
Abstract

To determine the prevalence of metabolic syndrome (MetS) in Malaysian type 2 diabetic patients using WHO, NCEP ATP III, IDF and the new Harmonized definitions, and the concordance between these definitions. This study involved 313 patients diagnosed with type 2 diabetes mellitus (T2DM) at two Malaysian tertiary hospitals. Socio-demographic data were assessed using a pre-tested interviewer-administered structured questionnaire. Anthropometric measurements were carried out according to standard protocols. Clinical and laboratory characteristics were examined. Kappa (k) statistics were used for the agreement between the four MetS definitions. The overall prevalence rates of MetS (95% CI) were 95.8% (93.6-98.1), 96.1% (94.0-98.3), 84.8% (80.8-88.9) and 97.7% (96.1-99.4) according to the WHO, NCEP ATP III, IDF and the Harmonized definitions, respectively. The Kappa statistics demonstrated a slight to substantial agreement between the definitions (k = 0.179-0.875, p < 0.001), where the WHO criteria revealed the highest concordance with the NCEP ATP III definition (k = 0.875, p < 0.001). The WHO against NCEP ATP III criteria evinced the highest sensitivity (99.66%) whereas Harmonized criteria against all the other three definitions showed the highest specificity (100%) in identifying MetS. In conclusion, the new Harmonized criteria established the highest prevalence of MetS among the four definitions applied. There was a very good concordance between the WHO and NCEP ATP III criteria. The extremely high prevalence of MetS observed in type 2 diabetic patients indicates an impending pandemic of CVD risk in Malaysia. Aggressive treatment of MetS components is required to reduce cardiovascular risk in T2DM.

Keyword: Metabolic syndrome; Type 2 diabetes mellitus (T2DM); World health organization; WHO; Third report of the national cholesterol education expert panel on detection; Evaluation; Treatment of high blood cholesterol in adults; NCEP ATP III; International diabetes federation; IDF; Harmonized definition