Reviewer's report

Title: Diagnostic accuracy of an integrated respiratory guideline in identifying patients with respiratory symptoms requiring screening for pulmonary tuberculosis: a cross-sectional study

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Reviewer: Gunnar Aksel A Bjune

Reviewer's report:

General
This paper is addressing an important question (can nurses using a fixed algorithm for defining "tuberculosis suspects" function as frontline clinicians in a tuberculosis control program integrated in PHC?). The design is sound, the study population is large and representative, the statistical analysis advanced and the conclusions based on the findings. Still I wonder, why did I not feel that the paper told me anything new?

May be because there is no description of the algorithm used, - only a reference. A web address taking you directly to the algorithm or a short description in the text would have been good.
Or..may be because some deviations from the standard WHO guidelines for tuberculosis control were not clearly described as part of the experimental design and discussed/validated as such?
Particularly three such deviations deserve comments:
1. Two sputum samples are examined instead of three. The need for three samples has been well stated in the past (at least by International Union against Tuberculosis and Lung Disease). As the use of nurses to screen patients in a PHC unit caused an increase in number of suspects compared to when physicians did the screening, it is understandable that a reduction in number smears per patient could be a way to protect the laboratory against work over-load. But then precautions should be taken, and described, to prevent wrong diagnosis - including clerical errors.
2. The decision by the primary physicians, here used as the reference, seems to relay heavily on the use of chest x-ray. The strengths and shortcomings of this in relation to prevalence of tuberculosis is discussed, but not the major problem: that most physicians in most programs have to make the diagnosis without x-ray. Several studies have looked at the contribution of x-ray in diagnosing tuberculosis and mostly found that the contribution is small.
3. The cut-off for duration of cough was set to two weeks instead of three (WHO guidelines). The argumentation for this (and even for making it shorter than two weeks) is good. If they actually recorded the duration at presentation for their patients, it would be interesting to see how much the change of cut-off increases the number of suspects diagnosed and the ultimate gain in diagnosing active tuberculosis. The conclusion (page 17) that "TB should be suspected in all patients with cough, even when of a shorter duration than 2 weeks", is thus hanging in the air.
The major shortcoming of the study is clearly expressed by the authors themselves: that smears were not taken from the patients diagnosed as tuberculosis suspects by the nurses, but not by the physicians. The argumentation to state that it is "unlikely that those that they (physicians) viewed as not requiring sputum examination had active TB." is, to my opinion, weak.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
None

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. Reference no. 26 is not in my reference list.
2. According to table 1 two patients were already on treatment for tuberculosis. Were they excluded?
3. The accounting of patients screened, enrolled and included (page 11) is difficult to follow in detail. (Was the ultimate number of patients included 1378 or..?)
4. Abbreviations are not handled 100% correctly.

Discretionary Revisions (which the author can choose to ignore)
Suggestions for such revisions can be found in my general comments above.
What next?: Accept after minor essential revisions

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

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests.