Abstract

By this study we seek the expectable range of waist circumference (WC) for every degree of body mass index (BMI), which will serve to studies targeting ascertaining the health risk. We studied 2,932 patients (39.6% men and 60.4% women, between 18 and 96 years) of the same ethnic group who consecutively attended outpatient departments of our clinics between 2000 and 2004.

BMI correlated linearly with the WC (cc: 0.85; p < 0.001). The men, the obese, and diabetics were older (p < 0.001). BMI was greater in women and WC in men. The women had a greater WC if they had diabetes (p < 0.01), being equal to diabetic males. The men had greater WC when they had diabetes (p < 0.001). Waist at risk was detected (men ≥ 102 cm and women ≥ 88 cm) in 94.3% of the obese, in 32.3% of overweight patients, in 3.8% of patients with BMI < 25, in 84.3% of diabetics, and in 72.6% of patients without diabetes. We made graphic standardisation of WC with regard to BMI, and we calculated the percentiles 10, 25, 50, 75 and 90, grouping in ranges of 2 kg/m2 of BMI. The diabetic patients are grouped in ranges of 4 kg/m2. As conclusion we present a standardisation of the WC measurement of patients attended to in our Endocrinology and Nutrition practices distributed in percentiles as a clinically usable tool to define the ranges of WC for every BMI value.

Keywords

Obesity, Diabetes mellitus, Waist circumference, Body mass index, Standardization.