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Nutritional Habits among Internet Users in a Private Malaysian Medical School

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Abstract: Nutrition especially for young adults is very crucial as they are in transitional phase from adolescent to adulthood. The aim of this survey was to explore the nutritional habits of university students especially those who use internet heavily. An Internet-based survey was performed among 361 young adults' students at private medical university in Kuala Lumpur, Malaysia. A self-administered questionnaire was used to assess student's nutritional habits and internet daily usage. A total of 361 respondents participated in this survey with response rate of 72.2% (361/500). Majority of the respondents were female (65.1%), do not take breakfast daily (55.1%), eating dinner daily (82.3%), do not exercise regularly (59.0%). There was a significant association between gender and internet usage ($p = 0.03$), the association between number of hours on facebook and internet usage was significant ($p < 0.001$). In conclusion, more attention should be given to this age group with more education regarding healthy nutritional choices.

Key words: Nutritional habits, internet, young adults, medical students, Malaysia

INTRODUCTION

The poor nutritional habit is a common problem among university students as they are in transition period from adolescent to adulthood (Nelson *et al.*, 2008). At this stage, they start to explore new physical and psychological changes in their bodies, which make them a vulnerable group for poor eating and dietary habits (Chin and Mohd, 2009; Savige *et al.*, 2007; Shi *et al.*, 2005).

The internet nowadays becomes an important tool for communication and living especially among adolescent and young adults, who represents the majority of internet users worldwide. In Malaysia, the total population are 29,179,952 in 2012. There are 17,723,000 internet users as of December 2011, which mean 60.7% of the total population. As for facebook, there are 13,589,520 as 31st December 2012, which mean 46.6% of the total population (Internet World Statistics, 2012).

Several studies done before to explore the effects of heavy internet usage on physical and mental health of the people and especially young adults. They concluded that Internet addiction has an adverse effect on several lifestyle-related factors such as irregular dietary habits, physical inactivity, short duration of sleep and increased use of alcohol and tobacco (Lam *et al.*, 2009; Kim and Chun, 2005; Choi *et al.*, 2009; Gunnell *et al.*, 1998).

A study done in Malaysia showed that mean hours of daily internet usage was 6.56 (± 3.73) (Kutty and Sreeramareddy, 2014). Another study done among medical students in Malaysia found the mean (\pm SD)

of daily Facebook surfing hours was 2.5 (± 1.7) hours and the total surfing hours ranged from one to 8 h/day (Sami Abdo Radman Al-Dubai *et al.*, 2013).

The aim of this survey was to explore the nutritional habits of university students especially those who use internet heavily.

MATERIALS AND METHODS

An Internet-based survey was done among 361 young adults' students at private medical university in Kuala Lumpur, Malaysia to assess their nutritional habits and its association with internet usage. A pre-test was done to ensure that the questionnaires are easy to understand and consent form was signed by all participants prior to answering the questionnaires. The questionnaires link was distributed to students through E-mail. A Google document was used as hosting website for the questionnaire. After the students click on the link, they will be directed to Google documents, they need to read the consent form carefully and then click on 'yes' I want to participate in the survey, some of the questionnaires are compulsory to answer, while some are optional. We decided to use this method in data collection based on survey done among students to ask them whether they prefer paper or online questionnaires and majority chose online questionnaires. In recent years, Internet-based research method is becoming more popular especially among young age group. This method considered easier and more convenient for young adults as they considered Internet as part of their

daily life. In addition, using this method do not require a lot of money and co-researchers to collect the data so can be considered as cost-effective method to conduct research nowadays.

Data was analyzed using SPSS version 22.0.

RESULTS

A total of 361 respondents participated in this survey with response rate of 72.2% (361/500). Majority of the respondents were female (65.1%), do not take breakfast daily (55.1%), eating dinner daily (82.3%) and do not exercise regularly (59.0%). There was a significant association between gender and internet usage ($p = 0.03$) with almost two-thirds of the females using the internet within normal limits (66.4%). In addition, the association between taking dinner daily and internet usage was significant ($p = 0.05$) as shown in Table 1.

A total of 46.5% of the respondents drink 4-8 glasses of water per day. The association between cans of carbonated drinks and internet usage was significant with $p 0.005$. More than half of the respondents 52.0% eat outside the house daily. A total of 55.6% of the respondents eat one serving of fruits per week, while 41.5% eat 2-3 servings of vegetables per week as shown in Table 2.

Table 3 shows the social media characteristics of the respondents. Majority (91.4%) have facebook account, (30.7%) spend 1-2 h daily just on facebook. The association between number of hours on facebook and internet usage was significant ($p < 0.001$). Regarding eating something while using Internet, (56.6%) said yes they eat and (41.5%) said that they play with their mobile while eating.

DISCUSSION

The main finding of our current study is that young adults are using internet heavily and this may affect their nutritional habits and daily lifestyle choices. Nowadays, technology play an important role in our daily life, but sometimes this role can be harmful to our health if it exceeds the limits.

There are few limitations in our current study, namely, the data collection method by using the internet to reach those young adults. Secondly, we did not have the chance to examine their weight status although we included that in our questionnaires, but reported weight measurement cannot be considered as a valid method to determine people's nutritional status.

Other studies also reported that the change in lifestyle related factors caused by heavy Internet use could have an adverse impact on the growth and development of those with Internet addiction (Kim and Chun, 2005).

Daily breakfast consumption among young adults especially university students is very crucial to get enough energy their body required to withstand busy schedules daily (Tanaka *et al.*, 2008). In this study, less than half of respondents (45.0%) take breakfast daily.

Table 1: Socio-demographic characteristics of the respondents

	N	----- Internet usage -----		p-value
		Normal N (%)	Heavy N (%)	
Gender				
Male	126	69 (54.8)	57 (45.2)	0.03*
Female	235	156 (66.4)	79 (33.6)	
Do you eat breakfast daily				
No	162	103 (63.6)	59 (36.4)	0.657
Yes	199	122 (61.3)	77 (38.7)	
Do you eat dinner daily				
No	64	33 (51.6)	31 (48.4)	0.05*
Yes	297	192 (64.6)	105 (35.4)	
Do you exercise regularly				
No	148	100 (67.6)	48 (32.4)	0.087
Yes	213	125 (58.7)	88 (41.3)	

Pearson chi-squared test was performed, at $p < 0.05$ level of significance.

Table 2: Eating habits of the respondents

	N	----- Internet usage -----		p-value
		Normal N (%)	Heavy N (%)	
How many glasses of water you drink everyday				
1-2	25	14 (56.0)	11 (44.0)	0.07
2-4	113	61 (54.0)	52 (46.0)	
4-8	168	116 (69.0)	52 (31.0)	
More than 8	55	34 (61.8)	21 (38.2)	
Cans of carbonated drinks/week				
Never drink	92	64 (69.6)	28 (30.4)	0.005*
1-2 per week	161	98 (60.9)	63 (39.1)	
2-3 per week	89	58 (65.2)	31 (34.8)	
Every day	19	5 (26.3)	14 (73.7)	
Do you consume energy drinks				
No	176	116 (65.9)	60 (34.1)	0.171
Yes	185	109 (58.9)	76 (41.1)	
How many times you eat outside the house				
Never	3	3 (100.0)	0	0.051
Once a week	31	17 (54.8)	14 (45.2)	
1-2 times/week	139	97 (69.8)	42 (30.2)	
Everyday	188	108 (57.4)	80 (42.6)	
How many servings of fruits/week				
Once a week	202	123 (60.9)	79 (39.1)	0.361
2-3 times/week	126	84 (66.7)	42 (33.3)	
Everyday	33	18 (54.5)	15 (45.5)	
How many servings of vegetables/week				
Once a week	89	52 (58.4)	37 (41.6)	0.186
2-3 times/week	150	89 (59.3)	61 (40.7)	
Everyday	122	84 (68.9)	38 (31.1)	

Pearson chi-squared test was performed, at $p < 0.05$ level of significance.

Table 3: Facebook usage, eating habits and internet usage

	N	----- Internet usage -----		p-value
		Normal N (%)	Heavy N (%)	
Do you have facebook account				
No	31	20 (64.5)	11 (35.5)	0.792
Yes	330	205 (62.1)	125 (37.9)	
Hours/day spend on facebook				
Less than 1 h	78	60 (76.9)	18 (23.1)	<0.001*
1-2 h/day	111	90 (81.1)	21 (18.9)	
2-3 h/day	71	46 (64.8)	25 (35.2)	
More than 4 h	73	11 (15.1)	62 (84.9)	
Drink carbonated drinks while using internet				
No	273	173 (63.4)	100 (36.6)	0.471
Yes	88	52 (59.1)	36 (40.9)	
Eat anything while using internet				
No	165	118 (71.5)	47 (28.5)	0.001*
Yes	196	107 (54.6)	89 (45.4)	
Do you play with your phone while eating				
No	147	112 (76.2)	35 (23.8)	<0.001*
Yes	214	113 (52.8)	101 (47.2)	

Pearson chi-squared test was performed, at $p < 0.05$ level of significance.

This finding was similar to a study done among medical students in Malaysia; they found that daily breakfast consumption was 43.9% (Ganasegeran *et al.*, 2012). However, other studies conducted in Malaysia found higher rates of daily breakfast consumption with 75.6% and 52.6%, respectively (Anuar and Ghazali, 2011; Musaiger *et al.*, 2011).

The serving of fruits and vegetables consumed by respondents was low with only one serving of fruits per week and 2-3 servings of vegetables weekly. Our findings were similar with a study done in Malaysia in which, only 19% of university students consumed vegetables more than three times per week (Gan *et al.*, 2011). It is well reported that low intake of fruits and vegetables is associated with several chronic diseases later in life (Kerkadi, 2003).

Conclusion: In conclusion, the main finding of our current study is that young adults are using internet heavily and this may affect their nutritional habits and daily lifestyle choices. More attention should be given to this age group with more education regarding healthy nutritional choices.

Competence of interest: Authors declare no competence of interest.

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