

## **A52 Iron status and its association with food insecurity among primary school children in Malaysia**

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Food insecurity is associated with micronutrient deficiencies including iron, and subsequent poor health outcomes, thus establishing the association between iron status and food insecurity is important for children's well-being. This cross-sectional study was part of the South East Asian Nutrition Surveys II (SEANUTS II) and aimed to assess the association between iron status and food insecurity among primary school children in Peninsular Malaysia. A total of 312 children (mean age 9.7±1.6 years) were included in this analysis. Iron deficiency status was determined by serum ferritin <15 µg/L, anaemia status was determined by haemoglobin concentration ≤114 g/L and ≤119 g/L for children aged 7-11 years and 12 years, respectively, while iron deficiency anaemia status was determined by measuring serum ferritin and haemoglobin concentration levels. Subjects with inflammation marked by elevated C-reactive protein (CRP) concentration >5 mg/L were excluded. Food insecurity was measured using the Malay-validated version of Radimer/Cornell Hunger and Food Insecurity Instrument. Overall, the majority of children had normal iron status (96.5%). Iron deficiency and anaemia prevalence were only 2.9% and 2.2%, respectively. Interestingly, only 1 child (0.3%) was found to have iron deficiency anaemia. Furthermore, more than half the children (60.9%) lived in food secure households. There was no significant difference in serum ferritin, haemoglobin concentration, or food security status between children living in urban and rural areas ( $p>0.05$ ). Significant difference was found for CRP ( $p<0.01$ ) with mean concentration 0.38±0.49mg/L and 0.67±2.47 mg/L among children living in urban and rural areas, respectively. No association between serum ferritin and food security status was found ( $p=0.741$ ). In conclusion, we were not able to identify an association between iron status and food insecurity. Nonetheless, other potential factors associated with iron status, such as sex and dietary intake, should be explored for future research.