Clinical Nutrition ESPEN 31 (2019) 100–101

Contents lists available at ScienceDirect

Clinical Nutrition ESPEN

journal homepage: http://www.clinicalnutritionespen.com

Letter to the Editor

# Effect of vitamin D supplementation on serum vitamin D status in children on anti-epileptic drugs

*Keywords:*
Vitamin D deficiency
Epilepsy
Nutrition
Supplementation

*Dear Editor,*

We read with great interest, the recently published article by Viraraghavan and colleagues [1] in February 2019 issue of your journal and found it very useful and interesting. In this randomized control trial, authors studied the effect of high dose vitamin D supplementation on serum vitamin D status of children with newly started anti-epileptic drug therapy. However, we would like to make certain points.

Authors classified vitamin D deficiency as severe deficiency (<10 ng/mL), deficiency (10–20 ng/mL), insufficiency (21–29 ng/mL) and sufficiency (30 ng/mL). However, a recently published article [2] on different guidelines on vitamin D supplementation in children suggest different cut off levels (deficient as <12 ng/ml, insufficient as 12–20 ng/ml and sufficient as >20 ng/ml) (Table 1). Vitamin D deficiency is pandemic and various studies have shown high prevalence all over the world [3,4]. Food fortification and adequate supplementation of vitamin D is required to ensure the normal serum levels. However, one must be careful about the overzealous use and subsequent adverse effects [5]. The cut off value of 20 ng/ml covers the need of nearly 97% healthy population and increasing the cut off value will surely increase the prevalence of vitamin D deficiency, treatment rate and vitamin D toxicity.

**Table 1**
Cut off levels of vitamin D (25-OHD) for defining deficiency by different guidelines.

| | Deficiency | Insufficiency | Sufficiency |
|---|---|---|---|
| Used in current study | ≤20 ng/mL | 21–29 ng/mL | ≥30 ng/mL |
| British Pediatric and Adolescent Bone Group | 10 ng/mL | 10–20 ng/mL | >20 ng/mL |
| The Endocrine Society Global Consensus Recommendations 2016 | <12 ng/mL | 12–20 ng/mL | >20 ng/mL |
| ESPGHAN | 10 ng/mL | 11–19 ng/mL | ≥20 ng/mL |
| American academy of Pediatrics | <12 ng/mL | 12–20 ng/mL | >20 ng/mL |
| Indian Academy of Pediatrics | <12 ng/mL | 12–20 ng/mL | >20 ng/mL |

In this trial, both the groups were different in their baseline vitamin D levels. The mean vitamin D levels in group A were 25 ng/mL, while in group B it was 18 ng/mL. Almost 50% participants in group A had normal levels and in group B, only 28% had normal levels. Although authors had mentioned that levels were comparable in both the groups ($p = 0.10$) but it was not mentioned in statistical methods how they compared the means. In the methodology, they mentioned that Pearson correlation test was used to find the strength of correlation between 25(OH) D and other biochemical variables. However, we did not find any such correlation in results and tables. Moreover, vitamin D levels were not normally distributed and we should not use Pearson's correlation test for unequally distributed data. In such condition, Spearman's rank correlation method which is a non-parametric version of Pearson's correlation method would have been better.

## Funding/support

None declared.

## Disclaimers

Nil.

## Conflicts of interest

Nil.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.clnesp.2019.03.011.

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14 March 2019