Reviewer’s report

Title: The impact of education on risk factors and the occurrence of multimorbidity in the EPIC-Heidelberg cohort

Version: 2 Date: 24 September 2008

Reviewer: C Schooling

Reviewer’s report:

Thank you for your revisions, the paper is now clearer.

Minor Essential Revisions

1. I understand your reasoning for carrying out a cross-sectional analysis of multi-morbidity in EPIC survivors, using logistic regression, because you assessed multi-morbidity at the same calendar time point for everyone. However, people who died, most likely died at different times, so by carrying out a logistic regression for deaths, you are not making full use of the information available.
   a. If you do not want to use a Cox model for mortality, you should remove the results concerning mortality.
   b. You should explain the study design more clearly, maybe at the beginning of the statistical analysis by saying “This was a cross sectional analysis of multi-morbidity in EPIC survivors, using some information, such as lifestyle, collected in earlier data collection phases.”

2. Line 157 In the methods, you explain that you examined whether associations differed by sex or age-group with a sentence beginning “Interaction was examined..” It would be better to explain your purpose here, for example by starting the sentence with “Whether the associations differed by sex or age was assessed

3. Line 246-251, the sentence starting “We observed..” until the sentence ending “…subjects.” Should be removed as these sentences do not describe the findings presented.

4. Line 267 “our results suggest differential associations between education and multi-morbidity by gender” is not really congruent with the results presented. Either the sentence should be removed, or made less categorical, for example replaced it by “There appeared to be some differences in the associations between education and multi-morbidity by sex, however these differences could be chance variation on stratification”

5. Line 329/30 The sentence starting “Gender-specific pathways ..” may be true, but does not really follow from the results presented and would be better removed.
Discretionary Revisions
1. The term ‘gender’ could be replaced by ‘sex’ throughout.
2. The English could be reviewed

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

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