



UNIVERSITI PUTRA MALAYSIA

***PREVALENCE AND FACTORS ASSOCIATED WITH INTERNET
ADDICTION AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA
MALAYSIA 25TH MARCH 2013 - 5th SEPTEMBER 2013***

**BY
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PREVALENCE AND FACTORS ASSOCIATED WITH INTERNET ADDICTION AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA

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ABSTRACT

Background: Internet is important to the university students especially medical students for literature search, completing their assignments, and finding the latest information. It is inexpensive and free accessible. Internet also appears to be one of the important tools among medical students who experience stressful life. Those medical students who spend their time intensively and inappropriately with the internet will prone to get addiction.

Objectives: To determine the prevalence, predictors of internet addiction and its association with socio-demographic factors, duration of internet use, and psychological difficulties with internet addiction among medical students in UPM.

Methods: The study was conducted among 422 students, aged between 19 and 26 years. Internet Addiction Test (IAT), Depression Anxiety and Stress Scale (DASS), and a socio-demographic query form were used in the collection of data. Chi square tests and Multiple Logistic Regression were used for data analysis.

Results: According to the IAT, 23.5% of the study sample was addicted to the internet. The Chi square tests results revealed a significant association between socio-demographic factors and psychological difficulties with internet addiction with p value of 0.014 and 0.001 respectively. The predictors of internet addiction were statistically associated with male gender (p value = 0.009) and duration spend on internet usage per day (p value = 0.004).

Conclusion: Internet Addiction is a relatively frequent phenomenon among medical students in Universiti Putra Malaysia. Pathological internet user is associated with presence of suggestive symptoms of psychological difficulties.

Keywords: Prevalence, Factors Associated, Internet Addiction (IA), Medical Students, UPM.

KELAZIMAN DAN FAKTOR YANG BERKAITAN DENGAN KETAGIHAN MELAYARI INTERNET DALAM KALANGAN PELAJAR PERUBATAN DI UNIVERSITI PUTRA MALAYSIA

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ABSTRAK

Latar belakang: Internet adalah penting untuk pelajar universiti terutamanya pelajar-pelajar perubatan kerana mereka melakukan pencarian sastera, menyiapkan tugas, dan mencari maklumat terkini melalui internet. Ia adalah murah dan bebas dilayari. Internet juga adalah salah satu alat yang penting dalam kalangan pelajar perubatan yang mengalami stress. Pelajar-pelajar perubatan yang menghabiskan masa mereka secara intensif dan tidak sesuai dengan internet akan cenderung mendapat ketagihan.

Objektif: Untuk menentukan kelaziman, ramalan ketagihan internet dan kaitannya dengan faktor-faktor sosio-demografi, tempoh penggunaan internet, dan masalah psikologi dengan ketagihan internet di kalangan pelajar-pelajar perubatan di UPM.

Kaedah: Kajian ini melibatkan 422 responden, berumur antara 19 hingga 26 tahun. Ujian Ketagihan Internet, Skala Kemurungan Kebimbangan dan Tekanan, dan satu bentuk pertanyaan sosiodemografi telah digunakan dalam pengumpulan data. Ujian persegi Chi dan Regresi Logistik pelbagai telah digunakan untuk analisis data.

Keputusan: Menurut Ujian Ketagihan Internet, 23.5% daripada sampel kajian telah ketagih kepada Internet. Keputusan Chi ujian persegi menunjukkan hubungan yang signifikan antara faktor-faktor sociodemographic dan kesukaran psikologi dengan ketagihan internet dengan nilai p adalah 0.014 dan 0.001 masing-masing. Ramalan yang ketagihan internet telah statistik yang berkaitan dengan jantina lelaki (p value = 0.009) dan tempoh menghabiskan pada penggunaan internet sehari (p value = 0.004).

Kesimpulan: Ketagihan Internet adalah satu fenomena yang agak kerap dalam kalangan pelajar-pelajar perubatan di Universiti Putra Malaysia. Pengguna internet yang bermasalah dikaitkan dengan kehadiran gejala yang menandakan masalah psikologi.

Kata kunci: Kelaziman, Faktor yang Berkaitan, Ketagihan internet, Pelajar Perubatan, UPM.

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LIST OF ABBREVIATIONS

IA	Internet Addiction
IAT	Internet Addiction Test
DASS	Depression Anxiety and Stress Scale

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Chapter 1: Introduction

1.1 Introduction

A crucial communication device that has emerged in the field of information and communication technology is known as Internet (Cheak et al.,2012). It is also a gigantic library that is composed of documents, files, images, videos, and websites. Besides that, it appears as a tool to exchange the information and allow us to communicate through email, facebook, or blog. Internet also can be used as a form of entertainment such as chit-chatting via Skype. Activities such as shopping, banking, chatting, and sharing or finding information can be done from Internet.

Addiction is the state of being given up to some of the individual's habit or compulsion (Novak&Patricia,2010). According to Shapira et al.,2000,internet addiction is defined as problematic internet use presenting by the following characteristics which are using internet uncontrollable, increasing distressing and time consuming when use the internet, and having difficulties in social or financial when use the internet (Shapira et al.). If the individual used the internet in a mean of 38 hours per week for the non-academic or non-employment purposes, the individual is categorized as an addicted condition. Besides that, if the person is used the internet in a mean of 8 hours per week with no significant influences, the individual is categorized as not in addicted condition (Young&Rodgers, 1998).

In Malaysia, approximately around 94.8% of the teenagers are using the internet as their communication network. This propensity suggests that teenagers will consider the internet as a real rather than virtual space. Young (2006) stated that internet can influence our daily life. This is due to the internet users especially young population are most likely to spend their precious leisure time in accessing the internet (Yong, 2011). University students are also prone to get internet addiction as they are in the young population stage.



1.2 Problem Statement

Nowadays, Internet is very important and necessary to the university students especially medical students since they are doing literature search, completing their assignments, and finding the latest information through internet. On top of that, it is inexpensive and free accessible for leisurely activities (Dannon&Iancu,2007). According to Chang and Law (2008), it is the easiest way for everyone in using the internet (Chang and Law). Thus, internet is very crucial in the university especially among medical students.

Medical students' lives are very stressful since they have to attend the classes from 8 am to 5 pm. They also have many examinations in a month. Moreover, they have to revise the subjects that they learnt frequently. Thus, internet appears to be one of the important tools among medical students who experience stressful life (Yong, 2011). They can release their stress by playing games, watching videos or movies from YouTube, and chatting with their friends in social networking such as facebook, yahoo messenger, and others.

However, those medical students who spend their time intensively and inappropriately with the internet will prone to get addiction (Chak&Leung,2004). Those excessive and pathological internet users will get the negative impacts particularly in their social, physical, and psychological aspects (Young&Rodgers,1998). Study reported those who use the internet in an average of 38 hour per week, they would face the problems like lack of sleeping and excessive tiredness (Young). Furthermore, it will affect their performance in their study due to poor concentration in the class. According to Hattie Kauffman (2008), instead of spending their time to the real-world social activities, the internet users more prone to spend their leisure time in accessing the internet (CBSNews, 2008). Thus, they will spend fewer times to do on social activities and then they will become isolated.

Little study had been done in this field in Malaysia. Thus this study is planned to examine the prevalence and predictors of internet addiction among medical students in a public university.



1.3 Objectives

1.3.1 General Objectives

To examine the predictors of internet addiction among medical students in Universiti Putra Malaysia (UPM).

1.3.2 Specific Objectives

- 1) To describe socio-demographic factors (gender, ethnicity, religion, household income, hometown and location of internet access) of the study population.
- 2) To describe the duration of internet use of the study population.
- 3) To describe the psychological difficulties of the study population.
- 4) To determine the prevalence of internet addiction among medical students in UPM.
- 5) To determine the association between socio-demographic factors and internet addiction among medical students in UPM.
- 6) To determine the association between duration of internet use and internet addiction among medical students in UPM.
- 7) To determine the association between psychological difficulties and internet addiction among medical students in UPM.

