Reviewer's report

Title: Smoking differences between employees in university faculties in Estonia and changes during the country's transition

Version: 1 Date: 27 June 2010

Reviewer: Frida Eek

Reviewer's report:

The study aims to illustrate patterns of change in smoking habits during Estonia’s first transitional decade, by analysing two cross sectional surveys measuring smoking habits among university employees. It is an interesting topic with mostly relevant data sources. However, the methods need to be somewhat more closely described and some weaknesses should be discussed. The report, interpretation and discussion of results also has to be revised in order to clarify which differences that was tested and found to be significant and not.

Major compulsory revisions

Abstract

I do not agree that 1930/ 2940 persons were surveyed, since you do not have information from all of them. The actual number of participants, i.e. persons you have information about, was 1441/2117.

Methods

Considering the aim(s) of the study, why include two new faculties in the second survey? How is the group “others or missing” (faculty) treated in analyses? Are they even included? If not, number of participants should be adjusted.

All analyses appear to be gender stratified? Describe that in methods.

What is actually measured in analyses, current smoking or ever smoking? How is the “quit ratio” treated or used in analyses?

Results

Much of the results, such as quit rate, refer to plain descriptive percentage numbers (from table 2) without any analytical presentation. It is generally difficult to know which differences are significant and not, since no distinction is made in the text between significant and non-significant differences. It is not clear which differences are tested statistically and showing significance, and what refers to descriptive numbers. Quit ratio is referred to, without any analytical results presented. From figure 1, there appear to be no significant differences at all between women in different faculties (either survey 1 or 2), while you write "only weakly associated". Regarding change in smoking prevalence between survey 1 and 2, few significant changes was found among women (only in four faculties/work places), judging from CI’s in figure. This is not discussed, you only
write about “differences between -10% to +3%. Beta coefficients from figure 3 are also non significant (not clearly stated when you interpret what the b indicate), etc. In summary: be clear about which differences that are tested significant and not!

Discussion

Some faculties, e.g. law and sports faculties, includes very few persons, especially when gender stratified. This is not at all discussed.

The use of medical faculty as reference may be discussed and problematised. Since men in medical faculty smoke to a (relatively) higher extent than expected, it may indicate problems with representativeness. The gender comparison of faculty differences may also be confused by the fact that women in medical faculty smokes less than others, while men in medical faculty smoke to a higher extent than most others.

Discretionary Revisions

Methods

P 6, data analyses: the use of term “change between surveys” indicates a follow up of a constant cohort. I would rather call it a “difference” between measurements/ time points.

Did you consider using logistic regression? Presenting (adjusted) OR with 95% CI would, at least to me, be a more pedagogical way to present results.

Discussion

The conclusion is too long.

Figures/tables

Figure legend: “Solid lines are linear regressions of the differences and dashed lines their 95% confidence bands” I see no dashed lines?

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

**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'