Reviewer's report

Title: Identification of adults with obstructive airway disease: Validation of a postal respiratory questionnaire.

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Reviewer: Mike Thomas

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Other (see below)

Thanks for sending me this interesting paper to review.

I consider that it is sound and worthy of publication. It has no significant flaws or weakness although there are several points that couple be addressed in the introduction and discussion on a discretionary basis.

1. Is the question posed by the authors new and well defined?
The authors are involved in innovative work on questionnaire screening for obstructive airways disease in primary care and this original paper deals with the validation of a postal questionnaire.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?
Because of the difficulties in making a 'gold standard' diagnosis of asthma, the authors validate the questionnaire against a panel of 3 expert respiratory physicians’ opinions on the desirability of a therapeutic trial of medication, and describe the methodology. The criteria for selecting the experts are however not stated. Also, the authors state that the sampling was directed by estimates of the expected prevalence of obstructive airways disease in each stratum, but do not state on what basis of this estimate was made.

3. Are the data sound and well controlled?
The data are well presented and appropriately analysed. This is not a controlled trial. The assessors were appropriately blinded to the patients’ questionnaire scores.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes. The limitations of the data, particularly the issue of non-responders and the representativeness of the sampled groups is discussed.
5. Are the discussion and conclusions well balanced and adequately supported by the data? 
By and large yes. I have couple of comments:

a. It is apparent that the 3 consultants did not agree on the need for a therapeutic trial of medication in a sizable proportion of cases. It seems that a majority decision (i.e. 2 out of 3) was taken as the 'gold standard' against which the questionnaire screening status was compared. To me, this is not a 'consensus' process, which implies a process of discussion and reaching an agreement, but rather a majority vote. I feel the authors should amend the 'consensus' description to make this plainer, and possible discuss more the difficulties in making a diagnosis and deciding on the need for medication.

b. The consultants are not asked to say whether or not the patients had obstructive airways disease, both rather whether they warranted a trial of asthma/COPD treatment. It is possible that a proportion of the patients identified would have negative responses to the trial of therapy, and so would not turn out to have obstructive airways disease. Essentially therefore the questionnaire is a tool for identifying patients who need a further diagnostic process rather than identifying patient WITH the condition. This does not diminish it's usefulness, but I feel this should be addressed more in the discussion. It would be interesting to know what proportion of the positively screened patients did subsequently have a firm diagnosis of OAD made, but this may be the subject of future papers from the group. This is particularly relevant as the authors state "The prevalence of adults “meriting a trial of obstructive airways disease therapy” (a surrogate for obstructive airways disease) in our survey was calculated [5] to be 22% (95% CI 15.5-31.4)." I am not convinced that this is an appropriate surrogate, which may well over-estimate, and indeed the prevalence quoted seems higher than that described in other epidemiological work. It seems to me that the sensitivity, specificity and PPV values quoted are for identifying patients who need a therapeutic trial to establish a diagnosis rather than identifying people who unequivocally have the condition. It would be very interesting to know of the relationship between positive screening and a subsequent firm diagnosis, and between positive screening and other parameters of asthma severity using validated tools, such as symptom scores, disease specific quality of life and lung function; it may be again that these questions will be addressed in further papers.

6. Do the title and abstract accurately convey what has been found? 
I would suggest for the above reasons that 'Identification of adults with symptoms suggestive of obstructive airways disease: Validation of a postal respiratory questionnaire.' would be a more accurate title

7. Is the writing acceptable? 
Yes, it is well written and coherent.

**Competing interests:**

None declared.