Reviewer's report

Title: Type 2 diabetes attributed to lower educational levels in Sweden: A burden of disease study

Version: 2 Date: 12 August 2011

Reviewer: Rasmus Hoffmann

Reviewer's report:

I thank the authors for sending an improved version of their article. My impression is that they applied a double strategy by lowering the aim and improving the quality, and in the end, this may work out. But I think there are still a number of remaining problems, that they were not able to solve (e.g. incomparable studies as basis for the pooled RR, non-age differentiated RRs as input for the PAF calculation). If this can not be solved, it is fair that the reader gets a measure of uncertainty at hand, in order to see how reliable the results are. Having in mind two categories of articles focussing either on a method or on results, this article still aims at presenting results, and therefore they should be checked for statistical significance.

Major compulsory revisions

1. That said, I suggest providing CIs for the PAF values (as I already suggested in the first review). Yes, Laaksonen et al. (2010) calculate CIs for PAF but as far as I can see, they use a Cox regression model to calculate the PAF, so their way to produce the variance of the PAF (delta-method) is not applicable if you just calculate the PAF “by hand” with the simple formula you provide in your article. They mention bootstrapping, and this is what works in your case, although their reference is very old and general and might not be helpful. Maarit Laaksonen has written a dissertation about advanced PAF calculation that might be of general interest for you, but for this specific problem, I recommend looking at Samuelsen & Eide 2008 (among Laaksonens references).

Bootstrapping can be done with many software-packages, e.g. “Ersatz”, an add-on to Excel purchasable from the homepage www.epigear.com. Like this you can draw many times from distributions of all the input value that you need to calculate one PAF value. Say, you have three risk levels, this makes 3 prevalences (that always must add up to 1) and two RRs. If you draw from these 5 distributions 1,000 times all 5 values, you get 1,000 PAF who themselves form a distribution from which you can get the SE of your PAF. Ln(RR) can have a normal distribution and for the SEs standard formulas are used:

\[
SE(\ln RR) = \sqrt{\frac{1}{n1} + \frac{1}{n2}}
\]
\[
SE(p) = \sqrt{\frac{p*(1-p)}{n}}
\]

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

**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