Research Article

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Internet and facebook addiction among Egyptian and Malaysian medical students: a comparative study, Tanta University, Egypt

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ABSTRACT

Background: Internet addiction and problematic internet use (PIU) constitutes a problem among university students worldwide. Little is known about the adverse effects and unhealthy behaviors among medical students using internet and facebook. The objective of this study was to determine prevalence, associated factors and effects of Internet and Facebook addiction on medical students of Tanta faculty of medicine.

Methods: Cross sectional study was conducted in Tanta faculty of medicine, Tanta University, Egypt on 861 Egyptian and Malaysian students at 4th and 5th medical year from March to May, 2015 in the academic year 2014-2015. A self-administered questionnaire was used. It included questions on socio-demographic and academic data, patterns of internet use, patterns facebook use, and young internet addiction test (YIAT).

Results: The majority of the students of both Egyptian and Malaysian students reported that they have home internet access (85.8% and 89.2%) mostly via mobile phones (92.4%). Facebook the most frequently used social media by Egyptian students (93%), while other social media such as twitter, whatsapp, skype were more frequently used by Malaysian ones (96.4%). Habitual use of facebook late night was reported by 26.9% of Egyptian students compared to only 15.5% of Malaysian ones with statistically significant difference. The most commonly reported adverse effects were: eye irritation, followed by headache, then back pain. Only minor percentage of the students (2.7%) had significant problems in life due to internet use, while the largest percent of them (64.1%) were average internet users. Significantly higher percent of Egyptian students had (PIU) than Malaysian ones (3.8%, 0.9% respectively). Significant negative correlation was found between IAT scores and academic grades of the students.

Conclusions: Facebook and internet use affects the social life of medical students. Excessive facebook and internet use is associated with adverse health effects and unhealthy behaviours. Medical students are at increased risk for problematic internet use, and to a lesser extent internet addiction which negatively affects their academic grades.

Keywords: Internet addiction, Facebook, Medical students, Tanta, Egypt

INTRODUCTION

The internet is considered as the most effective tool in all areas of science, business, education, culture, and politics. The total number of worldwide internet users was estimated as 1.2 billion in the year 2000 and jumped to be 3.17 billion in 2015. According to the internet

usage statistics, internet users are increasing in Egypt reaching about 54.6 % of the population in 2015, compared to 35.6% in 2012.^{3,4} More than 80% of the Egyptian internet café clients are young people.⁵ Increasingly usage of computer technology and widespread dominance of the internet has faced many people particularly university students and extremely

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usage of it results in mental and psychological disorders.⁶ College students are believed to be at a high risk with a marked increase in their internet usage worldwide.⁷

The term 'internet addiction' was first introduced by Goldberg I in 1995 describe 'pathological and compulsive use of internet'. Goel categorized this term as a subgroup of behavioral addictions. In addition, various psychological measures are available to assess the internet addiction which include: young internet addiction test (YIAT), problematic internet use questionnaire (PIUQ), compulsive internet use scale (CIUS), and chen internet addiction scale (CIAS).

Facebook is a social networking service launched in February 2004; it reports more than 1 billion active users. It is particularly attractive to young adults and over half of member being in the age group of 18-34. ^{10,11} As of the third quarter of 2015, Facebook had 1.55 billion monthly active users with estimated 27million users in Egypt in November 2015. It has quickly become both a basic tool and a mirror for social interaction, personality identity and network building amongst university students. ^{4,12,13}

There is no doubt that excessive use of facebook affects the real world interaction abilities and communication, while social skills gradually decrease. Facebook addiction is the new term invented by psychiatrists as its addiction will damage the sleeping habits, health and interest in studies and interaction abilities of real life.¹⁴

To our knowledge, in spite of numerous studies to discuss the issue of internet and facebook addiction among medical students were carried worldwide, scares studies were done in Egypt, so the objective of this study was to determine prevalence, associated factors and effects of internet and facebook addiction on medical students of Tanta faculty of medicine.

