

# Appropriate Waist Circumference Cut-off Points among Iranian Adults: The First Report of the Iranian National Committee of Obesity

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How well we can identify individuals at risk for mortality and morbidity using a simple measurement. Obviously obesity is a growing threat to health worldwide and anthropometric indicators are good means to screen and identify high-risk people. It has been reported that compared to Body Mass Index (BMI), indices of central obesity are better discriminators for cardiovascular risk factors. Hence, waist circumference (WC) cut-off points of  $\geq 94$  and  $\geq 80$  Cm to define overweight BMI ( $\geq 25$  kg/m<sup>2</sup>) and  $\geq 102$  and  $\geq 88$  Cm for obese BMI ( $\geq 30$  kg/m<sup>2</sup>) for men and women, respectively, have been recommended. These cut-off points are still being used in line with the Adult Treatment Panel III recommendation; however, the International Diabetes Federation (IDF) has declared that waist is a gender and ethnic-group specific indicator and this approach

may provide a better assessment of obesity-related risk globally than using a single cut-off point.<sup>1</sup>

The most important controversial issue is that the cut-off points have so far been obtained from a limited number of cross sectional analyses. However, what is particularly needed are evidence based studies on both cross-sectional and longitudinal data that relate WC to the risk for both cardiovascular disease (CVD) and type 2 diabetes.<sup>2</sup>

Recently, the Ministry of Health and Medical Education of Iran in collaboration with the Research Institute for Endocrine Sciences-a WHO collaborative center, in September 2009 nominated committee members to gather evidence based data on indices of central obesity in Iran. The committee consisted of officials from the Iranian Center for Non-communicable Disease Control, endocrinologists, epidemiologists, biostatisticians, cardiologists, and nutritionists.

The first Iranian study on indices of abdominal obesity reported WC cut-offs for defining at least two major CVD risk factors, between 84 – 95 cm in women and 86 – 92 cm in men, in various age groups.<sup>3</sup> In this study, the corresponding WC cut-off for the 35 – 54-year-age group in both genders was 92 cm. The first national survey in an Iranian population showed that the WC cut-offs for predicting at least two other components of the IDF-defined metabolic syndrome were 89 cm for men and 91 cm for women.<sup>4</sup> The third National survey proposed a WC cut-off of 90 cm for diagnosis of metabolic syndrome in both genders.<sup>5</sup> Finally, the results of the first outcome based cohort study in Iran highlighted that the cut-off points of WC to predict the incidence of CVD was identical in men and women, 94.5 cm.<sup>6</sup>

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The ministerial committee, therefore, proposed WC cut-offs for the Iranian adult population as follows:

a. WC of  $\geq 90$  cm in both genders: at risk for CVD risk factors requiring life style change.

b. WC of  $\geq 95$  cm in both genders: high risk for CVD events requiring immediate preventive interventions.

It is concluded that anthropometric cut-offs, based on European populations are not appropriate for Iranians and that WC cut-off points, based on both cross-sectional and longitudinal outcome based studies, are equal in both genders in Iran.

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