

Framingham risk score for estimation of 10-years of cardiovascular diseases risk in patients with metabolic syndrome

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Abstract

There are a few studies evaluating the predictive value of Framingham risk score (FRS) for cardiovascular disease (CVD) risk assessment in patients with metabolic syndrome in Iran. Because of the emerging high prevalence of CVD among Iranian population, it is important to predict its risk among populations with potential predictive tools. Therefore, the aim of the current study is to evaluate the FRS and its determinants in patients with metabolic syndrome. In the current cross-sectional study, 160 patients with metabolic syndrome diagnosed according to the National Cholesterol Education Adult Treatment Panel (ATP) III criteria were enrolled. The FRS was calculated using a computer program by a previously suggested algorithm. Totally, 77.5, 16.3, and 6.3% of patients with metabolic syndrome were at low, intermediate, and high risk of CVD according to FRS categorization. The highest prevalence of all of metabolic syndrome components were in low CVD risk according to the FRS grouping ($P < 0.05$), while the lowest prevalence of these components was in high CVD risk group ($P < 0.05$). According to multiple logistic regression analysis, high systolic blood pressure (SBP) and fasting serum glucose (FSG) were potent determinants of intermediate and high risk CVD risk of FRS scoring compared with low risk group ($P < 0.05$). In the current study, significant associations between components of metabolic syndrome and different FRS categorization among patients with metabolic syndrome were identified. High SBP and FSG were associated with meaningfully increased risk of CVD compared with other parameters.

The study is not a trial; the registration number is not applicable

Keywords: Framingham risk score, Metabolic syndrome, Cardiovascular disease