METHODS

This cross sectional was conducted in Tanta faculty of medicine, Tanta University, Egypt on Egyptian and Malaysian students in 4th and 5th grade; it was conducted from March through May, 2015 in the academic year 2014-2015. The study sample included all Malaysian students (N=300), and a non-probability sample was drawn from 4th and 5th grades Egyptian students (N=1900). The least sample size was calculated using Epi-Info version 7.1.5.2. Program of statistics using 5% confidence limits at 99% confidence level was 431 students. For better accuracy and validity and to cover any losses due to incomplete questionnaires, 600 Egyptian students were estimated to participate in the study.

Inclusion criteria

- 4th year medical students.
- Both sexes.

- Active internet user since at least 1 year
- Willing to give consent and complete the questionnaire

Exclusion criteria

- Not willing to give consent & complete the questionnaire
- Not using internet

After end of data collection only 861 students (584 Egyptians and 277 Malaysians) met the inclusion criteria, gave the consent and completed the questionnaire with response rate 95.67%.

The study instrument for data collection consisted of a self- administered semi structured questionnaire with 2 sections;

Section I questions about internet and facebook use

- Socio-demographic and academic data of the student (Nationality age sex residence family income grade of previous year).
- Patterns of internet use (Internet access place (s), device (s), use years, daily hours, predominant time, and type of internet activity).
- Patterns facebook use (Cause of use, effect of facebook on social life, effect on time that you used to spend with your friends and family, activity on facebook, effects of use and attempts to leave).
- Adverse effects of using internet and facebook.

Section II young internet addiction test (YIAT)

Developed by Young K included 20 items, each of which is rated on a six point likert scale: rarely, occasionally, frequently, often, always, and does not apply. Total internet addiction test (IAT) scores were calculated and interpreted as follows; Total up the scores for each item. The higher your score, the greater level of addiction is.

- 20-49 points: An average on-line user. May surf the Web a bit too long at times, but have control over your usage.
- 50-79 points: Experiencing occasional or frequent problems because of the internet. Categorized as potential problematic internet users should consider their full impact on your life.
- 80-100 points: Internet usage is causing significant problems in life, categorized as problematic internet users (PIU). Should elevate the impact of the Internet on life and address the problems directly caused by Internet usage.

Statistical analysis

The data were coded, tabulated and analyzed using statistical package for social sciences (SPSS), software version 22.0 (IBM SPSS statistics for windows, released

2011; IBM Corp., Armonk, New York, USA; SPSS Inc., Chicago, Illinois, USA). Qualitative data were expressed as numbers and percentages, and the chi-square test was applied to test the relationship between variables. Pearson's correlation was applied to determine the relationship of the level of internet addiction and sociodemographic and academic characteristics of the students, and for the relationship of the level of internet addiction and the adverse and health effects of internet & facebook use. For each test, a p-value of less than 0.05 was considered statistically significant.

Ethical considerations

Official approvals were obtained from the ethics committee of the Tanta faculty of medicine. All the students were informed about the objectives of the study and verbal consents were obtained from them.

RESULTS

Socio-demographic and academic data of the respondents (Table 1)

The study included 861 students (484 Egyptian and 277 Malaysian), their mean age was 22.08±1.15 years. More than one half of both Egyptian and Malaysian students were urban residents. (56.3%, 54.5% respectively). Females represented higher percentage than males in both groups. Only minor percent (1.1%) of Malaysian students had failed the last year.

Table 1: Socio-demographic and academic characteristics of students.

Character	Egypt (n=58		Malays (n=277		Total (n=861)			
Sex	n	%	n	%	(11-001)			
Male	275	47.1	99	35.7	374			
Female	309	52.9	178	64.3	487			
Residence								
Urban	329	56.3	151	54.5	480			
Rural	255	43.7	126	45.5	381			
Family income								
Not enough	52	8.9	16	5.8	68			
Enough but not saving	228	39.0	87	31.4	315			
Enough and saving	304	52.1	174	62.8	478			
Last year grade								
Excellent	247	42.3	11	4.0	258			
Very good	200	34.2%	105	37.9	305			
Good	114	19.5	107	38.6	221			
Fair	23	3.9	51	18.4	74			
Failed	0	0	3	1.1	3			

Patterns of internet use (Table 2) and (Figure 1)

Significantly higher percentage (70.8%) of Malaysian students reported use of internet for a duration more than 5 years (p=0.000). The majority of the students of both groups reported "home" as the most frequent place for internet access (85.8% and 89.2%), and the most commonly used device in both groups was the mobile phone with significantly higher percentage (92.4%) among Malaysian students (p=0.000). Malaysian students reported significantly longer durations of daily internet use (p=0.000). The afternoon and evening times were the most frequent times for internet use in both groups (76% and 79.1%).

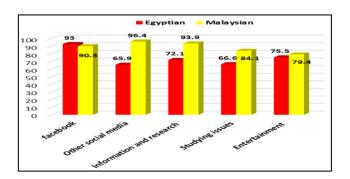


Figure 1: Patterns of student's internet activities.

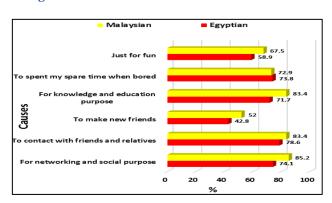


Figure 2: Causes of facebook use by the students.

Patterns and socio academic effects of facebook use (Table 3 and Figure 1-6)

Facebook was most frequently social media used by Egyptian students (93%), while other social media such as twitter, whatsapp, skype were more frequently used by Malaysian ones (96.4%). Only minor percentages (1.9%, 1.8%) of both groups reported use of facebook for more than 6 hours per day. Significantly higher percentage of Malaysian students (84.1%) reported internet use for studying issues (p=0.000). Contact with friends, relatives and social purposes were reported by the highest percentage of both groups as the main causes of facebook use.

Table 2: Patterns of students' internet use.

n 107	%	n	0/	Total (n=861)	$\chi^2 \mathbf{p}$			
107		11	%					
107	18.3	18	6.5	125	50.02			
211	36.1	63	22.7	274	50.92 0.000*			
266	45.5	196	70.8	462	- 0.000			
>5 years 266 45.5 196 70.8 462 Internet access place (s)								
501	85.8	247	89.2	748	1.88 0.17			
377	64.6	177	63.9	554	0.035 0.851			
311	53.3	183	66.1	494	12.61 0.000*			
295	50.5	159	57.4	554	3.58 0.059			
Device (s) used for internet access								
262	44.9	111	40.1	373	1.76 0.185			
400	68.5	213	76.9	613	6.47 0.011			
206	35.3	114	41.2	320	2.78 0.095			
464	79.5	256	92.4	720	23.06 0.000*			
Daily internet usage in hours								
250	42.8	67	24.2	317				
194	33.2	91	32.9	285				
85	14.6	54	19.5	139	47.55			
40	6.8	44	15.9	84	0.000*			
15	2.6	21	7.6	36	_			
Predominant time of internet use								
224	38.4	159	57.4	383	27.59 0.000*			
444	76.0	219	79.1	663	0.977 0.323			
333	57.0	172	62.1	505	1.994 0.158			
	266 501 377 311 295 ccess 262 400 206 464 3 250 194 85 40 15 t use 224 444	266 45.5 501 85.8 377 64.6 311 53.3 295 50.5 ccess 262 44.9 400 68.5 206 35.3 464 79.5 3 250 42.8 194 33.2 85 14.6 40 6.8 15 2.6 t use 224 38.4 444 76.0	266 45.5 196 501 85.8 247 377 64.6 177 311 53.3 183 295 50.5 159 ccess 262 44.9 111 400 68.5 213 206 35.3 114 464 79.5 256 3 250 42.8 67 194 33.2 91 85 14.6 54 40 6.8 44 15 2.6 21 tuse 224 38.4 159 444 76.0 219	266 45.5 196 70.8 501 85.8 247 89.2 377 64.6 177 63.9 311 53.3 183 66.1 295 50.5 159 57.4 ccess 262 44.9 111 40.1 400 68.5 213 76.9 206 35.3 114 41.2 464 79.5 256 92.4 33 250 42.8 67 24.2 194 33.2 91 32.9 85 14.6 54 19.5 40 6.8 44 15.9 15 2.6 21 7.6 t use 224 38.4 159 57.4 444 76.0 219 79.1	266 45.5 196 70.8 462 501 85.8 247 89.2 748 377 64.6 177 63.9 554 311 53.3 183 66.1 494 295 50.5 159 57.4 554 ccess 262 44.9 111 40.1 373 400 68.5 213 76.9 613 206 35.3 114 41.2 320 464 79.5 256 92.4 720 30 33.2 91 32.9 285 85 14.6 54 19.5 139 40 6.8 44 15.9 84 15 2.6 21 7.6 36 t use 224 38.4 159 57.4 383 444 76.0 219 79.1 663			

