Reviewer's report

Title: The relation between insulin resistance and respiratory function

Version: 2  Date: 27 April 2015

Reviewer: Deepa Rastogi

Reviewer's report:

My review is summarized below.

Comments to the authors:

Sagun et al report on the association of insulin resistance with metabolic abnormalities and with pulmonary function in a cohort of Turkish adults followed at a single center. My biggest concern is the assumption on the authors that pulmonary function is predictive of insulin resistance. Since their's is a cross sectional study, the reverse may well be true as well. Insulin resistance may be predictive of pulmonary function abnormalities. In fact several statements by the authors in the introduction suggest that metabolic syndrome/ glucose abnormalities are associated with pulmonary function abnormalities. Why have the authors developed the hypothesis that they did?

Abstract: the authors report on the association of insulin resistance with cardiovascular morbidity but the manuscript does not have anything to do with CVS morbidity or the association between insulin resistance, pulmonary function and CVS morbidity. Please tailor the introduction to the point of focus for the manuscript.

The same point detailed above is applicable for the introduction. The introduction needs to be focused on the specific point of the manuscript.

Methods: the authors report on measurement of lung volumes by plethysmography but do not report that in the manuscript. If not included, please delete unnecessary details from methods.

Results: Description of the study cohort should be summarized in Table 1 and differences should be described without inclusion of specific numbers in the description. As currently written, the sentences are broken up and not lucid. In keeping with my concerns about the hypothesis, the authors have chosen to include the participants based on their insulin status and therefore, it seems that that should be the predictor variable rather than the outcome variable.

Discussion.

Please remove all results from the discussion and include them under the results section (paragraph 2 of discussion). If already in the results, remove the p values from the discussion. In keeping with my concern about the way the hypothesis is stated, the authors suggest that insulin resistance is a predictor of pulmonary
function deficits in line 258 on page 11, which is the opposite of the direction of association that they have reported in their manuscript. The same is repeated in lines 317-318, page 13.

Table 1. Total should be the first column followed by the two groups of interest.

Instead of raised blood pressure, blood glucose etc, please place the cut off value and state those above the cut off value (>…x mmHg for BP, x mg/dl of glucose etc..)

Minor comments:

The authors should seek help from a person familiar with scientific writing. The introduction is broken into single sentence paragraphs and there are several grammatical corrections that need to be made through out the manuscript.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published