

Serum Vitamin D Level in Patients with Iron Deficiency Anemia

The paper titled "Comparison of the serum vitamin D level in patients with iron deficiency anemia, beta thalassemia with the control subjects" was assessed and the following needs to be explained (1).

Usually, the rationale for the research should be explained in the introduction part. This part is too long and contains unnecessary information which does not help to address the possible association of vitamin D deficiency, neither with a genetic condition such as beta thalassemia a minor, nor with iron deficiency anemia. To address these issues, the writer should refer to some physiologic or pathophysiologic explanation of the research.

Regarding the design method, I should say that there is not such a method as "descriptive-analytical cross sectional" design. Cross sectional descriptive research is meant to answer epidemiologic questions and have some obligations such as random sampling, which was not the case in this study (2). On the other hand, analytical studies are designed to find the role of a risk factor in developing an outcome. Case-control studies and cohort studies are the examples of analytical designs. In this case, vitamin D deficiency is not the risk factor for neither iron deficiency nor the beta thalassemia. Thus, there is no reason for selecting such a method. However, an association of two nutritional disorders is well known and is addressed in the discussion of the paper (1). I believe this paper is the result of an irrational sampling.

The sample size should be explained in any research methodology whether the study is cross-sectional or analytic, but in this article the sample size is not rationalized.

Given an important point in analytical research is the way that confounding variables are being dealt with, this paper does not mention these variables such as job, sun exposure, diet and specially using nutritional supplement are not addressed. However, two important variants of age and gender have been matched (1).

There are a large number of researches regarding vitamin D deficiency in Iran that are not addressed in this paper. In some of these, the definition of vitamin D deficiency is on the basis of serum parathyroid hormone (PTH) (3). In a systematic review and meta analysis of Heshmat et al. 77% of Iranian population had vitamin D deficiency (4). This high prevalence could be associated with any, even unrelated condition.

Result should be started with introducing the groups including the matched variables such as age and gender. For showing the results, table is better than the text. Without statistical tests and P values, explaining the difference is not acceptable in scientific writings.

Discussion part of the paper was mostly the repetition of the introduction. I was not convinced by the discussion. It seems that the concept of "association" was confused with "causation".

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The main objective of this study was to compare the lack of vitamin D or association of iron deficiency anemia with healthy individuals.

The case group were the patients with iron deficiency anemia and the two controls were Thalassemia Minor and Healthy people. The Thalassemia Minor Group, in a microcytic anemia, was similar to the control group. The cause of microcytic is genetic rather iron deficiency.

The Sampling was census. The participants were the students who have been enrolled in that year; therefore, the Random sampling is not considered.

The design of a research defines the type of the study.

The printed research was designed in two categories: Cross sectional study (The Nutritional Target) and Analytic (comparison between the three groups)

Since all the participants were students, the impact of the job, nutrition and... other factors, were the same.

Considering the prevalence of vitamin D deficiency, less than 50 percent, in control group shows that this deficiency could be varied in different groups.

This study basically was designed just to express the association or lack of association of iron deficiency anemia.

As shown in the results and discussion, The amount of vitamin D deficiency in patients with iron deficiency was more than the control group.

Given that Vitamin D deficiency in patients with iron deficiency brings about Various complications for Growth and health, this study largely emphasizes follow-up of these patients.

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