^{*} Statistically significant

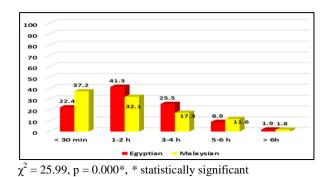


Figure 3: Durations of facebook use by the students.

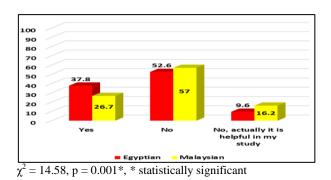
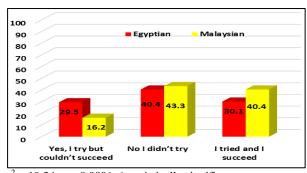


Figure 4: Negative effect of facebook use on the study.

Table 3: Patterns of students' facebook use.

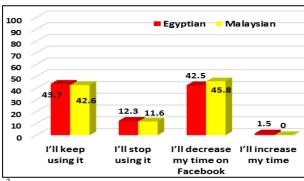
Pattern /effect	Egyptian (n=5	584)	Malaysia	n (n=277)	Total	X ² p
Activity on facebook and real life	n	%	n	%	(n=861)	P
I'm more active on Facebook	122	20.9	24	8.7	146	41.06
I'm more active in real life	188	32.2	83	30.0	271	41.26
Equally active on both	215	36.8	104	37.5	319	0.000*
Inactive on either one	59	10.1	66	23.8	125	
Effect of facebook on social life						
It's the same	227	38.9	149	53.8	376	19.41
It's getting better	222	38.0	90	32.5	312	0.000^{*}
It's getting worse	135	23.1	38	13.7	173	
Effect of facebook on social relations						
No effect at all	259	44.3	152	54.9	411	10.02
Moderate effect	288	49.3	108	39.0	396	- 10.92 $-$ 0.012
Extreme effect	37	6.3	16	5.8	53	- 0.012
Time spend with friends and family						
Markedly decreased	215	36.8	40	14.4	255	F < 0.0
Increased	59	10.1	31	11.2	90	56.99
Slightly decrease	139	23.8	64	23.1	203	- 0.000*
The same	171	29.3	142	51.3	313	
Difference in energy level						
Feel more active	90	15.4	30	10.8	120	10.51
Feel more lethargic	246	42.1	64	23.1	310	42.61
No change	248	42.5	183	66.1	431	0.000*
Get irritated when anyone disturbs you while usi	ing facebook					
Yes, I want to use Facebook with full concentration	114	19.5	22	7.9	136	
Yes, but only when I'm asked to do anything	100	22.4	<i></i>	10.0	244	45.83
unimportant	189	32.4	55	19.9	244	0.000*
No, I can do anything while using Facebook	281	48.1	200	72.2	481	
Use of facebook late night						
Sometimes	271	46.4	158	57.0	429	30.94
Always	157	26.9	43	15.5	200	0.000*
Most of the times	97	16.6	26	9.4	123	0.000
Never	59	10.1	50	18.1	109	
Facebook as a source of inspiration and motivati	on					
Yes, it inspires and motivate	190	32.5	57	20.6	247	
Sometimes motivate, some demotivate	301	51.5	49	17.7	350	360.41
No, it demotivates	0	0.0	140	50.5	140	0.000*
Neither motivates nor Demotivates	93	15.9		11.2	124	
Use of facebook in study hours/lectures						
Yes	115	19.7	46	16.6	161	
No	252	43.2		51.3	394	5.2
Often	7	1.2	2	0.7	9	0.158
Sometimes	210	36.0		31.4	297	
Difficulty in spending whole day without faceboo						
No	158	27.1	39	14.1	197	20.45
Yes	339	58.0		72.6	540	20.45
Most of times	87	14.9		13.4	124	- 0.000*
* Statistically significant						

^{*} Statistically significant



 $\chi^2 = 19.34$, p = 0.000*, * statistically significant

Figure 5: Trial for reduction of time on facebook.



