Internet addiction among medical students in three universities (Omdurman Islamic University, University of Science and Technology and Ahfad University for Women). Omdurman Locality - Sudan 2016.

Sondos Mohammed Awadallah Altayeb*, Bashier Eltayeb Shumo, Elfatih Mohammed Malik

1Central Blood Bank, Khartoum Hospital, Khartoum, Sudan. 2Department of Community Medicine, Faculty of Medicine, University of Shendi, Sudan. 3Department of Community Medicine, Faculty of Medicine, University of Khartoum.

Abstract:

Background: There has been explosive growth in the use of internet in the last decade. This results in serious problems in many areas. The aim is to study patterns and effects of internet addiction among medical students in three universities in Omdurman locality, Sudan 2016

Method: This cross-sectional study was conducted at 3 medical colleges out of 5 in Omdurman. A standard questionnaire based on Young’s internet addiction test was used to collect data from 272 medical students.

Results: The prevalence of internet addiction was found to be 80.15% (95% CI: 75-85). Most students use internet for chatting and academic purposes. There is no significant association between gender and internet addiction (p=0.360), but there is association between duration of daily internet use and the level of internet addiction (p<0.001). Most students have their academic performance affected, and 74.7% (95% CI: 69-80) feel depressed when not online. Most students prefer staying on internet than sitting with parents or friends. The most observed side effects for prolonged use are “blurring of vision”55.9% (95% CI: 50-62) and headache 47.8% (95% CI: 42-54).

Conclusion: Incidence of internet use is increasing. Most students have their health affected from prolonged use of internet, and most of them have their academic, social life and sleep affected. There is a need for motivation of students to participate in social activities, limiting internet use in lecture theatre, limiting access to open Wi-Fi and for awareness raising sessions.

*Corresponding author: Central Blood Bank, Khartoum Hospital, Khartoum, Sudan. E-mail: samahir61996@hotmail.com

Introduction:

Internet is one of the most useful innovations worldwide. There is thin line between technology use and abuse, but some people cross that thin line even one step further, going from internet use and abuse to internet addiction. In many people, the internet use habits seem excessive: sleeping with a smart phone under the pillow, texting one person while having face- to- face conversation, or tweeting from a funeral. Internet addiction is impulse control problem; it affects only behavior. In contrast, professionals in the mental health argue that behavior can become addictions in the fullest sense. They note that behaviors, such as internet use, can produce a rush of dopamine, the brain reacts unlike it would to drug, with cravings, withdrawal and increasing tolerance.¹

Internet addiction exhibits signs like preoccupation with the internet, use of internet in an increasing amount of time in order to achieve satisfaction, repeated unsuccessful effort to control or stop internet use, feeling of restlessness, moodiness, depression, or irritability when attempting to cut down use of internet and staying online more than originally intended. On the other hand, jeopardizing or risking loss of significant relationships, job, educational or career opportunities because of internet use were noted. Furthermore, signs could
include lying to family members, therapist or others to conceal the extent of involvement with the internet, and use of internet as a way to escape from problems or to relieve a dysphoric mood. Internet addiction destroys people lives; it causes neurological complications, sleep disturbances, fatigue, back strains and eye problems. It also causes social isolation, social detachment and it causes emotional problems. It affects academic performance as students spend a lot of time on network. It decreases concentration, and increases risk for car accidents. The sedentary life style of prolonged computer use may result in a lack of proper exercise (1).

With the soaring number of internet users, the problem of internet addiction has attracted high attention from psychiatrists, educators and the public worldwide. This explosion alarms researches too. This study was conducted to determine the patterns of internet use, and identify extent of problems created by such misuse.

Methodology:
This was a descriptive, cross-sectional, institution-based study.

Study population, sample size and sampling:
There are 5 colleges of medicine in Omdurman. Two of them were excluded because they were closed during the study period. The study was carried out in University of Science and Technology, Ahfad University for Women and Omdurman Islamic University for boys and girls. Using random selection method, the third year medical students were selected for this study.

The sample size was calculated to be 272 students using the formula: 

\[ n = \frac{z^2 \times p \times q}{d^2 \times \text{deff}} \]

Where \( z \) is the standard normal deviation at 95% CI (=1.96), \( P \) is the proportion of using internet (=80%), \( q = 1 - p \), \( d \) is the degree of precision (=0.05) and \( \text{deff} \) is the design effect (=11). This was divided across the 3 selected colleges proportional to their sizes as follow: 42 students (15.4%) from University of Science and Technology; 113 students (41.5 %) from Ahfad University for Women; 58 students (21.3 %) from Omdurman Islamic University for boys and 59 students (21.7%) from Omdurman Islamic University for girls.

Data collection:
A pre-tested self-administered standardized questionnaire was used to collect data from students after taking written informed consent. The questionnaire consists of two parts: Demographic data (age, gender and university) and internet addiction test. The Internet Addiction Test (IAT) is the first validated instrument to assess internet addiction. The test measures the extent of a client’s involvement with the computer and classifies the addictive behavior in terms of mild, moderate, and severe impairment. To assess the level of addiction, clients should answer twenty questions. The final score was obtained by adding the numbers for each response to obtain a final score. The higher the score, the greater the level of addiction. The score is as follows: normal range: 0 –30 points, mild: 31– 49 points, moderate: 50 –79 points, severe: 80 – 100 points. (3)

Data collection:
Data were cleaned and entered into computer using SPSS version 23. Descriptive analysis was used to analyze demographic data, prevalence and severity of IA, age at beginning of internet use, duration of daily internet use, purposes of internet use, and different effects of excessive internet use. Chi-square test was performed to assess association between IA and gender, level of internet addiction and duration of daily internet use.

Results:
A total of 77 (28.31%) males and 195 (71.69%) females participated in the study. The age of the majority of them (73.5%) ranged between 19 to 22 years.

The overall prevalence of internet addiction was found to be 80.1% (95% CI: 75-85). The highest prevalence of internet addiction was reported from University of Science and Technology (92.9%) followed by University of Ahfad (78.8%).
prevalence was 70.7% in Omdurman Islamic University for boys and 83.1% in Omdurman Islamic University for girls. Figure 1 summarizes severity of internet addiction.

Figure 1: distribution of study population according to severity of Internet addiction, 2016

Regarding duration of daily internet use, most students recorded about 1-4 hours of daily internet use (46%), followed by 35.3% who stayed 5-8 hours, 10.7% stayed for 9-12 hours, 5.1% stayed for 13-16 hours and only 2.9% stayed for more than 16 hours on the internet.

Students used internet to study, chat, play and follow news. Chatting represents the major category (84.9%) followed by study purposes (Table 1). On the other hand, with the exception of 45 students (16.5%), almost all students experienced a set of symptoms. The commonest reported symptom was eye blurring (55.9%) followed by headache (Table 1).

Prolonged internet use was reported by students to have many effects on social, psychological and academic performance (Table 2). The effect was high in all aspects ranging between 75% - 93%.

While it seems that the internet addiction was higher among females (81.5%) than males (76.6%), the difference is not significant (p=0.360).

Table 1: Reported purpose of internet use and common symptoms

<table>
<thead>
<tr>
<th>Variable/ Description</th>
<th>Freq.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of internet use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>210</td>
<td>77.2</td>
</tr>
<tr>
<td>Chatting</td>
<td>231</td>
<td>84.9</td>
</tr>
<tr>
<td>Playing</td>
<td>138</td>
<td>50.7</td>
</tr>
<tr>
<td>News</td>
<td>133</td>
<td>48.9</td>
</tr>
<tr>
<td>Headache</td>
<td>130</td>
<td>47.8</td>
</tr>
<tr>
<td>Eye blurring</td>
<td>152</td>
<td>55.9</td>
</tr>
<tr>
<td>Backache</td>
<td>45</td>
<td>16.5</td>
</tr>
<tr>
<td>Common symptoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>29</td>
<td>10.7</td>
</tr>
<tr>
<td>Others</td>
<td>21</td>
<td>7.7</td>
</tr>
<tr>
<td>No symptoms</td>
<td>45</td>
<td>16.5</td>
</tr>
</tbody>
</table>

Internet addiction severity varied with different durations of daily internet use. Because of the small sample size it is difficult to draw conclusion. For instance, while students who used internet for 1-4 hours daily, 33.6% were not addict, 32% mild internet addicted, 32.8% moderately addict, and only 1.6 % has severe addiction, the picture looks different in those who used internet for more than 16 hours: no one is non-addicted, 50% have mild internet addiction, 50 % moderate, and no one is severely addicted.

