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Are Vitamin D Drops Containing 400 IU Daily Adequate for Preventing Vitamin D Deficiency?

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Dear Editor,

The adequacy of vitamin D intake is necessary to optimize the bone health during the rapid growing phase of infancy. Vitamin D also affects many organs playing an important role in maintaining general health. Vitamin D deficiency may be associated with cardiovascular disease, diabetes, cancer, and autoimmune diseases (1).

The incidence of vitamin D insufficiency and nutritional rickets has decreased in Turkey following the nationwide vitamin D prophylaxis programme undertaken by the Turkish Ministry of Health in 2005. This programme provides free vitamin D drops containing 400 IU daily for all children under 12 months of age (2). Our study demonstrated that this dose is not adequate for preventing vitamin D deficiency and insufficiency (3). Although İzmir has an abundance of sunshine almost throughout the year, our study showed that 40.9% of infants were sufficient, 28.4% of infants were insufficient, and 30.7% of infants were deficient in vitamin D levels on 400 IU of vitamin D supplementation (2). Halicioglu et al (4) also found that the rates of vitamin D deficiency and insufficiency were high in infants from a temperate region of Turkey who received daily 400 IU vitamin D supplementation. Because we found a high prevalence of vitamin D insufficiency and deficiency in infants who received 400 IU of vitamin D supplementation, we speculated that vitamin D prophylaxis dose should be increased from 400 IU to 600 or 800 IU in infants aged 0-12 months. We observed no patients with signs of hypocalcaemia, fits or tetany, and rickets in our study because dietary calcium intake was adequate in our patients despite vitamin D deficiency or insufficiency. We also reported high rates of maternal vitamin D deficiency and insufficiency in our study (2). The infants are at a high risk of vitamin D deficiency in the first year of life. Vitamin D supplementation is also important for decreasing the prevalence of severe early childhood caries with maintaining normal serum 25-hydroxy vitamin D (5).

Vitamin D prophylaxis dose might spark a debate in infants for maintaining general health. Further investigations would therefore be needed to clarify the optimal amount of vitamin D supplementation to the infants aged 0-12 months.

Keywords: Vitamin D insufficiency, vitamin D deficiency, vitamin D supplementation

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