 $\chi^2 = 4.91$, p = 0.179

Figure 6: Future plan regarding facebook use.

More than one third (36.8%, 37.5%) of both groups reported that they are equally active on both facebook and real life. Nearly one half (49.3% of Egyptian students reported moderate effect of facebook on their social relations compared to only 39% of Malaysian ones with statistically significant difference (p=0.000). Significantly higher percentage of Egyptian students reported marked decrease in time they spend with their friends and family (p=0.000). Significantly higher percentage of Egyptian students reported feeling lethargic due to facebook use (p=0.000). Habitual use of facebook at late night was reported by 26.9% of Egyptian students compared to only 15.5% of Malaysian ones with statistically significant difference (p=0.000). More than 30% of both groups reported use of facebook during study hours or lectures. More than half students of both groups (52.6%, 57%) denied any negative effect of facebook use on their study. 29.5% of Egyptian students tried to quit facebook use but they failed to do that, compared to only 16.2% of Malaysian ones with statistically significant difference (p=0.000), while more than 40% of both groups are planning for future reduction of time spent on facebook use.

Adverse effects of internet and facebook use (Figure 7-9)

The most commonly reported adverse effects were eye irritation, followed by headache then back pain. Among health related behaviors during internet & facebook

usage; disturbance of sleep pattern, postponing meals and holding urine or defecation were the most frequently occurring ones. About 30% of students reported decrease in physical exercise and increase in body weight.

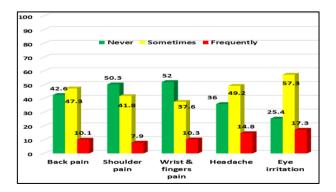


Figure 7: Adverse effects of using internet and facebook.

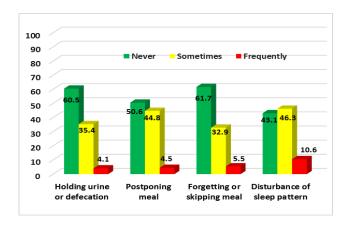


Figure 8: Health related behaviors during internet and facebook usage.

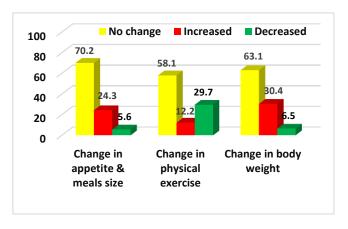


Figure 9: Body weight affection by internet and facebook usage.

Internet addiction test (IAT) scores Figure (10-12 and Tables 4 and 5).

Near two thirds (64.1%) of the student were average internet users, while only minor percentage of them

(2.7%) had problematic internet use. Male students showed higher percentage of problematic internet use (PIU) than females, however the differences were not statistically significant (p = 0.073, while the largest percent of them (64.1%) were average internet users. Significantly higher percent of Egyptian students had (PIU) than Malaysian ones (3.8%, 0.9% respectively), (p=0.000). Significant negative correlation was present between IAT scores and academic grades of the students; the higher the grade the lower the score, while significant positive correlation was present with the adverse health effects, the higher the score, the more frequent occurrence of adverse health effects.

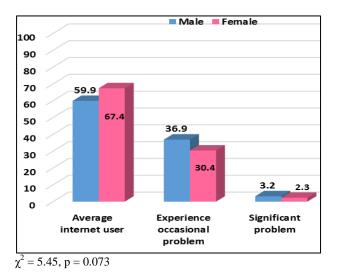


Figure 10: IAT score in relation to students' sex.

