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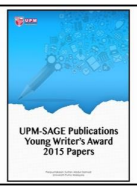

THE GLOBAL OBESITY EPIDEMIC: PREVALENCE, PSYCHOLOGICAL RISK FACTORS AND SEQUELA

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ABSTRACT

Obesity as an alarming public health concern globally where the extensiveness of obesity has escalated since the last three decades and it is the biggest global threat to health. Obesity has been seen as a serious health issue among all and getting to be more predominant with progressing age. Nearly 22 million children under five years of age were overweight across the entire globe. Overweight among children and adolescents also have escalated dramatically since the 1970s. The startling phenomenon is being observed world widely, including in developing countries and regions. The high prevalence of obesity is dangerous as it has been classified as a disease that causes many serious medical implications. Hence, this article will discuss on obesity by focusing on three themes; the prevalence of globesity, psychological risk factors of obesity and the sequela of obesity

Keywords: Global obesity, Overweight, Stress, Well-being, Body mass index.

INTRODUCTION

Eating is one of life's greatest contentment. It is also often used as a coping mechanism particularly when individual are stressed, frustrated and sad. When individuals feel distressed, they turn to food not to satisfy hunger but for comfort. Such emotional eating is very dangerous as it uses food for gratifications to fill emotional needs rather

than to fill the stomach which later may lead to physical ailments including obesity. Overweight and obesity has turned into a significant wellbeing issue despite there are extensive awareness campaigns to promote physical activity and consume healthy food. World Health Organization (2003) viewed obesity as an alarming public health concern globally where the extensiveness of obesity has escalated since the last three decades and it is the biggest global threat to health. Obesity has been seen as a serious health issue among youth and getting to be more predominant with progressing age.

The high prevalence of obesity are dangerous as it has been classified as a disease that causes many serious medical implications. An estimation of 300 million adults are obese and 750 million are classified as overweight globally (Visscher, Viet, Kroesbergen & Seidell, 2006). The trend is also similar among the children where 30 to 45 million of children are reported to be obese (Lobstein, Baur & Uauy, 2004). However, in 2014, the statistic was reported to be tremendously increased where more than 1.9 billion adults ranged from 18 years and older were categorized as overweight and over 600 million were obese (World Health Organization, 2015).

This epidemic is termed as globesity since it has affected a very large percentage of the global population. The prevalence is on the rise across territories for both developed and developing nations (Caballero, 2007). Although the occurrence of obesity has been recognised due to energy imbalance where energy intake exceeds energy expenditure, both economic and social globalisation have served as important factors and created its impacts on obesity trends across the world.

This phenomenon is most notably among the middle and high income countries as compared to middle and lower income countries where overweight prevalence was greater (World Health Organization, 2011). For example, the outbreak of obesity among children and adults occurred in developed regions such as North America and Western Europe are shown to have experienced rapid increases in obesity status (Amuna & Zotor, 2008).

THE PREVALENCE OF GLOBESITY

In 2003, 22 million children around the world, aged less than five years old were reported to be overweighted (Finer, 2003). Meanwhile, over the past one decade, a dramatic shift shown 1 billion adults were overweight and more than 115 million individuals experience the ill effects of obesity related issues (World Health Organization, 2014). The increasing trend in childhood obesity are more prevelance among the children in developing countries (Cameron, 2005). New evidence also suggested in which the patterns of obesity are changing where there are escalating rate of obesity among the populations with low socioeconomic status (Smith, et al., 2012).

Meanwhile, the National Health and Nutrition Examination Survey (NHANES) declared that the extensiveness of obesity in the United States among adults aged 20 to 74 years old escalated from 13.3 percent to 30.9 percent between 1960 to 2000 (Flegal, Troiano, Pamuk, Kuczmarski & Campbell, 1995). The trend is also similar to Australia in which the pervasiveness on obesity is assessed to be 20.8 percent of the population and it is 2.5 times greater as compared to 1981 (Cameron, et al., 2003). Statistics also proved the worrying figure for the European nations where the prevalance of obesity has increased 10 percent to 40 percent for the past 10 years (Visscher & Seidell, 2001). In Malaysia, the figure also has increased from 4.0 percent to 20.1 percent in 1996 (National Health and Morbidity Survey, 1996) and 10.0 percent to 29.7 percent respectively in 2006 (Institute for Public Health, 2008).

Suprisingly, studies by Popkin, Conde, Hou and Monteiro (2005) discovered that childhood obesities in the United States, United Kingdom, Australia, China and Brazil were found to be escalated faster than adult obesity. This phenomenon was reported to be similar in Asia-Pacific countries such as Malaysia, Thailand, Japan and Singapore (Florentino, 2002). For example, the rates of obesity among children in Singapore from the year 1975 to 1993 were increased from 1.6 percent to 15.2 percent among males children and 1.1 percent to 12.9 percent for female children (Cheah, 1997). The escalating trend in childrens' obesity in Japan between 1996 to 2000 was reported

increased from 6.1 percent to 11.1 percent for males and 7.1 percent to 10.2 percent for females (Chu, 2001).

Data from Organisation for Economic Co-operation Development (2014) revealed that United State of America (USA) is the leading country where 34 percent of its adult population were obese. Furthermore, Ogden, Carroll, Kit and Flegal (2014) reported that, more than two-thirds of USA adults were overweight and obese but obesity were higher among African American and Hispanic women as compared to Caucasian women. On the contrary, obesity risks were higher for Hispanic men than Caucasian and African American men and tend to increase with age. These indicate in which racial and ethnic disparities took account of obesity.

Meanwhile, Cheng (2013) reported that Malaysia has been categorised as the fattest country in South-East Asia with its obesity rates are on the rise. The standard that has been suggested for Asians to be classified as obese when the Body Mass Index (BMI) is more than 22.9 kg/m2. This is in contrast to European countries where the standard for obesity is slightly higher 30 kg/m2 and more. Men are categorised as obese if the fat content is excess of 25 percent meanwhile for women when the excess fat is more than 35 percent (Clinical Practice Guidelines Obesity and Management Malaysia 2004).

PSYCHOLOGICAL RISK FACTORS OF OBESITY

Previous studies have shown that various factors can contribute to the onset of obesity risks including psychological stress. Stress is considered as a disease which is commonly experienced by everyone. It is human nature where most people encounter it on a daily basis. Stress is defined as the non-specific, tension producing response of the body to any demand for change (Selye, 1974; Neuman & Fawcett, 2002). It may occur as the reactions from being intense due to to stress-provoking situations. Hence, when stressed, it is possible for an individual to feel helpless and other negative effects.

Stress has implications for both the individuals and the organisations. On the individuals level, stress may affect work performance due to decreasing in work motivation and become lethargic (Armstrong, 2009). Meanwhile, organisations will be affected from the employees' behaviour such as low in productivity, workplace accident, absenteeism and it was estimated $200 to $300 billion a year lost due to productivity (Goldschein & Bashin, 2011). These are some of the inevitable costs of running a business which in a long run may create liabilities and the company is at lost. Apart from the behavioral outcomes, stress can also lead to health problems such as obesity, gastrointestinal problems and asthma (Griffin, 2014).

The behavioural effects of stress may lead to destructive behaviours such as overeating, smoking and drinking alcohol. A research by U.S Department of Health and Human Services (2003) revealed that, 40 percent of people smoked, 41 percent gambled, 35 percent shopped and 27 percent drank alcohol as ways to cope with stress. Research also found that stressful individuals enganged with overeating behaviour which may contribute to obesity risks. Nearly two-thirds of employees say that they eat junk food such as snacks, chips and candy, at work once a day while another 25 percent said they did so two or more times a day (Grasz, 2013). Such behaviour is ruinos where it contibuted to gather excess body fat and develop obesity risks. Other than physical and behavioral effects, stress may also trigger psychological effects. Workers who are experiencing mental pressure will encounter poor concentration, short temper, job dissatisfaction and low morale. It may also elevated the risk of mental health problems ranging from anxiety and the most significant is depression (Romito, 2013).

Apart from stress, employees who are working long hours, overtime or shift work experience higher levels of fatigue and tend to be more sedentary and engage in few leisure activities, leading to obesity risks (Yamada, Ishizaki & Truritani, 2002). A sedentary lifestyle and working shifts leads to increased sleepiness (Charles, et al., 2011) decreased alertness and a higher probability of snacking on high-calorie and low nutrient foods for energy (Kivimäki, et al., 2006).

Past studies also has demonstrated a link between higher weight and greater distress symptoms among youth and adults, where structured clinical interview revealed that chronic obesity has been associated with depressive disorders (Mustillo, Worthman, Erkanli & Keeler, 2003). Meanwhile, Ma and Xiao (2010) discovered that when contrasted from average weight individuals, obesity is associated with 2.18 times chances of being diagnosed with major depression. This suggests a connection between increasing rates of obesity with increasing rates of depression. Furthermore, the research also found that women in the highest quartile of waist outline had 2-3 times the rates of distress as compared to women in the lowest quartile.

There are also studies to assess distress and obesity at multiple points of time. From this study, it indicates that baseline depression is associated with the obesity where depressive symptoms were related to the increment in waist circumference (Needham, Epel & Adler, 2010). According to Ljung, et al. (2002), it may happened in subjects due to increase of central fat distribution. Robert, Strawbridge, Deleger and Kaplan (2002) found that psychological distress in obese does not exist abruptly but it occured in 5 years later. On the contrary, research by Smyth, et al. (1998) found interesting results in subjects who felt happy where they had a lower level of cortisol than those who felt depressed where increased of cortisol will lead to the increase of abdominal fat.

The epidemiology and etiology of obesity must be concerned in order to have potential to results in a greater commitment of healthcare resources to effective obesity prevention and management strategies. High stress employees were often found to have poor eating habits, low level of physical activity, smoking, alcohol abuse and weight gain (Kouvonen, Kivimaki, Cox & Vahtera, 2005). Many research has shown that stress can affect lifestyle choices and health behaviours such as food consumption and physical activity leading to overweight and obesity (Wardle, Chida, Gibson, Whitaker & Steptoe, 2011). Although the relationship between stress and weight gain is not fully understood (Caban, et al., 2005), it is important to understand the epidemiology and etiology of stress and obesity as it may affect weight gain and the well-being of employees (Senol-Durak, Durak & Gençöz, 2006).

THE SEQUELA OF OBESITY PHENOMENON

Apart from that, today, there are more people dying due to obesity related diseases across the world hence, it has become an important national health concern. It is estimated to cause 3 to 4 million deaths in 2010 and number of rates in obesity have escalated astonishingly for both children and adults from 857 million in 1980 to 2.1 billion in 2013 (Ng, et al., 2014). This phenomenon is alarming in Malaysia and globally since the past three decades and it is regarded as one of the most worrying public health challenges in the 21st Century (Lobstein, Baur & Uauy, 2004).

The extensiveness of obesity in Malaysia is similar to other developing countries. The number of overweight for Malaysian population is 29.1 percent and obesity is 14 percent (National Health and Morbidity Survey III, 2006). A recent report revealed more serious statistics where 49 percent of women and 44 percent of men in Malaysia were found to be obese. Malaysia was also rated as heavyweight at 45.3 percent of its population, followed by South Korea (33.2 percent), Pakistan (30.7 percent) and China (28.3 percent) (The Star, 2014). Besides being weighed down by obesity, Oxfam International pointed out a striking findings where Malaysia was ranked as the fattest country in Southeast Asia (The Straits Times, 2014).

