Prevalence of metabolic syndrome (syndrome-x) and associated sociodemographic risk factors in adults population at the Gaza-Strip

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Abstract

Background: The Metabolic syndrome has been described as a “clustering” of several risk factors for cardiovascular disease (CVD) such as hypertension, dyslipidemia, obesity, and impaired glucose tolerance or diabetes mellitus. A diagnosis of Metabolic syndrome can be made when any three of the following five findings are present: obesity, hypertriglyceridemia, reduced high density lipoprotein (HDL) cholesterol, hypertension, and impaired fasting glucose.

Objective: This study was conducted to estimate the prevalence of the metabolic syndrome and its individual components among Palestinian population in Gaza strip, and its associations with demographic factors, socioeconomic factors, family history of selected medical conditions and lifestyle factors in the adult population.

Materials and methods: In this cross-sectional survey, a sample was selected from the Al-Azhar University of Gaza strip according to stratified random sampling (proportional or quota random sampling). The study sample included 230 individuals (116 males and 114 females) aged 20-65 years. Data were collected by a questionnaire interview and biochemical analysis of venous blood. For all study subjects, serum glucose, total cholesterol, triglyceride, HDL-C, LDL-C. were determined. Body mass index (BMI), waist circumference and blood pressure were measured. MetS was defined according to guidelines of the NCEP/ATP III diagnostic criteria.

Results: showed that the overall prevalence of MetS was 23% of the study subjects: about 28.1% in women and 18.1% in men (P >0.05). The prevalence of the metabolic syndrome was significantly higher in women (74.1 %) than in men (35.7%) in age groups of 51–65 years, (χ² =12.2; P=0.007), while it was significantly higher in men (20.0%) than in women (3.6%) in age group of 31-40, (χ²= 46.3; P=0.000). The prevalence of MetS increased with age (χ² = 49.772 ; P<0.05), being the highest (54.5%) in the 51-65 year-old age group. MetS was associated positively with marital status (χ² =4.403; P=0.036) among men (χ² = 8.526; P=0.014) among women, BMI (χ² =28.7; P=0.001) among women (χ² =11.8; P= 0.008) among men and physical activity (χ² =9.32; P=0.002) that included walking and other sports. Also MetS was negatively associated with the cigarette smoking (χ² =0.102; P=0.750), household income (χ² = 0.636; P=0.728), and family history of MetS components (χ²=1.23; P=0.26). Abdominal obesity was found as the most common MetS component in our study (53.1%). While the other components in decreasing order were hypertriglyceridemia (39.1%), low level of HDL-C (35.2%), high FBG levels (20.4%) and hypertension 19.1%. Hypertriglyceridemia was the most common abnormality in men (45.7%), while abdominal obesity was the most common abnormality in women (60.5%).

Conclusions: Age, sex, degree of adiposity, physical activity and marital status are the sociodemographic risk factors independently associated with MetS in the Palestinian population at the Gaza strip. For national health awareness and preventive programs, understanding which factors
predict MetS is important for determine successful strategic public health planning aiming at decreasing of MetS trends in the Palestinian population at the Gaza strip

**Keywords:** Metabolic syndrome; ATP III criteria; Obesity; Prevalence; Gaza strip