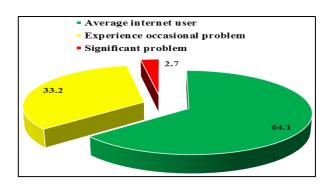
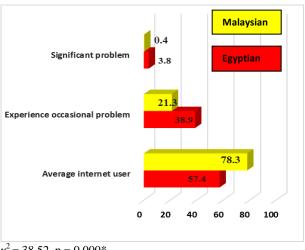


Figure 11: Distribution of students according to the score of internet addiction test.



 $\chi^2 = 38.52, p = 0.000*$

Figure 12: Differences between Egyptian and Malaysian students regarding IAT score.

Table 4: Correlation between IAT score and sociodemographic and academic characteristics of the students.

	Sociodemographic and academic characteristics							
IAT score	Student Nationality	Sex	Residence	Family income	Grade last year			
IAT score Pearson Correlation	-0.211**	077*	021	-0.135**	-0.111**			

*p < 0.05, **p < 0.01

Table 5: Correlation between IAT score and adverse and health related effects of facebook and internet use.

IAT scor	re	Adverse and health related effects									
IAT score Pearson correlat e-ion	Back pain	Shoulde r pain	Wrist and fingers pain	Heada- che	Eye irritati- on	Holding urine or defecate- on	Postponin g meal	Forgett- ing or skipping meal	Disturban ce of sleep pattern	Change in appetite and meals size	Change in phys- iccal exerc- ise
	0.272**	0.274**	0.233**	0.170**	0.186**	0.246**	0.234**	0.241**	0.259**	0.227**	0.164**

**p< 0.01

DISCUSSION

The Internet is extremely an important social and communications tool, and is changing our daily lives at home and at work. There is no doubt that some Internet users develop problematic behavior. Over past 5 years, social media sites like facebook have become a central, virtually unavoidable medium for social interaction, most of facebook users don't realize the negative impact of social media on their life because they are already addicted to it. 14

This study showed that the majority of the students had home internet access especially through their mobile phones (Table 1) which is similarly reported by Reda et al among a group of Egyptian adolescents.¹⁷

Lusk stated that one of the positive aspects of online communities is that youth can utilize them for academic assistance and support. ¹⁸ In the current study, 72.1% of Egyptian students declared that they use internet for studying issues (Figure 1) which is similar to the results of Tayeeh who reported that 72.6% of students in his study use internet as a source of information. ¹⁹

Among different types of social medias; the study participants reported Facebook as the most commonly used one (Figure 1), this finding is corresponding to that of Qingya et al, who stated that facebook is the most used social network by college students, followed by youtube and twitter. The majority of both Egyptian and Malaysian students reported that they use facebook keep in touch with friends and relatives (Figure 2) which was also found by Ellison and Lampe. 20,21

Daily use of Facebook was reported by 58% of Egyptian students and 72.6% of Malaysian ones, for duration of 1-2 hours (41.3%, 32.1%, respectively.) (Figure 3) which is in line with Farooqi et al who reported daily use in 64% of medical students in his study, and that about 40% used it around 1-2 hours. ¹⁴

Every invention has its both negative and positive effects, same case was with Facebook that also has a negative impact on the life of human beings.²² Despite the name "Social networking", large percentage of the study participants reported that its use has some negative effect on their social life with reduction of time that they spend with their families (Table 3).

Addiction to the Internet shares some of the negative aspects of substance addiction, and has been shown to lead to consequences such as school failure and family and relationship problems.²³ Widespread use of the Internet among the adolescents makes them feel alone, causes problematic behaviors, and leads to poor family and friends relationships.²⁴ Kamal and Mosallem also stated that problematic internet users (PIUs) cut themselves off from their family, friends, and social activities and choose to spend most of their time alone.

Also students participated in Farooqi et al study claimed that facebook had ruined their social life and they spent less time with their loved ones. 14

More than two thirds of Egyptian students who participated in this study reported negative impact of Facebook use on their study (Figure 4), which is in agreement with Qingya et al who stated that social networking is definitely affecting students' efficiencies as well as their grades.²⁰

Addiction to facebook is one of the major complain of young generation. ¹⁴ This fact was revealed via the results of this study, where considerable percentage of the students tried to reduce the time they spend using facebook and more than two fifths of them have a future plan to do this (Figure 5 and 6), however other two fifths reported that they will continue the same use which is an agreement with Farooqi et al, study in which most of users didn't consider themselves as addicted of facebook and they responded with "I'll keep using it in future life". ¹⁴

