Reviewer's report

Title: Operationalization of bi-directional screening for tuberculosis and diabetes in private sector healthcare clinics in Karachi, Pakistan

Version: 1 Date: 11 Nov 2018

Reviewer: Akshay Gupte

Reviewer's report:

Thank you for the opportunity to review this manuscript. The authors conducted a study to investigate the feasibility of a bidirectional TB-diabetes screening program in the private health sector in Pakistan. The authors found very low uptake of TB and diabetes screening in private clinics. This manuscript aims to address important operational gaps in the implementation of the TB-diabetes bi-directional screening strategy recently endorsed by the WHO, particularly in the private health care sector which is often understudied and may account for a considerable burden of missing cases in high burden countries.

1. Line 125-128. The authors mention screening activities being undertaken at 80 health clinics. Can the authors provide more information on the type of clinics i.e. respiratory clinics vs diabetes clinics vs general primary care clinics to better understand the level of implementation of screening activities? Also, was screening based on a convenience consecutive sample or a more systematic / random sampling approach?

2. Line 145-149. Can the authors clarify how previously diagnosed or known TB or diabetes cases were handled in the study and analysis?

3. Line 149-151. Can the authors specify the cutoff used to diagnose pre-diabetes and diabetes and the type of test used to measure RBS?

4. Line 151-154. The authors mention that those with both presumptive TB and diabetes were referred for either TB or diabetes screening at the discretion of the treating physician. Can the authors comment on what proportion of these individuals with a presumptive diagnosis of both TB and diabetes were referred to TB screening vs diabetes screening? How many were referred for both? Was this referral affected by participant, physician or clinic characteristics or price of test considering associated reimbursement?

5. Lines 164-167. Please specify how the primary study outcomes will be calculated, particularly for diabetes screening where the authors have instead provided definitions for diabetes burden.
6. Line 170 and beyond, Results. This manuscript would benefit from a "Table-1" describing the general socio-demographic and clinical characteristics of the study population. Additionally, identifying participant, physician or clinic characteristics associated with TB and diabetes uptake will be informative, if these data are available.

7. Line 175-176. The authors report on the prevalence of prediabetes and diabetes among TB patients in their program. Are these data from another study or were these calculated from the current analysis? If it is the latter, the authors should specify this in the methods. Additionally, as the authors rightly noted, there are considerable limitations to reporting estimates as prevalence in this study and defining estimates as such should be avoided.

8. Line 274-275. The speculation that test costs is a likely barrier to test uptake seems reasonable but is not supported by data presented in this manuscript. It may be better to move this point to the discussion rather than conclusion.

9. Figure-1. How were participants with both TB and diabetes accounted for in this figure? It seems they were included in both arms thus duplicating results, can the authors please clarify? It may be more informative to create a 3rd arm in this figure specifically for those with both presumptive TB and diabetes as this is clinically and operationally a distinct group.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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