

Obesity, overweight and under weight in suburban northern Nigeria

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Abstract

Background: Weight has long been known to be a determinant of health and disease. Both overweight and underweight are associated with health consequences. We report the results of a community survey of underweight, obesity and overweight in two suburban communities in northern Nigeria. **Methods:** We studied an adult population sample in suburban northern Nigeria. Obesity was defined as BMI $\geq 30 \text{ KgM}^{-2}$ while overweight was defined as BMI ≥ 25.0 but ≤ 30.0 ; and underweight was defined as BMI $\leq 18.5 \text{ KgM}^{-2}$. **Results:** 317 subjects participated in the study, 267 (84.23%) were males and 50 (15.77%) females. Forty-one (13.1%) of the subjects had obesity, overweight occurred in 58 (18.5%) while underweight occurred in 21 (6.7%) subjects. **Conclusion:** Both over-nutrition and under-nutrition are common in these communities with the former being more prevalent. Concerted efforts should be made to appropriately control the prevalence of overweight and obesity. (Int J Diabetes Metab 15:68-69, 2007)

Key words: obesity, underweight, overweight, risk factors, Nigeria

Introduction

Body weight is a significant determinant of health and disease; both obesity and underweight have been associated with disease.¹ Obesity has been associated with several non-communicable diseases such as hypertension, diabetes and lipid disorders as well as with increased morbidity and mortality among adults.¹⁻³ On the other hand, underweight is associated with infections such as tuberculosis.¹ Globally, there is a disturbing trend towards increasing adiposity.^{1,3} In developing countries, this has been attributed to the so called nutritional transition.^{4,6} In developing countries, a double burden of obesity (suggesting over-nutrition) on the one hand, and underweight (suggesting under-nutrition) on the other hand is not uncommon.¹ We sought to determine the prevalence of underweight, overweight and obesity using WHO cut-off points in a suburban northern Nigerian population.

Subjects and Methods

We studied the body mass indices of an adult population sample in two suburban Northern Nigerian communities. The data were collected during a survey to determine the prevalence of diabetes and its risk factors.⁷ The communities were Makarfi and Giwa, 32Km and 30 Km, respectively from Zaria. Weights (in Kg) were taken with only undergarments to the nearest 0.5 kg. Heights (in meters) were taken to the nearest 0.5 cm with subjects standing erect without shoes or headgear. Body Mass Index (BMI) was derived by dividing the weight by the square of the height. Obesity was defined as BMI $\geq 30 \text{ KgM}^{-2}$ while overweight was defined as BMI ≥ 25.0 but ≤ 30.0 ; and underweight was defined as BMI $\leq 18.5 \text{ KgM}^{-2}$.

Results

317 subjects participated in the study, 267 (84.23%) were

males and 50 (15.77%) females. Forty-one (13.1%) of the total had obesity of which 30 (11.2%) were males and 11 (22.0%) were females (table 1). Overweight occurred in 58 (18.5%) of subjects, of whom 49 (18.6%) were males and 9 (18.4%) were females. Underweight on the other hand occurred in 21 (6.7%) of subjects, of whom 16 (6.1%) were males and 5 (10.0%) were females.

Table 1. Distribution of weight abnormalities in 317 Nigerian men and women by sex.*

Category	Males	Females	Total
Obese	30 (11.2)	11 (22.0)	41 (13.1)
Overweight	49 (18.6)	9 (18.0)	58 (18.5)
Underweight	16 (6.1)	5 (10.0)	21 (6.6)
Total abnormal weight	95 (35.9)	25 (50.0)	120 (38.2)

*Number in brackets signifies percentages, while those outside brackets are the raw figures.

Discussion

In this community more than a third of the population is either overweight or obese while a smaller percentage is underweight. Johnson⁸ in a study of an urban population sample in Lagos 35 years ago reported obesity rates of 8.3% and 35.7% for males and females, respectively. It is indeed worrisome that obesity rate in this population is 11.2% among males and 22.0% among females considering that more than 90 percent of these suburban populations are made up of physically active peasant farmers. Perhaps the influence of agricultural machineries, use of herbicides (hence less physical activity in tilling the soil), availability of modern transportation and indeed change in eating habits such as increase in the intake of calorie-laden beverages may be the explanation for the high proportion of those with overweight and obesity.

In this study and others involving diabetic and non-diabetic populations,^{8,9} obesity tends to occur more commonly among females than males. However, a Scottish study has

Received on: 23/2/2006

Accepted on: 7/2/2007

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shown the contrary until the age of 55 years when the trend reverses.³ It is therefore possible that cultural and genetic factors may be at play.

In all communities in suburban Nigeria there are a few who find it difficult to afford balanced nutrition; anecdotal evidence suggest this to have increased significantly in the late 1980s with the introduction of some economic policies that tended to benefit the wealthy. The poor are the worst hit since there are no welfare policies to cater for the underprivileged.

Although both under-nutrition and over-nutrition are observed in this study, it is concluded that overweight and obesity are public health problems especially among women in this community. Concerted efforts should be made to appropriately control the prevalence of overweight and obesity.

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