Reviewer’s report

Title: Persistent socioeconomic inequalities in cardiovascular risk factors in England over 1994-2008: a time-trend analysis of repeated cross-sectional data

Version: 1 Date: 27 April 2011

Reviewer: Kyunghee Jung-Choi

Reviewer’s report:

Major compulsory revisions

The purpose of this paper was to assess socioeconomic trends in cardiovascular risk factors in England between 1994-2008.

It is important and interesting to explore the effect of the mediators between socioeconomic position indicators and health outcomes such as CVD. Although the study has been well conducted, I think that some issues of the paper can be improved.

1. In the title, the main focus of this manuscript is thought to be ‘the trends in socioeconomic inequalities’ in cardiovascular risk factors rather than ‘the trends in cardiovascular risk factors’. Although the authors tried to explain the trends in cardiovascular risk factors by deprivation quintiles, table 2 and table 3 seemed not to give a clear message about changes in socioeconomic inequalities. I think that is mostly because the time period considered in table 2-3 (the trends in cardiovascular risk factors) is different from figure 2 (the trends in socioeconomic inequalities in cardiovascular risk factors).

The authors have two options: to divide the trends in cardiovascular risk factors into the 1990s and 2000s like RII trends, or to present RIIs in 1994 and 2008 respectively. My advice is that they follow the first option because, in the discussion section, the authors noted the problem of sample size. Four tables by gender and age included annual percentage change and RII by deprivation quintile in the 1990s and 2000s can be presented. More information than from just figures can be included in this way, and then annual percentage change in cardiovascular risk factors may have more meaning as an explanation of change in inequalities.

2. In the discussion part, the authors report the explanations for trends in cardiovascular risk factors. Explanations for trends in socioeconomic inequalities in cardiovascular risk factors are needed. Although the authors describe the results of other studies, it is insufficient to explain the changes in England. More clarification is needed in the meaning and reasons for changes in England.

Minor essential revisions (Minor issues not for publication)

1. Table1. Regarding ‘physical activity’, the year 1994 was not shown, which is different from the text.
2. Discussion, Explanations for trends, first paragraph. The authors suggested the explanations for declines in smoking, SBP, and cholesterol included lifestyle changes such as alcohol consumption and weight loss. The references of the study in England are needed for changes in alcohol consumption and weight loss. (Moreover, the author’s explanation of the favourable changes in weight loss contradicts the result)


4. Discussion, Explanations for trends, last paragraph. The references of the study in England are needed as well.

5. Abstract, Conclusions. Perspective more focused on the main issue (inequalities in cardiovascular risk factors) is needed.

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

**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.