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UNDERSTANDING OF OBESITY AMONG REGISTERED NURSE

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ABSTRACT

This study sought to investigate understanding of obesity among registered nurse e-PJJ student semester 9 UiTM in Puncak Alam, in Selangor, Malaysia. A survey research design was used for the study. 100 nurses were randomly selected from 130 nurses in e-PJJ student semester 9. Study of this population was done by systematic sampling. The target groups for this study are matrons, sisters and staff nurses. 100% nurses showed understanding of obesity. Eating habits of the nurses contributed to this obesity. It was recommended among others, that nurses should practice theoretical knowledge base and the need to more opportunities for physical activities at hospital sites was emphasized.

Keywords: *Obesity, Registered Nurses, Knowledge and attitude*

INTRODUCTION

Obesity is a worldwide epidemic. Overweight and obesity cut across gender and age beyond all racial and ethnic backgrounds. Obesity contributes to an individual's health by increasing the risk of stroke, diabetes, coronary heart disease and cancer. The emotional and psychological burden of obesity can be severe, with many of those afflicted suffering from body image issues, guilt and isolation. Having two or more careers at the same time contributes to unhealthy lifestyles due to lack of time and leads to obesity. The study determines how knowledge, eating habits and other factors influence obesity among e-PJJ students in UiTM.

Observation and data collection were conducted from 15th April, 2012 to 5th May, 2012 among registered nurses in e-PJJ student in UiTM Campus Puncak Alam, Selangor. Questionnaires were given to 94 students (n = 94) who volunteered via random sampling. Self reported weight and height data were collected. Questionnaires on body mass index and knowledge were included. Respondents were compared by the following measures: physical activity, dietary intake, eating attitudes, health behaviours and knowledge. There were significant differences between knowledge, attitude, practice and stress related to BMI data among the registered nurses (Chang, Chang and Cheah, 2009).

LITERATURE REVIEW

Based on the WHO cut off points of Body Mass Index (BMI) $\geqslant$ 25.0 for overweight and BMI $\geqslant$ 30.0 for obesity, the National Health & Morbidity Survey conducted by the Ministry of Health in 1996 reported that 16.6% of Malaysian adults were overweight and another 4.4% were obese; that is, 1 in 5 adults were either overweight or obese. The report also revealed a disturbing scenario where there was little difference in the prevalence obesity between the urban and rural populations (Chang, Chang and Cheah, 2009).

Ten years later, the National Health & Morbidity Survey conducted in 2006 revealed that some 29% of adult Malaysians were overweight and 14% were obese. In short, 43% of adult Malaysians, or 2 in 5, were now either overweight or obese. The World Health Organization (WHO) has projected that by 2015 approximately 2.3 billion adults will be overweight and more than 700 million will be obese (WHO, 2008).

The health problems linked to overweight and obesity are numerous. According to Miller and his co-workers (2008), obesity is one of the single greatest risk factors for hypertension and heart disease, increasing the risk for each by a factor of five. The link between obesity and Diabetic mellitus type 2 is also well established (Tejirian, Jensen and Dutson, 2008). A less well-known

but equally significant risk of obesity includes the increased frequency and severity of degenerative joint disease, increased pulmonary disease, sleep apnea and several cancers (Matheson *et al*., 2012).

The American Heart Association has defined what it means to have ideal cardiovascular health, identifying seven health and behavior factors that affect health and quality of life. Known as "Life's simple 7", these steps can help add years to one's life: i) Don't smoke, ii) Maintain a healthy weight, iii) Engage in regular physical activity, iv) Eat a healthy diet, v) Manage blood pressure, vi) Take charge of cholesterol and vii) Keep blood sugar or glucose at healthy levels (AHA, 2010).

METHODOLOGY

Study Setting

This study was carried out at the Faculty of Health Sciences, University Technology Mara, Malaysia.

Study Design

This was an observational study and data was collected from questionnaires. The data were collected from participants over a period of three weeks from 15th April 2012 to 5th May 2012

Population and Sampling

Population

The population of this study was taken by random sampling. The target group for this study was registered nurses in e-PJJ student semester 9.

Sampling

One hundred nurses were randomly selected from 115 nurses in e-PJJ student semester 9, University Technology Mara, Campus Puncak Alam. The individuals of this study were from a random sampling. The target group for this study comprised of matrons, sisters and staff nurses. Observations and questionnaires were the instruments for data collection. Data collections were analyzed using percentage frequency.

