Reviewer's report

Title: Problem drinking as a risk factor for tuberculosis: a propensity score matched analysis of a national survey

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Reviewer: Mats Ramstedt

Reviewer's report:

This study investigates the association between problem drinking and risk of tuberculosis (TB) by analysing data from a South African general population survey. The main focus of the paper is to control for a number of possible confounders in order to assess the size of the assumed causal effect of problem drinking and risk of TB. A propensity score approach is used to match problem drinkers in the survey with “moderate drinkers/abstainers” and prevalence odds ratios of TB between matched groups were estimated to 1.97, i.e. with control for several confounders, problem drinking (measured by CAGE) was associated with a twofold increase in prevalence of past TB diagnosis. It is concluded that the results gives further support for a causal effect of problem drinking on TB.

The paper addresses an interesting subject, is well written and structured and applies an appropriate methodology. My main concerns are related to the data used and the absence of raising some of the limitations of the data. These concerns are presented below.

Major revisions

1. There is no mentioning of the non-response rate of the survey and subsequently no discussion of possible limitations from non-response on the results. This must be included in a paper based on general population data.

2. It is well known that problem drinking is an unstable condition in surveys and that e.g. less than half being diagnosed with dependence at T1 keep this diagnose at T2. This is related to the general problem with causality in cross-sectional surveys that, although mentioned by the authors, could be a theme to elaborate in the limitation section.

3. The measurements of TB and problem drinking (CAGE) are not ideal as they are not synchronized in time. The indicator of TB includes present, past and both TB in the same question whereas CAGE uses lifetime problem drinking. Possible limitations and implications of this should be more clearly acknowledged in the paper.

Minor revisions

4. It would be interesting to compare risk of TB among problem drinkers separately with non-drinkers and moderate drinkers to see if this would change the results.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

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