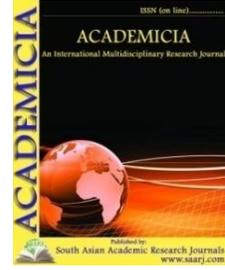


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OBESE SUDANESE WOMEN WEIGHT CHANGES DURING DIFFERENT STAGES OF LIFE

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ABSTRACT

The present study is to detect weight changes during different stages of life of obese Sudanese women aged 40-50 years. A total of 200 apparently healthy adult Sudanese females aged 40-50 years were invited to participate in this study. Participants were classified into two groups, non-obese, and obese (BMI-C < 25 and >30kg/m²) based on WHO, 1997. The prevalence of weight gain of non-obese and obese women during their late stage of childhood and adulthood as follows: fifth, fourth and third decade of age. 71%: 51%, 29%: 40% and 0: 9% respectively. At (P<0.05) most of non-obese women had weight change when they were at fifth decade. Mean while, forty percent of obese women started to gain weight when they were in the fourth decade. Obese women started to gain weight earlier than non-obese ones. So efforts to promote healthy eating behaviors may be more effective if focused on younger children, and parents should be involved.

INTRODUCTION

Obesity is a chronic disease conditioned by genetic, endocrine and environmental factors. Rapid body mass increments occurred in the young women who were overweight already in childhood. Another high risk group was constituted by women who reported considerable body mass increments during the first pregnancy. However the application of oral contraception had no significant influence on the body mass increase. The body mass gain after the age of 18 is observed to positively correlate with age. Overweight in childhood or excessive body mass increment during pregnancy are risk factors of obesity in the later period of life. (Ostrowska, et al., 2004). The few prospective studies suggested that individual weight and indices of obesity are correlated over time. (Banaddon, et al 1986 & Ko, et al., 1997). The mean of body mass index (BMI) increased with age in both sexes.

BMI is significantly higher in men than women.(Plans, et al., 1992& Ko, et al.,1997).While, the waist-to-hip ratio prevalence rates further increased in subjects at age of menopause or above.(Ko, et al.,1997).

Aging is associated with increased concentrations of total cholesterol, low density lipoprotein (LDL) cholesterol.(Chang, et al., 2000& Viroonudomphol, et al.,2003& Stevenson, et al.,1993).High density lipoprotein subfraction 3 (HDL3) cholesterol and triglycerides, oral glucose tolerance test 2 h plasma glucose level, systolic and diastolic blood pressure.(Chang, et al., 2000& Viroonudomphol, et al.,2003& Stevenson, et al.,1993).And decreased concentrations of high density lipoprotein subfraction 2 (HDL2) cholesterol.(Viroonudomphol, et al.,2003& Stevenson, et al.,1993).

To the good of our knowledge the starting age of gaining weight has not been reported. So the purpose of this study is to define the age of starting gaining weight of obese Sudanese women aged 40-50 years.

MATERIAL AND METHODS

STUDY AREA

Wed Medani is the second city of the Sudan as well as it is the second capital after Khartoum. It is located about two hundred kilometers Southern Khartoum on the Blue Nile river west bank.

It is situated in the middle of the agricultural districts and represents the agricultural capital of Sudan.

SAMPLING

Cluster sampling technique-probability from local inhabitants was invited to participate in this study. A total of 200 apparently healthy adult female aged 40-50 years were the subject of this study. All participants were absence of medical illness as sub stained by medical history and physical examination. None had weight fluctuation more than 2kg during the last six months prior to testing and lived most of their lives in Sudan .The participants were classified into two groups, normal body weight and obese as indicated by body mass index categories (BMI-C:< 25 and >30kg/m²).Respectively based on (WHO,1997).

Data collection was conducted during Oct-Dec 2011.For statistic analysis subjects with BMI>30 were defined as case and those with BMI< 25 defined as control.

METHODOLOGY

Two hundred women aged 40-50 years were invited to participate in this study. They were described as follows hundred non- obese women (control) and hundred obese women (case).

TOOLS

The study procedure consisted of collecting data by way of interview questionnaire.

DATA ANALYSIS

The data was analyzed by using Statistical Package for Social Sciences (SPSS), Windows version 8x, 1997 SPSS, Inc, Chicago, IL, and USA.

The prevalence and chi-test was also used.

RESULTS

Tables (1, 2) presented the weight changes of study participants during their life stages.

The prevalence of weight gain of non- obese and obese women during their child and adulthood as follows: fifth, fourth and third decade of age. 71%: 51%, 29%: 40% and 0: 9% respectively.

At ($P < 0.05$) most of non-obese women had weight change when they were at fifth decade. Meanwhile, forty percent of obese women started to gain weight when they were in the fourth decade.

TABLE (1) PREVALENCE OF WEIGHT GAIN OF 200 NON- OBESE AND OBESE WOMEN DURING THEIR LIFE STAGES

participants	At 40-50 years of age	At 40-30 years of age	At 30-20 years of age	At 20-10 years of age
None obese	71	29	0	0
Obese	51	40	9	0

Only 54% of the non- obese women observed changes in their body weight during their life stages

TABLE (2) CHI TEST OF AGE OF GAINING WEIGHT OF THE PARTICIPANTS

Participants	Chi test	Significance
None obese-obese	0.00	*

Key

$P < 0.5$

*: Significant

DISCUSSION

The study participants mainly the obese ones recorded that they had started to gain weight since 20-30 years of their age. And this weight augmentation continued during their life stages, but the most observed weight gain for all study participants was at 40-50 years of age. Most of non-obese women had weight change when they were at fifth decade. Meanwhile, forty percent of the obese women observed gaining weight when they were in the fourth decade. Nevertheless, obese women started to gain weight earlier, than non-obese women. Such findings can be explained by the effect of socioeconomic change which is associated with the feeling of autonomy, dietary habits, genetic factors, reduction of lipolysis and menopause transition. These matters of observation agreed with that obtained by Bjilkee, (1971). & Ibrahim, et al., (1971) & Wing, et al., (1989) & Kimm, et al., (2002) & Capuano, et al., (2003). Who documented that obesity increases with age throughout the adult years, in the decades from 35-44 years to 45-54 years, it can be observed a notable increasing of obesity from 22.5% to 42.5%. Comparing black and white females, weight gain since age 20 was greater in black women than in white women. The doubling in the prevalence of overweight and obesity during adolescence in black and white girls is surprising. By age 19, more than half of black girls were overweight and more than one third were obese. Almost half of white girls were overweight and almost 1 of 5 girls was obese.

Obese participants had greater body weight during their last stage of adolescence more than non-obese participants. These matters of observation can be explained by the facts that genetic and environmental factors play an important role in obesity since the early stage of life. Nevertheless, the environmental factors seem to be more potent through the adolescence stage. These findings agreed with that obtained by Whitaker, (2004) & Nicklas, et al., (2003) & Boutelle, et al., (2003) & Neumark-Sztainer, et al., (2003) & Gill, (2002) & Sjoberg, et al., (2003) who documented that unfortunately, weight gain can be difficult or slow to reverse in the middle years because of physiological and behavioral changes that occur at this time of life. The family meal environment is associated with adult eating patterns. Family meals appear to play an important role in promoting positive dietary intake among adolescents. 65% of the boys and 52% of the girls, consume three main meals daily. The in-between meals, however, contributed the major part of the energy intake. Irregular intake of breakfast, lunch and dinner is related to negative lifestyle factors. Food choices include a higher percentage of energy from snack food, mostly consumed between the main meals. And lower intakes of micronutrients, but higher intakes of sucrose. Girls omitting breakfasts and lunches also have a less healthy food choice and the poorest nutrient intake. These girls have matured earlier, with menarche age of 12.2 ± 1.1 y vs 12.9 ± 1.0 years in girls with regular main meal intake.

CONCLUSION AND RECOMMENDATION

Obese women started to gain weight earlier than non-obese ones. So efforts to promote healthy eating behaviors may be more effective if focused on younger children, and parents should be involved.

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