1.4 Research hypothesis

- 1) **H_{A1}**: There is a significant association between socio-demographic factors (gender, ethnicity, religion, household income and hometown) and internet addiction among medical students in UPM.
- 2) **H_{A2}**: There is a significant association between duration of internet use and internet addiction among medical students in UPM.
- 3) **H_{A3}**: There is a significant association between psychological difficulties and internet addiction among medical students in UPM.

Chapter 2: Literature Review

2.1 Literature Review

2.1.1 Prevalence of internet addiction (IA)

Studies reported that IA was ranged from 10.8 % to 16.2 % among medical students (Liu et al.,2010;Ghamari et al.,2011) . Other studies reported that prevalence of IA was ranged from 5.9 % to 18.3 % among university students other than medical field(Scherer,1997;Chou & Hsiao,2000;Morahan-Martin & Schumacher, 2000;Anderson, 2001;Wang,2001;Lin & Tsai,2002;Sato,2004;Niemi et al.,2005) . According to studies done by Yong(2011) among 120 Malaysian secondary school students,3.33% are classified excessive user, 54.17% of the students are moderate users and this is followed by 42.50% minimal users of internet.

2.1.2 Predictors of internet addiction

The predictors of internet addiction were gender, location of internet usage, duration of internet use and psychological difficulties.

2.1.2.1 Socio-demographic factors

(i) Gender

Use of computers and the internet differs between men and women are indicated by studies. According to some studies, rate of Internet-surfing of males are higher than that of females (Georgia Tech GVU WWW survey, 1994; Liu et al.,2010).According to Scherer (1997),non-dependent Internet users included a lesser proportion of men to women (50% men and women, respectively) than dependent Internet users (71% men and 29% women) (Scherer). Morahan-Martin and Schumacher (2000) reported that males were more likely than

females to be pathological users (12% vs. 3%), whereas males were less likely than females to have no symptoms (26% vs. 28%) or have limited symptoms (61% vs. 69%) of behavioural pathology. This had shown mainly that women were less familiar with the use of the Internet (Georgia Tech GVU WWW survey). Explanations for this have been given and depends on gender differences in attitudes and self-efficacy toward computers (Busch & T., 1995). Female students has less experience in computer games and programming than males (Busch & T.). Male get more encouragement from friends and parents to use modern technologies previously compared to female (Busch & T.). Overuse of pornography sites and online gaming addiction have been proposed for reasons of male predominance in IA (Apostolos et al., 2010).

(ii) Location of internet usage

For the person to develop IA, the presence of a computer with Internet access in a person's environment is necessary (Apostolos et al., 2010). Environments of Internet usage differ among each student (Apostolos et al.). Some students prefer to access the Internet from school library, while others prefer to access internet at their home or places such as an Internet cafe (Apostolos et al.). Other than that, it has been proven that development of IA has many times been associated with the location for accessing the Internet. (Young & K.S., 2004; Ceyhan & A.A., 2008). The possibility for a subject to remain on the Internet increase when places where Internet access is unlimited or free and where there is no supervision by guardian or parents (Apostolos et al.). University students are most prone to IA, because there is free and unlimited access to the Internet in their dorms or in the university, available with no parental supervision (Apostolos et al.). Two studies on Greek adolescents showed that the primary location of Internet access was a significant predictors for IA (Siomos et al., 2008; Tsitsika et al., 2009).

2.1.2.2 Duration of internet use

In the categories of daily and weekly usage, significant differences in the proportion of symptoms of internet addiction were found (Fu et al.,2010). People who were less likely to develop symptoms of internet addiction (0–2 symptoms) are people who used the internet less frequently (0–1 h per day or less than 2 days per week)(Fu et al.). However, some people with low daily usage (7.1%, 0–1 h per day) and weekly usage (14.3%, 0–2 days per week) reported having five or more symptoms of internet addiction (Fu et al.). Non internet addicted respondents spent less time on-line than internet addicted respondents (Shek et al.,2008).

2.1.2.3 Psychological difficulties

Normal internet users are better in terms of mental health in comparison with those addicted to internet(Jannatifard et al.,2010). Other than that, internet addicts had various comorbid psychiatric disorders when compared to non-addicted individuals(Jannatifard et al.). A few studies showed that those people who addicted to internet are associated with increasing levels of depression(Young,1998; Chen et al.,2008;Ozcan & Buzlu,2007).There are also research shows that adolescents with Internet addiction had higher ADHD symptoms, depression, social phobia, and hostility(Ko et al.,2007). The assessment of the psychological symptoms will be done using DASS-21 questionnaires.

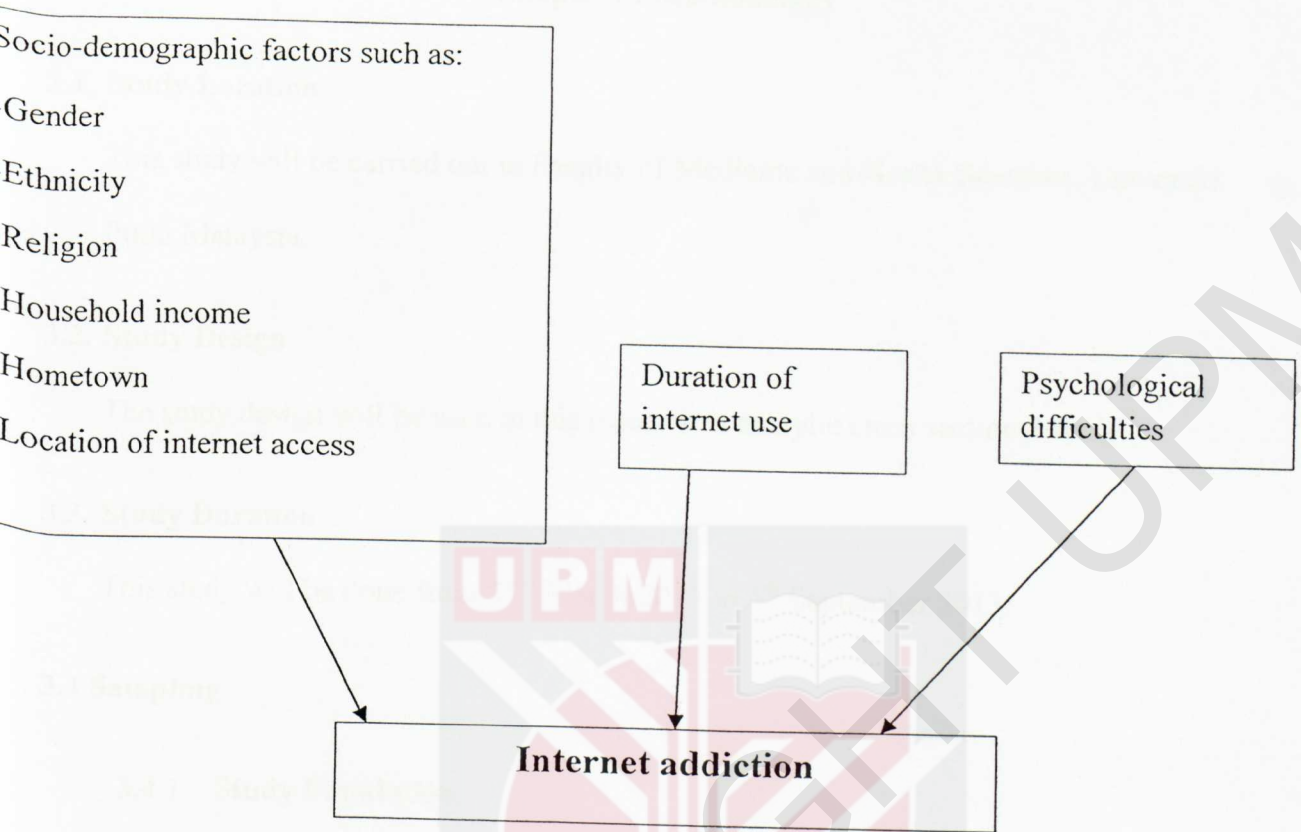


Figure 2 Conceptual framework of internet addiction

Chapter 3: Methodology

3.1. Study Location

This study will be carried out in Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

3.2. Study Design

The study design will be used in this research is analytic cross sectional study.

