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**Title:** Diet Quality of an Urban Malaysian Population and Relationship to Cardiometabolic Markers and Income

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Introduction:

Malaysia is facing transitions in dietary patterns paralleling rapid urbanisation and economic progress. Adherence level of Malaysians to the Malaysian Dietary Guidelines 2010 (MDG 2010) and its relationship to cardiometabolic risk is unknown.

Methods:

Diet quality was assessed for 577 urban-living subjects (20-65 years) in the Malaysia Lipid Study using the Healthy Eating Index (HEI). Adherence to MDG 2010 was scored using 10 HEI components and computed HEI total scores categorized subjects into "poor", "needs improvement" and "good". Associations of these scores with cardiometabolic markers and income were examined.

## Results:

Mean  $\pm$  SD HEI total score of  $56.8 \pm 9.2$ , falling within “needs improvement” category, was negatively correlated with waist circumference (WC) ( $r = -0.127$ ,  $P = 0.002$ ), BMI ( $r = -0.178$ ,  $P < 0.001$ ) and HOMA-IR ( $r = -0.112$ ,  $P = 0.007$ ). Positive impact on markers were contributed by some HEI components such as “Fruits” on BMI ( $r = -0.084$ ,  $P = 0.044$ ) and HOMA-IR ( $r = -0.086$ ,  $P = 0.040$ ), “Milk and Milk Products” on dyslipidemia (HDL-C,  $r = 0.125$ ,  $P = 0.003$  and TG,  $r = -0.100$ ,  $P = 0.016$ ), systolic ( $r = -0.115$ ,  $P = 0.006$ ) and diastolic blood pressure ( $r = -0.111$ ,  $P = 0.008$ ), WC ( $r = -0.193$ ,  $P < 0.001$ ) and BMI ( $r = -0.200$ ,  $P < 0.001$ ), and “Variety” on dyslipidemia (HDL-C,  $r = 0.194$ ,  $P < 0.001$  and TG,  $r = -0.095$ ,  $P = 0.023$ ), WC ( $r = -0.142$ ,  $P = 0.001$ ), BMI ( $r = -0.119$ ,  $P = 0.004$ ) and HOMA-IR ( $r = -0.104$ ,  $P = 0.013$ ). Total income of subjects was positively correlated to “Fruits” ( $r = 0.109$ ,  $P = 0.011$ ) and “Vegetables” ( $r = 0.126$ ,  $P = 0.003$ ) consumption without affecting total HEI score ( $P > 0.05$ ).

## Conclusion:

Diet quality in this Malaysian population was classified in the “needs improvement” category. Adequacy of some HEI component scores correlated with better cardiometabolic markers. Adequacy of fruit and vegetable consumption was affected by lower incomes.