

Correspondence

Methodologic considerations in trials assessing prevention of asthma exacerbation by vitamin D supplementation

To the Editor:

We read the article by Majak et al¹ with great enthusiasm, especially because of their valuable efforts to verify new hypotheses. As we are planning to conduct a similar study in our hospital, this article was relevant to our objectives. There seemed to be a few methodological considerations in need of discussion by the authors; we want to mention them in no order of importance.

Although “newly diagnosed asthma” is a clinically acceptable terminology, we expected the authors to mention asthma’s “severity” category, too; it is somehow obvious from the presented FEV₁ scores or treatment dosages that possibly “mild-to-moderate” asthma has been considered. But in order for other researchers to be able to replicate the findings of this study, severity category and also the approach that the authors have taken for inclusion of such patients should be clearly stated. This generality was also true for “other chronic diseases” as exclusion criteria, because this entity was not clearly defined and the rationale for using it for exclusion was not well stated.

Declaring and (the need for) controlling the effect of seasonal variation on asthma severity seems necessary in this “6-month trial,” something that may have an effect on main outcome measures in the mind of researchers.²

The odds ratio of 8.6 for the risk of asthma exacerbation with a wide CI from logistic regression analysis gives somehow unrealistic impressions for the effect of just one factor, namely, “decrease of 25(OH) D.” Newly published articles still show the complexity of the effects of vitamin D on the immune system and its potential role in asthma, regarding which the authors mention that the net effect of vitamin D on (and its role in) asthma is still waiting to be answered.³ We assumed that adjustments on age, sex, or any other factors relevant to asthma exacerbation could

be reported (if any had been done), a fact that might change the calculated odds ratio and its CIs.

Sample size justification needed more discussion; in a few backcalculations for determining the sample size for our own study,⁴ we used changes in “ATAQ score,” “FEV₁,” “25(OH) D level,” and “the percentage of children who experienced asthma exacerbation” as parameters for choosing the right formula. The resulting sample size numbers differed substantially, and this gave rise to a feeling whether the power of this study (which used 48 participants) had been enough to examine robust changes.

Lastly, the reporting style and the *P* values in Table II were suitable for “before-after” changes within groups, but because this was a parallel clinical trial, we expected to read the *P* values for “between-group” comparisons as it might have changed our impression of the effectiveness of vitamin D, not just the conventional kind of treatment that was the same in both intervention and control groups.

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