Table 2: Social, psychological and academic effects of prolonged internet use (n=272)

<table>
<thead>
<tr>
<th>Effects</th>
<th>Freq.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students choose to stay online than to stay with others</td>
<td>225</td>
<td>82.7</td>
</tr>
<tr>
<td>Students neglect their household chores in order to stay online.</td>
<td>254</td>
<td>93.4</td>
</tr>
<tr>
<td>Students report that others complain to them about amount of time they stay online.</td>
<td>222</td>
<td>81.6</td>
</tr>
<tr>
<td>Students whose academic performance is adversely affected</td>
<td>225</td>
<td>82.7</td>
</tr>
<tr>
<td>Students who have their sleep adversely affected</td>
<td>246</td>
<td>90.4</td>
</tr>
<tr>
<td>Students who get depressed when they are offline.</td>
<td>203</td>
<td>74.7</td>
</tr>
</tbody>
</table>
Discussion:
The results of this study show that the prevalence of internet addiction among medical students in Omdurman is very high (80.1%). This is somewhat similar to a finding from a study in Norway (4) and another in Mangalore India (5), but these results were contradicted with findings of studies conducted in city of Guntur, Andhra, India and another in China(6). The reason of this variability in prevalence rate could be explained by difference in evaluation, methodology, accessibility of internet, and difference in study population.

The prevalence in this study is high in all colleges but still is very high in University of Science and Technology. The reason behind differences in prevalence could be that the study conducted in three different universities, two of them are private (Ahfad and University of Science and Technology) and one of private universities is for women (Ahfad University) the socioeconomic status of students in the three universities could be different and this could affect the use of internet and outcome of the study.

Results from this study found no significant association between gender and internet addiction (p=0.360); internet addiction is slightly higher in females (81.53%) than males (76.67%), this is inconsistent with a study in Italy(7) and in Thailand (8) with male gender predominance suggesting that the reason is women are generally inclined to deeper effective involvement in social and interpersonal relationships. This study shows that use of internet is mainly for chatting and academic purposes and almost half of students (45.9%) stay for 1-4 hours and a third (35.3%) stay for 5-8 hours daily on internet. This finding is supported by a study from India (9).

This study found that there is significant association between duration of daily internet use and severity of internet addiction (p<0.001). This is supported by another study from Thailand (8) and may be explained by the fact that the more time spent for internet use, the more the student get used to internet the more easy to become an internet addict. The study found that most students who stayed on internet for long time complain of eye blurring (55.9%), and headache (47.8%) which is supported by a study in Thailand (8). Almost all students (90.4%) lose their night sleep spending their time online at late night. Most students in this study reported that their internet abuse affect negatively on their academic performance (82.7%) this is supported by study in Thailand (8). Three quarters (74.7%) of students in this study reported that they become nervous once they are offline; this consistent with studies from Taiwan (10).

Study Limitations:
Time and resources constraints limited the capacity of the researcher to have a big sample size with a bigger design effect. This is very important to cover for diversity of colleges (public/private; socioeconomic status). This limited also the capacity for further analysis.

Conclusions:
Internet use is increasing because of technology development. Most students have their health affected from prolonged use of internet, and most of them have their academic and social life and sleep affected. Availability of internet on mobile phones and low cost of internet may be the reason for such high internet use. There must be university sessions to educate about the danger and health hazards resulting from internet abuse and to motivate students to participate in social activities. Not to mention the need for limitation of open access Wi-Fi especially in lecture theaters. If the problem of internet addiction becomes progressive, special centers for treatment of this phenomenon then becomes a necessity.

References:


