad.

**Study duration:** Three months.

**Sample size:** 300 medical students.

**Sampling technique:** Stratified random sampling.

**Sample Selection**

**Inclusion criteria**

- Medical students
- Either sex
- First year to final year medical students.

**Exclusion criteria**

- Medical students who are dropouts.

**Data collection Procedure**

300 medical students those who fulfilling the inclusion criteria was given internet addiction questionnaire devised by Dr. Young. (attached). Students will be systematically selected through random sampling for equal representation of every Class. The questionnaire will be given anonymously and separately in room. All the information was entered in spss ver. 17.0.
Data Analysis Procedure
Data was entered and analyzed in spssver: 17.0. Mean and standard deviation was calculated for numerical variables like age, duration of use of computer. Frequency tabulation was done for the presence and absence of internet addiction syndrome on basis of scoring.

RESULTS AND MAIN FINDINGS

Age of medical students of CDA
Table 1:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>20.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Age of students of CDA
Table 2:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 - 20 years</td>
<td>148</td>
<td>49.3</td>
<td>49.3</td>
<td>49.3</td>
</tr>
<tr>
<td>21 - 24 years</td>
<td>152</td>
<td>50.7</td>
<td>50.7</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Gender of medical students of CDA

![Graph 1](image)

Class of medical students of CDA
Table 3:

<table>
<thead>
<tr>
<th>Class</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>first year</td>
<td>60</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>second year</td>
<td>60</td>
<td>20</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>third year</td>
<td>60</td>
<td>20</td>
<td>20</td>
<td>60</td>
</tr>
<tr>
<td>fourth year</td>
<td>60</td>
<td>20</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>fifth year</td>
<td>60</td>
<td>20</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
Internet Addiction Criteria
In which stage of internet addiction does the user lie

![Graph 2](image)

Internet addiction criteria with reference of gender

Table 4

<table>
<thead>
<tr>
<th>Internet Addiction Criteria (in which stage of internet addiction does the user lies)</th>
<th>Gender of Medical Students of CDA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Online user with complete control (score 20 - 49)</td>
<td>110</td>
<td>129</td>
</tr>
<tr>
<td>Frequent Problem due to internet usage (score 50 - 69)</td>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td>Internet is causing significant problem (score 70 - 100)</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

Chi-Square Test

Table 5

<table>
<thead>
<tr>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>10.583a</td>
<td>2</td>
</tr>
</tbody>
</table>
Internet addiction with reference to age

Table 6

<table>
<thead>
<tr>
<th>Internet Addiction Criteria (in which stage of internet addiction does the user lies)</th>
<th>Age of Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online user with complete control (score 20 -49)</td>
<td>17 - 20 years</td>
<td>21- 24 years</td>
</tr>
<tr>
<td>Count</td>
<td>119</td>
<td>120</td>
</tr>
<tr>
<td>% within Age of Student</td>
<td>80.40%</td>
<td>78.90%</td>
</tr>
<tr>
<td>Frequent Problem due to internet usage (score 50 - 69)</td>
<td>Count</td>
<td>27</td>
</tr>
<tr>
<td>% within Age of Student</td>
<td>18.20%</td>
<td>18.40%</td>
</tr>
<tr>
<td>Internet is causing significant problem (score 70-100)</td>
<td>Count</td>
<td>2</td>
</tr>
<tr>
<td>% within Age of Student</td>
<td>1.40%</td>
<td>2.60%</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>148</td>
</tr>
<tr>
<td>% within Age of Student</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Chi-Square Test

Table 7

<table>
<thead>
<tr>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.636a</td>
<td>2</td>
</tr>
</tbody>
</table>

RESULTS

The participants in study consisted of 50% females and 50% males (Graph No. 1). The minimum age of participant taken was 17 whilst the maximum age was 24 (Table No.1). The result of the study shows that 49.3% of students lie in the age range of 17-20 years and 50.7% of students lie within the age range of 21-24 years (Table No. 2). The mean age was 20.6 having standard deviation of 1.610 (Table No.1). Each of the five classes of medical students; 20% participants contributed to study (Table No. 3).

The internet addiction criteria showed that 79.6% students have a complete control over internet usage; 18.3% have frequent problems while 2% are having significant problems due to internet usage (Graph No. 2).
While comparing the frequency between male and female students; 73.3% of males and 86% of females were found to have perfect control over internet usage; whereas 22.7% of males and 14% of females were found to have frequent problems and 4% of males have significant problems due to internet addiction. (Table no. 4). The chi square tests show the value of 10.583 with 2 degree of freedom and the asymp. sig (2 sided) is 0.005 (Table no. 5).

Regarding age; 80.4% of students lying in age range of 17-20 years have a complete control over internet usage 18.2% have frequent problems while 1.4% is having significant problems due to internet usage. In the age range of 21-24 years 78.9% have a complete control over internet usage 18.4% have frequent problems while 2.6% are having significant problems. (Table no. 6). The chi square tests show the value of 0.636 with 2 degree of freedom and the asymp. sig (2 sided) is 0.728 (Table no. 7).

**DISCUSSION**

Noreen et al 2013 study showed that the mean value of internet addiction in male students is greater than that of the female students which is consistent with the findings of our study. Meanwhile the study showed that 34% students lie in addicted and 2.7 lie in severely addicted category; these values are greater than the results we got in our study.

Online surveys estimate the incidence of addictive patterns of behavior among heavy internet users ranges from 6% to as high as 80% (ZahidYousaf et al 2012).

A study conducted among university level students by Waseem et al 2014 showed 30% of students are internet addicts which is considerably higher result than what we got in study averaging of only about 20%.

A study on internet addiction in undergraduates showed that male gender is significant predictor of the internet addiction which is consistent with the findings of Scherer et al 1997. However this finding may simply be due to the fact that more males then females use internet across the world.

The overall prevalence of severe internet addiction was equal to 2.8% in Gharmari et al. 2011 which was a little more than our result of 2% severely addicted students. Furthermore this study showed that younger age was a factor in more internet addiction; which was found opposite in our study where students above 20 years of age were more affected then below 20.
years of age. The study indicated that male gender has 3.5 fold more probability of internet addiction which was consistent to our findings.

A study by Shakeel et al 2011 showed that most internet addicted students were present in age group of 20-25 years which is similar to our results that more students above 20 years of age are addicted to internet.

Abdul et al 2013 research showed that 67.5% of the respondent age was 20-25 years who are internet addicts which is considerably higher than the results we got in our research which were 50.7%.

Ali et al 2012 study showed that females more than males had signs of internet addiction. This result is inconsistent with our findings which show that males are considerably more prone to internet addiction.

Shao et al 2013 study showed that no difference in internet addiction because of gender but Buranuy et al 2013 shows that male college students have greater possibility of becoming internet addicts.

Cengizet al 2011 results shows that below 19 years of age internet addiction level is high which in inconsistent with our findings. Internet addiction score of students were higher as compared to other professional groups. Internet score of males were higher than those of females which is similar to result in our study.

Zeynep et al 2012 study showed that women are more internet addicted to internet then men but it may be due to higher no of women participating in the study. Uneri and Tanidir et al 2010 examined the internet addiction degree of male and female students and they revealed that male students have higher scores on internet addiction. In Comet and Ogelet al 2009 revealed that the risk for developing an internet addiction is higher by male then female students.

Morahan Martin and Schumacker et al 2000 reported that males were more likely than females to be pathological users whereas females were more likely than males to have no symptoms or have limited symptoms of behavioral pathology.
Nurten et al 2013 results shows that males are more inclined to internet addiction. We used Young’s scale to determine the % of internet addiction and found out that our results are comparatively higher then Daniel Schoenfeld study, whose results shows that 0.9% of the sample could be considered addict to the internet according to both the IAT and GPIUS.

Estimates of prevalence of internet addiction indicate that 5-10% of the worldwide general population may suffer from this type of disorder.

Hall and parsons et al 2001 conservatively estimate the prevalence rate to be about 6% based on the results of a variety of studies conducted within the past 10 years up to that point. Chou et al 2005 showed that male college students are more likely to become addicted to internet then female college students which is consistent with results of our research although other researchers found less consistent results.

Our study showed that in university students; males are considerably more prone to internet addiction. Nachimaset al 2000 found gender difference in the use of Internet with the higher and more extensive usage for longer hours by males.

CONCLUSION

- Male students are suffering from internet addiction more than female students.
- Female students have greater control over their internet usage than male students.
- With respect to age; students below 20 years of age have more control and suffer from less problems due to internet usage then the students who are above 20 years of age.

REFERENCES

12. Buranuy I Chiu, Fu Yuan Hong, Su Lin Chiu, Analysis on the correlation and gender difference between college students’ internet addiction and mobile phone addiction in Taiwan. ISRN Addiction Volume, 2013; Article ID 360607, 10 pages.


