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**Topic:** Food and nutrition security

**Title:** Association between food insecurity and micronutrient deficiencies in children assisted in the National Health System in Rio de Janeiro

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**Introduction.** The prevention and control of anemia and vitamin A deficiency are priorities in the public health agenda in Brazil, since these diseases have a significant impact on child health. The aim of this study was to analyze the association between food insecurity and micronutrient deficiencies in children aged six to 59 months. **Methods.** Cross-sectional study in a representative sample of children assisted in Basic Health Units at the National Health System in the city of Rio de Janeiro. Food insecurity (FI) was measured using the Brazilian Food Insecurity Scale. Hemoglobin and serum retinol were measured by automated counting in hematology unit, Coulter T890 brand and High-performance Liquid Chromatography, respectively. Linear regression models were calculated to estimate the association between the exposure and the outcomes. **Results.** 40.3% of the 519 families studied presented FI and 3.1% presented severe FI. The prevalence of anemia and vitamin A deficiency were 13.7 and 13%, respectively. Food insecurity was not associated with hemoglobin or serum retinol levels after adjustment for C-Reactive Protein, maternal education and children's age group. **Conclusion.** Hemoglobin and serum retinol levels did not differ according to food insecurity severity, showing that these nutritional deficiencies can affect different socioeconomic levels and require healthy food promotion actions achieving the whole population.