Reviewer's report

Title: HbA1c and cardiovascular and renal risk in an adult Mediterranean population

Version: 1 Date: 2 May 2013

Reviewer: Michal Melamed

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Major Compulsory Revisions
1) For the estimation of kidney function, you should use the CKD-Epi equation, not the MDRD equation. Most of your population has normal kidney function and the CKD-Epi equation estimated GFR better in people with normal kidney function.

2) In your table 1, who do you use different units for creatinine for serum creatinine and urinary albumin/creatinine (mg/dl vs. mmol?)

3) Also in table 1, In the hba1c column, what is the number (32, 36, 41, 56) and the level? It says (mmol/mol) (%) - are these reversed?

4) I found table 2 very confusing. There are 3 models presented for each dependent variable but there are 4 odds ratios for each one? Can you line these variables up with the odds ratios? - I assume the first one is HbA1c, the second is diabetes, the third is HbA1c again and then known diabetes again? It may also be interesting to stratify your sample by diabetes status and show the data visually. Is HbA1c more associated with the outcomes in diabetics or non-diabetics?

Minor Essential Revisions
1) You need to mention in the abstract that you also measured creatinine not just hgbA1c and albuminuria because creatinine is one of your outcome variables (kidney function).

2) In the introduction you talk about Malaga having a unique environmental and demographic factors but I don't think you talk about it again in the paper. Were you trying to make a point with this statement that you may want to elaborate on later?

3) I assume that your definition of diabetes including a HgbA1c of >6.5 is a standard definition - can you put a reference to this effect (page 4).

4) In your conclusion, you say that HbA1c level is an independent risk factor for CKD and CVD but I am not sure you can say that from your study. Your study is cross-sectional and therefore causality cannot be inferred (as you mentioned). The term "risk factor" implies causality or at least temporally coming before the event - you do not show this in your study, so I suggest you use "associated" language - i.e. HbA1c is associated with a higher prevalence of CKD and CVD.
Discretionary Revisions
1) Do the authors have any information on newer markers of glycemia, like glycated albumin? Maybe a discussion, or future direction about newer markers may make the discussion interesting.

2) Page 6 - here is an extra v in 37vmmol/mol

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

No competing interests.