Reviewer's report

Title: Cardiovascular Health and the Modifiable Burden of Incident Myocardial Infarction. The Tromso Study

Version: 2
Date: 19 November 2014
Reviewer: Delphine De Smedt

Reviewer's report:

Dear author, thank you for the opportunity to review this very interesting study. This study has a great potential for publication. However, in its current form it is sometimes difficult to follow. Furthermore, the large number of tables and additional files make it sometimes a bit chaotic. The methodology should be described in more detail.

• Major Compulsory Revisions

Methods:
Line 145: explain GIF when used for first time, explain method in more detail
Line 146: explain AF when used for first time
Line 148: why did you use four groups. Explanation is not clear

Statistical methods should be explained in more detail. Explain the method, explain which Tromso surveys were used. Why did you use all the surveys? Why didn't you use the Tromso 4 as starting point for estimating the HR with a 14 year follow-up period?

A rather unusual method (but very interesting) is being used in this paper, hence it is important to explain the hypothesis in more detail, as well as the method used.

Results:
There are too many tables and supplemental files. All the information makes it difficult to distinguish the important information from the less important information. The reader loses a bit the focus of the study.

• Minor Essential Revisions

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

Introduction:
Line 47: please rephrase the first sentence. The meaning of dynamic temporal trends is not clear enough.
Line 51-55, this sentence is too long and therefore difficult to read.
Line 57: explain the PA goal levels and dietary goal levels
Line 66: you might consider to refer to Geoffrey Rose’s prevention paradox.
Methods:
Line 134 health metric score: Ideal PA is defined as #75 min vigorous PA/week, why did you use 1 hour?
Line 145: explain GIF when used for first time, explain method in more detail
Line 146: explain AF when used for first time
Line 148: why did you use fou goups. Explanation is not clear
Statistical methods should be explained in more detail.

Results:
Line 167, what do you mean with last survey? Last survey before event? Please make clear that this is different for every participant included. Also adjust in table 1. (tables should be easy to read without reading the text, so include all necessary information)

Discussion:
Line 232, a reference is needed to justify the case fatality rate
Line 237 how did you calculate the 210 NOK?
Line 240-243 rephase
Please indicate the feasibility of a 30% increase from <4 to #4 ideal health metrics.

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

**Quality of written English:** Acceptable

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