The research on obesity must be given emphasis as it will cause various negative consequences such as mortality, physical ailments, burden on the health care expenses and diminishing quality of life (Hampel , Abraham, & El-Serag, 2005). Hossain, Kawar and El Nahas (2007) reported that, the occurrence of obesity with Cardiovascular Disease (CVD) which may lead to death is higher in developing countries. Studies have suggested that obesity among the adults will lead to mortality and various ill effects including diabetes, cardiovascular disease, cancers, respiratory and joint problems (Haslam & James, 2005). Meanwhile the ailment effects of obesity in adolescents can be in term of on physical, mental and social functions (Swallen, Reither, Haas & Meier, 2005).

Furthermore, Results from National Health and Nutrition Examination reported that gallbladder disease increased among obese females with 5 times and the disease risk is doubled among men (National Task Force on the Prevention and Treatment, 2000). Sleep apnea is also reported to be the physical ailment due to obesity and it is significantlt associated with obesity in both males and females (Strohl, Strobel & Parisi, 1998). Study by Anderson and Felson (1988) found that individuals with BMI exceeding 30 kg/m^2 have a significantly increased risk of osteoarthritis caused by the heavy load on weight bearing joints.

In addition to the health risks due to obesity, this phenomenon must be given attention by all as it will gives economic impact due to increament in expenses. Increased in expenses can be varied from personal costs to medical costs of treatment. Credeur (2009) reported that United Airlines have imposed a new policy for obese travellers to buy a second seats if the flight is full. This is to ensure passengers' safetiness where arm rest between seats must be down in its normal position and a seat belt is able to be buckled with one extension and at the same time to avoid complains from other passengers of being cramped.

Obesity also takes a toll to physical ailments and lead to financial burden due to high medical expenses for the illness treatments. In 2012, $190 billion were reported to be the health care costs for obesity related problems in America (Begley, 2012). Meanwhile in Malaysia, the medical costs soared from RM 20 billion in 2013 to RM 23 billion in 2014 estimated to stem from obesity-related problems (Sinyang, 2014). A study by Konnopka, Bodemann and Konig (2011) reported that the medical care costs became a burden because obese respondents were more likely than non-obese respondents to spend on visiting health care professionals, inpatient treatment, outpatient treatment as well as rehabilitation.

CONCLUSION

Psychological and behavioral factors play significant roles in both the development and consequences of obesity. With the economics growth in the developing countries since last decades, there are transitions in lifestyle particularry in food consumptions and demand. Economic growth serves as an important factor that enables the consumers to spend more on food and purchasing power. Particularly in Malaysia, the Malaysian Food Service Industry has grown by 23 percent between 2001 and 2006 (Tan, 2010). Total household expenditure for food formed the largest component, 21.8 percent by the consumers as compared to other expedintures (Bank Negara Malaysia, 2010).

Noraziah and Mohd Azlan (2012) revealed that the eating-out became a trend to the majorities since eateries operate round-the-clock. An abundance of affordable, readily available food for a busy population results in the consumption of excess calories. Individual level will dine at food permises during working days meanwhile at family level will dine out during the weekends while adolescents hangging out at the restaurants 24 hours restaurants untill early mornings.

Apart from that, awareness of food selections is the key towards obesity prevention. For instance, Malaysians selection of food are high calorie content such as Nasi Lemak, Roti Canai and Teh Tarik which ranged from 233 to 600 calorie (kcal) per serving which are unhealthy food choices become the concern (Goh, 2013). It is worriesome as revolting eating habits of food with high in sugar and fat becoming a trend globally and have lead to various major health problems including obesity (Popkin, Kim, Rusev, Du & Zizza, 2006).

There is no single or simple solution to curb the obesity phenomenon. It is a complex problem where an extensive approach is needed to strategies in promoting healthy living behaviours. These strategies can be implemented through education, environmental change, social marketing and policy change. However, health education and promotion experts recognise that forming individual beliefs, attitudes

and motivation play significant impact to develop behavioural changes for supportive of weight-loss efforts (Poscente, et al., 2002).

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