ORIGINAL ARTICLE

PRECLINICAL STUDENTS' KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS OBESITY AND OVERWEIGHT

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ABSTRACT

The main objective is to create awareness and to assess the socio-demographic factors and BMI among pre-clinical students of UniKL RCMP towards overweight and obesity and to determine the correlation between the knowledge, attitude, and practice. A cross-sectional research was conducted among students using questionnaire. All the questions in the questionnaire were then computed as the variables of the study. Respondents of year 2 score moderately in which male tends to score higher (n=30) than female (n=27) towards awareness of overweight and obesity. Besides, generally respondents with high household income (>RM9000) scored more awareness towards overweight and obesity. Furthermore, when taking hometown setting as a factor, respondent who lives in urban site tend to score higher (n=28) than the other two regions. In year 1 students, the data showed that female had a better knowledge, attitude and practice than male based on gender. Medium income (RM4000-9000) respondent have a better awareness than high and low income. Lastly, respondent who lives in urban site have a better awareness towards overweight and obesity compared to two other regions. In conclusion to the study conducted, it is found that females have more awareness when compared with males towards overweight and obesity. The suburban people have higher score in practice to overcome overweight and obesity but lower understanding than other regions. Thus, there is no significant correlation between gender, household income and region on awareness towards overweight and obesity. However, there were noticeable differences among the three individual variables.

Keywords: *Knowledge, Attitude, Practice, Overweight, Obesity*

INTRODUCTION

Malaysia is the top rank country with the highest number of obesities in Asia with 45.3% of its population as per a study done by British medical journal, The Lancet. According to World Health Organization (WHO), obesity is defined as an excessive or abnormal fat deposition in the body has emerged as a fundamental problem throughout the world. It states a person with body mass index (BMI) more than 30 kg/m^2 is considered as obese. It is common not only among adults, but also among majority of age groups. This multifactorial disorder has been associated with many other diseases such as diabetes, cardiovascular diseases, osteoarthritis and certain cancers such as breast, prostate and colon[1].

Gender, ethnicity, regions and educational level play a key role in the prevalence of overweight and obesity. Diet, genetic predisposition, physical activities, physiological and behavioral factors are the contributors of obesity[2]. Stress is considered as a most crucial factor which contributes to obesity. This condition leads to lack of physical activity, which is being considered as independent factor of obesity[3]. Energy density increases in a person's diet by fat or sugar, together combined with unhealthy snacking habits that promote unhealthy weight gain[4]. BMI picturizes whether the measure of person's weight corresponds to his/her height[5]. Fast consumption of food, large meal and sugary beverages are positively correlated, whereas low-energy foods, fruits, vegetables and healthy breakfast are negatively associated with overweight and obesity[6-9]. Study shows energy intake of urban men are higher than rural men but rural men shows higher physical activity level suggesting that the level of obesity in the rural area are significantly less than urban area. With the rapid growing of food industry in Malaysia, it is no doubt that this had a greater impact on our health[10]. Besides that, Malaysia is known for the title "Food Heaven". This is due to its multicultural community that contributes to the variation of cuisine from every possible culture that exists within the country[11].

Medical education is a highly stressful scenario, which makes the students more prone to obesity throughout their course of training. Medical students

are most accountable to unhealthy habits such as less physical activity and disordered eating that makes them still vulnerable to obesity. Vast amount of materials, isolation from social activities, examination pressure, differences in their thought and reality, each of which makes them highly stressful. The alarming rate of obesity suggest that the level of awareness of the community towards healthy life is at its critical stage. Practice of healthy lifestyle and maintenance of perfect body mass index among the medical students will create awareness among the general population. Hence, with this background the present study was conducted to study the prevalence of obesity among the UniKL-RCMP medical students and to assess their knowledge, attitude and practice about obesity.

MATERIALS AND METHODS

Study design

A cross-sectional research regarding the knowledge, attitudes, and practices towards overweight and obesity is conducted within 4 weeks, starting from 12th December 2016 to 6th January 2017. This is a cross sectional study because it is the best design type to capture knowledge or attitudes from a cross section of the population at one point in time. The form of data collection was self-administered questionnaires. The rationale for using this method was that it was the most efficient method to gather all the data directly on campus due to the fast pace of our research course, convenience, low cost, and the quick return of data. The population for our research was pre-clinical medical students in our college. 34 samples each gender from year 2 students and 30 samples each gender for year 1 students. Before conducting the study, the study participants were informed verbally about the purpose of the study and participation in the study was completely voluntary. The students were given the questionnaire and a written consent was obtained where confidentiality was assured in all aspects. A predesigned pre-tested questionnaire is used to collect the data such as age, gender, household income, ethnic origin and their present weight in kilograms and height in meters. Students were given instructions on how to measure the weight and height correctly.

BMI was calculated as weight in kg, divided by square of height in metres. BMI was classified into six groups according to the National Institute of Health (NIH) guidelines, 1998; Group 1 -underweight (BMI - < 18.5), Group 2 -normal (BMI - 18.5 to 24.9), Group 3 -overweight (BMI - 25-29.9) and Group 4 –obesity, which was subdivided in to obesity grade 1 (BMI - 30-34.9), obesity grade 2 (BMI- 35-39.9) and obesity grade 3 (BMI - ≥40).

Ethical Consideration

The research was conducted in the main campus of UniKL RCMP and a set of questionnaires will be given to the participants to be answered. All responses from the participants will be kept confidential, and we are not distributed the questionnaire to those who refused to answer the questionnaire. No unique identifier will be collected.

Sample frame

A research was conducted involving pre-clinical students of UniKL RCMP. The ages of respondents vary from 18 to 26 years old. In this survey, our estimated population is 128.

Sample size

The population size of pre-clinical students of UniKL RCMP is 192 students and we are using openepi.com to estimate the sample size which to get approximately 99.99% of confidence level for this population we need to get at least 128 samples with the anticipated frequency of 50% and the confidence limits is 10%. To get the samples, simple random sampling method is chosen. The pre-clinical students from UniKL RCMP have the same chance of being selected from the population in this study to answer the questionnaire given

Sampling method

A simple random sampling method was used hence every member of the population had an equal chance of being selected. The data was collected using questionnaire.

a) Inclusion Criteria

i. Male and female of pre-clinical students who are studying in UniKL RCMP in addition to their level of knowledge, attitudes, and practices towards overweight and obesity were chosen to answer the questionnaire

ii. Able to understand and follow the instructions or guidelines

iii. Agree to participate in the research

iv. Signing the consent form of participating

b) Exclusion Criteria

i. Student whom refuse to be give cooperation

ii. Error in data filled

iii. Nursing, radiography, physiotherapy students of UniKL RCMP

iv. Student who do not sign the consent form of participating

Variables

Data entry and analysis were done in Microsoft excel and analyzed using SPSS-17, where $p<0.05$ was considered as statistically significant. BMI was

associated with sociodemographic variables, dietary and lifestyle factors.

RESULTS AND DISCUSSION

Table 1 consists of data reflecting on the general objectives of the study. Based on this we can conclude that in general the students have a poor grasp of knowledge on overweight and obesity. None the less female students tend to score higher than male students. Based on gender, female have a better knowledge, attitude, and practice than male. Medium income (RM 4000- 9000) respondent score have a better knowledge, attitude, and practice than high and low income. Respondent who live in sub-urban have a better awareness towards obesity compared to two other regions.

In general majority of the respondents score moderately but male tends to score higher (n=30) than female (n=27) towards awareness of overweight and obesity. Generally, respondents have a moderate awareness towards overweight and obesity but respondent with high household income (>RM9000) score more than the other household income. According to the regions, respondent who lives in urban site tend to score higher (n=28) than the other two regions (Table 2).

Table (1): Knowledge, attitude and practice of overweight and obesity according to gender, household income and region of Year 1 Medical Student

Variables		Knowledge		p-value	Attitude			p-value	Practice		p-value
		Poor	Good		Poor	Moderate	Good		Poor	Good	
Gender	Male	23	7	0.032	0	28	2	1.000	24	6	0.739
	Female	15	15		0	28	2		25	5	
Household income	<4000	9	5	0.981	0	13	1	0.988	13	1	0.453
	4000-9000	18	11		0	27	2		23	6	
	>9000	11	6		0	16	1		13	4	
Region	Urban	17	8	0.495	0	23	2	0.717	17	8	0.054
	Sub-urban	15	12		0	25	2		24	3	
	Rural	6	2		0	8	0		8	0	

Table (2): Knowledge, attitude and practice of overweight and obesity according to gender, household income and region of Year 2 Medical Student

Variables		Knowledge		p-value	Attitude			p-value	Practice		p-value
		Poor	Good		Poor	Moderate	Good		Poor	Good	
Gender	Male	18	16	0.143	0	30	4	0.720	30	4	0.123
	Female	12	22		0	29	5		25	9	
House hold income	<4000	7	6	0.689	0	11	2	0.874	12	1	0.458
	4000-9000	9	11		0	18	2		15	5	
	>9000	14	21		0	30	5		28	7	
Region	Urban	15	21	0.741	0	30	6	0.539	28	8	0.759
	Sub-urban	12	15		0	24	3		23	4	
	Rural	3	2		0	5	0		4	1	

The surge of the prevalence in overweight and obesity is rising particularly in countries that undergo rapid development and nutrition transition[12]. According to National Health and Morbidity Survey of 2015, there were 17.7% obese Malaysians while those who are categorized as overweight make up 30% of population. Thus, this sequel of study and investigation aimed to study the awareness of overweight and obesity among pre-clinical medical student of UniKL-RCMP. Hence, we have conducted a research on the knowledge, attitude and practice towards overweight and obesity for a month. Initially, the sample size was 128 which were distributed equally between Year 1 and Year 2 pre-clinical medical student. To get the samples, simple random sampling method was chosen so that all samples have the same chance of being selected from the population in this study.

By using SPSS, we had analyzed all the data collected by testing on each variable and recorded the statistical significance of the data. We used the p-value <0.05 as a guide to show the significance of the data that was evaluated. Although it was being carried out in a small scale, but we found interesting results on our descriptive study.

Based on the data obtained, p-value shows significance value of 0.013 for the knowledge between genders. Females (28.9%) showed a good knowledge towards obesity and overweight compared to males (18%). Overall, both genders were aware of basic information on BMI and the complication of obesity such as depression, heart disease and diabetes. However, attitude and practice show insignificant value for both genders. According to a study, it is found that there is no significance across practice and attitude towards obesity[13]. p-value for attitude is 0.770 and practice 0.365 based on the result that we have analyzed.

The relationship between region and practice display that (p=0.107) when tested with Pearson Chi Square which sum up the good practice to 42.5% among the three sites (urban, sub-urban and rural). Based on the justification on the data, it is proven that the sub-urban region respondents have a better practice towards lifestyle to abate the tendency of being overweight and obese. Therefore, the table illustrates 65.9% of sub-urban respondents practicing moderately towards awareness of obesity and overweight. This consideration reflects health-related issues which make up the notion truism in overcoming obesity.

Table (3): Knowledge, attitude, and practice among pre-clinical medical student towards overweight and obesity

Variables		Knowledge		P-value	Attitude			P-value	Practice		P-value
		Poor	Good		Poor	Moderate	Good		Poor	Good	
Gender	Male	41(32%)	23(18%)	0.013	0	58(45.3%)	6(4.7%)	0.770	54(42.2%)	10(7.8%)	0.365
	Female	27(21.1%)	37(28.9%)		0	57(44.5)	7(5.5%)		50(39.1%)	14(10.9%)	
Household income	<4k	16(12.5%)	11(8.6%)	0.601	0	24(18.8%)	3(2.3%)	0.840	25(19.5%)	2(1.6%)	0.233
	4000-9000	27(21.1%)	22(17.2%)		0	45(35.2%)	4(3.1%)		38(29.7%)	11(8.6%)	
	>9000	25(19.5%)	27(21.1%)		0	46(35.9%)	6(4.7%)		41(32%)	11(8.6%)	
Region	Urban	32(25%)	29(22.7%)	0.455	0	53(41.1%)	8(6.3%)	0.350	45(35.2%)	16(12.5%)	0.107
	Sub-urban	27(21.1%)	27(21.1%)		0	49((38.3%)	5(3.9%)		47(36.7%)	7(29.2%)	
	Rural	9(7.0%)	4(3.1%)		0	13(10.2%)	0(0%)		12(9.4%)	1(0.8%)	
	Others	47(36.7%)	44(34.4%)		0	85(66.4%)	6(4.7%)		75(58.6%)	16(12.5%)	
BMI	Overweight and obesity	21(16.4%)	16(12.5%)	0.600	0	30(23.4%)	7(5.5%)	0.036	29(22.7%)	8(6.3%)	0.596

Medical profession is a challenging and stressful job, which affects everyone's health. This is also often associated with unhealthy eating habits such as fast food consumption and therefore the knowledge, practice and attitude of the students is becoming very harmful[14]. The data analysis to correlate household income with the awareness shows excellent value of non-significant number when crosstabs with knowledge (p=0.601), attitude (p=0.840) and practice (p=0.233) towards obesity. The respondents were asked with questions related to individual, family and social attitude for instance, Obese people are more emotional than non-obese person? Do you feel discouraged if your family members are overweight? Obese persons face bias in employment? This finding demonstrates that high household income (>RM 9000) has higher attitude which is 40.6%, hence to indicate high household income leads to a better socioeconomic status and better walk of life. Based on National Statistics Socio-economic Classification, the cross relation between obesity affected by household income which contribute to a better awareness of our people[15].

Previous study carried out among adults has strongly indicated the positive correlation between fast food consumption and increased BMI[16]. Based on body mass index (BMI), overweight and obese respondents have a better attitude compared to others while for knowledge and practice, other respondents scored more than overweight and obese respondents. Increased intake of fast food meal throughout the week will increase the energy intake of 234.4 KJ and might increase the weight gain, which leads to development of detrimental diseases[17].The correlation between attitude towards BMI showed significant value (p=0.036) compared to knowledge (p=0.600) and practice (p=0.596). About (5.5%) responds on good attitude on overweight and obesity compared to moderate attitude (4.7%). This is important to correlate the awareness and alertness of the respondents to combat the prevalence of obesity and overweight. Higher BMI among the students was found to be significantly associated with increased intake of sugary carbonated beverages that leads to increase in body weight gain[18]. This kind of beverages was also found to decrease the satiety and increase the food intake that ultimately results in body weight gain and obesity[19].

LIMITATIONS

There were a few unavoidable limitations as we go along doing this research.

1. As we are still medical students and do not have enough experience on doing a proper research, we must make it with the help of our supervisor to proceed this research.
2. The time of medical student gives us a constraint to work this research smoothly, hence we have only the free times from our schedule to do this research.
3. Since we are not aware with the research`s size of respondent`s scope, we were having difficulties to know just how much of expenses it will take us to done this research, hence we are only having barely enough expenses from our pocket money to complete this research and having to depend on our supervisor`s help.

CONCLUSION

To conclude, this study reinforces the need to encourage healthy lifestyle, healthy food habits and a physically active daily routine, among medical students and general population to prevent obesity. Overall, we found discrepancies in education related to obesity, and hence it should be recommended that everyone should become aware of his/her BMI and recognize the implications of excess body weight. The suggestions offered by the participants suggest that multifactorial strategy is needed to combat the problem and mostly education about obesity and weight might through a limelight under this issue.

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COMPETING INTERESTS

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