Obesity management in adults: current strategies for screening

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The World Health Organization (WHO) has defined obesity as abnormal fat accumulation which is responsible for about 80% of cases of type 2 diabetes, 35% of ischemic heart disease and 55% of hypertensive disease. Obesity also presents an unprecedented and underestimated public health challenge, with its prevalence rising rapidly from 1975. In 2016 more than 1,9 billion adults from 18 years old were considered to be overweight and more than 600 million were classified as obese. The consequent economic implication and the burden on national health costs are quite substantial. Effective management of obesity is based on a diet, exercise, and behavioral modification.

The aim of our scientific work is to make an overview the approaches to obesity screening.

The body mass index (BMI) is an anthropometric measure used as an initial screening tool. According to the Prospective Studies 80% people of normal BMI have a chance to live to 70 years, while 60% of people with BMI of 35-40 kg/m2 could survive to this age and only 50% with BMI > 40 kg/m2 have a chance to live to 70 years.

At the same time BMI includes muscle mass, bone mass, and fluid status in addition to fat mass. It cannot be used to identify adiposity and establish a diagnosis of overweight or obesity.

Percentage body fat cutoffs in the 20%-25% range in men and 30%-38% in women are used to identify individuals at risk for metabolic disease.

In 1981 the concept of a metabolically obese normal-weight person was first described. Nearly one fourth of normal-weight adults have obesity-related metabolic abnormalities (elevated blood pressure, triglycerides, fasting plasma glucose, C-reactive protein, homeostasis model assessment of insulin resistance value, and low high-density lipoprotein cholesterol level).

It was specifically defined «normal-weight obesity» as the combination of normal BMI and high body fat content. It showed the association with a high prevalence of metabolic syndrome and cardiovascular (CV) risk factors.

The waist-to-height ratio was found to be an indicator of CV disease risk, dyslipidemia (cholesterol and blood fat abnormalities), diabetes mellitus, and high blood pressure in both men and women, regardless of age and ethnic group (while BMI is the traditional anthropometric measure to classify people as overweight or obese, it is not a good indicator of health risk and should not be used for risk assessment. A waist-to-height ratio of less than 0.5 is considered ideal).

Conclusion: The body mass index is not diagnostically significant in detecting obesity, since it includes a mass of muscles and bones, status of fluid apart from fat mass.Therefore the waist-to-height ratio is unique as a health screening tool. It deals with metabolic abnormalities. This waist-to-height ratio gives possibility to reveal normal-weight adults with obesity-related health problem.