

A04 Dietary Inflammatory Index and obesity among aboriginal primary school children in Negeri Sembilan

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The Dietary Inflammatory Index (DII) is used as a dietary tool to quantitatively assess the inflammatory potential of an individual's diet. The rate of obesity among Malaysian children is increasing across the decades. Numerous epidemiological studies had been conducted and consistently showed a positive association between DII and obesity among the adults but few studies had been conducted among the children. This research aims to examine the association between the DII and prevalence of obesity among the aborigine children in Negeri Sembilan. It is a cross-sectional study that included 160 primary school aborigine children. DII scores were calculated from dietary data collected using a semi-quantitative food frequency questionnaire (SFFQ). The WHO BMI-for-age (BAZ) (5-19 years old) reference was used to categorize the weight status of the subjects into normal (-2SD to 1SD), overweight (>+1SD), and obese (>+2SD). The statistical software IBM SPSS v.20 was used to analyze the data. Based on the results, 52.5% were male children and, 66.3% of the children age between 7 to 9 years old. The overall DII score range from -3.72 (most anti-inflammatory) to 3.67 (most pro-inflammatory), with a mean score of -1.15. A total of 40% of them were categorized as overweight and obese, 54.4% categorized as normal weight and 5.6% as thinness. The total DII score was associated with age group ($p=0.04$), household size ($p<0.05$), and household income ($p=0.02$). The BAZ is only associated with household income ($p=0.02$). Results obtained from binary logistic regression showed that DII (both as categorical and continuous) was not associated with obesity (all $p>0.05$). The result remained insignificant even after adjustment for age category, household size and parental employment status. When DII were analyzed as categorical, the adjusted odds ratios (aOR) for T2 is 1.90 (0.67-5.37) and T3 is 1.38 (0.44-0.48), whereas when DII was analyzed as a continuous variable, the aOR was 1.11 (0.84-1.48). In conclusion, there is no significant association between DII and obesity among the aborigine children in this study, however, taking into account the influence of diet on inflammation and health outcomes, intervention programs are needed to improve the diet quality (towards anti-inflammatory) to improve the nutritional status of the aborigine children.