3.3. Study Duration

This study will be done from 25th March 2013 to 5th September 2013.

3.4 Sampling

3.4.1 Study Population

Medical students in Universiti Putra Malaysia in 2013.

3.4.2 Sampling population

First year to fifth year medical students in Universiti Putra Malaysia in 2013.

3.4.2.1. Inclusion criteria

Respondents who are willing to give consent in the study.

3.4.2.2. Exclusion criteria

Medical students who are absent during the day of data collection on 1 July 2013 to 1 August 2013.

3.4.3 Sampling Frame

List of medical students of Universiti Putra Malaysia.

3.4.4 Sampling Unit

Medical students who fulfilled the inclusion criteria

3.4.5 Sampling Method

This study involves universal sampling method.

3.4.6 Sample Size

Based on the software Epi Info 7, minimum sample size is 248 with non-response rate of 30% give rise of minimum sample size of 322. This is based on the power of 80%, α -value of 0.05 with 95% confidence interval.

3.5 Instruments and data collection

3.5.1 Instrument

There are three instruments that will be used in this study.

The first instrument is questionnaire about socio-demographic factors which include age, gender, ethnicity, religion, household income, any internet user at home, hometown, type of internet connection used, place to access internet, type of gadgets used to access internet, purpose of using internet and duration of internet use (daily online hours and days per week).

The second instrument is Internet Addiction Test (IAT) questionnaire developed by Dr. Kimberly Young in 1998. Dr. Ng Chong Guan carried out the reliability and validity test of Malay version of IAT in Universiti Malaya, using a sample of 162 medical students. The instrument showed good internal consistency (Cronbach's $\alpha = 0.91$), parallel reliability (intraclass coefficient = 0.88, $P < 0.001$), and concurrent validity with the Compulsive Internet Use Scale (Pearson's correlation = 0.84, $P < 0.001$). IAT is a self-completed, 5-point Likert-type scale with 20 items. Each question has a response scale from 1 to 5 (1 = *rarely* to 5 =

always) reflecting the frequency of the symptoms. The respondents will be classified according to the group below :

(i) 20 – 49 points:

Non internet addiction.

(ii) 50 – 100 points:

Internet addiction.

The third instrument is Depression Anxiety and Stress Scales 21(DASS 21) developed by researchers at the University of New South Wales, Australia. The reliabilities of the DASS 21 were estimated using Cronbach's alpha. α was 0.88 for the Depression scale, 0.82 for Anxiety, 0.90 for Stress, and 0.93 for the total scale. DASS 21 is a self-completed, 4-point Likert-type scale with 21 items which designed to assess the severity of the main symptoms of Depression, Anxiety and Stress. Each item has a response scale from 0 (did not apply to me at all over the last week) to 3 (applied to me very much or most of the time over the past week). 7 items are used to assess the severity of depression. Another 7 items are used to assess the severity of anxiety. The remaining 7 items are used to assess the severity of stress. The scores of identified items for each scale (Depression, Anxiety & Stress) need to be summed up. The final score for each item groups (Depression, Anxiety & Stress) needs to be multiplied by two because the DASS 21 is a short form version of the DASS (the Long Form has 42 items). After multiplied by 2, each score can now be transferred to the DASS profile sheets to enable comparison between the three scales.

Table 1 DASS Severity Ratings

Severity	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

3.5.2 Data Collection

Data will be collected using two set of validated and pretested bilingual (English & Malay) version questionnaires which are IAT and DASS 21. Socio-demographic characteristics and features of internet usage are collected using a set of non-validated questionnaire. It is self-administered.

3.6 Definition of terms

Internet	A crucial communication device that has emerged in the field of information and communication technology.
Addiction	The state of being given up to some habit or compulsion.
Internet addiction	problematic internet use presenting by the following characteristics which are using internet uncontrollable, increasing distressing and time consuming when use the internet, and having difficulties in social, occupational, or financial when use the internet.

3.7 Quality Control

In this study, the quality control is to countercheck the questionnaire to make sure all the respondents have completed the questions given.

3.8 Variables

The independent variables in this study are the predictors of internet addiction such as:

- (a) Socio-demographic factors
- (b) Duration of internet use
- (c) Psychological difficulties

The dependent variables in this study are level of internet addiction. Respondents scored more than 50 in IAT will be classified as addicted to internet.

3.9 Data Analysis

Data will be analyzed by using Statistical Package for Social Sciences Program (SPSS) version 21. The normality of continuous data was tested using Kolmogorov-Smirnov test. The significant value was $p \leq 0.05$. For continuous data that were not normally distributed, median and inter-quartile range were used in descriptive studies, while non-parametric tests were used in the analytical studies. Association between variables were examined by using Chi square tests and predictors of internet addiction were examined by using Multiple Logistic Regression. Confidence interval was set at 95% for estimation of the mean. All significant levels were set at standard p value of <0.05 .

3.10 Study Ethics

The ethical forms were submitted to Ethics Committee of Faculty of Medicine and Health Sciences, UPM. All data and information recorded will be kept private and confidential

Chapter 4 : Results

4.1 Response rate

A total of 426 out of 622 respondents were entered into analysis which gave rise to response rate of 69%. Reason for the non-response rate of 31% is unable to capture them after the lecture because they were dismissed after the class due to busy schedule.

4.2 Descriptive data analysis

Table 1 showed that the percentages of the respondents according to socio-demographic characteristics. The study population consisted of 156 male respondents (36.6%) and 270 female respondents (63.4%), with a mean age of 21.60 years (S.D., 1.50 years). The ethnicity distribution was 237 Malay (55.6%), 148 Chinese (34.7%), 31 Indian (7.3%) and 10 other ethnics (2.3%). The highest proportion of respondents based on religion is Islam which is 243 (57.0%). Majority of the respondents have internet access at home. Two-third of the respondents origin from urban are. According to IAT questionnaire, 100 respondents (23.5%) of the study sample were found to be addicted to the internet. Minimum scores respondents scored for IAT questionnaire is 20 whereas the maximum score is 96.

Table 1 : The socio-demographic characteristics of the respondents

	Frequency	Percentage (%)
Gender		
Male	156	36.6
Female	270	63.4
Ethnicity		
Malay	237	55.6
Chinese	148	34.7
Indian	31	7.3
Others	10	2.3
Religion		
Islam	243	57.0
Buddhist	130	30.5
Hindu	27	6.3
Christian	26	6.1
Household income, RM	Median= 3000.00	
	I.Q.R. = 3500.00	-
Internet access at home		
Yes	373	87.6
No	53	12.4
Hometown		
Urban	286	67.1
Rural	140	32.9

Table 2 represents the duration of internet use and features of internet usage of respondents. The respondents spent a median of 4 hours per day on internet. Almost half of the respondents use the internet for entertainment (48.4%) and only 7.3% of the respondents use internet for education purpose which were consistent with other studies. About 308 respondents (72.3%) are using WIFI to connect to the internet. Since WIFI is freely available at university, most of them prefer to access the internet at faculty and hostel. Most of the respondents access the internet using portable devices such as handphone, laptop, IPAD and tablet.

