Author's response to reviews

Title: Lung function decline in relation to diagnostic criteria for airflow obstruction in respiratory symptomatic subjects

Authors:

Reinier P Akkermans (r.akkermans@iq.umcn.nl)
Marvin A Berrevoets (mberrevoets2@hotmail.com)
Ivo J Smeele (Cahaagvoorzitter@nhq.org)
Annelies E Lucas (aemlucas@planet.nl)
Bart P Thoonen (b.thoonen@elg.umcn.nl)
Joke G Grootens-Stekelenburg (J.Grootens@elg.umcn.nl)
Yvonne F Heijdra (y.heijdra@LONG.umcn.nl)
Chris van Weel (c.vanweel@elg.umcn.nl)
Tjard R Schermer (t.schermer@elg.umcn.nl)

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Author's response to reviews: see over
Reply to the Reviewers’ comments for Manuscript ID 1691579015566635)

Title: Lung function decline in relation to diagnostic criteria for airflow obstruction in respiratory symptomatic subjects

Version: 3 Date: 16 February 2012

Reviewer: Marco Contoli

Reviewer's report:

At page 6 of the revised version the manuscript reads “The aim of the study reported in this paper was to assess lung function decline in symptomatic middle-aged and elderly subjects identified as ‘obstructive’ according to either the fixed 0·70 FEV1/FVC cutpoint or an age-and gender-specific LLN cutpoint for this ratio”. However in the point-by-point responses to my criticisms the authors state: “The aim of the study was to look at the main criterion to decide whether or not airflow obstruction is present in a subject who consults a (primary care) physician with respiratory symptoms”. I totally agree with the authors that the gender-specific LLN cutpoint is the best parameter to evaluate airflow obstruction in elderly patients. However if the aim is to evaluate lung function decline it must be considered that “concordant patients (i.e LLN+Fixed+)” are significantly more severe (according to GOLD criteria of severity, i.e. postbronchodilator FEV1) and this bias can influence the conclusions.

Authors’ reply. We agree with the Reviewer that “concordant patients (i.e LLN+Fixed+)” are significantly more severe (according to GOLD criteria of severity) than the “discordant patients” and that this influence the mean lung function decline of this group. However, we do not think that this will influence our main conclusion of our study: “We conclude that the use of the fixed 0·70 cutpoint for the FEV1/FVC ratio to define airflow obstruction does not seem to be an appropriate choice for primary care. Middle-aged and elderly respiratory symptomatic smokers as well as non-smokers who have values below this fixed FEV1/FVC cutpoint but above their age and gender specific lower limit of normal value, show about halve the rate of lung function decline as observed in those who are below their lower limit of normal value for the ratio.”

In order to highlight the Reviewer’s point, we have added the following sentence to the Results section in the revised manuscript (page 11): “The obstructed subjects were significantly more severe in terms of postbronchodilator FEV1 percentage predicted: 58.1% (p<0.001).”

Reviewer's report

Version: 3 Date: 10 February 2012

Reviewer: Alistair W Stewart

Reviewer's report:

This manuscript has been well reviewed before my assessment started. It appears the authors have made valuable changes. I have no substantial concerns.

Minor Essential Revisions

The heading to Table 2 is confusing and needs fixing. The heading reports the numbers of smokers and non smokers in one of the 3 categories (and this isn’t stated either). I’d suggest the numbers be removed from the title and
incorporated in the body of the table as appropriate.

Authors’ reply. We have modified the table as suggested by the Reviewer.

Discretionary Revisions

One early reviewer was concerned about the interpretation made of Tables 3a and 3b (perhaps earlier versions of these tables). Based on the current tables I disagree with the reviewer and believe that the authors were correct in stating that these sensitivity analyses ‘showed the same picture’. The effect sizes need to be considered along with the P values and the sample sizes. However the authors have acquiesced to the reviewer in the manuscript I have.

Authors’ reply. We agree with the Reviewer that the sensitivity analyses ‘showed the same picture’. Nevertheless, we have described in greater detail that the use of different prediction equations lead to variable numbers of subjects in the respective categories, resulting in different estimates of FEV1 decline, variances and levels of statistical significance. This indicates that it is important to use the most appropriate prediction equations for the study population to provide unbiased estimates of FEV1 decline and correct conclusions.

This issue of considering the effect sizes needs to be considered when looking at the FVC data in Table 2. The pattern for smokers prebronchodilator and postbronchodilator is rather similar despite the P values giving a different picture. The authors may wish to consider rewording the paragraph at the end of the section ‘Rate of lung function decline’ on page 12.

Authors’ reply: We have followed the Reviewer’s advice and changed this sentence into ‘Postbronchodilator FVC decline was not significantly different between the respective categories’. We also checked all p-values in table and noted that three of them had not been entered correctly. These values have been replaced with the correct ones. This has no influence on the interpretation of the results.

Page 16 2nd to last sentence. I suggest the end of the sentence should read ‘…a truly representative sample of the primary care patient population with a condition that has the GP refer them.’

Authors’ reply. We have followed the Reviewer’s advice and added this to the sentence.

The word ‘halve’ used in places throughout the manuscript should be replaced by ‘half’.

Authors’ reply. We have corrected this spelling mistake throughout the document.