

Metabolic syndrome in overweight and obese young Palestinian students at An-Najah National University: a cross-sectional study

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Abstract

Background Metabolic syndrome is one of the main reasons for elevated mortality worldwide. The aim of this study was to characterise and establish sex-adjusted prevalence of metabolic syndrome in young Palestinian adults.

Methods This cross-sectional study was done at An-Najah National University in 2014 using International Diabetes Federation (IDF) and modified National Cholesterol Education Program-Third Adult Treatment Panel (NCEP) definitions. Approval was obtained from the Institutional Review Board, and written informed consent was obtained from all participants.

Findings Of 850 students (352 men, 498 women) aged 18–24 years, 178 (21%) were overweight, and 45 (5%) were obese. 154 students were enrolled in this study (89 [58%] men, 65 [42%] women). 114 [74%] participants were overweight, and 40 [26%] participants were obese. Metabolic syndrome was more prevalent when the IDF definition was used (44 [29%] participants) than when the modified NCEP definition was used (37 [24%] participants; $p < 0.001$), with no differences between men and women ($p > 0.05$). Metabolic syndrome was more prevalent in participants with obesity than in students with overweight according to the IDF definition (16 [40%] vs 29 [25%]) and the modified NCEP definition (14 [35%] vs 23 [20%]). The prevalence of individual metabolic syndrome components was: 111 (72%) for central obesity (48 [43%] men, 63 [57%] women) according to the IDF definition, and 66 (43%) participants (18 [27%] men, 48 [73%] women) according to the modified NCEP definition; 46 [30%] for increased blood pressure (33 [72%] men, 13 [28%] women); 28 [18%] for high triglycerides (24 [86%] men, four [14%] women); 115 [75%] for low HDL-cholesterol (72 [63%] men, 43 [37%] women); and 37 (24%) for impaired fasting glucose (22 [59%] men, 15 [41%] women). Low HDL-cholesterol, central obesity, and raised blood pressure were the leading three common metabolic abnormalities in participants.

Interpretation Irrespective of the definition used, metabolic syndrome is highly prevalent in Palestinian young adults. With the increase of obesity, the clustering of metabolic syndrome components was remarkably increased. More attention should therefore be given to the adult population at risk to reduce adulthood obesity and subsequent cardiovascular disease.

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Contributors

BRD contributed to the research idea, study design, data analysis, data interpretation, tables, figures, the writing and revision of the Abstract, data collection, data management. AA, SA-K, and YA contributed to study design, data collection, data analysis, data interpretation, tables, figures, and input for data analysis. All authors have seen and approved the final version of the Abstract for publication.

Declaration of interests

We declare no competing interests.

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