Reviewer’s report

Title: Passive Smoking And The Risk of Developing Acute Coronary Syndromes: The CARDIO2000 Study

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Reviewer: Dr Stanton Glantz

Level of interest: A paper of considerable general medical or scientific interest

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Compulsory Revisions

1. Abstract first sentence: Delete the first sentence. The fact that passive smoking causes heart disease is not controversial. Several major reviews done by scientific authorities, including the American Heart Association, have concluded that passive smoking causes heart disease. The thing that this paper adds is not “resolving” a “controversy,” but adding to the evidence that passive smoking increases the risk of acute coronary syndromes. The data on the interaction between passive smoking and other risk factors (Figure 1) is also a useful contribution. It deserves more emphasis in the abstract.

2. Abstract: last line: Change "may be" to "are."

3. Page 3, line 10: Delete "remains controversial." As noted above, it is not controversial.

4. Page 4, bottom: It is not clear precisely how the logistic regression was formulated or how the different variables that the authors considered are integrated into the logistic regression. Provide more details on these issues. The authors should also include detailed tables giving the results of the multivariate analysis. The reporting of the statistical results is generally too sketchy.

5. When considering length of exposure, why didn't the authors use a Cox model?

6. Page 5, line 11: You never define "frequency of passive smoking".

7. Page 5, line 13: The sentence containing "both occasional exposures to cigarette smoke" does not make sense.
8. Page 5, bottom: When you evaluate the effects of secondhand smoke at home, do you control for exposure at work (and vice versa)? What about people exposed both at home and at work? Since the secondhand smoke at home is no different from the secondhand smoke at work (except that exposures at work might be higher or longer), at the very least, you need to come up with a measure of total exposure as well as exposure in these different places.

9. Page 6, line 3: How did you get this equation? What confounders did you control for?

10. Page 6, line 4 and following and Figure 1: How did you get the risks for active smoking? What was the control group? Given that you make the point that there are problems when the nonsmokers (including passive smokers) are included in the control group, I would hope that the control group you use consists of non-passively exposed nonsmokers. You need to describe how you conducted this part of the analysis in more details, including the source of the data.

11. You also need to explain how you lump together risk factors in terms of number of risk factors, since the specific effects of the different risk factors are not all identical. Please note that I am not critical of this way of presenting the results - I think it is good - but it is not described in adequate detail. You also need to make it clear that you are talking about additional risk factors (beyond smoking or passive smoking). This is an important result in this paper that is not presented and justified in enough depth to be convincing.

12. What is the (active) smoking prevalence in Greece? It seems that the estimate of one third of the nonsmokers being exposed being low.

13. What about background exposure (in public places, restaurants, etc.) to secondhand smoke? For the reasons that you discuss in the manuscript, this background exposure will bias the results towards the null. Please estimate this effect and discuss it.

14. Table 1: It is not clear what hypothesis the P value tests or how you tested it. Please clarify.

Discretionary Revisions


16. Page 5, line 18: The attributable risk calculation depends on the level of exposure (essentially the active smoking prevalence). What prevalence is this based on? It would be useful to present the results for the USA in addition to Greece.

17. Move the "Limitations" section to before the "Conclusions".

Competing interests:

None declared.