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PhD Dissertation Defense

Entitled

*PREVALENCE OF METABOLIC SYNDROME AND IT'S ASSOCIATED FACTORS IN EMIRATI ADULTS: THE
UAE HEALTHY FUTURE COHORT STUDY*

by

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Abstract

In the last few years United Arab Emirates showed a rapid growth in economic field which was associated with growth of other types of related diseases, specially in non-communicable disease; mainly type 2 Diabetes Mellitus (DM) & cardiovascular related diseases (CVDs). The presence of multiple risk factors simultaneously in Metabolic Syndrome (MetS) has been shown to increase the risk for atherosclerosis development in young and middle-aged adults. Metabolic syndrome (MetS) is clustering of cardiometabolic risk factors and has many different definitions according to different international organizations. Aims and objectives: This study has three main objectives; it aimed to estimate the prevalence of MetS and its associated factors among young adults in the UAE. And to investigate the prevalence of MetS using Adult Treatment Panel III (ATP III), International Diabetes Federation (IDF) and the harmonized criteria of Joint Interim Statement (JIS) and to explore the level of agreement between them among same study group. The third objectives is to study the association between Physical Activity (PA) with MetS and MetS components in young adults in the UAE. Methods: Data was drawn from the UAE Healthy Future Study participants aged 18 to 40. Demographic and health information was collected through self-reported questionnaires. Anthropometric data and blood pressure were measured, and blood samples were also collected for biochemical parameters. Physical activity was assessed by GPAQ. Results: The overall prevalence of metabolic syndrome based on the JIS was estimated at 22.4% (95% confidence interval = 21.2 – 23.5%). Metabolic syndrome was more prevalent among men and older subjects. The most observed component of metabolic syndrome was abdominal obesity (56.8%), and about 7% of the participants had all the five components of MetS. The significant risk factors of MetS in the studied cohort included male gender, older age group, being married and a lower level of education. The overall prevalence of metabolic syndrome was estimated at 14.7%, and 19.5% according to ATP III and IDF respectively. The agreement between IDF and JIS was strong (Kappa: 0.89) and the agreement between ATP III and JIS (Kappa: 0.74) was considered moderate. The percentage of participants who met the PA recommendation was 68.4%. Adults with inactive level of PA had increased risk of having elevated waist circumference and elevated triglycerides (OR=1.44, 95%CI: 1.21-1.71) and (OR=1.36, 95% CI: 1.09-1.69) respectively. Also, there is significant association between being inactive in leisure time and increased risk of having elevated waist circumference, elevated fasting blood sugar and elevated triglycerides (OR= 1.45, 95% CI: 1.24-1.71), (OR=1.39, 95%CI: 1.16-1.66) and (OR=1.90, 95%CI: 1.54-2.35) respectively. Conclusion: In this young population, MetS is highly prevalent with about one in four young Emiratis being affected. JIS definition identified more Emirati adults with MetS therefore should be recommended as the preferred diagnostic criterion. This indicates an increase in the burden of CVD. Public health initiatives to incorporate physical activity into the community is much needed. Further research is needed to understand and tackle this syndrome in order to decrease its burden.

Keywords: Metabolic syndrome, Prevalence, Cardiovascular diseases, Physical Activity, UAE.