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**Title:** Household food insecurity, nutritional status and morbidity in Brazilian children

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**Introduction:** Household food insecurity (HFI) is associated with inadequate food intake and worse health status. In children, HFI is associated with a higher prevalence of hospitalizations, respiratory infections, fever, diarrhea, and nutritional deficiencies. The aim was to identify the association of HFI with anthropometric status, risk of vitamin A deficiency and anaemia, morbidities (cough and fever), and hospitalizations for diarrhoea and pneumonia in children under 5 years old.

**Methods:** Cross-sectional study using data from the 2006 Brazilian Demographic and Health Survey. Subjects were children (n 4064) under 5 years old. HFI was measured with Brazilian Food Insecurity Measurement Scale (EBIA). Vitamin A deficiency and anaemia were assessed in blood samples. Child morbidities were reported by the child's mother and included cough, fever, and hospitalizations for diarrhoea and pneumonia. Regression results were expressed as unadjusted and adjusted OR and corresponding 95% CI for severe food insecurity, with statistical significance set at  $P < 0.05$ .

**Results:** There was no association between HFI and vitamin A deficiency, pneumonia, wasting or overweight. Prevalence of cough, fever, hospitalization for diarrhoea and stunting were associated with degree of HFI severity. There was a significant association of morbidities and stunting with severe food insecurity. After controlling for confounders, the association between severe food insecurity and the prevalence of common morbidities remained strong, showing that severely food-insecure children had a greater likelihood of experiencing cough (adjusted OR=1.79) and of being hospitalized for diarrhoea (adjusted OR =2.55).

**Conclusion:** Severe HFI was associated with cough and severe diarrhoea among Brazilian children.