In the present study the most frequently reported adverse effects of internet and facebook use were headache, eye irritation and musculoskeletal pain (Figure 7, 8 and 9) these results were similarly reported by many other authors. 14,26,27

In the present research, problematic internet use or internet addiction was detected among 2.7% of the studied students (Figure 11). Middle Eastern prevalence of PIU varies between 1 and 12%. Higher results (13.2%) were reported in a study held in Menofia University, Egypt. Variation in figures can be explained by the different criteria used to identify internet problematic use and/or addiction. Male students showed higher percentage of problematic internet use (PIU) than females (Figure 10). Similarly, Desouky and Reda, reported that the prevalence of PIU was higher among male students. These results also coincides with Saif, who said that "Based on popular stereotypes as well as on previous research, it was predicted that pathological internet users would more likely be males". However, Kyunghee et al stated that the prevalence of Internet addiction did not vary with gender. Also said that "Based on the prevalence of Internet addiction did not vary with gender.

In the present study significant negative correlation is present between IAT scores and academic grades of the students (Table 4) which is consistent with the fact that on-line users were becoming addicted to the internet in much the same way that others became addicted to drugs or alcohol, which resulted in academic, social, and occupational impairment.¹⁵

One of the limitations of this study it was a crosssectional one that only showed the relation between internet and facebook addiction and some potential health hazards without being able to determine the causality among those variables, so cohort studies are recommended to confirm the causality. Also data collection was based on self-administered questionnaires which are prone to recall bias.

CONCLUSION

This study revealed considerable effects of facebook and internet use upon the social life of medical students. It also revealed that excessive facebook and internet use is associated with some adverse health effects commonly eye problems, musculoskeletal pains and other unhealthy behaviours. Medical students are at increased risk for problematic internet use, and to a lesser extent internet addiction. Students with higher IAT score were more prone have negative effects on their academic grades.

Recommendations (a) development of awareness about internet addiction disorder among the students and provision of an intervention of cognitive behavior therapy of those found with Internet addiction disorder; (b) college students need to make a better balanced relationship between internet and social media use versus their academic study and social life.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- 1. Christakis D. Internet addiction: A 21st century epidemic? BioMed Central Medicine. 2010;8:61.
- Number of internet users worldwide from 2005 to 2015, in millions. Available at http://www.statista.com/statistics/273018/numberof-internet-users-worldwide. Accessed 14 December 2015.
- 3. Internet world status. Egypt internet usage and telecommunications report, 2012. Available at http://www.internetworldstats.com/af/eg.htm. Accessed 2012.
- The global information technology report 2008-2009: mobility in the networked world, 2009. Available at http://www.weforum.org/pdf/gitr/2009/gitr09fullrep ort.pdf. Accessed 2009.
- 5. United Nations development programme (UNDP) and institute of national planning (INP). Egypt human development report 2010: Youth in Egypt: Building our Future. Available at http://www.undp.org.eg/Portals/english.pdf. Accessed 2010.

