Reviewer's report

Title: Volumetric analysis of central body fat accurately predicts incidence of diabetes and hypertension in adults

Version: 2
Date: 31 December 2014

Reviewer: Indu Waidyatilaka

Reviewer's report:

To authors

This is a well designed piece of work which addresses an area which requires to be studied. More details are required in the methodology. In your study, BMI which is essentially a measure of total body fat, has been said to be equally effective in predicting disease as central fat (Discussion Line 1-5), in this light, it is not clear how body fat assessment was shown in this study to be an etiological factor (as stated in Page 4 Line 1). Further, can the authors assess the novel method against a gold standard to test the accuracy and efficacy of the method? Tables and figure need to be labeled accurately and clearly and formatted according to the journal style.

Minor essential revisions

Abstract

Methods

1. Page 2 Line 5 - Please add the method of assessment of central body fat volume and calcium scoring to methods.

Introduction

2. Page 3 Line 20 and 21 – “middle age and older” - Since the age range is 18-88 years, please use an appropriate term/terms.

3. Page 3 Line 22 - Should the results of the current study be mentioned in the introduction?

4. Page 5 Line 3 – Body mass index – it is more appropriate to use standard units. Please give a reference.

5. Page 5 Scan parameters and Hounsfield scale – Please mention references.

Results

6. Page 8 Line 11-13 - Age, BMI and %cBF - Please mention the units.

7. Page 9 Line 1-2 - BMI, %cBF and calcium score - Please mention the units.

8. Page 9 Line 9 – It is not clear how the dose–response relationship was assessed. Clarify please.

Tables and Figures
9. Please mention the variables/parameters and units clearly. Tables and Figures need to be labeled correctly and be formatted according to the journal style.

Discussion
10 It would be more relevant if the use of this novel method and also its potential use in risk prediction can be discussed in more detail.

Discretionary revisions
Indicated in the manuscript.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests.