

Environmental factors behind obesity of Sudanese women aged 40-50 years A case study wed Medani area**Dr. Nagah Abdelwahab Ahmed Mohamed PhD biochemistry***Assistant professor Sudan University of science and technology Faculty of animal production*

Dr.Nagah Abdelwahab Ahmed: Environmental factors behind obesity of Sudanese women aged 40-50 years

ABSTRACT

The present study is to stand on the environmental factors behind gaining weight 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. At (P<0.05) 41% of non- obese women mentioned they had gain weight after marriage, 43% due to psychological comfort ability, 7% after leaving university and 9% as result of having a job. While, 54% of obese women said that they get obese after marriage, 39% as result of psychological comfort ability, none of obese women recorded leaving university as factor of gain weight and 9% of them mentioned having a job as cause of getting obese. All study participants did not have physical activity. In addition to, all women in this study refused to answer questions about their income or socioeconomic status. So these factors were excluded. The most potent, predominant environmental factor for weight gain is getting married. So more educational strategies are needed in order to change the social concept, believes, traditions and customs about marriage in Sudan.

Key words:**Introduction**

In the modern affluent society, energy-sparing devices had reduced energy expenditure and may enhance the tendency to become fat. In epidemiological studies the highest frequency of overweight is found in with sedentary occupations. [12]. Reduced energy expenditure is more important than energy intake since both have been decline but at different rates. [10]. A further important determinant is energy consumption, which is subject to large individual variations, which partly result from thermo genesis. [13].

Obesity and Physical inactivity is more prominent among women than among men. [2]. Physical activity may influence and predict nutritional behaviors. Those in moderate levels of physical activity had a healthier diet. Additionally, women, older people, those with at least some college education, and those who were employed had healthier diets. [3]

Lower education, income, depression. [8,14]. Urban-rural residence, mother's education and baseline dietary intakes. [14]. Are all significantly related to an increased risk of BMI category. [8,14].

This information supports and justifies conducting this study. That aims to determine the environmental factors behind weight abnormalities.

Which are associated with some chronic metabolic diseases in Sudan. It is important that these factors should be addressed in any coordinated strategy to tackle the problem of obesity and related diseases.

The objective of the present study is to stand on the environmental factors behind 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.

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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 [16].

Data collection was conducted during March-May 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, biochemical parameters and anthropometric parameters.

Data Analysis:

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

Results:

Tables (1,2) presented factors and statistic analysis behind obesity as recorded by study participants. 41% of non-obese women mentioned they had gain weight after marriage, 43% due to psychological comfort ability, 7% after leaving university and 9% as result of having a job. While, 54% of obese women said that they get obese after marriage, 39% as result of psychological comfort ability, none of obese women recorded leaving university as factor of gain weight and 9% of them mentioned having a job as cause of getting obese.

Statistic analysis of collected data exhibited that at (P<0.5). There was highly significant difference in factors behind increasing body weight between non-obese and obese women. Chi test was (0.00).

All study participants did not have physical activity. In addition to, all women in this study refused to answer questions about their income or socioeconomic status. So these factors were excluded.

Table 1: Prevalence of causes behind weight gain of 200 Sudanese obese and non-obese women

participants	Marriage	Psychological comfortability	Leaving university	Having a job
Non-obese	41	43	7	9
Obese	56	39	0	5

Table 2: Chi test for causes behind weight gain

participants	Chi test	significance
Non-obese-obese	0.00	*

Key

P<0.5

*: Significant

Discussion:

Most of study participants mentioned that: Getting married as the main factor for becoming obese or gaining weight. This might be due to social believes, marriage traditions and custom. This result agreed with that reported by Woo, *et al.*, [17] who, reported: Single women had lower nutrient densities of vitamin D and iron, and lower consumption of vegetables and fish, compared with married women. Body mass index is lower in both single men and women. But this finding was significant to that obtained by Averett, and Korenman, [1] who documented: Depression, ingestion of food had frequently been used to reduce the feeling of emotional deprivation which associated with unstable marriage of many of obese individuals, stubbornness, the need for autonomy and wariness of entangling relationship. Obesity is associated with low self-esteem.

Psychological comfortability was the second element reported by obese and non-obese women as causative agent for gaining weight. And if we keep in mind that most of the study participants were married. It would be clear that there was strong association between gaining weight and marriage. In addition to nearly all of the study participants believe that being obese is a sign of marriage happiness. On the other hand Psychological comfortability after marriage can be explained by the fact that participants traditions and believes made them economically depend on their husbands after marriage. This result disagreed with that obtained by Averett, and Korenman, [1] & [15] & Landen, *et al.*, [11] & Fassino, *et al.*, [6] & Johnston, *et al.*, [8] Who cited: Obesity is associates with low self-esteem among whites, but not blacks. Lower probability of marriage and lower earnings of husbands. Obesity is associated with higher levels of anger, anxiety, and depression and lower levels of perceived social support. Depression and a

perfectionist and poorly self-directive personality can lead to greater difficulties in discriminating hunger and satiety and increase risk of obesity.

None of the obese participants reported leaving university as causative factor of being obese. This might be due to the direct effect of education on their food choices. This result was agreed with that obtained by Carter, *et al.*, [4] who stated: The prevalence of obesity is associated positively with age and negatively with education. Also this result was similar to that obtained by Fraser, *et al.*, [6] & Blakely, *et al.*, [3] & Kristal, *et al.*, [9] who cited: Fat intake decreased and fruits and vegetables intake increased. Changes are significantly larger among women and persons who are well educated. Better educated subjects eat less meat, more salads, and fewer cakes and sweet foods than those less educated.

Gaining weight after having a job might be due to the feeling of independency, autonomy and increasing of participant income. This result was not as the same as that obtained by Blakely, *et al.*, [3] who said: In addition to women, older people, and those who are employed had healthier diets. But this finding was agreed with that reported by Groth, *et al.*, [7] who stated: For women, age, income and household composition were also significantly associated with the intake of fruit and vegetables.

Conclusion and Recommendations:

The most potent, predominant environmental factor for weight gain is getting married. So more educational strategies are needed in order to change the social concept, believes, traditions and customs about marriage in Sudan.

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