Reviewer's report

**Title:** Shifting from glucose diagnosis to the new HbA1c diagnosis would reduce the ability of the Finnish Diabetes Risk Score - FINDRISC - in screening glucose abnormalities within a real-life primary healthcare preventive strategy.

**Version:** 1  **Date:** 18 October 2012

**Reviewer:** Christa Meisinger

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Title: Shifting from glucose diagnosis to the new HbA1c diagnosis would reduce the ability of the Finnish Diabetes Risk Score – FINDRISC – in screening glucose abnormalities within a real-life primary healthcare preventive strategy

**General**

The paper of Costa and colleagues investigated differences in the performance of the Finnish Diabetes Risk Score as a screening tool for glucose abnormalities by shifting from glucose-based diagnostic criteria to the proposed new HbA1c-based criteria. The data came from 3,120 non-diabetic persons aged 45-75 years recruited through general practitioners in 18 primary healthcare centres in Catalonia, Spain. The methodology from the DE-PLAN public health programme was used. Generally, this is an interesting research question and the paper is well written.

**Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)**

1. The authors state, that the recruited sample should be a representative one. Is the sample really representative for the persons using primary care services in Catalonia? For example the number of included men in comparison to women is lower and the age-distribution in men and women is not really the same. The proportion of included men # 65 years was higher than the proportion of included women of the same age. Contrary, more younger women than men participated in the study. Could this fact have influenced the results and if yes how?

2. Persons with severe psychiatric disease, liver disease or blood disorders were excluded. It should be more specified what diseases were excluded.

3. The study is cross-sectional in design. This is a limitation of the study, which is already mentioned by the authors.

4. In the methods section it is mentioned that data using the FINDRISC questionnaire was gathered? Were the questionnaires filled in by the patients or by the treating physician? Were there differences regarding the FINDRISC test
scores and the distribution of the risk classes between the recruiting centers? Were the OGTTs carried out in the centers due to a standardized protocol and was the responsible personal in the centers trained and certified before recruitment? Were the different blood parameters measured in one central lab or locally?

5. In the methods section it is further mentioned that a second OGTT was recommended in the study protocol to confirm diabetes. It is not clear for me, whether a second OGTT was carried out in the study and if yes, within what timeframe after the first OGTT. How was dealt with different results assessed through the two OGTTs, that means how was the participant categorized if the result of the first OGTT could not be confirmed?

6. How was dealt with missing data on any of the included variables?

7. The risk of diabetes assessed by the FINDRISK score was higher in women, while the risk of diabetes assessed by either the glucose or the HbA1c measurements was higher in men. It would be good to discuss this finding.

Minor Essential Revisions
Page 5, second line: the HbA1c criteria should be <5.7, 5.7-6.4 and > 6.4%

**Quality of written English:** Acceptable

**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