Reviewer's report

Title: The effects of vitamin D2 or D3 supplementation on glycaemic control and related metabolic parameters in people at risk of type 2 diabetes: protocol of a randomised double-blind placebo-controlled multi-centre trial

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Reviewer: Tirang R. Neyestani

Reviewer's report:

The effects of vitamin D2 or D3 supplementation on glycaemic control and related metabolic parameters in people at risk of type 2 diabetes: protocol of a randomised double-blind placebo-controlled trial

Menon and colleagues have designed a very comprehensive trial on the efficacy of two vitamin D isoforms at high dosages for 4 months, with circulating 25(OH)D and HbA1c as the primary outcome and several other biochemical variables as the secondary outcome.

The study is well designed and using HPLC/MS for 25(OH)D determination further adds to the validity of the findings. However, there are only some very minor and a few major points:

Minor issues:
1- Abstract, Methods, last sentence would be better if it were “participants are recruited”, though may have recruited your participants already!
2- P7: Please change citations from [23-24][25-27] to [23-27].
3- P16: I didn’t get that if blood samples taken on the second and third visits are analyzed at the same time or they are evaluated at the end of the intervention. It is stated that all variables, except for A1c (and probably FSG!), will be tested finally. However, “safety analysis” as a monitoring approach is expected to be done at the time of bleeding. Please make more clarification.
4- Definition of vitamin D status (deficiency, insufficiency and sufficiency, based on serum cutoffs for 25(OH)D) is needed.

Major issues:
1- I do believe that anthropometric data are necessary. There are some evidence suggesting that vitamin D may affect body weight and even abdominal fat. Needless to say that these two variables can influence many (if not all) of the metabolic variables being tested in this study. It will be quite valuable if estimation of both total and abdominal body fat is also done (at least in a subsample).
2- Considering the above point, dietary assessment is also necessary.
3- You may evaluate the duration of sun exposure via a questionnaire.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

nothing to declare