RESULT

Response Rate

94 e-PJJ students agreed with the feedback received. In accordance with this study the outcome was very encouraging as our study gave a 100% response rate. The results of this study are important because they can reduce the risk of obesity in the e-PJJ students.

Section A: Demographic characteristic

In our social-demographic sample population, most of the individuals were married (87.2%) with a minority being single (12.8%). There were more (42) married nurses with < 3 children and the rest (36) with > 4 children. Concerning the education level, most of the e-PJJ student nurses were diploma holders (57.4%) and the others (42.6%) were of certificate level.

As shown in Table 1, nurses aged 31-40 years, formed the majority (62.8%) in our research. Only (16%) of the nurses were of age 21-30 years. Out of 94 respondents, 54 (57.4%) were staff nurses, 33 (35.1%) nursing sisters and 2 (2.1%) matrons. Others were 5 (5.3%).

In this study, our sample population involved all categories of student nurses in e-PJJ semester 9. The sample consisted of more females than males. It was noted that most of the nurses were in the age group of 31 - 40 years, who developed obesity.

In working experience, our sample showed that 30 (31.9%) of the respondents had working experience of < 10 years and 55 (58.5%) of 11-20 years. Nine (9.6%) respondents had been working for more than 21 years. Regarding the working units, 52 (55.3%) respondents were working in wards, 33 (35.1%) of them in the clinic and 9 (9.6%) in other departments.

Table 1: Distribution of respondent by demographic data (n = 94)

Characteristic	Variable	Frequency (n)	Percentage (%)
Age	20 – 30 years	15	16.0
	31 – 40 years	59	62.8
	41 – 50 years	20	21.3
Gender	Male	3	03.2
	Female	91	96.8
Marital status	Married	82	87.2
	Single	12	12.8
Number of children	none	16	17.0
	< 3	42	44.7
	>4	36	38.3
Education level	Certificate	40	42.6
	Diploma	54	57.4
Nurse category	Matron	2	2.1
	Sister	33	35.1
	Staff Nurse	54	57.4
	Others	5	5.3
Working experience	< 10 years	30	31.9
	11 years – 20 years	55	58.5
	>21 years	9	9.6
Working unit	Ward	52	55.3
	Clinic	33	35.1
	Others	9	9.6

Body mass index (BMI) status

All 94 respondents (100%) knew about BMI and were able to calculate it. Weight of 25 (26.6%) respondents were between 51- 60 kg and 25 (26.6%) were between 61 - 70kg. There were 24 (25.5%) who weighed more than 70kg. Only 20 (21.3%) respondents weighed < 50kg. Height: 64 (68.1%) of the respondents had height of 151–160 cm, 16 (17%) had height of 161–170cm, 4 (4.3%) had height > 170 cm while only 10 (10.6%) respondents had height less than 150 cm. Waist circumference: 41(43.6%) of the respondents had waist line > 80 cm; 3 (3.2%) showed waist circumference < 60 cm. Only 2 (2.1%) respondents had BMI < 18.5 (underweight), 58 (61.7%) with BMI 18.6 – 24.9 (normal), 12 (12.8%) with BMI 25–29.9 (1st class obesity), 17 (18.1%) with BMI 30 – 34.9 (2nd class obesity) and 4 (4.3%) with BMI 35 – 39.9 (3rd class obesity) (Table 2).

Table 2: Body mass index (n=94)

Characteristic	Variables	Frequency (N)	Percentage (%)
Able to calculate	Yes No	94	100
Weight	<50 kg 51– 60 kg 61 –70 kg >70 kg	20 25 25 24	21.3 26.6 26.6 25.5
Height	<150 cm 151 – 160 cm >170 cm	10 64 4	10.6 17.0 4.3
Waist	<60 cm 61 – 70 cm 71 – 80 cm >80 cm	3 20 30 41	3.2 21.3 31.9 43.6
BMI of respondents	<18.5 (underweight) 18.5 - 24.9 (normal) 25 – 29.9 (overweight) 30 – 34.9 (1st obesity) 35 – 39.9(2rd obesity) 36 > 40 (3rd obesity)	2 58 12 17 4 1	2.1 61.7 12.8 18.1 4.3 1.1

Knowledge, attitude and practices

42.6% of the student nurses have the habit of over eating, 33% ate less due to lack of appetite. In our sample, 30.9% of the students followed a diet according to the food pyramid, 14.4% did not follow the food pyramid while 54.3% sometimes followed the food pyramid. There were 42.6% of the student nurses who took light food between main meals but most of them (57.4%) did not. This table also shows 30.9% followed a diet, 11.7% took drugs and 47.8% exercised in slimming programmes, while 9.6% did not follow such programmes. (Table 3)

Table 3: Knowledge, attitudes and practices (n=94)

Characteristic	Variables	Frequency (N)	Percentages (%)
Knowledge of food pyramid	Yes No	94	100.
Attended courses related to obesity/ diet	Yes No Not sure	91 2 1	96.8 2.1 1.1
Diet trend stress	Eat more Eat less No appetite	40 31 23	42.6 33 24.5
Outside food high in calorie/fat	Yes No Not sure	88 5 1	93.6 5.3 1.1
Taking diet according to food pyramid	Yes No Sometimes	29 14 51	30.9 14.4 54.3
Taking light food between main meals	Yes No	40 54	42.6 57.4
Dinner cause of obesity	Yes No Not sure	74 13 7	78.7 13.8 7.4
Slimming programme	Diet Drug Others Never	29 11 45 9	30.9 11.7 47.9 9.6
Factor contributing to Eating habit obesity	Eating habit Hereditary Less activity Pregnant Medication Sleeping during daytime Increasing age Drinking a lot of water	93 73 87 53 65 46 63 26	98.9 77.7 92.6 56.4 69.1 48.9 67 27.7

Health status

Health status shows, most of the e-PJJ students (85%) went for medical check-up. The most common illness of nurses was back pain (33%), followed by high cholesterol (24.5%), varicose vein (16%), snoring (14.9%), hypertension (8.5%) and heart disease (5.3%). The students should continue with their medical check-ups and take their medication regularly and should keep their BMI within normal range (Table 4).

Table 4: Health status (n=94)

Characteristic	Variable	Frequency(N)	Percentage (%)
Medical check-up	Yes No	80 14	85 15
*Disease	Cholesterol Hypertension Heart disease Back ache Varicose vein Snoring	23 8 5 31 15 14	24.5 8.5 5.3 33.0 16.0 14.9

Study Findings

All respondents (100%) had knowledge of obesity in term of the food pyramid and calculation of body mass index. But most of them did not follow a healthy lifestyle. Respondents believed that obesity is contributed by several factors. The most common factors (98.9%) were eating habits, followed by less activity (92.6%), hereditary factor (77.7%) and increasing age (67%). The factor affecting obesity the least was drinking large amount of water (27.7%).

Table 5: Understanding of obesity status

Characteristic	Variables	Frequency (N)	Percentage (%)
Knowledge of food Pyramid	Yes No	94	100
Able to calculate BMI	Yes No	94	100
Factors Contributing to obesity	Eating habit	93	98.9
	Hereditary	73	77.7
	Less activity	87	92.6
	Pregnancy	53	56.4
	Medication	65	69.1
	Sleep during daytime	46	48.9
	Increasing age	63	67
	Drinking a lot of water	26	27.7

Sample

The aim of this study was to examine the knowledge, attitude, practice and stress level in the understanding of obesity among 9 students of registered nurses in e-PJJ semester. The respondents included matrons, sisters and staff nurses. This study used the formula developed by Krejcie and Morgan (1970) in calculating a sample size.

Inclusion criteria

a. All registered nurses in e-PJJ student semester 9 in University Technology Mara, Campus Puncak Alam.

b. All respondents who agreed to participate in this research.

c. All final year e-PJJ students semester 9 HS 220, Bachelor of Nursing

Exclusion criteria

a. Non - registered nurses.

b. Full time students.

c. Respondents who were unwilling to participate in this research.

DISCUSSIONS

A study on obesity in South Korean career soldiers showed that the amount of physical activity was inversely related to increases in BMI and policies to prevent obesity are required to decrease this tendency (Bae, Kim and Cho, 2011). In this study, data showed 100% of respondent know about BMI and they are able to calculate their BMI. Two (2.1%) of the respondents have a BMI of 18.5 (underweight), 58 (61.7%) with BMI 18.6-24.9 (Normal), 12 (12.8%) with BMI 25-29.9 (1st class obesity), 17 (18.1%) with BMI 30-34.9 (2nd class obesity), 4 (4.3%) with BMI 35-39.9 (3rd class Obesity). It is mean majority of respondent in normal BMI. However, 18.1% are obese class 1, followed by12.8% who are obese class 2. But, only 4.3% are obese class 3.

In this study, all respondents know and understand the knowledge of obesity, which reached 100%. Knowledge is assessed in terms of the food pyramid and the ability to calculate body mass index. Though 100% of the respondents understood the food pyramid and BMI, but they did not follow a healthy life.

A study on the Greek medical students revealed that the obesity status was related to the presence of hypertension and dyslipidaemia (Bertias *et al*., 2003). Women need explicit advice regarding healthy lifestyles, diet and exercise in pregnancy to address a lack of knowledge to prevent obesity. Motivation and social support were strong which are useful for obesity and weight management, indicating that interventions should focus on motivational strategies and social support (Furness *et al*., 2011). There is a correlation between health-related behaviors and environments, which shows health and health risks are caused by multiple factors like behavioral, environmental and social change (Green and Kreuter, 1999). Leptin is a useful intervention in adjusting blood pressure and in the prevention and treatment of hypertension associated with obesity (Marchi-Alves, Nogueira, Mendes & de Godoy, 2010). Proper effective care is necessary for chronic recurrent disease on the basis of current evidence-based science. In this manner treatment will be a time-sensitive process that is supported by logical recommendations (McKnight, 2006).

Respondents believed that obesity was related to dietary habit, exercise, hereditary and age. 85% respondents underwent medical check-up, but majority understood the factors that led to obesity. The highest

factors contributing to obesity, i.e., 98.9% are eating habits, 92.6% was due to lack of active exercises, 77.7% hereditary factor and age contributed to 67% of obesity.

From this study it was deducted that the status and level of different factors played an important role leading to obesity. Respondents around the age group of 31-40 years old, married with 4 or with more than 4 children were found obese. Having many children contributes to obesity along with increase in age. On the other hand, we cannot rule out the fact that due to the increase in number of children, they do not have the time for themselves as they are busy. As a result they try to make their job easier. Likewise they prepare the food quickly without thinking about the food pyramid, but instead the parents only try to impress their children.

CONCLUSION

In this study, 100% of the respondent knew about BMI and were able to calculate their BMI. Although the majority of respondents (61.7%) had in normal BMI, 18.1% were in obese class 1, and 12.8% in obese class 2. But, only 4.3% were in obese class 3.

Knowledge is an important factor in the management of obesity. Moreover another major factor that contributes to obesity is eating habit. A vast majority of the respondents (98.9%) agreed with linkage between obesity and poor eating habit. Furthermore, 87 (92.6%) student nurses admitted the importance of the effect of inadequate activity or a sedentary lifestyle towards obesity. The respondent nurses are well equipped to impart their knowledge of obesity and how it can be avoided. Fortunately, improved medical management has lowered the prevalence of some cardiac risk factors, especially among obese patients from 1962 to 2000.

Several studies suggested that there is a need for health and nutrition education among the adolescents (Ogunjimi *et al*., 2009). Nurses play a vital role in the prevention of obesity by educating students and parents about nutrition, physical activity and other weight related issues. They help to form health policies within their schools and communities through service on wellness committees. In conclusion it can be said that understanding of obesity and practicing a healthy lifestyle are very important measures to prevent obesity (Schantz, 2007). Stress-induced eating may be one factor contributing to the development of obesity. Further studies that measure biological markers of stress will help in the understanding of the physiologic mechanism in stress-eating relation (Torres and Nowson, 2007). Till date very few prevention programs have been developed or executed, and the success rates reported to date have been low. The obesity prevention programs should be high on the scientific and political front in both industrialized and industrializing countries (Visscher and Seidell, 2001).

Awareness through understanding of theories is not enough to overcome this problem. Following a healthy life style such as avoiding stress, exercising and eating a balanced diet with realization of personal physical status and understanding the ill effects of obesity, can reduce incidence of obesity in our society.

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