Reviewer’s report

Title: The Association of vitamin D status and fasting glucose according to body fat mass in young healthy Thais

Version: 1 Date: 17 September 2013

Reviewer: Nansi Boghossian

Reviewer’s report:

In this study, the authors examined the association between vitamin D status and fasting glucose in a group of young healthy Thais. Several issues should be addressed:

Major

Did the authors examine graphically the relationship between vitamin D and FPG and found that it is linear?

Did the authors test first for the significance of the interactions and based on that subsequently stratified the data? I would expect to find an interaction between gender, body fat, and FPG. What about an interaction between age and FPG? All of these should be tested first.

Line 177: The lower circulating vitamin D among obese subjects is due to the trapping of the vitamin D in the adipose tissue. This mechanism is very different from a VDR knockout mice and such an analogy between the two should not be used.

The argument made about the differences in the association between FPG and vitamin D based on body fat mass is not consistent. Tertile 1 showed a positive association while the 2nd tertile showed a negative association and the 3rd tertile showed a positive association again.

Are other measures than FPG available? Fasting insulin for example? What about other measures that can potentially affect both diabetes risk and vitamin D such as calcium intake for example.

Minor

Please provide a reference of the standardized techniques that were used in the measurements of the anthropometrics or describe the techniques briefly.

Page 7 line 135, the wording is contradictory strong positive association although weak.

Since the authors measured both vitamin D2 and D3, were the results any different from the total vitamin D measurement?

Discussion line 145: Please elaborate on the difference between Caucasians and Asians has not been well recognized. Difference in what?
Line 188. And is likely to decrease with age. What is the reference?

No references cited for lines 196-199.

Tables 1 & 2 can be easily combined. Table 3 can be included as text rather than have a table on its own.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests