

Prevalence of internet addiction and its associated factors among medical students at Taiba University, Saudi Arabia

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ABSTRACT

Background: This study aimed to determine the prevalence of internet addiction and its associated factors among medical students at Taibah University in Madinah, KSA. **Methods:** This cross-sectional study was conducted among 426 medical students from Taibah University, KSA. The 20-item Internet Addiction Test (IAT) was used to measure internet addiction. **Results:** Most participants (40.8%) used the internet for 5–7 hours/day and mainly for social networking (88.5%) and for downloading media files. Approximately, 6% were classified as internet addicts and 42% had occasional problems. Internet addiction was correlated negatively with performance. Internet addiction was significantly higher among those who used the internet for more than 10 hours/day ($P < 0.001$), those who used the internet mostly for downloading media files ($P = 0.005$) and for social networking ($P = 0.005$). **Conclusion:** Internet addiction among medical students is relatively high. Preventative measures like awareness campaigns are recommended to minimize internet addiction among university students.

Keywords: Internet addiction, medical students, performance, Saudi Arabia

Introduction

Internet addiction has been defined as excessive or poorly controlled preoccupations, urges, or behaviors regarding computer use and internet access that lead to impairment or distress.^[1,2] Internet addiction can cause neurological complications, anxiety, depression, and can affect the academic performance of university students.^[1] The previous studies in

the United States and Europe found a prevalence rate between 1.5% and 8.2%.^[3] In the previous studies from the Middle East and Asia, the prevalence of internet addiction among adolescent and university students varies from 0.9% to as high as 33%.^[4-11] Previous study in Saudi Arabia found that 1.9%–3.1% of medical students were classified as internet addicted.^[12,13] This study aimed to determine the prevalence of internet addiction and its associated factors among medical students at Taibah University in Madinah, KSA.

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Materials and Methods

This cross-sectional study was conducted among 426 medical students from Taibah University, KSA. A self-administered

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questionnaire was used in this study. The first part included questions on the sociodemographic background such as gender, age, academic year, and GPA. The second part included questions on the availability of internet access at home, university, and mobile internet access and how many hours each participant spent on the internet per day. The third part included the validated Internet Addiction Test (IAT), which is a widely used scale for evaluation of internet addictions.^[11] IAT consists of 20 items and the answer of each item ranged from 1 (rarely) to 5 (always). The total score ranged from 20–80 with scores of 20–49 represent “average user”, scores of 50–79 represent “occasional problems”, and scores 80–100 are classified as “addicted”.^[11]

Cronbach’s alpha coefficient for the scale was 91%.^[12] Data was analyzed by using the SPSS software version 26. The continuous variables were described by mean (\pm SD) while the categorical variables were described by frequency and percentage. A normality test was conducted and showed that the total IAT scale was normally distributed. Cronbach’s alpha coefficient for the scale in this study was 92%. T-test and ANOVA test were used to compare the mean IAT scale across the study variables. The accepted level of significance was below 0.05 ($P < 0.05$).

Ethical consideration

The study was approved by the Ethical Committee of the Institutional Review Board in Al-Madinah, Saudi Arabia at 28/05/2019 (IRB 312). The objectives of the study were explained to the participants. Confidentiality of data and anonymity of participants were assured. All participants had signed the consent form.

Results

Mean (SD) age was 22.1 (1.7) years and age ranged from 19 to 26 years.

Most participants were female (63.8%), singles, and had a GPA of > 4.5 (42.3%) [Table 1]. About 71.6% had internet access at college, 97.2% had internet access at home, and 95.8% had mobile internet access. Most participants had used the internet for more than 8 years (67.6%) and 40.8% use the internet for 5–7 hours per day. Most participants used the internet for social networking (88.5%) and for downloading media files (58.7%) [Table 2].

Regarding internet addiction, 6% of the participants were classified as internet addicts while 42% had occasional problems, and the remaining (52%) were classified as average users.

Mean (SD) IAT score was 51.2 (16.3) and it ranged 20 to 100.

Regarding the effect of internet addiction on performance, Table 3 shows that the internet addiction score was lower among those who had a high GPA (46.9 ± 15.6) compared to those who had a low GPA (52.0 ± 16.1) and (52.1 ± 17.5), ($P = 0.004$).

Table 1: Sociodemographic characteristics of the participants

		n	Percentage
Gender	Female	272	63.8
	Male	154	36.2
Age (years)	≤ 22	244	57.1
	> 22	183	42.9
Marital status	Single	411	96.5
	Married	15	3.5
Academic year	1-2	104	24.4
	3-5	264	61.8
	Intern	57	13.3
GPA (performance)	≤ 3.9	108	25.3
	4-4.4	139	32.6
	> 4.5	180	42.2

Table 2: Description of internet usage among participants

		n	Percentage
Do you have internet access at college?	Yes	305	71.6
	No	121	28.4
Do you have mobile internet access?	Yes	408	95.8
	No	18	4.2
Do you have internet access at home?	Yes	414	97.2
	No	12	2.8
How long have you been using the internet? (years)	1-3	12	2.8
	4-8	126	29.6
	> 8	288	67.6
How many hours do you spend on the internet daily?	≤ 4	76	17.9
	5-7	174	40.8
	8-10	104	24.4
	> 10	72	16.9
Are you using the internet mostly for education	Yes	241	56.6
Are you using the internet mostly for online games?	Yes	90	21.1
Are you using the internet mostly for social networking	Yes	377	88.5
Are you using the internet mostly for downloading media files	Yes	250	58.7

Internet addiction score was significantly higher among those who had internet access at college ($P = 0.033$), those who had mobile internet access ($P = 0.003$), and those who had internet access at home ($P = 0.043$). Internet addiction score was significantly higher among those who used the internet for more than 10 hours per day ($P < 0.001$). Participants who used the internet mostly for downloading media files and for social networking had a higher score of internet addiction compared to their counterparts ($P = 0.032$, $P = 0.005$, respectively) [Table 4].

Discussion

This study aimed to determine the prevalence of internet addiction and its associated factors among medical students at Taibah University in Madinah, KSA.

Table 3: Association between internet addiction and sociodemographic variables

		Score on Internet Addiction Test (IAT)		P
		Mean	SD	
Gender	Female	51.0	17.4	0.874
	Male	51.3	15.8	
Age (years)	≤22	52.4	16.9	0.060
	>22	49.4	15.5	
Marital status	Single	51.3	16.5	0.410
	Married	48.1	11.9	
Academic year	1-2	53.1	17.9	0.727
	3-5	50.9	15.5	
	intern	49.1	17.3	
GPA (performance)	≤3.9	52.0	16.1	0.004
	4-4.4	52.1	17.5	
	>4.5	46.9	15.6	

Table 4: Association between internet addiction and the internet use among participants

		Score on Internet Addiction Test (IAT)		P
		Mean	SD	
Do you have internet access at college?	Yes	52.1	16.9	0.033
	No	48.9	14.8	
Do you have mobile internet access?	Yes	51.4	16.4	0.003
	No	45.9	15.0	
Do you have internet access at home?	Yes	54.9	15.0	0.043
	No	51.1	16.4	
How long have you been using the internet? (years)	1-3	50.4	13.9	0.283
	4-8	49.3	15.1	
	>8	52.0	17.0	
How many hours do you spend on the internet daily?	≤4	39.8	11.7	<0.001
	5-7	50.0	14.0	
	8-10	53.9	14.9	
	>10	62.0	19.7	
Are you using the internet mostly for education	Yes	49.9	15.7	.080
	No	52.7	17.1	
Are you using the internet mostly for online games?	Yes	55.4	17.6	0.006
	No	50.0	15.9	
Are you using the internet mostly for social networking	Yes	51.9	16.6	0.005
	No	45.1	13.3	
Are you using the internet mostly for downloading media files	Yes	52.6	16.3	0.032
	No	49.1364	16.35267	

This study found that 6% of the participants were classified as internet addicts while 42% had occasional problems, and the remaining (52%) were classified as average users. For those who were addicts, counseling programs should be considered to address this problem. For those who had occasional problems, it

is possible that they are at risk of falling into the addict category in the future. The prevalence of IA in this study is higher than that reported in the previous studies from Saudi Arabia (1.9%–4%).^[12-14] This study found that 40.8% use the internet for 5–7 hours per day. A previous study in Saudi Arabia found that more than half of the students (54.6%) used the Internet for an average of more than 4 hours every day.^[13] Another study reported that one-third of the students (39.4%) used the internet for more than 5 hours daily.^[14]

The current study did not find a difference in IA between males and females. Some studies had not found gender differences in Internet addiction and some studies found that male students had a higher internet addiction than female ones.^[12,15,16]

Regarding the effect of internet addiction on performance, this study shows that the internet addiction score was higher among those who had a lower GPA. Previous studies found that internet addiction was significantly negatively correlated with the academic performance of university undergraduates.^[15,16] These findings indicate that any effort to minimize internet addiction among university students will have a positive impact on their performance.

This study found that participants who used the internet mostly for downloading media files and for social networking had a higher score of internet addiction. This finding is similar to that found in a previous study.^[13]

One limitation of this study is its cross-sectional design, which limits its ability to establish a cause-effect relationship between the outcome and the independent variables. Another limitation is its inclusion of a single university, which affects the generalizability of the results.

In conclusion, Internet addiction is relatively high among participants, and performance was correlated negatively with internet addiction. Internet addiction was higher among those who used the internet for more than 10 hours per day, those who used the internet mostly for downloading media files and for social networking. Preventative measures such as awareness campaigns are recommended at the beginning of their university life to minimize internet addiction among university students.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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