- Kormas G, Critselis E, Janikian M, Kafetzis D, Tsitsika A. Risk factors and psychosocial characteristics of potential problematic and problematic internet use among adolescents: a crosssectional study, BioMed Central Public Health. 2011;11:595.
- 7. Chatterjee I, Sinha B. Relationship between compulsive use of internet and some personality characteristics of college students. Quest international multidisciplinary research Journal, 2012;1(2):146-50.
- 8. Goel D, Subramanyam A, Kamath R. A study on the prevalence of internet addiction and its association with psychopathology in Indian adolescents. Indian J Psychiatry. 2013;55(2):140-3.
- 9. Salehi M, Khalili MN, Hojjat SK, Salehi M, Danesh A. Prevalence of internet addiction and associated factors among medical students from Mashhad, Iran in 2013. Iran Red Crescent Med J. 2014;16(5):e17256.
- 10. Facebook, from wikipedia, the free encyclopedia. Available at http://en.wikipedia.org/wiki/Facebook. Accessed 2016.
- 11. Debatin B, Lovejoy JP, Horn AK, Hughes BN. Facebook and online privacy: attitudes, behaviors, and unintended consequences. J Comput. 2009;15(1):83-108.
- 12. Number of monthly active Facebook users worldwide as of 1st quarter 2016 in millions. http://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/. Accessed 15 December 2015.
- 13. Lewis J, West A. Friending: London-based undergraduates experience of facebook. New media and society. 2009;11(7):1209-29.
- 14. Farooqi H, Patel H, Aslam H, Ansari I, Khan M, Iqbal N, et al. Effect of Facebook on the life of Medical University students. International Archives of Medicine. International Archives of Medicine. 2013;6:40.
- 15. Young KS. Internet addiction: The emergence of a new clinical disorder. Cyber Psychology and Behavior. 1998;1(3):237-44.
- 16. Yellowlees P, Marks S. Problematic internet use or internet addiction? Comput Human Behav. 2007;23:1447-53.
- 17. Reda M, Rabie M, Mohsen N, Hassan A. Problematic internet users and psychiatric morbidity in a sample of Egyptian adolescents. Psychology. 2012;3(8):626-31.
- 18. Lusk B. Digital natives and social media behaviors: an overview. Prevention Researcher. 2010;173-6.
- 19. Tayeeh SA. Using the internet in the Arab world: a field study on a sample of Arab youth. Egyptian Journal of Public Opinion Research. 2002;4.
- Qingya W, Wei C, Yu L. The effects of social media on college students. MBA student scholarship
 Available at http://scholarsarchive.jwu.edu/mba_student/5.
 Accessed 19 December 2011.

- 21. Ellison NB, Steinfield C, Lampe C. The benefits of Facebook friends: social capital and college students use of online social network sites. J Comput. 2007;12(4):1143-68.
- 22. Coniglio M, Muni V, Giammanco G, Pignato S. Excessive internet use and internet addiction: emerging public health issues. Ig Sanita Pubbl. 2007;63(2):127.
- 23. Brian D. Addiction to the Internet and online gaming. Cyber Psychology and Behavior. 2005;8(2):110-3.
- 24. Wang H, Zhou X, Lu C, Wu J, Hong L, Deng X. Problematic internet use in high school students in guangdong province, China. PLoS One. 2011;6:e19660.
- Kamal NN, Mosallem FA. Determinants of problematic internet use among el-minia high school students, Egypt. Int. J. Prev. Med. 2013;4(12):1429-37.
- 26. Coniglio M, Muni V, Giammanco G, Pignato S. Excessive Internet use and Internet addiction: emerging public health issues. Ig Sanita Pubbl. 2007;63(2):127.
- 27. Suhail K, Bargees Z. Effects of excessive internet use on undergraduate students in Pakistan. Cyber psychol Behav. 2006;9(3):297-307.
- Ghassemzadeh L, Shahraray M, Moradi A. Prevalence of Internet addiction and comparison of Internet addicts and non-addicts in Iranian high schools. Cyber Psychology and Behavior. 2008;11:731-3.

- 29. Canbaz S, Sunter AT, Peksen Y, Canbaz MA. Prevalence of the pathological Internet use in a sample of Turkish school adolescents. Iranian Journal of Public Health. 2009;38:64-71.
- 30. Canan F, Ataoglu A, Nichols LA, Yildirim T, Ozturk O. Evaluation of psychometric properties of the internet addiction scale in a sample of turkish high school students. Cyber psychology, Behavior, and Social Networking. 2010;13:317-20.
- 31. Desouky DA, Ibrahem RA. Internet addiction and psychological morbidity among menoufia university students, Egypt. American Journal of Public Health Research. 2015;3(5):192-8.
- 32. Al Saif AA. Risks associated with the use of the internet and its impact upon 37 students' awareness of perverse issues: literature review. Acta Didactica Napocensia. 2009;2(4):33-8.
- 33. Kyunghee K, Ryu E, Chon MY, Yeune J, Choi SY Seo JS, et al. Internet addiction in Korean adolescents and its relation to depression and suicidal ideation: a questionnaire survey. International Journal of Nursing Studies. 2006;43(2):185-92.

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