Reviewer’s report

Title: Response bias to a randomised controlled trial of a lifestyle intervention in people at high risk of cardiovascular disease: a cross-sectional analysis

Version: 0 Date: 08 Jun 2018

Reviewer: Andrew Dalton

Reviewer's report:

This study is robust and well presented. It is perhaps of interest to only a niche of readers - but it will be of interest to someone. It describes patterns in non-response to a CVD lifestyle intervention in south London in a fundamentally high CVD risk cohort. It finds poorer uptake in those at higher CVD risk, as well as deprived certain minority ethnic groups and older invitees. The main weakness, for me, is the way IMD scores are coded in the analyses as a linear variable.

Main points

Strengths - the strength of this study is, as clearly explained by the authors, the availability of data on the characteristics of non-responders, which is rare in trials and routine care alike.

Informed dissent code??? There is no idea of the extent this was applied.

IMD scores are not interval data therefore not entered into a model as a linear variable. T

Can anything be learned about take up of these interventions in practice rather than in the trail setting? I am not suggesting making conclusions outside of the data - of course but does this show a need to collect comparable data from the "real world"

Table 1 - I am not sure what having the data by CCG add, given CCG is not used as a factor elsewhere in the study. It just confuses things for me, therefore I would remove and simplify table 1.

Other points

P2L6 - this is the mean age of respondents?

How complete were the data that made up the Qrisk2 score? Therefore how often were the age/sex averages applied? If frequent (as we showed in the past https://doi.org/10.1093/fampra/cmq068, this will affect the accuracy of risk scores. In a South
London population probably meaning the scores underestimate the true risk). At he very least, discussion of this is required and of the potential impacts this might have.

P7L163 - how were IMD score applied to practice, by its post code or by a summary of the patients registered there?

P8L170 - Similar to main point above, mean not suitable for IMD score

Age - age was entered as a linear variable. Was age looked at in any other way - age can increase health behaviours up to a point, then it can drop off again in older extremities.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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