

Comparison between different criteria to estimate obesity prevalence and its correlates in female adults residing in central Iran

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Summary. Overweight and obesity are now one of the major health problems, worldwide which can lead to several serious medical conditions. Different criteria have been suggested and are currently used to define abdominal obesity. Our objectives was to investigate the prevalence of overweight and obesity according to different criteria and to compare these criteria examining the several factors in association with obesity derived by these criteria in female teachers. The study was conducted on 844 female teachers who lived in Yazd city in 2015. Height, body weight, waist circumference (WC) and hip circumference were measured using the standard procedures and body mass index (BMI), waist to hip ratio (WHR), and waists to height ratio (WHtR) were calculated. Data on demographics and lifestyle factors were collected by a self-reported questionnaire. The prevalence of general overweight and obesity in 844 females with were 44.5% and 27.5%, respectively using BMI data. The prevalence of abdominal obesity based on WC measurements ranged from 42.2% based on Iranian national criteria to 96.3% based on criteria developed for Chinese women. Prevalence of abdominal obesity using WHR data, ranged from 23% based on criteria developed for Omani women to 93.5% based on Iranian criteria. Considering WHtR, prevalence of abdominal adiposity was from 83.5% to 92.9% based on two different suggested criteria for Iranian females. When comparing different suggested criteria for assessing abdominal obesity in terms of their demographic and lifestyle determinants, Iranian suggested standards showed the highest number of significant associations for abdominal obesity based on WC and WHR, however this was not true for WHtR. The present study revealed that general and abdominal obesity are serious health problems among female teachers residing in central Iran and Iranian definitions might better differentiate these conditions across demographic and lifestyle characteristics of participants compared to other international criteria. Future studies trying to pool anthropometrics data from several parts of the country might lead to more reliable and discriminatory standards for abdominal obesity.

Key words: general obesity, abdominal obesity, waist circumference, waist to hip ratio, waist to height ratio

Introduction

Obesity is now a worldwide epidemic and it is estimated the obesity has affected about 700 million adults worldwide in 2015 (1). Overweight and obesity are mentioned as important risk factors for several serious conditions such as hypertension, dyslipidemia, diabetes mellitus, cardiovascular diseases and some

types of cancer (2). Furthermore, psychological conditions such as depression, decrease of self-confidence and self-efficacy might occur as a results of overweight and obesity, especially in young women (3).

The prevalence of obesity varies significantly across different countries ranging from 15 to 60% among adult populations. It is shown that obesity is more common in women (4). The prevalence of over-

