Reviewer's report

Title: Patterns and socioeconomic influences of tobacco exposure in tobacco cultivating rural areas of Yunnan Province, China

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Reviewer: Tim Elwell-Sutton

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Major Compulsory Revisions

Introduction
1. Introduction, 2nd paragraph. The authors give useful information on studies of tobacco use in developed countries and mention one other study from Korea but do not directly reference any studies from China here. The authors state that “little data are available concerning the associations between SES variables and tobacco use in the general adult Chinese population. In the results and discussion sections 2 studies of SES and smoking are referenced. Many other studies exist. For example, several studies from China show a negative association between education and smoking (Anson and Sun 2004; Wu, Liu et al. 2004; Li and Zhu 2006). A review of previous studies from China should be given to show what is already known so that the reader can understand what gap in the research this paper fills.

Methods
2. Definitions. I was confused by the use of the term SHS in this paper. You give one definition in this section but you appear to measure two different types of SHS. One measure (described in the definitions section) is based on the responses of non-smokers. But in Table 3 you also present results for a different measure of SHS based on the responses of smokers. Please clarify in the definitions section that there are two different types of SHS being measured and please make this distinction clear throughout the paper.

3. Statistical Analysis. In the results, a number of p-values are given for differences between men and women based on percentage differences. Please explain in the analysis section how these p-values were calculated. Are they based on chi-squared tests?

4. Table 2 reports prevalence giving counts and percentages. Confidence intervals should be given for the prevalences reported in Table 2 and the method of generating them should be described in the analysis section: see Li, Hsia et al. (2011) for an example. I would also suggest that for comparing prevalences between men and women, the confidence intervals should be used rather than p-values.

Results
5. In Table 1, please report p-values (or indicate statistical significance through
asterisks) for differences between men and women and indicate the type of test used to calculate them. You have reported statistical significance in the text, please show it in the tables also.

6. In Table 2 please include confidence intervals for prevalence estimates (see point 2 above). In reporting the results of table 2, I would suggest reporting CIs rather than p-values. If CIs overlap, it may not be valid to say that prevalence is higher in one group than another.

7. In Table 3 please report p-values as suggested for Table 1.

8. Table 3. The meaning of the last question is not clear to me. It reads “In the past seven days, the location of someone smoked”. Please clarify the English. Perhaps it should be “In the past seven days locations where you have smoked”. It would also help to give an English translation of the actual question used in a footnote.

9. Table 4, logistic regression analysis. Given that there are huge differences in smoking behaviour between men and women, adjusting for sex is insufficient. Ideally, you should test for statistical interactions between sex and SES and then present sex-stratified analysis if interactions are found. Alternatively, you could simply present sex-stratified analysis without testing for interactions since it is known a priori that patterns of smoking are very different in men and women in this population.

10. Table 4, logistic regression analysis. You have adjusted models for a range of possible confounders (age, sex, tobacco cultivating status and alcohol drinking). I would strongly suggest that all models should also be mutually adjusted for other measures of SES to allow the reader to see the independent associations of the three different measures of SES included (ethnicity, education and income).

Discussion

11. The discussion section should contain more comparison with previous studies of SES and smoking behaviour in China – see point 1 above.

12. Discussion, paragraph 1 and paragraph 5. Throughout the discussion section please make a clear distinction between SHS exposure (reported by non-smokers) and SHS reported by smokers. See point 2 above.

Minor Essential Revisions

Results

13. In Table 2. Please make clear what the denominators are for your calculation of percentages. I think you have calculated nicotine dependence as a % of smokers and SHS as a % of non-smokers but please make this clear in the table and in the results text.

14. Results, paragraph 3. You report nicotine dependence as being found in 30.5% of the study population. This is not a figure found in Table 2. Please clarify. If you choose to report nicotine dependence as a percentage of smokers in Table 2, then it must also be reported that way in the results text.
15. Table 3. Please clarify how percentages have been calculated. I think these are all % of smokers but please state that clearly and give the number of smokers for each column in the first row of the table.

Discussion

16. Discussion paragraph 10. You state that “the association of individual income and smoking is controversial. The reason for this discrepancy is unclear. The exact nature of the association between income and smoking needs further investigation.” Please clarify this point. The meaning is unclear. Why is the association “controversial”? Which discrepancy are you referring to? And why does the association between income and smoking need further investigation?

Discretionary Revisions

17. Since a stratified sampling procedure was used for this sample, the sample may not be fully representative of the target population (e.g. the rural population of Yunnan province). The validity of the analysis could be improved by weighting the analysis to reflect the characteristics of the target population (by age, sex and education, for example). Weights could be applied to percentages, estimates of prevalence and logistic regression analysis, though it would particularly improve the validity of the prevalence estimates. The “survey” package in R allows calculation of percentages and logistic regression using weights.

18. Table 4. I would suggest that you also report odds ratios for tobacco cultivating status.

References


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 have no competing interests