



Faculty of Medicine and Health Sciences

**OVERWEIGHT AND OBESITY AMONG ADULT; A STUDY AT
RURAL COMMUNITY IN KAMPONG PANAGATAN ULU KENINGAU,
SABAH.**

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ABSTRACTS

Obesity has reached epidemic proportions globally and it is a major contributor of the global burden of chronic disease and disability, for example more than 1 billion adults overweight and at least 300 million of them clinically obese (WHO, 2003). Therefore, a descriptive cross-sectional study on overweight and obesity among adult age 21 to 64 years old was carried out at rural community in Kampung Panagatan Ulu Keningau, Sabah from 20th December 2008 to 02nd of January 2008. Adult female and male within the aged 21 to 64 years old who are residents from Kampung Panagatan Ulu Keningau were recruited to participate in this study by using a purposive sampling method. A total of 60 adult respondents aged between 21 to 64 years old agreed to participate in this study. The mean age was 36.8 ± 11.8 years old. It was found that only 23% of the respondents had BMI within normal range which was between 18 to 24.9 kg/m², 40% of the respondents were overweight with BMI between 25 to 29.9 kg/m² and there were 21.7% of respondents whose BMI was more than 30 kg/m² which indicated has obese. The result revealed that 98.3% of the respondents had good level of knowledge on overweight and obesity. However, only 48.3% of them had good scores for the attitude questions while 51.7% adult had poor scores. Hundred percent of them reported were practice on exercise in order to reduce and maintain their suitable weight while 83.3% of the respondents were practice reduce food portion and only 16.7% of them were not practice. However, for other method on practice to reduce weight, it was found that most of the respondents were not practice.

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CHAPTER I

INTRODUCTION

Obesity is defined as an excessively high amount of fat or adipose tissue in relation to lean body mass (Stunkard and Wadden, 1993) while Kopelman (2000) defines obesity as “excess fatness” or fatness that can leading to pathology. The amount of excess fat from the body and it is considering associated health consequences vary considerably between obese individuals. According to Roberts and Mayer (2000), currently obesity has emerged as the most prevalent serious public health problem and Kopelman (2000) suggests that obesity is now common within the world’s population that it is beginning to replace any disease in the world as the most significant contributor to complication of health. Obviously there are several reasons that may contribute to the development of overweight and obesity. As for the reason, Kopelman (2000) believed that there are several factors that may contribute in development of obesity such as environmental and behavioral factors.

According to WHO (2003), the prevalence of overweight and obesity can be assessed by using Body Mass Index (BMI) as the weight in kilograms divided by the square of the height in meters (kg/m^2). As BMI increase, it is may indicate as a major risk factor for

chronic diseases such as cardiovascular disease. Other than that many studies have shown that obesity is a risk factor for cancer, hypertension, hypercholesterolemia, diabetes mellitus, metabolic disorders and disability in adulthood. According to NCD Surveillance Malaysia (2007), overweight and obesity may lead to serious health consequences as reported in many studies that have been done.

Globally, more than 1 billion adults were overweight and at least 300 million of them clinically were obese (WHO, 2003). In United States, it revealed that the prevalence of obesity has been growing at an accelerated rate over the past two decades across all age groups, even among elderly (Nelson, Bland, Powell-Griner, et al, 2002) for example there was 70% increase in obesity prevalence among 65 to 74 years old during the past 20 years. The prevalence of obesity is rising steadily in many developed countries. In Canada, recent reports have indicated that 57% of adult men and 35% of adult are overweight or obesity (Katzmarzyk, 2002).

In Malaysia, the National Health and Morbidity Survey (1996, cited in Ismail, 2004) reported that in adult males 15.1% were overweight and 2.9% obese while in adult female, 17.9% were overweight and 5.7% obese. It was also reported that there was little difference between rural and urban populations and that there were more obese Malay and Indians as compared to Chinese. National Health and Morbidity Survey (2006, cited in Khor ,2007) also reported the adults' prevalence of overweight and obesity has grown 1.7 times from 16.6% to 28.6% over the past decade.

As such, there is a need to investigate the knowledge, attitude, and practice about overweight and obesity to aid in future development of program and techniques for effective health education. Therefore, the main objective of this study is to determine the prevalence of overweight and obesity among adults at Kampong Panagatan Ulu. Also to obtain information on the level of knowledge about overweight and obesity, to determine their attitude and to obtain information of the practices towards weight management in order to reducing weight among adults in Kampong Panagatan, Keningau.

Problem statement

The prevalence of overweight and obesity had been shown increasing in developed and developing countries. Globally, many studies show that the prevalence of overweight and obesity has increased. However there is still limited study about the prevalence of overweight and obesity among adult in Malaysia especially in rural area such as in state of Sabah and Sarawak. The level of knowledge on overweight and obesity, their attitude level on overweight and obesity and practice of weight management to reduce weight also was less known.

Research Objective

The objective of this study is to determine the prevalence, level of knowledge, their attitude towards overweight and obesity, their practices towards weight management among adult aged 21 to 64 years old at Kampong Panagatan Ulu, Keningau in Sabah.

Specific Objectives

1. To determine the prevalence of overweight and obesity among adult aged 21 to 64 years old at Kampong Panagatan Ulu, Keningau in Sabah by using Body Mass Index (BMI) of the respondents.
2. To obtain socio-demographic characteristic in terms of age, gender, educational level, marital status, race, working status and monthly income.

3. To determine the relationship between demographic characteristic (age, gender, educational level, marital status, race, working status and monthly income) and their BMI status.
4. To determine the level of knowledge on overweight and obesity among adult respondents at Kampong Panagatan Ulu, Keningau in Sabah.
5. To determine the attitude towards overweight and obesity among adult respondents at Kampong Panagatan Ulu, Keningau in Sabah.
6. To determine the practices of weight management to reduce weight among adult (exercise, reduce food portion, drink slimming tea, take medication, use traditional herbs, go for massaging, drink sour diet, apply slimming cream and use corset).

Operational Definition

a). Prevalence

A measurement of overall rate of overweight and obesity in the sample selected from target population (Merriam-Webster dictionary, 2003)

b). Adult population

Adult population refers to female and male at age 21 to 64 years old.

c). Overweight

Overweight is defined based on WHO criteria: Body Mass Index (BMI) $>25.0 \text{ kg/m}^2$ to 29.9 kg/m^2 .

d). Obesity

Obesity is defined based on WHO criteria: Body Mass Index (BMI) greater than or equal to 30.0 kg/m².

e). Knowledge

Fact, information and understanding skills that a respondent's has acquired through experience or education regarding overweight and obesity by eight questions.

f). Attitude

It refers to respondent's own view, thought or feeling towards being overweight or obese, measured using nine questions.

g). Practices

Refers to respondent's activity in carry out to reduce weight, measured using ten questions (method).

CHAPTER II

LITERATURE REVIEW

Obesity is increasing at an alarming rate throughout the world. The pandemic of overweight and obesity in developed and developing countries presents a challenge to public health and requires medical intervention, modifications of individual behavior, and environmental changes (WHO, 2003). WHO (2007) stated that obesity should not be regarded simply as a cosmetic problem affecting certain individuals, but a serious ailment that threatens global well being.

Overweight refers to increased body weight in relation to weight, when compared to the same standard of acceptable or desirable weight. According to Bose (1995, cited in Mithu, 2005) in women the favored sites for the accumulation of fat are the buttock, hips and thighs while Van Gaal (1988, cited in Mithu, 2005) stated that the site of fat accumulation is considered for metabolic disorder of obesity. Moreover, according to Pi-Sunyer (1994, cited in Mithu, 2005) the overall incidence of obesity was found to be higher among women than men.

The prevalence of overweight and obesity is commonly assessed by using Body Mass Index (BMI) which is the weight in kilograms divided by the square of the height in meters or kg/m^2 . According to WHO (2003), a BMI of more than 25kg/m^2 is defined as has overweight while a BMI more than 30kg/m^2 as obesity.

A number of updated studies have shown that obesity is the major factor for cardiovascular disease. Kopelman (2000) stated that obesity would increase risk of type II diabetes, coronary heart disease, atherosclerosis, essential hypertension, gallstones, hyperlipidaemia, deep vein thrombosis, degenerative joint diseases, and embolism, various types of cancers, immune system disorders and abnormalities such as Crohn disease, hiatus hernia and irritable bowel syndrome.

The prevalence of overweight and obesity has increased substantially over the last decade and this trend will continue not only in develop country but also in developing countries like Malaysia. According to recent national statistics from the Centers for Disease Control (cited in Khor, 2007) 65.1% of United State adults are considered overweight or obesity with 26% considered obesity.

A study on obesity among adult Bahraini population in Bahraini, Arab that has been conducted by Faisal and Khaldoon (2001) with the sample total of 2013 adult male and female between 40 to 69 years old. This study had found that female were overweight

32.7% (n=276) and obese 33.2% (n=281). While adult male were obese with 25.3% (n=296) and were overweight 39.9% (n=466). This study indicated significant were higher among female than males throughout all the age of group. However, this study also found a significant relationship between obesity and higher educational level ($p<0.00$) both gender.

In a study done by Mithu, Ashish and Kaushik (2005) with a sample comprises of 854 adult women and the investigation was carried out during the year 2001 to 2003. They found that the overall prevalence on obesity among Bengalee Hindu Women of Kolkata based on BMI was around 17.45% (n=149) and the prevalence of overweight was even higher 37.24% (n=318).

A Study done by Maryland Department of Health & Mental Hygiene and colleagues (1999), the prevalence of obesity increased by 75.8% between 1991 and 1998. This study reported that by 1998, 20.5% were obese among adult in Maryland.

In Los Angeles, Los Angeles Country Health Survey (2006) reported that the prevalence of adult obesity in the country continues to increase with 1 out of every 5 adults having obesity. The survey was done n year 1997 to 2005 and they found that the prevalence of adult obesity in the country increased from 14% to 21%. This survey revealed in the year 2005 the prevalence of obesity among all racial, ethnic groups except Asians and Pacific Islanders were highest, especially among the Latinos and African-Americans. They also

stated that the prevalence of obesity increased faster among male than women. Moreover, this survey reported that among adults who were living in lower income households were more likely to be obese.

A person's attitude may affect their belief or feeling or opinion about something. Society's view of overweight and obesity is generally very negative and related to the comment on the individual's personal appearance. Someone attitude may also affect their judgment or action in evaluating overweight and obesity.

Nevertheless, very little information is available on the prevalence of overweight and obesity among adult in sub-population groups in Malaysia such as adult in rural area.

CHAPTER III

METHODOLOGY

This chapter discusses the research design that was used for this study. The site and respondents of the study was conducted was also discussed. This study used structured questionnaires to identify the prevalence of overweight and obese among adults, to find out the level of knowledge and attitude and to determined the practice towards reducing weight among respondents.

Research Design

A descriptive cross-sectional study design is used to enable researcher to summarize the level of knowledge and attitude towards overweight and obesity, and their practices in order to reducing weight. In addition, descriptive cross-sectional studies also enable the researcher to explore the relationship between variables of respondents in terms of their demographic data and BMI status.

Research setting

This study was conducted at Kampung Panagatan Ulu, located 15 kilometers from Keningau town in Sabah. There were approximately 180 houses with facilities such as electricity, water supply, primary school, church, mosque, health clinic and shops. This village was headed by the Ketua Kampong, Mr. Azalan @ Muhamin Bin Kating. The current estimated population was 740 residents and there were about 420 adults aged 21 to 64 years old. Majority of the residents were Kadazan and worked in government sector, private sector and self employed. Some of them were housewife, unemployed and worked as a farmer.

Sampling Method

The target respondents were adults of both gender aged ranged between 21 to 64 years old. A total of 60 adult within the age were recruited to participate in this study by using a purposive sampling method. They were briefed about the study, which included the title of the study, purpose of the study, potential benefit and respondent's rights were given. The respondents were allowed to withdraw from this study at any time. The inclusion criteria's for the respondent in this study were adult aged between 21 to 64 years old, must be the residents from Kampong Panagatan Ulu in Keningau, able to understand Malay and English language and free from any physical and mental defect.

