Reviewer’s report

Title: Gender differentials in the evolution of cigarette smoking habits in a general European adult population from 1993-2003

Version: 2 Date: 6 November 2005

Reviewer: Wasim Maziak

Reviewer’s report:

General
The paper has certainly some major strengths such as the large sample size, random sampling, length of followup, and elaborate procedures to ensure participation of subjects and their replacement. The information presented is interesting and important to public health.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Methods;
a. the age structure of the survey 35-74 years is a clear limitation since most of the interesting dynamics in the evolution of the tobacco epidemic are occurring among the younger groups. Actually the limitation section in the discussion does not include any limitation.

b. Usually time trend analysis of prevalence rate is done on a weighted estimates according to a reference population distribution. My understanding is that the authors try to compensate for that with their sampling strategy. However, the sentence on sampling "Stratified random sampling by gender within 10-year age strata is proportional to the corresponding population distributions" is framed in a statement-like manner and is not sufficient to understand the sampling procedure and how it corrects for change in distribution. More so, the sampling frame was done for a 10-year age categories while some of the comparisons were made on a 5 year age categories. I recommend anyway consulting a statistician about this point and whether weighting of rates is needed.

c. The sentence about tobacco exposure questionnaire does not pertain to this study and should be removed.

d. Information was collected about socio-economic characteristics, yet they were not used in the study. Actually the change in the smoking habits among different socio-economic slices of the society is very relevant to the application of the tobacco epidemic model to the target population.

d. Information about physical examination is not relevant to this report.

e. The definitions adopted are misleading. No need to mix never with ever smoking, just say never smokers are those who smoked less (no need to least) than 100 cig/lifetime. Usually current smoking is defined as past month smoking, and ex smoking is smoking in the past but not at the time of survey (month of the survey). With the adopted definitions, if I was a smoker who quit 6 months prior to the survey, I will be a smoker not an ex smoker, which is inappropriate, I think. The question about former smoking as it is stated "quite smoking at least one year before the interview" does not allow to calculate the duration of smoking given the age of initiation.

f. Lung cancer incidence should be given while discussing the results not in the results, since they did not arise from this study.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Background: the first statement is erroneous as it is. This statement applied to industrialized nations only.

Discussion; first sentence needs re-writing. First sentence in para 5 needs re-writing. As mentioned above the limitations should be stated clearly, such as the age range, response rate, and socioeconomic analysis of trends in smoking.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes

Declaration of competing interests:

I declare that I have no competing interests