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ORIGINAL RESEARCH COMMUNICATION

The use of multiple logistic regression to identify risk factors associated with anemia and iron deficiency in a convenience sample of 12–36-mo-old children from low-income families[1,2,3]

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Background: The prevalence of iron deficiency (ID) anemia among preschool-age children remains relatively high in some areas across the United States. Determination of risk factors associated with ID is needed to allow children with identifiable risk factors to receive appropriate education, testing, and follow-up.

Objective: We aimed to evaluate risk factors associated with anemia and ID in a sample of children participating in or applying for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Design: The study was a cross-sectional study of a convenience sample of 12–36-mo-old children recruited from WIC clinics in 2 California counties (n = 498).

Results: Current WIC participation by the child and a greater rate of weight gain were negatively associated, and current maternal pregnancy was positively associated with anemia (hemoglobin < 110 g/L at 12–<24 mo or < 111 g/L at 24–36 mo) after control for age, sex, and ethnicity. Maternal WIC participation during pregnancy, child age, and the intake of ≥125 mL orange or tomato juice/d were negatively associated, and being male and living in an urban location were positively associated with ID (≥2 of the following abnormal values: ferritin ≤ 8.7 μg/L, transferrin receptors ≥ 8.4 μg/mL, and transferrin saturation ≤ 13.2%).

Conclusions: Current WIC participation by the child and maternal WIC participation during pregnancy were negatively associated with anemia and ID, respectively. It is anticipated that the risk factors identified in this study will be included in the development of an educational intervention focused on reducing the risk factors for ID and ID anemia in young children.

Key Words: Anemia • iron deficiency • low-income status • child nutrition • Special Supplemental Nutrition Program for Women, Infants, and Children