Vitamin D Deficiency among Healthy Children: An Undisputed and Booming Problem

Sir,

We read with interest the recently published article entitled, "Prevalence of Vitamin D deficiency (VDD) and associated risk factors among children residing at high altitude in Shimla district, Himachal Pradesh, India" by Kapil *et al*.[1] and would like to make few important comments. The authors noted a high prevalence (93%) of VDD (serum 25[OH] D level <20 ng/ml) among school children aged 6–18 years residing at high altitude in Shimla. This study contributed significantly to the limited literature on VDD in apparently healthy children in India.[2-4]

The authors stated that children in the age group of 6–11 years were not included for the assessment of socioeconomic status (SES), physical activity, sunlight exposure, and dietary pattern as these children were unable to provide valid information on these parameters. By doing so, they had missed important information from 1/3rd of children which could be simply obtained from the parents when consent was obtained. It was not clear how sample size was calculated? Whether 25% was estimated prevalence of VDD or Vitamin D sufficiency? If it was the prevalence of VDD, how it was arrived upon as various studies from India demonstrated that the prevalence of VDD is in the range of 85%–98%? Authors mentioned that VDD was more common in females, children belonging to upper SES, those having so-called symptoms due to VDD, sedentary physical activity level, sunlight exposure <150 min, and vegetarians. However, on having a look at Table 1, it can be found that the pattern was similar in Vitamin D deficient and Vitamin D insufficient/sufficient groups with no statistically significant difference except the fact that VDD was more common in females (54.3% vs. 27.3%, $P < 0.001$). There was no mention about how many children were receiving Vitamin D and calcium supplements. It was not mentioned how Vitamin D deficient children were treated.

We conducted a study and demonstrated that the prevalence of VDD in apparently healthy children ($n = 338$), 3 months-12 years, belonging to upper SES in Chandigarh was 40.24% and 8.53% of them had clinical signs of VDD.[4] On univariate analysis, VDD was associated with relatively younger age group, female sex, failure to thrive, exclusive breastfeeding, inadequate sun exposure, and no Vitamin D supplements.[4]

The prevalence of VDD among healthy children is varied in different studies. This difference may be due to different populations studied, latitude of residence, sunlight exposure, skin color, sunscreen use, weather, environmental pollution, dietary intake, Vitamin D supplementation, different methods used for measuring 25(OH) D level, and different cutoff values considered.[4] A daily intake of 400 IU/day of Vitamin D for all infants, children, and adolescents is recommended by the American Academy of Pediatrics.[5] In India, there are no such guidelines for routine Vitamin D supplementations

or regarding fortification of food products. High prevalence of VDD in Indian children advocates for routine Vitamin D supplementation throughout the childhood.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Kapil U, Pandey RM, Goswami R, Sharma B, Sharma N, Ramakrishnan L, *et al.* Prevalence of Vitamin D deficiency and associated risk factors among children residing at high altitude in Shimla district, Himachal Pradesh, India. Indian J Endocrinol Metab 2017;21:178-83.
2. Marwaha RK, Tandon N, Reddy DR, Aggarwal R, Singh R, Sawhney RC, *et al.* Vitamin D and bone mineral density status of healthy schoolchildren in Northern India. Am J Clin Nutr 2005;82:477-82.
3. Puri S, Marwaha RK, Agarwal N, Tandon N, Agarwal R, Grewal K, *et al.* Vitamin D status of apparently healthy schoolgirls from two different socioeconomic strata in Delhi: Relation to nutrition and lifestyle. Br J Nutr 2008;99:876-82.
4. Angurana SK, Angurana RS, Mahajan G, Kumar N, Mahajan V. Prevalence of Vitamin D deficiency in apparently healthy children in North India. J Pediatr Endocrinol Metab 2014;27:1151-6.
5. Wagner CL, Greer FR; American Academy of Pediatrics Section on Breastfeeding; American Academy of Pediatrics Committee on Nutrition. Prevention of rickets and Vitamin D deficiency in infants, children, and adolescents. Pediatrics 2008;122:1142-52.

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