Reviewer's report

Title: Chronic kidney disease and underdiagnosis of renal insufficiency among diabetic patients attending Butajira hospital, Southern Ethiopia

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Reviewer: Varun Agrawal

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BMC Nephrology
Chronic kidney disease and underdiagnosis of renal insufficiency among diabetic patients attending Butajira hospital Southern Ethiopia

Summary:

This is a retrospective observational study comparing performance of eGFR<60 vs serum creatinine >1.5mg/dl in identifying diabetic patients with chronic kidney disease in a hospital in Ethiopia. The authors found that more patients had chronic kidney disease based on the eGFR criteria (whether using MDRD or creatinine clearance equations) when compared with the serum creatinine criteria used by the local physicians. They conclude that eGFR rather than creatinine should be used to make the diagnosis of CKD among patients at risk such as diabetes.

While the findings are not novel, it is of interest to the international nephrology community to have this data available. Also, it can help in the education of local physicians to use eGFR instead of serum creatinine to identify CKD. Few clarifications need to be made as in my comments below.

Major Comments

1) Sampling:
The authors chose a convenience sample. They need to give more information on how patients were selected for the study.

2) Measures:
Would results be different if the CKD-EPI equation were used as opposed to the MDRD equation?

Has any eGFR formula been validated in the Ethiopian population - ie has eGFR been compared with measured GFR in this population. If so, pls provide data.

Pls state the ethnicity of the population in table 1 and whether the 1.210 factor for African-Americans was used in this study.

Was the measurement of serum creatinine standardized? If not, pls state as a limitation as this can influence the performance of eGFR equations.
Urine albumin or protein data is needed to identify CKD stages 1 and 2. As this data was not presented (and possibly not available), this data should not be presented.

3) Bias:
Selection bias is possible as this was a convenience sample. Pls state this as a limitation.

4) Analysis:
Simple yet appropriate. The creatinine clearance equations are no longer used because it can overestimate GFR in overweight/obese adults. In my opinion, it would suffice to present the data on the eGFR equation.

The influence of age and gender (paragraphs 5 and 6) in results should precede the results of the multivariate analysis.

Results of multivariate analysis needs to be presented in a table.

5) Importance:
While the findings are not novel, it is important to have this data available to the nephrology community. The study would be even more important if the authors could compare eGFR with measured GFR in the study sample.

Minor Comments
1) Title: remove ‘renal insufficiency’. Pls use CKD throughout the text. Remove name of hospital in title.
2) Abstract: Conclusion is confusing ‘...use of GFR estimation equation to derive GFR....’ needs to be simplified.

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

Declaration of competing interests:
I declare that I have no competing interests