

# The association of vitamin D deficiency with iron deficiency anemia in Turkish children aged between 4 months to 5 years old

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## Abstract

**Objectives:** Iron deficiency anemia (IDA) is most common in children under the age of five. Many studies have shown that the prevalence of vitamin D deficiency (VDD) is high in a similar age group. An association between IDA and VDD has been reported. Our study aimed to determine whether there is a relationship between VDD and IDA in Turkish children under five. **Methods:** Children aged four months to five years were included in a case-control study. Two groups were formed: children with IDA (group I) and healthy controls without IDA (group II). Serum 25(OH) vitamin D levels lower than 20 ng/mL were considered deficient. **Results:** Group I (n=211, 24.8±17.5 months, 45% male) and group II (n=149, 26.4±17.7 months, 44% male) mean ages were similar (p>0.05). The median vitamin D level was lower in group I (22.5 ng/ml) than group II (32.3 ng/mL) (p=0.001). The frequency of VDD was 38.5% in group I and 14.5% in group II (p<0.001). Sixteen children had signs of subclinical rickets (All <36 months); 14 of them were in group I (p=0.034). **Conclusions:** VDD is more common in young children with IDA than in healthy controls. Most of the children who showed signs of subclinical rickets had concomitant IDA. Doctors should keep in mind that VDD and even subclinical rickets in children younger than 36 months may be associated with IDA. **Key Words:** Children, Iron deficiency anemia, Subclinical rickets, Vitamin D deficiency

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