ASSOCIATION OF VITAMIN D AND CARDIOMETABOLIC RISK FACTORS AMONG A MALAY COHORT IN KUALA LUMPUR, MALAYSIA

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Introduction Epidemiologic studies suggest that vitamin D (25-hydroxyvitamin D) is inversely associated with metabolic syndrome in the western populations. However, evidence from Asian population is limited. The present study was conducted to investigate the association of vitamin D and cardiometabolic risk factors among an existing Malay cohort in Kuala Lumpur.

Methods This is an analytical cross-sectional study. A total of 380 subjects were sampled. Their vitamin D status, fasting blood glucose, full lipid profile, blood pressure, weight, height and waist circumference were measured.

Results There were more (58%) female respondents. Their mean age was 48.5±5.2 years. The prevalence of Metabolic Syndrome was 37.0% while the mean vitamin D level was 44.5 (95% CI 42.6 to 46.4) nmol/l. Females had significantly lower mean vitamin D level (36.3; 95% CI 34.5 to 38.0 nmol/l) compared to males (56.1; 95% CI 53.2 to 59.2 nmol/l). Respondents with low (cut off at 50 nmol/l) vitamin D level had 2.63 (95% CI 1.58 to 4.36) times odds of having abdominal obesity. Low vitamin D levels were associated with higher odds of low HDL-cholesterol (OR: 1.26; 95% CI 0.70 to 2.27), high fasting blood glucose (OR: 1.22; 95% CI 0.70 to 2.12), abnormal/high triglyceride (OR: 1.46; 95% CI 0.87 to 2.47) and abnormal systolic and/or diastolic blood pressure (OR: 1.43; 95% CI 0.55 to 3.38). Respondents with lower vitamin D levels had higher odds for Metabolic Syndrome (OR: 1.70; 95% CI 1.01 to 2.89).

Conclusion Our results concur with those from the West where vitamin D deficiencies are associated with cardiometabolic risk factors.