Table 2 : The duration of internet use and features of internet usage of respondents

	Frequency	Percentage (%)
Duration spend on internet usage per day (hours)	Median = 4.00 I.Q.R. = 5.00	-
Frequency of internet usage (days per week)	Median=7.00 I.Q.R.=2.00	-
Purpose of internet usage		
Education	31	7.3
Entertainment	206	48.4
Mixed	189	44.4
Methods of internet access		
Broadband	109	25.6
Wifi	308	72.3
Wifi&broadband	9	2.1
Classification of gadgets for internet usage		
Non-portable	17	4.0
Portable	389	91.3
Mixed	20	4.7
Place for internet usage		
Cybercafé	2	0.5
Faculty	94	22.1
Hostel	299	70.2
Faculty&hostel	30	7.0
Faculty&cybercafé	1	0.2

Table 3 shows that there were more respondents having symptoms suggestive of anxiety compared to other psychological difficulties.

Table 3 : Psychological difficulties of the study population

	Frequency	Percentage (%)
Depression		
Yes	120	28.2
No	306	71.8
Anxiety		
Yes	217	50.9
No	209	49.1
Stress		
Yes	96	22.5
No	330	77.5

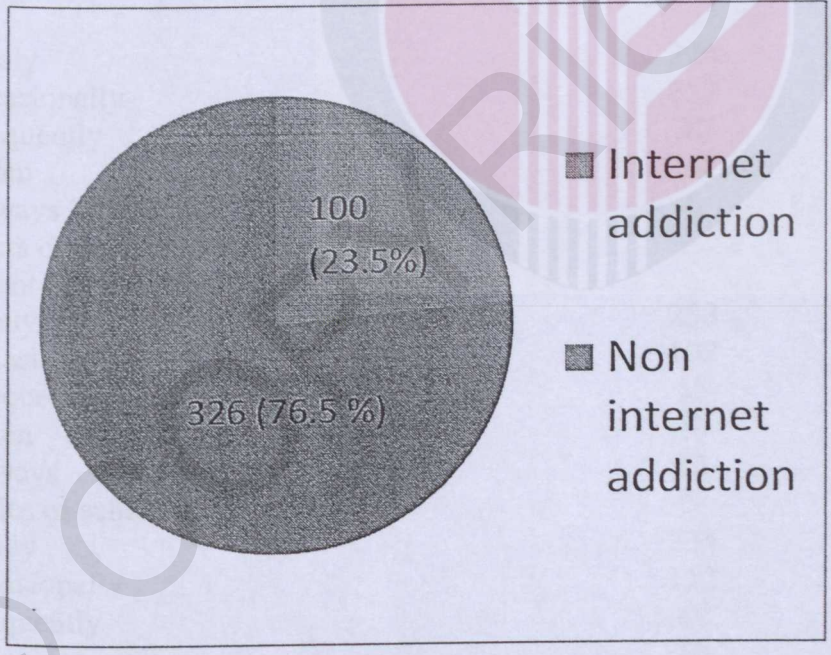


Figure 1 : Prevalence of internet addiction

According to IAT questionnaire, 100 respondents (23.5%) of the study sample were found to be addicted to the Internet. Minimum scores respondents scored for IAT questionnaire is 20 whereas the maximum score is 96.

Table 4 : Symptoms of internet addiction

	Frequency	Percentage (%)
Q1 stay on-line longer than intended		
Rarely	21	4.9
Occasionally	98	23.0
Frequently	130	30.5
Often	96	22.5
Always	81	19.1
Q2 neglect household chores		
Rarely	104	24.4
Occasionally	174	40.8
Frequently	83	19.5
Often	48	11.3
Always	17	4.0
Q3 prefer excitement of the internet to intimacy with partner		
Rarely	177	41.5
Occasionally	132	31.1
Frequently	69	16.2
Often	38	8.9
Always	10	2.3
Q4 form new-relationships with on-line users		
Rarely	226	53.0
Occasionally	127	29.8
Frequently	39	9.2
Often	28	6.6
Always	6	1.4
Q5 others complaint about the amount of time spent online		
Rarely	238	55.9
Occasionally	102	23.9
Frequently	55	12.9
Often	19	4.5
Always	12	2.8
Q6 grades or school work suffer		
Rarely	234	54.9
Occasionally	112	26.3
Frequently	47	11.0
Often	19	4.5
Always	14	3.3
Q7 check e-mail before doing something else		
Rarely	166	39.0
Occasionally	124	29.1
Frequently	69	16.2
Often	40	9.4
Always	27	6.3

Q8 job performance or productivity suffer		
Rarely	206	48.4
Occasionally	131	30.8
Frequently	56	13.0
Often	19	4.5
Always	14	3.3
Q9 defensive or secretive when anyone asks about purpose of on-line		
Rarely	209	49.1
Occasionally	128	30.0
Frequently	49	11.5
Often	25	5.9
Always	15	3.5
Q10 block out disturbing thoughts with soothing thoughts of the Internet		
Rarely	146	34.3
Occasionally	137	32.2
Frequently	90	21.1
Often	30	7.0
Always	22	5.4
Q11 anticipating when to on-line again		
Rarely	99	23.3
Occasionally	161	37.8
Frequently	102	23.9
Often	35	8.2
Always	29	6.8
Q12 fear that life without internet would be boring, empty and joyless		
Rarely	90	21.1
Occasionally	126	29.6
Frequently	92	21.6
Often	77	18.1
Always	41	9.6
Q13 act annoyed if someone bothers you while you are online		
Rarely	251	58.9
Occasionally	113	26.5
Frequently	41	9.7
Often	12	2.8
Always	9	2.1
Q14 lose sleep		
Rarely	149	35.0
Occasionally	139	32.6
Frequently	76	17.8
Often	42	9.9
Always	20	4.7

Q15 feel preoccupied with internet when off-line, or fantasize about being on-line		
Rarely	247	58.0
Occasionally	97	22.8
Frequently	57	13.4
Often	10	2.3
Always	15	3.5
Q16 saying "just a few more minutes" when on-line		
Rarely	86	20.2
Occasionally	120	28.2
Frequently	106	24.9
Often	70	16.4
Always	44	10.3
Q17 fail to cut down amount of time spent to online		
Rarely	117	27.5
Occasionally	134	31.5
Frequently	99	23.3
Often	47	10.8
Always	29	6.9
Q18 try to hide the duration of on-line		
Rarely	227	53.3
Occasionally	110	25.8
Frequently	58	13.6
Often	20	4.7
Always	11	2.6
Q19 prefer on-line than going out with others		
Rarely	214	50.2
Occasionally	119	27.9
Frequently	59	13.8
Often	24	5.6
Always	10	2.3
Q20 feel depressed, moody, or nervous when off-line, which goes away once you on-line		
Rarely	276	64.8
Occasionally	85	20.0
Frequently	39	9.2
Often	18	4.1
Always	8	1.9

Table 6 : Symptoms suggestive of anxiety among study population

Symptoms suggestive of anxiety	Frequency	Percentage (%)
Q2 aware of dryness of mouth		
Did not apply to me at all	147	34.5
Applied to me to some degree, or some of the time	152	35.7
Applied to me to a considerable degree, or a good part of time	81	19.0
Applied to me very much, or most of the time	46	10.8
Q4 experienced breathing difficulty		
Did not apply to me at all	291	68.3
Applied to me to some degree, or some of the time	106	24.9
Applied to me to a considerable degree, or a good part of time	26	6.1
Applied to me very much, or most of the time	3	0.7
Q7 experienced trembling		
Did not apply to me at all	263	61.7
Applied to me to some degree, or some of the time	124	29.1
Applied to me to a considerable degree, or a good part of time	29	6.8
Applied to me very much, or most of the time	10	2.3
Q9 worried about situations in which I might panic and make a fool of myself		
Did not apply to me at all	177	41.5
Applied to me to some degree, or some of the time	165	38.7
Applied to me to a considerable degree, or a good part of time	68	16.0
Applied to me very much, or most of the time	16	3.8
Q15 felt I was close to panic		
Did not apply to me at all	250	58.7
Applied to me to some degree, or some of the time	139	32.6
Applied to me to a considerable degree, or a good part of time	28	6.6
Applied to me very much, or most of the time	9	2.1
Q19 aware of action of heart in absence of physical exertion		
Did not apply to me at all	230	54.0
Applied to me to some degree, or some of the time	137	32.2
Applied to me to a considerable degree, or a good part of time	38	8.9
Applied to me very much, or most of the time	21	4.9
Q20 felt scared without any good reason		
Did not apply to me at all	283	66.4
Applied to me to some degree, or some of the time	108	25.4
Applied to me to a considerable degree, or a good part of time	27	6.3
Applied to me very much, or most of the time	8	1.9

