Reviewer's report

Title: Epidemiology and Risk Factors of Chronic Kidney Disease in India - Results from the SEEK (Screening and Early Evaluation of Kidney Disease) Study

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Reviewer: Claudine T Jurkovitz

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The objective of this study is to determine the prevalence and risk factors for CKD in India. To do so, the authors implemented a screening program in 12 centers geographically located in different regions of India.

There are some limitations in the description of the methods and interpretation of results, as follows:

1) Major compulsory revisions

1.1 The objective of the study is unclear. The authors state (page 4) that the SEEK project was designed and performed to generate data to determine the prevalence and risk factors for CKD in India. However, the prevalence of CKD in the population cannot be assessed from a convenience sample, as recognized by the authors in the discussion. Are the characteristics of the overall sample (n=5,588) similar to the characteristics of the overall population in India (age, gender, prevalence of diabetes, of hypertension?)

1.2 What made a person eligible to participate in the screenings? The authors compare the SEEK program to the KEEP program. KEEP specifically targets people at high risk for kidney disease, such as patients with diabetes, hypertension, family history of kidney disease, or family history of diabetes or hypertension. Were the same criteria applied to SEEK? The inclusion/exclusion criteria should be listed in the methods. The objectives of the study would also be clearer if the target population was better defined.

1.3 The limitations of using a dipstick to estimate proteinuria should be discussed. Proteinuria is generally overestimated when measured using a dipstick method (Am J. Kidney Dis. 58(1): 19-28; 2011)

1.4 The results shown in table 2 are interesting and a brief description of the characteristics associated with CKD would be helpful (Patients with CKD were older, more likely to be male, more likely to have a high school diploma, more likely to be urban, less likely to have a low income, more likely to be overweight or obese, to have diabetes, hypertension and cardiovascular disease than patients without CKD).

1.5 Anemia is not a risk factor for CKD but a consequence of CKD. The authors may want to change the expression “Risk factors”, to “Characteristics associated with CKD”.
1.6 In figure 5, the prevalence of each characteristic (hypertension, diabetes etc…) should be shown for both CKD and non-CKD.

1.7 The discussion about the CKD prevalence could be shortened (pages 14-15-16). The authors may want to focus on their results, for example trying to explain why patients with CKD seem to be better educated, wealthier and more urban than those without CKD. These are surprising results when compared for example to the KEEP findings. Likewise, the geographic variation is striking and should be discussed. For example why is the prevalence of CKD among the screening participants in Visakhapatnam, Andhra Pradesh is almost 50% (46.8%) while only 152 patients were screened from this site? How can the difference in CKD prevalence between the sites be explained? Is there a selection bias? How were participants recruited?

2) Minor Essential Revisions

2.1. The use of the Spearman correlation as described in table 4 should be included in the statistical method paragraph.

2.2. The numbering of the references page 4 should be changed to a more standard numbering system. For example on line 2 “hypertension (3) and (4)” should be changed to “hypertension (3-4)”, on line 8, “renal replacement therapy (7) and (6) and (8)” should be changed to renal replacement therapy (6-8).

2.3. Page 9, last line: “when there was one or more of your cells…”, should be changed to “when there was one or more cells…”

2.4. Page 10, last line: Albuminuria is part of the definition of CKD. So, it is not surprising that patients without CKD do not have any albuminuria. Please reword the last sentence of page 10 after deleting “versus 0”.

2.5. Page 11, line 9: Please indicate the figure number at the end of the sentence about CKD prevalence in the different regions.

2.6. Page 11, CKD risk factors paragraph: please indicate the table number at the end of the sentence about the correlations.

2.7. Page 12, please indicate the table number at the end of the paragraph regarding the comparison between the performance of the MDRD and CKD-Epi equations.

2.8. Page 14, 3rd line from the bottom: the prevalence of reduced GFR is stated as being 6.1% whereas it is 5.9% in the results. Likewise, the prevalence of albuminuria is stated as being 11.3% whereas it is 13.7% in the results.

2.9. Page 15: The sentence beginning with “In a recent evaluation…” and ending with “142 CKD cases” is unclear and should be reworded.

2.10. Page 17, line 4: It is not appropriate to try to extrapolate the prevalence of CKD found in a selected population to the entire population of India. If the targeted population was better defined as suggested above in question 1.2 (for
example patients at high risk of kidney disease, or patients with diabetes or with hypertension) then some extrapolation may be possible provided the population prevalence for diabetes or hypertension was known.

2.11. Figure 4: Please correct the typos in the title.

**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:**

'I declare that I have no competing interests'