Reviewer's report

Title: High prevalence of obesity, central obesity and abnormal glucose tolerance in the middle-aged Finnish population

Version: 2 Date: 20 August 2008

Reviewer: Kristian Midthjell

Reviewer's report:

Major Compulsory Revisions

None. The major comments seems adequately taken into account in the new manuscript.

Minor Essential Revisions

1. Although the English is pretty good the paper needs some linguistic improvements. For instance: "A high number" is in general singular and not plural (examples: "Conlusion" in the Abstract: "Prevalence of obesity, central obesity.. were" should be changed to Prevalences of... were" and "A remarakbly high number.. were detected" should be changed to "was" since "a number" is singular. The sdame apperas in "Background", second paragraph, second sentence: "The study conducted in Finland.. observed that there were a large number.." should be changed to ".there was a large..".

2. "Definitions", new paragraph: "and were treated with insulin from the beginning of their disease". Since type 2 diabetes in published papers is diagnosed 6-7 years after the start of the disease, I suggest that "beginning of" is changed to "diagnosis". I suppose the authors also would need a more defined "beginning", i.e. within a certain time period, since some people with type 1 might do without insulin for for some weeks or months, or for LADA even years.

3. "Definitions": "WHO Criteria". The authors of the reference publication do not present these as official general criteria, but present them as an example based on Dutch data, and use the given limits as "substantially increased" while the "IDF definition" corresponds to what the WHO publication present as "increased". I suppose the Dutch and the Finnish are not very different, so this is OK.

4. Tables 1, 3, 4 and 5. According to the definitions referred to in point 3 above, the columns in the tables are still not quite in accordance. In table 4 the headings should be for waist: ",94, 94-101 and >=102" and ",80, 80-87 and >=88" to be in accordance with the WHO/IDF "definitions". This might mean that the calculations may have to be corrected, since the authors in the revised manuscript state that waist was measured to the nearest cm.

The same small problem concerns BMI in tables 1 and 3. The definition states obesity to be ">= 30", and not ">30", thus categories in table 1 and 3 should be
"<25, 25-29 and >=30" as no decimals are given.

5. "Discussion", first paragraph: I would suggest that ".. based on proper cross-sectional .. surveys" should be changed to "..repeated (proper) cross-sectional surveys.." since you, of course, cannot detect changes in prevalence in single cross-sectional studies. The authors in several places state a causal relationship in this single cross-sectional study like in the "Results" section, second last paragraph: "Central obesity ... increased the risk of abnormal glucose tolerance by ...". I would recommend the expression in the abstract: "Central obesity was associated with abnormal glucose tolerance...".

**Level of interest:** An article of importance in its field

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

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

**Declaration of competing interests:**

I can answer "no" to all the points above, and have no such competing interests.

I do, however, have a partnership with three of the authors in another project (Noël Barengo, Markku Peltonen and Jaakko Tuomilehto); the DE-PLAN project, which is a great, partially EU funded cooperative project between 23 diabetes centres in Europe. The study reported in this paper is not a part of the DE-PLAN Study. The milieu of diabetes epidemiology in Europe is not too big, and I suppose referees knowing some of the authors will often happen and not automatically disqualify them as referees..?