Research instrument

Data for the research study was obtained by interview using structured questionnaire which was modified. The respondents answered the questionnaires within the time that had been assigned (estimated time: 20-25 minutes).

A set of questionnaire which consisted of 28 questions that had four sections included the demographic data, knowledge, attitude of overweight and obesity, and practices towards weight management in order to reducing weight. Likert-types scale was used in this questionnaire. For instance, “Strongly agree” (1), “Agree” (2), “Disagree” (3) and (4) “Strongly disagree”. Question on section one (Q1 to Q10) were designed to identify respondent’s demographic data in terms of their age, gender, education level, marital status, ethnic group, working status, monthly total household income, height and body weight to measure the BMI. In section two (Q11 to Q18), there were eight closed-ended of questions designed to obtain respondent’s general knowledge about overweight and obesity. Section three (Q19 to 27) questions were designed to obtain the respondent’s attitude towards being overweight and obesity. In the section four (Question 28, a-j), questions were designed to identify respondent’s practice in order to reduce weight either they had practiced or not practiced any method that had been given.

The anthropometric data was collected on the same day where interview was being carried out. The respondent’s weight was measured using the weighing scale with respondent wore light clothing and bared foot whereas their height was measured with a standard non-

stretched measuring tape. BMI (kg/m²) were calculated for each respondent. (Refer to Appendix V for the questionnaires)

Ethical Consideration

The ethical approval was obtained from Ethics Committee of Research and Postgraduate Committee of Faculty Medicine and Health Sciences, University Malaysia Sarawak (UNIMAS). Permission was obtained from Ketua Kampong of Kampong Panagatan Ulu to carry out the data collection. (Refer to Appendix II Application for Permission from Ketua Kampong of Panagatan Ulu, Keningau, Sabah and Appendix III for Ethical Approval from Research & Ethical Committee)

Data collection

The data collection was conducted from 20th December 2008 to 2nd of January 2009. The data was obtained by interviewing the respondent and anthropometric measurement was done at their home. In this study, respondents were interviewed after consent was obtained from them (Refer to Appendix IV for Consent Form & Information Sheet). There were given a copy of consent form, information sheet and questionnaires. They were informed that all data were kept in safe place after being collected to ensure confidentiality. Thus, there have no other person except the researcher and her supervisor be allowed to get access to the data to maintain the confidentiality.

Data Analysis

The data was analyzed by using Statistical Package for Social Sciences (SPSS) version 15.0. Descriptive statistic was used to analyze the demographic data. This program allows statistical analysis of data by various tests.

Descriptive statistic

Descriptive statistic which included percentage, frequency and means were used to analyze the demographic data namely age, gender educational level, marital status, race, working status and monthly household income whereby appropriate. Respondent were classified into four groups by using the BMI-for-age. Those BMI more than 30kg/m² were consider as obese, if BMI more than 25kg/m² to 29.9kg/m² were consider overweight and those BMI is 18kg/m² to 24.9kg/m² considered was normal weight.

Respondent's monthly income was categorized into income with less than RM500.00/month, income of RM501.00 to RM1000.00/month, income between RM1001.00/month to RM2500.00/ month and those incomes more than RM2501.00 to RM4000.00/month.

Age was categorized into five groups with aged less than 25 years old, aged of 25 to 35 year old, aged of 36 to 45 years old, aged between 46 to 55 years old and aged 56 to 64 years old.

Chi-square test for independence

Chi-square cross tabulation test (χ^2) was used to compare and determine the relationship between respondent's demographic characteristic with BMI status. Only p-value <0.05 were considered significant in this research.

CHAPTER IV

RESULTS

Introduction

This chapter will address the finding obtained from the data collection. The finding include the demographic data, prevalence of overweight and obesity among respondents, the relationship between BMI status and demographic data among the respondents, the level of knowledge and attitude among the respondents towards obesity and overweight. Moreover, the methods used for losing weight among the respondents will also be included.

Socio-demographic characteristics

The detailed socio-demographic characteristics of respondents can be found in Table 4.1

Age

A total of 60 adult respondents aged between 21 to 64 years old agreed to participate in this study with the mean age of 36.9 ± 11.8 years old. Out of 60 respondents, 16.7% aged less