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**Title:** Prevalence of anemia and vitamin A deficiency (VAD) in preschool children assisted at the Brazilian National Health System (NHS) in the city of Rio de Janeiro, Brazil

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Introduction. The prevention and control of anemia and vitamin A deficiency (VAD) in children remain a priority in the public health agenda. A key-point for policy implementation is the updated estimate of the prevalence of these problems. The objective of this study was to estimate the magnitude of anemia and vitamin A deficiency (VAD) in preschool children assisted at the Brazilian National Health System in the city of Rio de Janeiro. Methods. A sectional study carried out in a representative sample (n = 536) of children (6-59 months) followed by the primary health care of NHS in the city of Rio de Janeiro. Blood samples were collected by venous puncture. Blood hemoglobin was measured by spectrophotometry and serum retinol by high performance liquid chromatography. The cutoffs for anemia and VDA were respectively hemoglobin <11g/dL and serum retinol <0,70 $\mu$ mol/L. Results. The prevalence of anemia was 13.7%, being higher in children under two years (28.3%) than those with two or more years of age (7.2%) (p<0.001). The prevalence of VAD was 13%, with no difference between the two age groups (10.8 and 13.9%, respectively, p = 0.369). Conclusion. The prevalence of anemia and VAD observed in this study were lower than the reported in national survey and local studies carried out in Brazil. According the WHO criteria, anemia and VAD in the city of Rio de Janeiro, can be classified as light and moderate public health problems, respectively.