Reviewer's report

Title: Elevated resting heart rate predisposes metabolic syndrome in women rather than in men: a 15-year prospective study

Version: 4 Date: 17 July 2015

Reviewer: David Preiss

Reviewer's report:

Comments to authors:

MAJOR COMMENTS

1. Rationale for gender-specific analyses: this comment has not been considered at all in the revision. It is not statistically appropriate to comment on men and women being different unless there is evidence to support this. So we need (i) data for the entire cohort regarding risks of MS according to RHR (ii) an interaction term to inform is whether there is a true difference between men and women. The fact that women yield p=0.018 but men yield a non-significant p value is not adequate to prove this. Only if there is a true difference (by interaction) is it appropriate to conclude that there is a difference and to analyse the genders separately.

2. I maintain that the authors have made a poor argument to support why they have done this analysis. The reader will not be convinced that finding a weak relationship between RHR and incident MS is important either clinically or scientifically. To achieve this, we need to see evidence that it improved prediction thereof (e.g. my c-statistics etc.)

MINOR ESSENTIAL REVISIONS

1. The authors did not comment on whether individuals with DM were excluded or not. Please add this to the Methods. And please state in the Methods that details of anti-hypertensive medication were unavailable.

2. It is a concern to this reviewer that models 3-4 are very similar to model 1, despite adjusting for existing components of MS. Were the authors not surprised that the association was not attenuated in models 3-4? And do they have any explanation?

3. Please do not refer to 'effect' in the 2nd sentence of the Introduction, or to 'impact' in the 2nd last sentence of the Introduction.

Level of interest: An article of limited interest

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

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests