



Faculty of Medicine and Health Sciences

**BODY IMAGE PERCEPTION AND DIETING PRACTICES AMONG  
OVERWEIGHT AND OBESE ADULTS AT KAMPONG TEBAKANG  
MELAYU, SERIAN, SARAWAK**

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Bachelor of Nursing with Honours  
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## ABSTRACT

This descriptive study was conducted at Kampong Tebakang Melayu to determine the dieting practices of the respondents, to identify the level of anxiety on body image as well as to determine the relationship between body image with dieting practices and stages of change. Fifty overweight and obese adult aged ranged 18 to 60 years old participated in this study. Data was collected through interviews using questionnaires, anthropometry data were obtained by weighing scale and measuring tape. Data was analyzed using Statistical Package for Social Science (SPSS) version 15.0. From the finding, over half of the respondents (n=35, 70%) were not satisfied with their body image and 58% respondents (n=29) in this study perceived their body image perception as "Poor". The respondent's consumption habits revealed a high frequency of fatty foods intake such as burger, fried chicken and doughnut. In this study, it was found that body image perception and dissatisfaction was statically significant with the respondent's current eating pattern perception ( $p=0.01$ ). For Stages of Change (SOC), 62% of the respondents claimed that they had taken action to lose weight. The methods used by the respondents in losing weight were eating less fatty foods (n=16, 32%), skipping meals (n=14, 28%), reducing overall food intake (n=10, 20%), exercising (n=10, 20%) and taking slimming products (n=3, 6%). In conclusion, the study of the body image and dieting practices in relation to overweight and obesity is important in order to understand its relationship to the maintenance of excess weight or in initiating motivation for weight reduction.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **Introduction**

Overweight and obesity has become a public health concern in developed countries not to mention in some developing countries that are undergoing fast economic transition. Likewise, Malaysia is at the crossroads of nutrition and lifestyle transition (Pon, Kandiah & Mohd Nasir, 2004). Economic and technological advancements in the past three decades have led to increased purchasing power and an unprecedented affluence with concomitant changes in lifestyles. As incomes rise and populations become more urban, diets high in complex carbohydrates give way to more varied diets with a higher proportion of fats, saturated fats and sugars (WHO, 2007b).

Obesity is becoming a threat to the health of the general population, and many studies have shown that it is a risk factor for cancer, hypertension, hypercholesterolemia, diabetes mellitus, metabolic disorder and disability in adulthood (Krauss & Winston, 1998; Takeshita & Morimoto, 2000; Bray, 2002; Ferraro, Su, Gretebeck, Black & Badylak, 2002; Florentino, 2002, cited in Lim, Chee, Kandiah, Shamsudin, Jamaluddin, Megat Mohd Nordin, Shuib, 2003). For women in particular, obesity is associated with an increased risk of asthma and cancer of the endometrium, breast,

colon and gallbladder (Bray, 2002; Chen, Dales, Tang & Krewski, 2002 cited in Lim *et al.*, 2003).

Generally, men and women tend to deposit fat on their bodies in different places (Abraham, Llewellyn-Jones, 2001). When men become obese, they store their fat in the tissues surrounding the gut and belly resulting in apple-shaped body. Women, on the other hand, tend to store fat around their hip and buttocks, thus becoming pear-shaped. This change of body shape may lead to the body image dissatisfaction which is highly correlated with obesity. Studies had shown that many obese people were dissatisfied with the appearance of their body (Abraham, Llewellyn-Jones, 2001). Study done by Bidgood & Buckroyd (2005), showed that overweight and obese person were motivated to reduce their weight to normal ( $BMI \leq 25$ ) if possible, or to a slightly overweight level due to body image dissatisfaction which was seen to increase with increasing BMI.

For obese person, the decision to lose weight could be due to they find their body unattractive, or because others remark about their obesity or because they learn that obesity is dangerous to health (Abraham, Llewellyn-Jones, 2001). For the overweight and obese people who are unhappy with their looks, one behavioral indicator of this body dissatisfaction is the inclination to try to change body shape through diet (Grogan, 2005). The most common dietary practices used for weight control were reducing the food intake, taking slimming products, skipping meals, eating less fatty food and fasting (Lim *et al.*, 2003; Zullig, Ubbes, Pyle, Valois, 2006).

However, there are also people who do not intend to take action for their appearance despite the facts they are overweight and obese. Consequently, this may lead to the development of many chronic diseases that affect the adult and thereby place a substantial burden on the health care system. On the other hand, this body image dissatisfaction may motivate people to lose weight. Hence, the individual's intention and decision to lose weight can be assessed using stages of change (SOC) in Transtheoretical Model of Change (Cancer Prevention Research Center, 2007a) in which it will categorized the individuals into those who are not taking action or those who are taking action to lose weight. The stages of change of each overweight and obese individual is very essential to put on account as the increasing prevalence of overweight and obesity has led to an increase in obesity-related morbidity which has imposed a heavy burden on health care systems thus lowered the quality of life for the obese people (WHO, 2007b). Moreover, with this categorization, different strategies could be planned in order to achieve good outcome in weight control hence decrease the prevalence of being overweight and obese.

### **Statement of problem**

So far, in the moment, there are limited studies that focus on body image and weight concern especially among the overweight and obese in Malaysia (Pon, Kandiah & Mohd Nasir, 2004). Indeed, this body dissatisfaction may not be entirely maladaptive. For the adult whose weight is likely to increase with age, some body dissatisfaction may provide motivation for healthy eating and exercises. To ensure the success in addressing the problem of the overweight and obesity, it is important to conduct a study on the body image perception and dieting practices among this group. The study would be focusing into body image perception and dieting practices among the

overweight and obese adult in Kampong Tebakang Melayu. The assessment of body image in relation to overweight or obesity is important in order to understand its relationship to the maintenance of excess weight or in initiating motivation for weight reduction.

Therefore, the purpose of this study is to determine the dieting practices of the respondents and to identify the level of anxiety on body image. Besides, the study will also determine the relationship between body image with dieting practices and stages of change. Specifically this study aimed to answer the following research questions; (i) What is the prevalence of body image dissatisfaction among overweight and obese adult? (ii) What is the eating pattern among the respondents and do they practice healthy eating behavior? (iii) What is the distribution of stages of change (SOC) among the respondents? (iv) What is the relationship between body image dissatisfaction and stages of change? and (v) What are the weight loss practices used by this group?

### **Significance of Study**

The finding from this study would benefit the health care professional to plan an effective health intervention to address the problem that has been shown to predispose to various diseases, particularly cardiovascular disease, diabetes, musculoskeletal disorders especially osteoarthritis and some cancers for instance endometrial, breast, and colon cancer (WHO, 2007a). Information such as this would add to the health care provider's understanding on why obese or overweight people trying or not trying to lose weight.

## **Methodology**

This was a quantitative study with cross-sectional descriptive design. For this research, purposive sampling was used where sample was selected based on their Body Mass Index (BMI). Fifty overweight and obese adults aged 18 to 60 years old; with a Body Mass Index (BMI)  $\geq 25$  kg/m<sup>2</sup> at Kampong Tebakang Melayu were selected to be participated. Structured questionnaires consisted of 31 questions were used. Data collection was conducted from 21<sup>st</sup> December until 25<sup>th</sup> December 2007 after the ethical approval was obtained. The data obtained was been collected and entered into personal computer. All the data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 15.0 to obtain descriptive and inferential statistics. Data was analyzed for frequency and a non- parametric test such as chi-square was used to test the relationship between variables.

## **Operational Definition of Terms**

The following definitions have been defined in this study;

Overweight: Referring to the person whose BMI is over 25 kg/m<sup>2</sup>.

Obese: Referring to the person whose BMI is over 30 kg/m<sup>2</sup>.

Adult: Referring to the person age 21 to 64 years old in the selected villages.

Body image perception: Refer to the person's thoughts and feeling about his or her own body assessing using 16 items which focus on the individual's anxiety regarding physical appearance based on the weight-relevant body site.

Dieting practices: Habit of certain people or individual in term of food intake in a day including classes of food like carbohydrates, protein, fiber and fat (Berk, 1992 cited in Mohd. Nasar, 2005). In this study, the dieting practices refer to how the overweight and obese person practices their daily meal using fourteen questions.

Stage of change: Consists of four stages which are precontemplation, contemplation, action and maintenance.

## CHAPTER II

### LITERATURE REVIEW

#### **Introduction**

Obesity is becoming a public health problem worldwide especially in recent years. For instance, globally, obesity has reached epidemic proportions with more than 1 billion adults overweight; at least 300 million of them clinically obese and is a major contributor to the global burden of chronic disease and disability (WHO, 2007a).

According to the key statistic taken from the Department of Statistic Malaysia, at present, there are 27.17 million populations in Malaysia. On one survey done by Malaysia Noncommunicable Diseases (NCD) Surveillance 2005/06 (Ministry of Health Malaysia, 2007c) that was obtained from 2,572 subjects with total response rate of 84.6%, the prevalence of overweight and obesity were 31.6% and 16.3% respectively. About 30.9% of men and 32.4% of women was overweight while 13.9% of men and 18.8% of women were obese. It was estimated about 3.8 million and 2 million adults aged 25-64 years were found to be overweight and obese, respectively. Generally, about 1 in 2 adults aged 25 to 64 years were either overweight or obese. Based on ethnicity, the prevalence of overweight or obese was highest among Indians followed by Malays and Chinese.

## **Defining obesity**

Obesity is a condition in which excess fat has accumulated in the body, mostly in the subcutaneous tissues (McFerran & Martin, 2003). Obesity occurs when, over a period of time, the net energy intake exceeds the net energy expenditure (Abraham & Llewellyn-Jones, 2001). The term net energy intake is necessary because it has been observed that when a person increases the amount of energy ingested, an increase in energy output occurs and the excess energy available for storage in the body is less than 100 per cent of that ingested (Abraham & Llewellyn-Jones, 2001).

The excess energy is stored in two main places which are adipose tissue and 'glycogen-water pool' (Abraham & Llewellyn-Jones, 2001). Adipose tissue consists of about 80 per cent fat, 18 per cent water and 2 per cent protein (Abraham & Llewellyn-Jones, 2001). Glycogen is a substance found in muscle and each gram of glycogen is bound to 3.5 g of water and this combination of glycogen and water makes the glycogen-water pool (Abraham & Llewellyn-Jones, 2001). According to Abraham and Llewellyn-Jones (2001, p. 237), "the weight of 'glycogen-water pool' is between 3.5kg (7 ½ Ibs) in a non-obese person and up to 5.5 kg (12 Ibs) in an obese person".

The prevalence of overweight and obesity is commonly assessed by using body mass index (BMI), defined as the weight in kilograms divided by the square of the height in meters ( $\text{kg/m}^2$ ). According to WHO (2007a), a BMI over 25  $\text{kg/m}^2$  is defined as overweight and a BMI of over 30  $\text{kg/m}^2$  as obese. These cut-off points provide a benchmark for individual assessment, but there is evidence that the risk of chronic disease in populations increases progressively from a BMI of 21  $\text{kg/m}^2$ . These risks

include cardiovascular disease, diabetes, musculoskeletal disorders especially osteoarthritis and some cancers for instance endometrial, breast, and colon cancer (WHO, 2007a).

### **The causes of overweight and obesity**

There are six factors attributable to the cause of overweight and obesity (Wikipedia, 2007c). These six factors include lifestyle, genetics, medical illness, neurobiological mechanisms, microbiological aspects and social determinants. Most researchers have concluded that the combination of an excessive nutrient intake and a sedentary lifestyle are the main cause for the rapid acceleration of obesity in Western society in the last quarter of the 20th century (Wikipedia, 2007c). According to WHO (2007b):

The rising epidemic reflects the profound changes in society and in behavioral patterns of communities over recent decades. While genes are important in determining a person's susceptibility to weight gain, energy balance is determined by calorie intake and physical activity. Thus societal changes and worldwide nutrition transition are driving the obesity epidemic.

The combination of varied diets with a higher proportion of fats, saturated fats and sugars with less physical activity are just some of the forces thought to underlie the obesity epidemic (WHO, 2007b).

According to Tee (1999 cited in Pon, Kandiah& Mohd Nasir, 2004), currently, Malaysians are increasingly consuming diets that are high in fat and calories along with sedentary lifestyle and it was estimated about 11.6 million adults aged 25-64 years were having at least one NCD risk factor whereas only about 3% of Malaysian adults did not have the risk factor (Ministry of Health Malaysia, 2007c). A study done

by Moy, Gan and Mohd Kassim (2006) among 3620 school children and adolescents in Kuala Lumpur on eating patterns showed that about 60 to 70% of the children consumed fast foods in the week prior to the interview. The children were also introduced to eat outside, whether at fast foods chains or local hawker foods stalls by their family members when young. Skipping breakfast was the most frequent missed meal with 12.6% followed by lunch (6.7%) and dinner (4.4%). They might have the misconception that skipping meals could reduce body weight, however study have shown that skipping breakfast is significantly associated with obesity (Ma, Bertone, Stanek, Reed, Hebert, Cohen, Merriam & Ockene, 2003 cited in Moy, Gan & Mohd Kassim, 2006).

In a French study (Abraham & Llewellyn-Jones, 2001) on genetic factor in obesity stated that people who have a strong genetic reason for their obesity are likely to have been fat for most of their lives which usually starts in infancy. Through the finding, it was found that 40 per cent of the infants who were obese at the age of one were still obese as adults after following the fat infants for 20 years. However, having said so, a genetic reason for obesity does not explain “why fat people are fat” (Abraham & Llewellyn-Jones, 2001, p.244). Several studies (Popkin & Doak, 1998; Crawford & Ball, 2002 cited in Lim *et al.*, 2003) have shown that comparing to genetic factors; the environmental and behavioral factors are believed to contribute more to the development of obesity. In summary, the reasons why fat people become and remain fat are poorly understood, but over the years fat people must ingest more energy than they expend (Abraham & Llewellyn-Jones, 2001) which leads to their obesity in the future life thus increase the possibility for getting cardiovascular disease, diabetes, musculoskeletal disorders especially osteoarthritis and cancers.