Table 7 : Symptoms suggestive of stress among study population

Symptoms suggestive of stress	Frequency	Percentage(%)
Q1 found it hard to wind down		
Did not apply to me at all	185	43.4
Applied to me to some degree, or some of the time	190	44.6
Applied to me to a considerable degree, or a good part of time	43	10.1
Applied to me very much, or most of the time	8	1.9
Q6 over-react to situations		
Did not apply to me at all	167	39.2
Applied to me to some degree, or some of the time	189	44.4
Applied to me to a considerable degree, or a good part of time	58	13.6
Applied to me very much, or most of the time	12	2.8
Q8 felt that I was using a lot of nervous energy		
Did not apply to me at all	196	46.0
Applied to me to some degree, or some of the time	151	35.4
Applied to me to a considerable degree, or a good part of time	63	14.8
Applied to me very much, or most of the time	16	3.8
Q11 found myself getting agitated		
Did not apply to me at all	251	58.9
Applied to me to some degree, or some of the time	139	32.6
Applied to me to a considerable degree, or a good part of time	29	6.8
Applied to me very much, or most of the time	7	1.6
Q12 found it difficult to relax		
Did not apply to me at all	243	57.0
Applied to me to some degree, or some of the time	137	32.2
Applied to me to a considerable degree, or a good part of time	42	9.9
Applied to me very much, or most of the time	4	0.9
Q14 intolerant of anything that kept me from getting on with what I was doing		
Did not apply to me at all	188	44.1
Applied to me to some degree, or some of the time	173	40.6
Applied to me to a considerable degree, or a good part of time	57	13.4
Applied to me very much, or most of the time	8	1.9
Q18 felt that I was rather touchy		
Did not apply to me at all	143	33.6
Applied to me to some degree, or some of the time	182	42.7
Applied to me to a considerable degree, or a good part of time	74	17.4
Applied to me very much, or most of the time	27	6.3

4.4 Analytical data analysis

Comparison of students with or without internet addiction with respect to socio-demographic factors, duration of internet use and psychological difficulties are represented in Table 8. Significant gender difference was seen in Table 8. 47 (30.1%) of male respondents and 53 (19.6%) of female respondents were Internet addicts, and the difference was statistically significant ($p < 0.014$). Since $p < 0.05$, there was a significant association between gender and internet addiction. There were no significant association between other socio-demographic factors and internet addiction.

Table 8: Association between socio-demographic factors with internet addiction among medical students in UPM.

	Internet addiction	Non internet addiction	χ^2	p value
Age, year (median (IQR))	Median=22.00 (IQR=2)	Median= 21.00 (IQR=3)	-	0.408
Gender n (%)				
Male	47 (30.1)	109 (69.9)	6.067	0.014*
Female	53 (19.6)	217 (80.4)		
Ethnicity n (%)				
Malay	2 (6.5)	29 (93.5)	7.112	0.068
Chinese	54 (22.8)	183 (77.2)		
Indian	42 (28.4)	106 (71.6)		
Others	2 (20.0)	8 (80.0)		
Religion n (%)				
Islam	54(22.2)	189(77.8)	6.064	0.109
Buddhist	37(28.5)	93(71.5)		
Hindu	2(7.4)	25(92.6)		
Christian	7(26.9)	19(73.1)		
Household income, RM (median (IQR))	Median=3000.00 (IQR=3500.00)	Median= 3000.00 (IQR=3500.00)	-	0.350
Hometown n (%)				
Urban	73(25.5)	213(74.5)	2.036	0.154
Rural	27(19.3)	113(80.7)		

*indicates statistically significant

Table 9 shows that there was no significant association found between duration of internet use and internet addiction.

Table 9: Association between duration of internet use with internet addiction among medical students in UPM.

	Internet addiction	Non internet addiction	χ^2	p value
Daily online hours (median (IQR))	Median= 5.00 (IQR=7)	Median= 4.00 (IQR=5)	-	0.126
Frequency online (days per week) (median (IQR))	Median= 7 (IQR=0)	Median= 7 (IQR=2)	-	0.126

However, in Table 10, there were significant association between psychological difficulties (Depression, Anxiety and Stress) and internet addiction as the p-value is 0.001 ($p < 0.05$).

Table 10: Association between psychological difficulties with internet addiction among medical students in UPM.

	Internet addiction	Non internet addiction	χ^2	p value
Depression				
Yes (%)	52 (43.3)	68 (56.7)	36.677	0.001*
No (%)	48 (15.7)	258 (84.3)		
Anxiety				
Yes (%)	70 (32.3)	147 (67.7)	18.998	0.001*
No (%)	30 (14.4)	179 (85.6)		
Stress				
Yes (%)	42 (43.8)	54 (56.2)	28.361	0.001*
No (%)	58 (17.6)	272 (82.4)		

*indicates statistically significant

Table 11 shows the predictors of internet addiction. Multiple logistic regression analysis revealed that male gender was the most significant predictor of internet addiction. Male respondents were 1.9 times odds more likely to develop IA compared to female respondents. Those respondents who spend 1 hour more per day will have 1.1 times odds more likely to get IA. Other predictors of internet addiction were not significant.

Table 11 : Predictors of internet addiction

	Odds Ratio (95% CI)	p value
Male gender	1.890 (1.168-3.062)	0.009*
Duration spend on internet usage per day (per hour increase)	1.068 (1.021-1.117)	0.004*
Ethnicity	1.134 (0.225-5.726)	0.879
Methods of internet access	1.057 (0.615-1.817)	0.842
Place for internet usage	3.964 (0.000-0.000)	1.000
Purpose of internet usage	1.149 (0.447-2.951)	0.773
Classification of gadgets for internet usage	0.799 (0.255-2.502)	0.701

*indicates statistically significant

Chapter 5 : Discussion

5.1 Discussion

The prevalence of internet addiction in this study is 23.5%. This finding indicates that 1 out of 4 among medical students is affected by problematic internet use. The prevalence is higher compared to other literature among medical students. Study in China reported that the widespread condition of internet addiction among medical students in China is ranged from 10.8% to 16.2%, which has lower prevalence compared to this study (Liu et al.,2010). The high prevalence is associated with the location of internet usage (Young & K.S.,2004; Ceyhan & A.A.,2008). University students' especially medical students are most prone to get internet addiction, because there is free and unlimited access to the Internet in their dorms or in the university (Apostolos et al.,2010). Besides that, the respondents will get addicted to the internet due to no parental supervision (Apostolos et al.,2010). In fact, the high prevalence is because some of university students were entitled for a free broadband package. Most of the respondents are accessing internet using portable gadgets such as handphone, laptop, and tablet or iPad. Furthermore, iPad and Smartphone are available to buy at everywhere. A considerable amount of literature published about gadgets used in accessing internet, approximately 3% of the population had adopted the iPad and other tablet devices (Juli.,2012). About 73% of the people owned a cell phone in 2006, but in February of 2012, the number had increased gradually to 88% (Juli.,2012).

