

Waist Circumference as an Indicator Abdominal Obesity in Middle Age

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ABSTRACT

Metabolic syndrome was defined in order to identify people with an increased risk. One of five criteria of metabolic syndrome is also an abdominal (central) obesity. The study included 297 subjects, middle aged from Montenegro, 137 (46.12%) male and 160 (53.88%) of the respondents were female. According to the World Health Organization (WHO) about 2.1 billion people suffer from overweight. Analyzing the results of our research, more than worrying fact is that two-thirds of the studied population in middle age are having problems with over-nutrition and obesity. It is estimated that in the world today, about one billion people are overweight, and about 300 million obese.

Key words: obesity, waist circumference, nutritional

Introduction

It is believed that the modern lifestyle, which includes eating unhealthy, industrial processed food rich in sugar and saturated fats, as well as a sedentary lifestyle, are main culprit for the appearance of abdominal obesity and obesity in general. Obesity is a disorder characterized by enlargement of the body fat mass to an extent that leads to poor health and a series of complications. Excessive intake above the needs of the basal metabolic rate and physical inactivity are the main causes of obesity. In the 21st century we face with the global epidemics of obesity, diabetes and heart disease, including hypertension. In order to identify people with an increased risk, metabolic syndrome was defined. One of five criteria of the metabolic syndrome is and abdominal (central) obesity. Highly specific anthropometric indicator of central obesity in adults is waist circumference (WC). Waist circumference is an adequate indicator of intra-abdominal fat and health risk. The trigger for the buildup of fatty deposits can also be hereditary factors, metabolic or endocrine disorders, physical inactivity, various psychological trauma, tumors, and even drugs, usually steroids and antidepressants. Recent research in the UK suggests us that in the previous two decades waist circumference increased faster than Body mass index. According to the World Health Organization (WHO, 2000) waist circumference over 102

cm for men and 88 cm for women is a boundary that requires immediate weight reduction.

The aim of the research is to determine the waist circumference as an indicator of obesity in people of middle age.

Methods

The study included 297 subjects, middle aged from Montenegro, 137 (46.12%) male and 160 (53.88%) of the respondents were female. Waist circumference was used as anthropometric indicator of abdominal obesity. Waist circumference is precisely measured centimeter tape, midway between the last rib and the top of the iliac bone (top of the hip bone to hip) as recommended by the World Health Organization. The data were analyzed by statistical methods, using the statistical software STATISTICA for WINDOWS.

Results

Based on the results of research that included 297 subjects middle aged, 95 (32%) patients had normal nutritional status. 101 (34%) of the respondents have excessive nutritional status, and the same number of respondents 101 (34%) are obese (Table 1).

Table 1. Waist circumference as an indicator abdominal obesity in middle age

	N	%
normal nutritional status	95	32
excessive nutritional status	101	34
obesity	101	34
total	297	100

Table 2. Waist circumference as an indicator abdominal obesity in male of middle age

	N	%
normal nutritional status	44	32.1
excessive nutritional status	52	37.9
obesity	41	30
total	137	100

In a sample of 137 male subjects, normal nutrition has got 44 (32.1%) of the respondents, excessive nutritional status, 52 (37.9%) and obesity was found on 41 (30%) patients (Table 2).

Table 3. Waist circumference as an indicator abdominal obesity in female of middle age

	N	%
normal nutritional status	51	31.9
excessive nutritional status	49	30.6
obesity	60	37.5
total	160	100

From 160 female subjects, normal nutrition had got 51 (31.9%) of respondents, excessive nutritional status had 49 (30.6%) and 60 (37.5%) of the respondents were overweight (Table 3).

Discussion

According to the World Health Organization (WHO, 2000), about 2.1 billion people suffer from overweight. Analyzing the results of our research, more than worrying fact is that two-thirds of middle aged population are having a problem with over-nutrition and obesity, especially if we know that level of female sex hormones in the stated period, comes with less "production" of estrogen. It is estimated that in the world today, about one billion people are overweight, and about 300 million are obese (WHO, 2000). Preventive measures in fight against obesity should involve increasing physical activity, reducing energy intake, changes in the factors that affect the excessive body weight and obesity. Recent studies conducted on adults in

Sri Lanka (Katulanda, Jayawardena, Sheriff, Constantine & Matthews, 2010) have found a high prevalence of overweight and obesity, especially abdominal obesity. The obesity is often accompanied by gallbladder disease (chronic inflammation and calculus), and fatty infiltration of the liver (Stokić, 2004). The research results indicate that good physical fitness reduces the risk of excessive weight gain and that men who have excessive body weight, or who are in good shape, have a lower mortality rate than people of normal weight (Lee, Jakcon & Blair, 1998). Research conducted before 1989 showed that in developing countries, obesity is associated with higher socioeconomic status and represents a disease of the richer classes, while in developed countries the trend is reversed (Monteiro, Moura, Conde & Popkin, 2004). It is believed that the body weight gain of 20%, leads to an increase in the risk of diabetes by 150% (Johann, 1994). Disorders of lipid metabolism and lipoprotein are present in approximately 30% of the obese person (Stokić, 2004). The goals of treatment of obesity are much broader than strict weight loss and they include the reduction of risk factors and improve health (Stern, 2009).

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