### **Physical and Psychological consequences of overweight and obesity**

Body image is an individual's psychological experience of the appearance and function of his or her body and is one aspect of an individual's mental representation of him or herself (Cash & Pruzinsky, 1990; Garner, 1997 cited in Friedman, Reichmann, Costanzo & Musante, 2002). In general, research strongly supports that overweight individuals are unhappy with the way they look (Allon, 1982; Whitaker, Davies, Shaffer, Johnson, Abrams, Walsh & Kalikow, 1989 cited in Thompson, 1990) and body image dissatisfaction has been described as the most consistent psychosocial consequence of obesity (Song, Rubin, Thomas, Dudas, Marra & Fernstrom, 2006). Indeed, these body image factors consistently discriminate obese from their non-obese counterparts (Cash, 1993 cited in Friedman *et al.*, 2002). Several studies (Gardner, Martinez & Sandoval, 1987; Tiggeman & Rothblum, 1988; Cash, 1990, cited in Friedman *et al.*, 2002) have shown that obese individuals overestimate or distort the size of their body much higher and are more dissatisfied and preoccupied with their appearance as well as tend to avoid other social interactions because of their appearance than the normal weight individuals.

Generally, men and women tend to respond differently to their obesity. Several studies (Abraham & Llewellyn-Jones, 2001; Pon, Kandiah & Mohd Nasir, 2004; Song *et al.*, 2006) showed that women are more concerned about their body shape and weight than men and are more likely to try to reduce their weight. These finding is similar to the findings of the study done by Wardle, Haase and Steptoe (2006). The study done by Wardle, Haase and Steptoe (2006) among a total of 18512 university students (men, n= 8115; women, n=10397), aged 17–30 years found that women were more likely to perceive themselves as overweight than men, and much more likely

report trying to lose weight. Across the sample as a whole, around 45% of women perceived themselves as overweight and the proportion who said that they were trying to lose weight was around 51%. Fewer of men on the other hand reported feeling overweight (25%) and even fewer were trying to lose weight (21%).

On a study done by Rinderknecht and Smith (2002) among 155 youth, ages 5 to 18 years revealed that the boys and girls wanted to be, on average, 0.99 and 1.49 body sizes smaller or larger than their current perceived image, respectively. Examination of the direction of body dissatisfaction revealed that 41% of the boys and 61% of the girls expressed a desire to be thinner, yet 37% of the boys and 25% of the girls indicated that they were satisfied with their body by circling the same figure for their current perceived image and ideal image. Additionally, there were no significant differences in body dissatisfaction between normal, at-risk of overweight, and overweight boys. However, overweight girls exhibited a trend toward greater body dissatisfaction than normal weight girls ( $p = 0.064$ ) and significantly greater body dissatisfaction than at-risk of overweight girls ( $p = 0.043$ ). Looking at these two findings, it can be concluded that women are more concern with their body rather than the men themselves and are more likely trying to lose weight.

For obese person, the decision to lose weight is because either they find their body unattractive, or because others remark about their obesity or because they learn that obesity is dangerous to health (Abraham & Llewellyn-Jones, 2001). A qualitative study done by Bidgood and Buckroyd (2005) on 18 participants aged 18 years or more, with a Body Mass Index ( $BMI \geq 30$ ), showed that all the participants wanted to reduce their weight to normal ( $BMI \leq 25$ ) if possible, or to a slightly overweight level

at most during the interviews. This desire was largely motivated by body image dissatisfaction which was seen to increase with increasing BMI. In addition, all of them also wished to achieve and maintain a weight that would be generally accepted as normal for their height through dieting even though most had lost weight but regained all of it, or more, after completing the diet. Indeed, several studies also have reported relations between the eating behavior with this poor body image and self-esteem (Grant & Fodor, 1988; Buddeberg-Fisher, 1996; Rieden & Koff, 1997 cited in Khor, Cobiac & Skrzypiec, 2002).

### **Stages of change for weight loss**

The individual's intention and decision to lose weight can be assessed using stages of change (SOC) in Transtheoretical Model of Change. According to the stages of change (Cancer Prevention Research Center, 2007a), individuals are classified into one of four discrete stage categories. In precontemplation stage, those in this category have no intention of losing or controlling weight in the next six months. Contemplation, on the other hand includes those who are not actively trying to lose or control weight, but are seriously considering doing so in the next six months. The action stage includes those who are actively trying to lose or control weight or who have successfully done so but for less than six months. Individuals in the maintenance stage include those who have successfully maintained their weight loss for at least six months.

A study done by Chang (2007) among 271 overweight and obese native adults in Sarawak based on the stage distribution for losing weight showed that 60.5% (n = 164) were in the precontemplation stage, 20.7% (n = 56) were in the contemplation