The rate of Internet-surfing of males in this study was higher than that of females in some studies (Georgia Tech GVU WWW survey, 1994; Liu et al.,2010). According to Morahan-Martin and Schumacher (2000) reported that males were more likely than females to be pathological users which is 12% vs. 3% respectively (Morahan-Martin and Schumacher,

2000). We have found that 30.1% of male respondents and 19.6% of female respondents were internet addicts, thus supporting the other literature's point that male are more prone to have internet addiction. On top of that, it is inexpensive and free accessible for leisurely activities (Dannon P, Iancu I, 2007). Thus, it is important tool to the male respondents since most of them are interested in information technology.

The other significant predictor of internet addiction in this study was duration spend on internet per day (hours). When the addict respondents who spend their time more frequently to internet, they will have more irregular bedtime as well as use of more alcohol, coffee and tobacco compared to those non addicts (Sang et al., 2003). The respondents who are addicted to the internet will experience changes in normal sleeping patterns as they are accessing internet in the late night (Glasser, W., 1989). The usual characteristics of addicted personality are fatigue and lack of sleep. They also will have back strain, eyestrain, carpal tunnel syndrome (Greenfield, D., 1999). When the respondents have short sleep duration, they will have insomnia. This can be proved by one of the study that have mentioned that the result of the fMRI studies showed that during computer game cue presentation, gaming addicts revealed same neural processes and increased activity in brain areas associated with substance-related addictions and other behavioural addictions (Daria-Joanna K., Griffiths-Mark D. (2012).

A study done in Turkey found that internet addiction was positively related to depression, anxiety and stress. (Ahmet A., Murat İ., 2011). Lee M.Cheung and Wing S.Wong (2010) reported that internet addiction demonstrated a significant association with depression. Therefore, the results of our study are consistent with the research done previously.

To the best of our knowledge, the current study represents the first study in Malaysia among medical students. The other strength of this study is good reliability and validity.



Chapter 6 : Limitation

6.1 Limitation

The limitation is this study is only conducted in a single centre, the results may not generalized. It is unable to show causality of internet addiction because they are based on prevalent rather than incident cases. Another limitation is there is information bias because the questionnaire is self-administered.



Chapter 7: Conclusion & recommendations

7.1 Conclusion

This study reported a higher prevalence of internet addiction among medical students compared to other studies. The current study represents the first study in Malaysia among medical students. The other strength of this study is this study has reasonable large sample size. Student who are male gender, using internet more or equal to 4 hours and those at risk to get depression, anxiety and stress are more likely to have internet addiction. Thus, every effort should be made to detect internet addiction early.

7.2 Recommendation

For further study, a large sample size of medical students which involved multi-centre is recommended so that the results produced will be more generalized. Other than that, further studies in internet addiction are needed. Besides, behavioural activities other than internet should be introduced to the children since they are young.

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APPENDIXES

Gantt Chart

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6-16	WEEK 17-19	WEEK 20	WEEK 21 - 22	WEEK 22-23	WEEK 23-24
	25/3	1/4	8/4	15/4	22/4		15/7	5/8	12/8	19/8	26/8
of module											
sal draft and mission											
sal preparation submission											
ration for sal presentation											
sal presentation											
ction of proposal											
ration of letters											
ission of letter											
collection and analysis											
ission of ed data report											
ration of report yzed data											
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t writing											
ission of project t and scientific											
ration of final ntation											
sal for final ntation Presentation											
ction for final t and scientific											
ission of log and final report t											

Research Team

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Leader	Teh Ping An (161312)
Members	Azieyatul Syazwana binti Afandi (161995)

Budget Planning

Item	Quantity	Price
Photostating	2400	RM 200.00
Printing	50	RM 50.00
TOTAL		RM250.00

No. Rujukan: UPM/TNCPI/RMC/JKEUPM/1.4.18.1/F1

Tarikh: 25 Julai 2013

YBhg. Prof/Dr./Tuan/Puan,

KELULUSAN ETHICAL CLEARANCE

Dengan segala hormatnya saya merujuk kepada perkara di atas

2. Dimaklumkan bahawa permohonan kelulusan ethical clearance YBhg. Prof/Dr./Tuan/Puan, bagi penyelidikan yang bertajuk " **A cross-sectional study on internet addiction among Malaysian medical students in a public university,2013**" telah diluluskan.
3. Sehubungan itu, surat kelulusan YBhg. Prof/Dr./Tuan/Puan akan dikeluarkan selepas disahkan di dalam Mesyuarat JKEUPM pada **2 Ogos 2013**. Walaubagaimanapun, YBhg. Prof/Dr./Tuan/Puan boleh memulakan penyelidikan berkuatkuasa pada tarikh emel ini diterima.
4. Sebarang pertanyaan, YBhg. Prof/Dr./Tuan/Puan boleh hubungi Cik Norbaiti (0389471605)/Cik Suzita Ramli (0389471244).

Nota: Sila gunakan no rujukan ini untuk sebarang urusan.

- FPSK_Mei (13)30

Terima kasih.

Yang menjalankan tugas,

Suzita Ramli,
Sekretariat JKEUPM



RESPONDENT'S INFORMATION SHEET

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

STUDY TITLE

A Cross-Sectional Study on Internet Addiction among Malaysian Medical Students in a Public University, 2013

INTRODUCTION

Internet is very important to medical students since they are doing literature search, completing their assignments, and finding the latest information through internet. It is inexpensive and free accessible for leisurely activities. Medical students can release their stress by playing games, watching videos, and chatting with their friends in the internet. However, those medical students who spend their time intensively and inappropriately with the internet will prone to get addiction. Since little study had been done in this field in Malaysia, this study is planned to examine the prevalence and predictors of internet addiction among medical students in a public university.

WHAT WILL YOU HAVE TO DO?

Fill up the questionnaires.

WHO SHOULD NOT ENTER THE STUDY?

Medical students who are absent on the day of data collection.

WHAT WILL BE THE BENEFITS OF THE STUDY:

(a) TO YOU AS THE SUBJECT?

You will be assessed for the possibility of having IA or not by filling up the questionnaires.

b) TO THE INVESTIGATOR?

By knowing the prevalence and the predictors of IA, this certainly will help the University policy maker to change the education planning.

OR

All these data collection will help university management site to be aware of current IA trends and also identify areas which they may to be emphasized during the teaching session.



WHAT ARE THE POSSIBLE RISKS?

NONE

WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL?

Yes. All the informations that we collect will be kept confidential. Information will only be presented in a collective manner without mentioning of any individual identity.

WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH?

Teh Ping An (012-2980549)

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Assoc. Prof. Dr Hamidin Awang(013-3406696)



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Sila baca maklumat berikut dengan teliti. Sekiranya anda mempunyai sebarang pertanyaan, sila kemukakan kepada penyelidik.

TAJUK KAJIAN

Satu Kajian Cross-Bahagian terhadap Ketagihan Internet dalam kalangan Pelajar Perubatan Malaysia di Universiti Awam, 2013

PENGENALAN

Internet adalah sangat penting untuk pelajar-pelajar perubatan kerana mereka melakukan pencarian sastera, menyiapkan tugas mereka, dan mencari maklumat terkini melalui internet. Ia adalah murah dan bebas diakses untuk aktiviti-aktiviti santai. Pelajar-pelajar perubatan boleh melepaskan tekanan mereka dengan bermain permainan, menonton video, dan berbual dengan rakan-rakan mereka di internet. Walau bagaimanapun, pelajar-pelajar perubatan yang menghabiskan masa mereka secara intensif dan tidak sesuai dengan internet akan cenderung mendapat ketagihan. Oleh kerana hanya sedikit kajian telah dilakukan dalam bidang ini di Malaysia, kajian ini dirancang untuk mengkaji kelaziman dan ramalan ketagihan internet dalam kalangan pelajar perubatan di sebuah universiti awam.

APAKAH YANG PERLU ANDA LAKUKAN?

Mengisi borang soal-selidik.

