Reviewer's report

Title: The Correlation between the bronchial hyperresponsiveness to methacholine and asthma like symptoms by GINA questionnaires for the diagnosis of asthma The Correlation of Methacholine Bronchial Provocation Test and GINA Questionnaires to diagnose asthma The Correlation of Methacholine Bronchial Provocation Test and GINA Questionnaires to diagnose asthma

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Reviewer: Joerg Mattes

Reviewer's report:

Major:
1) Asthma is defined as bronchial hyperresponsiveness (BHR) to methacholine in this study but as the authors rightly point out on several occasions, this is NOT an appropriate criteria to define asthma. Thus the manuscript would need to be rewritten with the aim to analyse the association between BHR and symptoms. However the results of such study would add little novelty to previous work unless BHR and symptoms would also be able to be correlated with the participants' diagnosis, eg asthma, COPD etc.

2) One major issue is that there is no healthy control group making it very difficult to argue that it is possible to calculate sensitivity and specificity of a symptom questionnaire to detect specific disease. This is complicated by the lack of clarity in terms of what the diagnosis is of those participants who have not been diagnosed with BHR (asthma) as per their definition. Many important differential diagnoses (e.g. COPD) have actually been excluded as per study design (how many have been excluded and why?). So what are the diagnoses in those 516 participants not classified as having asthma yet having significant enough symptoms to be referred to outpatient department for respiratory symptoms?

3) There is no difference in FEV1% and FEV1/FVC% between "asthmatics" and "non-asthmatics"

4) What were the effects of any treatment the participants were on? How many were on asthma treatments? Were bronchodilators withheld before pulmonary function testing?

5) An AUC of 0.6 appears very modest by all standards, highlighting that BHR in this cohort only modestly predictive of an increased symptom score

6) The discussion needs to focus more on the limitations of the study (see above)

7) The demographic data needs to have more information (mediations, diagnoses, etc) as well as define what aspects are novel about this study and what it adds
Level of interest: An article of limited interest

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