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**Prevalence and predictors of anemia in a population of North Indian children**

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**Abstract**

**Objective:**Anemia is an important health concern worldwide, particularly in poor populations such as in India. The objective of this study was to determine the prevalence and predictors of anemia and iron status.

**Methods:**One thousand children ages 6 to 30 mo were included in a study undertaken in low- to middle-income neighborhoods in New Delhi, India. Children of Tigri and Dakshinpuri were identified through a community survey. Plasma concentrations of hemoglobin (Hb), soluble transferrin receptor (sTfR), folate, vitamin B12, and total homocysteine (tHcy) were measured. Predictors for plasma Hb concentration were identified in multiple linear regression models and considered significant if P-value <0.05.

**Results:**The prevalence of anemia (Hb concentration <11 g/dL) was 69.6% (n = 696) whereas the prevalence of iron deficiency (elevated sTfR i.e., >4.7 nmol/L) was 31% (n = 309). The main predictors for Hb concentration were plasma concentrations of sTfR (standardized beta coefficient [β], -0.49; P < 0.001), folate (β, 0.15; P < 0.001), vitamin B12 (β, 0.10; P < 0.001), tHcy (β, -0.11; P < 0.001) among the biomarkers. Length-for-age Z score (β, 0.08; P = 0.002) and family income (β, 0.06; P = 0.027) also predicted Hb concentration.

**Conclusion:**Anemia was common in this population. Iron, folate, and vitamin B12 status were important predictors for plasma Hb concentration. Improving the status of these nutrients might reduce the burden of childhood anemia in India.

**Keywords:**Anemia; Folate; Hemoglobin; Homocysteine; Vitamin B(12); sTfR.

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