SIAPA YANG TIDAK BOLEH MENYERTAI KAJIAN INI?

Pelajar-pelajar perubatan yang tidak hadir pada hari pengumpulan data.

APAKAH FAEDAH MENYERTAI KAJIAN INI?

a) KEPADA ANDA SEBAGAI PENYERTA?

Anda akan dinilai untuk kemungkinan mempunyai ketagihan internet atau tidak dengan mengisi borang soal selidik.

b) KEPADA PENYELIDIK?

Dengan mengetahui kelaziman dan ramalan ketagihan internet, ini sudah tentu akan membantu pembuat dasar Universiti untuk menukar perancangan pendidikan.

ATAU

Semua pengumpulan data ini akan membantu laman pengurusan universiti untuk menyedari trend ketagihan internet semasa dan juga mengenal pasti kawasan-kawasan yang mereka boleh diberi penekanan semasa sesi pengajaran.



**JAWATANKUASA ETIKA UNIVERSITI UNTUK
PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,
SELANGOR, MALAYSIA**

ADAKAH IA BERISIKO?

Tidak

ADAKAH MAKLUMAT DAN IDENTITI SAYA KEKAL RAHSIA?

Ya. Semua maklumat yang kami kumpul akan dirahsiakan. Maklumat hanya akan dibentangkan secara kolektif tanpa menyebut mana-mana identiti individu.

**SIAPA YANG SAYA PERLU HUBUNGI SEKIRANYA SAYA MEMPUNYAI
SOALAN TAMBAHAN SEMASA MENGIKUTI PENYELIDIKAN INI?**

Teh Ping An (012-2980549)

Azieyatul Syazwana binti Afandi (013-5831718)

Dr.Ching Siew Mooi (019-806652)

Assoc. Prof. Dr Hamidin Awang(013-3406696)

CONSENT FORM (RESPONDENT)

RESEARCH TITLE : A Cross-Sectional Study on Internet Addiction among Malaysian Medical Students in a Public University,2013

RESEARCHER : 1)Teh Ping An (012-2980549)
2)Azieyatul Syazwana Binti Afandi (013-5831718)
3)Dr.Ching Siew Mooi (019-3806652)
4)Assoc. Prof. Dr Hamidin Awang (013-3406696)

I Identity Card No.
address.....

.....hereby voluntarily agree to take part in the clinical research *(clinical study, questionnaire study/ drug trial) specified above.

I have been informed about the nature of the clinical research in terms of methodology, possible adverse effects and complications (as written in the Respondent Information Sheet). I understand that I have the right to withdraw from this clinical research at any time without assigning any reason whatsoever. I also understand that this study is confidential and all information provided with regards to my identity will remain private and confidential.

I* wish / do not wish to know the results of the tests performed on any samples taken from me.

* delete where necessary

Signature
(Respondent)

Signature
(Witness)

Date :

Name :

I/C No. :

I confirm that I have explained to the respondent the nature and purpose of the above –mentioned clinical research.

Date

Signature
(Researcher)

BORANG PERSETUJUAN RESPONDEN

TAJUK PENYELIDIKAN : Satu Kajian Cross-Bahagian terhadap Ketagihan Internet dalam kalangan Pelajar Perubatan Malaysia di Universiti Awam, 2013

PENYELIDIK :

- 1) Teh Ping An (012-2980549)**
- 2) Azieyatul Syazwana Binti Afandi (013-5831718)**
- 3) Dr. Ching Siew Mooi (019-3806652)**
- 4) Assoc. Prof. Dr Hamidin Awang (013-3406696)**

Saya..... No Kad Pengenalan.....
beralamat.....

.....dengan ini bersetuju untuk mengambil bahagian secara sukarela dalam menyertai penyelidikan klinikal *(pengajian klinikal/ pengajian soal selidik/ percubaan ubat-ubatan) seperti yang disebut di atas.

Saya telah diberi penjelasan secara menyeluruh mengenai dasar penyelidikan klinikal dari segi metodologi, risiko dan komplikasi (seperti tertulis pada Helaian Penerangan Responden). Saya memahami bahawa saya berhak menarik diri dari penyelidikan ini pada bila-bila masa tanpa memberi sebarang alasan. Saya juga memahami bahawa sebarang maklumat yang berkaitan identiti saya akan dirahsiakan.

Saya* berminat / tidak berminat untuk mengetahui keputusan kajian yang dijalankan ke atas sampel yang diambil dari saya.

*potong yang tidak berkenaan

Tandatangan
(Responden)

Tandatangan
(Saksi)

Tarikh :

Nama :

No. K/P:

Saya mengesahkan bahawa saya telah menerangkan kepada responden sifat dan tujuan penyelidikan klinikal tersebut di atas.

Tarikh

Tandatangan
(Penyelidik)

Questionnaire: Part 1

Name: _____ Age : _____ H/p: _____

Matric no.: _____ Year of study: _____

1. Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female
2. Ethnicity	<input type="checkbox"/> Malay	<input type="checkbox"/> Indian
	<input type="checkbox"/> Chinese	<input type="checkbox"/> Others
3. Religion	<input type="checkbox"/> Islam	<input type="checkbox"/> Hindu
	<input type="checkbox"/> Buddhist	<input type="checkbox"/> Christian
4. Household Income	RM _____	
5. Any internet user at home	<input type="checkbox"/> Yes	<input type="checkbox"/> No
6. Hometown	<input type="checkbox"/> Urban	<input type="checkbox"/> Rural
7. What type of internet connection you used the most?	<input type="checkbox"/> WIFI	<input type="checkbox"/> Broadband
8. Where do you usually access the internet?	<input type="checkbox"/> Faculty	<input type="checkbox"/> Hostel
9. What type of gadgets you usually use to access the internet?	<input type="checkbox"/> Handphone	<input type="checkbox"/> Personal computer
	<input type="checkbox"/> Laptop	<input type="checkbox"/> Ipad / tablet
10. What you usually do when you are using the internet?	<input type="checkbox"/> Education	<input type="checkbox"/> Entertainment
	<input type="checkbox"/> Social networking	<input type="checkbox"/> Gambling
11. How frequent you use the internet?	Daily online in the past 1 week _____ hours	_____ days in a week

Questionnaire : Part 2

To assess your level of addiction, answer the following questions using this scale:
1 = Rarely 2 = Occasionally 3 = Frequently 4 = Often 5 = Always

- _____ 1. How often do you find that you stay on-line longer than you intended?
Berapa kerapkah anda mendapati yang anda melayari internet lebih masa dari masa yang dirancang?
- _____ 2. How often do you neglect household chores to spend more time on-line?
Berapa kerapkah anda mengabaikan tugas pelajaran/kerjarumah anda untuk menghabiskan lebih banyak masa melayari internet?
- _____ 3. How often do you prefer the excitement of the Internet to intimacy with your partner?
Berapa kerapkah anda memilih keseronokan internet berbanding hubungan yang terjalin dengan kawan/pasangan anda?
- _____ 4. How often do you form new relationships with fellow on-line users?
Berapa kerapkah anda memulakan hubungan baru dengan pengguna internet yang lain?
- _____ 5. How often do others in your life complain to you about the amount of time you spend online?
Berapa kerapkah orang-orang di dalam hidup anda mengadu kepada anda mengenai jumlah masa yang anda gunakan untuk melayari internet?
- _____ 6. How often do your grades or school work suffer because of the amount of time you spend on-line?
Berapa kerapkah pelajaran kamu terjejas (cth. Ponteng kelas, menangguhkan kerja, tidak menyiapkan tugas tepat pada masa, dll) disebabkan oleh masa yang anda habiskan untuk melayari internet?
- _____ 7. How often do you check your e-mail before something else that you need to do?
Berapa kerapkah anda memeriksa email anda sebelum anda melakukan perkara lain?
- _____ 8. How often does your job performance or productivity suffer because of the Internet?
Berapa kerapkah pencapaian akademik atau produktiviti anda terjejas disebabkan oleh penggunaan internet?
- _____ 9. How often do you become defensive or secretive when anyone asks you what you do on-line?
Berapa kerapkah anda cuba mempertahankan diri atau berahsia apabila seseorang bertanya mengenai aktiviti anda (apa yang anda lakukan) di internet?
- _____ 10. How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?
Berapa kerapkah anda cuba melupakan pemikiran yang terganggu mengenai kehidupan anda dengan pemikiran yang boleh menenangkan di internet?

