Reviewer's report

Title: Decreasing cholesterol levels in the community - lifestyle change with statin?

Version: 2 Date: 24 October 2014

Reviewer: Melinda J Carrington

Reviewer's report:

This paper aims to differentiate the health benefit provided by statin therapy and lifestyle behaviours over a 5 year follow-up duration in a small unrepresentative semi-rural cohort in eastern Finland. This paper's potential value is affected by a number of important methodological and statistical issues and does not provide sufficient evidence for clarity of design, risk factor knowledge or careful analysis and interpretation of results.

Major compulsory revisions

1. The method of calculating the lifestyle score is imprecise and counter-intuitive to health promotion. Unhealthy risk factors should not be discounted by healthier risk factors. Based on the method provided, a smoker (-1) and high risk alcohol drinker (-1) who undertakes regular physical activity (+1) and has a healthy diet (+1) would have a total score of 0 (i.e. no risk). This is untrue.

2. A more detailed description about the data classifications is required. It is unclear what is meant by “neutral” smoking or “healthy” drinking? What type of fat is considered healthy/healthy? Whilst health recommendations exist from leading authorities, the authors have made their own interpretations of these for use in scoring criteria which needs to be discussed.

3. The assessment of lifestyle risk factors as a composite score is too simplistic; an analysis of the independent contribution of each risk factor to cholesterol improvements in multivariate regression models would be more intuitive and less confusing. Also, baseline lipid levels should be included as a predictor together with duration of treatment.

4. Moreover, (re)presentation of baseline data ought to be avoided and a focus merely on change in lipids is preferred.

5. It is confusing to see baseline measures presented according to future decision making of lipid prescriptions? Forthcoming decisions cannot influence the past. Figure 1 should be removed.

6. The abstract contains missing details about the sample size? Abstract and methods should also contain details about how participants were originally selected and mean duration of follow-up?

7. The use of the expression “slightly” linear or “slightly” associated is not appropriate.
Minor revisions
1. Abstract, line 14-15 – tertiles are 3 groups. Suggest to remove the words “three cholesterol”.
2. Abstract, line 19 – remove the word “quite”. Differences are either statistically significant (p<0.05) or not significant (p>0.05).
3. Were participants assessed in the fasting state at baseline and/or follow up?
4. What is the duration and dose of treatment? How was medication adherence assessed?
5. Table 2. Change in sys BP for each tertile is the same? Typographical error for dia BP for 4.9-5.7 group. Include unit of measurement for total cholesterol.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests