

Research Article

Understanding the Relationship between Atherogenic Index of Plasma and Cardiovascular Disease Risk Factors among Staff of an University in Malaysia

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Background. Atherogenic index of plasma (AIP) was found to be one of the strongest markers in predicting the cardiovascular disease (CVD) risk. This study was to determine the AIP and its relationship with other CVD risk factors. **Materials and Methods.** This cross-sectional study was done among 349 staff of a public university in Sarawak. Data were collected using questionnaire, blood sampling, and anthropometric and blood pressure measurement. Data were analyzed using IBM SPSS version 20. **Results.** A total of 349 respondents participated with majority females (66.8%), aged 38.5 ± 7.82 years. Nearly 80% of the respondents were overweight and obese, 87.1% with high and very high body fat, and 46.9% with abnormal visceral fat. For AIP category, 8.9% were found to be in intermediate and 16.4% were at high risk. Elevated lipid profile showed that total cholesterol (TC) is 15.5%, low density lipoprotein (LDL) is 16.1%, and triglyceride (TG) is 10.6%. AIP was significantly correlated with body mass index ($r = 0.25$), visceral fat ($r = 0.37$), TC ($r = 0.22$), LDL (0.24), HDL ($r = -0.72$), TG ($r = 0.84$), glucose ($r = 0.32$), systolic blood pressure ($r = 0.22$), and diastolic blood pressure ($r = 0.28$). **Conclusion.** It indicated that AIP is associated with other CVD risk factors. Modification of lifestyle is strongly recommended.

1. Introduction

Noncommunicable diseases (NCDs) are the major health problems in the world today. Majority of premature deaths are due to these diseases, and most of them can be prevented by practicing healthy lifestyle and undergoing early intervention programs. According to the WHO Global Action Plan for the prevention and control of NCDs (2013–2020), it targeted that 25% reduction in overall mortality from NCDs including cardiovascular disease, cancer, diabetes mellitus, and chronic respiratory diseases is achieved [1].

In Malaysia, due to rapid urbanization and industrialization, NCDs become the obvious cause of mortality and morbidity because it contributes to an estimated 73% of total reported deaths. Among them, the most common cause is cardiovascular disease. An estimated 35% of deaths occur in individuals aged less than 60 years, which are mainly in working age group. A report from National Health and Morbidity Survey (2015) identified that at least 63% of adults aged 18 years and above had at least one NCD risk factor [2].

Understanding modifiable risk factors for CVD such as smoking, hypertension, diabetes, overweight, and high