Reviewer's report

Title: Trends in prevalence of four modifiable ischaemic heart disease risk factors by educational level and gender in The Nord-Trondelag Health Study 1984-2008

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Reviewer: France Lert

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This paper describes trend in social inequalities in 4 major risk factors of ischemic heart disease in Norway in 3 rounds of the HUNT survey over a 22 year period among the 40-59 population. Social status is measured by educational attainment. The analysis is stratified according to gender. The social gradient is assessed using RII and SII.

The analysis is properly performed and such description is useful to assess situation in a range of countries with different social structures, health care and insurance systems and health policy.

essential revisions

1) However some information is lacking regarding the HUNT study: information should be given about the Nord Trondelag county is representative of the Norway social situation (population size, social and economic features etc.) as authors pointed out that the findings are not necessarily generalizable to the entire country (p14)

2) The authors chose the 40-59 population to study changes in health behavior. This choice is questionable since behavior patterning occurs early in life. As regards future trends younger age group might have been more relevant. The authors should explain why they did not use younger population data to assess social trends in health behavior.

3) As regards smoking behavior in women and men. It is not only the social diffusion of health behavior which is at stake but rather a trend towards a narrowing of difference in behavior between men and women related to gender issues.

4) The fact that diabetes is increasing in both men and women is attributed to weight gain after smoking cessation and not to other factors such as nutrition based on Davey-Smith’s paper (reporting an intervention trial), which is questionable and should be further discussed.

5) The impact of diagnosis and treatment of hypertension and cholesterol and their social gradients should be further discussed since medical intervention could narrow or widen social inequalities.

6) In their conclusion, author should give some insight on the mechanisms underlying the observed trends.
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.

Declaration of competing interests:

No competing interest