Abstract

**BACKGROUND:** Studies indicate that intake of vitamin D in the range from 1,100 to 4,000 IU/d and a serum 25-hydroxyvitamin D concentration [25(OH)D] from 60-80 ng/ml may be needed to reduce cancer risk. Few community-based studies allow estimation of the dose-response relationship between oral intake of vitamin D and corresponding serum 25(OH)D in the range above 1,000 IU/d.

**MATERIALS AND METHODS:** A descriptive study of serum 25(OH)D concentration and self-reported vitamin D intake in a community-based cohort (n = 3,667, mean age 51.3 ± 13.4 y).

**RESULTS:** Serum 25(OH)D rose as a function of self-reported vitamin D supplement ingestion in a curvilinear fashion, with no intakes of 10,000 IU/d or lower producing 25(OH)D values above the lower-bound of the zone of potential toxicity (200 ng/ml). Unsupplemented all-source input was estimated at 3,300 IU/d. The supplemental dose ensuring that 97.5% of this population achieved a serum 25(OH)D of at least 40 ng/ml was 9,600 IU/d.

**CONCLUSION:** Universal intake of up to 40,000 IU vitamin D per day is unlikely to result in vitamin D toxicity.

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