- _____ 11. How often do you find yourself anticipating when you will go on-line again?
Berapa kerapkah anda mendapati diri anda tertunggu-tunggu atau mengharapakan untuk segera menggunakan internet lagi apabila anda tidak menggunakannya?
- _____ 12. How often do you fear that life without the Internet would be boring, empty, and joyless?
Berapa kerapkah anda merasa bimbang apabila memikirkan kehidupan tanpa internet akan menjadibosan, kosong, dan tidak menyenangkan?
- _____ 13. How often do you snap, yell, or act annoyed if someone bothers you while you are online?
Berapa kerapkah anda marah, menjerit atau menunjukkan reaksi tidak gembira kepada seseorang yang mengganggu anda ketika anda melayari internet?
- _____ 14. How often do you lose sleep due to late-night log-ins?
Berapa kerapkah anda kurang tidur disebabkan melayari internet hingga lewat malam?
- _____ 15. How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line?
Berapa kerapkah anda asyik terfikir tentang internet atau berkhayal melayarinya walaupun anda tidak menggunakan internet pada masa itu?
- _____ 16. How often do you find yourself saying "just a few more minutes" when on-line?
Berapa kerapkah anda berkata kepada diri sendiri "sekejap lagi/ beberapa minit lagi" apabila anda melayari internet?
- _____ 17. How often do you try to cut down the amount of time you spend on-line and fail?
Berapa kerapkah anda cuba untuk mengurangkan masa anda melayari internet tetapi tidak berjaya?
- _____ 18. How often do you try to hide how long you've been on-line?
Berapa kerapkah anda cuba menyorokkan daripada orang lain mengenai jumlah masa yang anda gunakan untuk melayari internet?
- _____ 19. How often do you choose to spend more time on-line over going out with others?
Berapa kerapkah anda memilih untuk menghabiskan lebih banyak masa melayari internet berbanding keluar bersosial dengan rakan-rakananda?
- _____ 20. How often do you feel depressed, moody, or nervous when you are off-line, which goes away once you are back on-line?
Berapa kerapkah anda merasa sedih, berperasaan tidak menentu, dan gementar apabila tidak melayari internet, di mana semua perasaan ini akan hilang sebaik saja anda menggunakan internet semula?

Questionnaire : Part 3

DASS₂₁

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1	I found it hard to wind down Saya dapati diri saya sukar ditenteramkan.	0	1	2	3
2	I was aware of dryness of my mouth Saya sedar mulut saya terasa kering.	0	1	2	3
3	I couldn't seem to experience any positive feeling at all Saya tidak dapat mengalami perasaan positif sama sekali.	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) Saya mengalami kesukaran bernafas (contohnya pernafasan yang laju, tercungap-cungap walaupun tidak melakukan senaman fizikal).	0	1	2	3
5	I found it difficult to work up the initiative to do things Saya sukar untuk mendapatkan semangat bagi melakukan sesuatu perkara.	0	1	2	3
6	I tended to over-react to situations Saya cenderung untuk bertindak keterlaluan dalam sesuatu keadaan.	0	1	2	3
7	I experienced trembling (eg, in the hands) Saya rasa menggeletar (contohnya pada tangan).	0	1	2	3
8	I felt that I was using a lot of nervous energy Saya rasa saya menggunakan banyak tenaga dalam keadaan cemas	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself Saya bimbang keadaan di mana saya mungkin menjadi panic dan melakukan perkara yang membodohkan diri sendiri.	0	1	2	3
10	I felt that I had nothing to look forward to Saya rasa saya tidak mempunyai apa-apa untuk diharapkan.	0	1	2	3
11	I found myself getting agitated Saya dapati diri saya semakin gelisah.	0	1	2	3

12	I found it difficult to relax Saya rasa sukar untuk relaks.	0	1	2	3
13	I felt down-hearted and blue Saya rasa sedih dan murung.	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing Saya tidak dapat menahan sabar dengan perkara yang menghalang saya meneruskan apa yang saya lakukan.	0	1	2	3
15	I felt I was close to panic Saya rasa hampir-hampir menjadi panik/cemas.	0	1	2	3
16	I was unable to become enthusiastic about anything Saya tidak bersemangat dengan apa jua yang saya lakukan.	0	1	2	3
17	I felt I wasn't worth much as a person Saya tidak begitu berharga sebagai seorang individu.	0	1	2	3
18	I felt that I was rather touchy Saya rasa yang saya mudah tersentuh.	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat) Saya sedar tindak balas jantung saya walaupun tidak melakukan aktiviti fizikal (contohnya kadar denyutan jantung bertambah, atau denyutan jantung berkurangan).	0	1	2	3
20	I felt scared without any good reason Saya berasa takut tanpa sebab yang munasabah.	0	1	2	3
21	I felt that life was meaningless Saya rasa hidup ini tidak bermakna.	0	1	2	3

JKEUPM Ref No. : FPSK_Mei (13)30

Members of the JKEUPM who reviewed the documents:

Dr. Rojanah Kahar

Date of approval: 22/7/2013

Endorsed at JKEUPM Meeting on 2/8/2013, attended by:

NAME	DESIGNATION	GENDER	TICK IF PRESENT
Prof. Dr. Norlijah Othman	Paediatrics & Dean, Faculty of Medicine and Health Sciences	Female	√
Prof. Dr. Zamberi Sekawi	Medical Microbiologist & Deputy Dean of Research and Internationalization, Faculty of Medicine and Health Sciences	Male	√
Prof. Dato' Dr. Lye Munn Sann	Medical Statistician, Dept of Community Health, Faculty of Medicine and Health Sciences	Male	√
Prof. Dr. Tengku Aizan Abd Hamid	Gerontologist & Director, Institute of Gerontology	Female	√
Prof. Dr. Lekhraj Rampal	Medical Statistician, Dept of Community Health, Faculty of Medicine and Health Sciences	Male	√
Prof. Dr. Elizabeth George	Pathologist, Dept of Pathology, Faculty of Medicine and Health Sciences	Female	√
Prof. Dr. Lim ThiamAun	Anesthesiologist, Dept of Surgery, Faculty of Medicine and Health Sciences	Male	√
Prof. Dr. Wan Omar Abdullah	Medical Parasitologist, Dept of Medical Microbiology and Parasitology, Faculty of Medicine and Health Sciences	Male	√
Prof. Dr. Patimah Ismail	Professor of Biomedicine, Dept of Biomedical Sciences, Faculty of Medicine and Health Sciences	Female	√
Assoc. Prof. Dr. Johnson Stanslas	Pharmacologist, Dept of Medicine, Faculty of Medicine and Health Sciences	Male	√
Assoc. Prof. Dr. Mansor Abu Talib	Assoc. Professor of Guidance and Counselling, Dept of Human Development and Family Studies, Faculty of Human Ecology	Male	√
Assoc. Prof. Dr. Noritah Omar (Lay Person)	Assoc. Professor of English Language, Dept of English Language, Faculty of Communication and Modern Languages	Female	√
Dr. Rojanah Kahar (Lay Person)	Lecturer of Dept of Human Development and Family Studies, Faculty of Human Ecology	Female	√
Tan Sri Dato' Napsiah Omar (Lay Person)	Chairman, National Population and Family Development Board	Female	√