Reviewer’s report

Title: The odd man out in Sub-Saharan Africa: Understanding the tobacco use behavior in Madagascar

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Reviewer: Anne Hublet

Reviewer’s report:

Major compulsory revisions
1. Page 4: the authors describe the steps the government has taken to combat the increasing tobacco use. Nothing is said about increasing the taxes of tobacco products while this is known to be one of the most important and most effective measure. Can the authors write something about this also?

2. Page 7: How was wealth measured? Is the ‘standardized wealth index’ a questionnaire?

3. Page 7: the statistics are not clear for me. Are the independent variables put into the analyses together or one by one? If one by one, why do the authors check for multicollinearity? If put together, why do the authors not discover multicollinearity if they put age and age squared together in the model?

4. Page 7: the reason why the authors are using age squared is still not clear for me with the explanation they give.

5. Page 8: The results are weighted by what? Also indicate that the data is weighted in figure 1a en 1b.

6. Page 8: In describing the females results, the authors speak about dual use, while in men use ‘of any tobacco’ was described. Is it any products or dual use? If it is dual use, correct this also in the figures 1a and 1b.

7. Page 9: results in table 1 are weighted. By what?

8. Page 9: The prevalence of tobacco use has a strong gender gradient with … (p<0.05)# indicate which test was used and give also the statistic. For example: \( \chi^2 = \ldots \). Also indicate that in the table.

9. Page 9: Among males, smoking peaks at 20-24 years (35.82%) and not at 45-49 as indicated in the text.

10. Table 1: indicate also the significance in the table (for example \( \chi^2 \) p-values with *)

11. Place the total prevalence above the table instead of below as it is now.

12. There is a ‘*’ in the table but without any explanation.

13. Results in general: page 9-10: the authors are speaking in terms of more or less, while no indication of significance is given.
14. Page 10: In females, dual use is also low in traditional religion.

15. Table 2: it is not clear if these are univariate analyses or if these results are controlled for other variables.

16. For dual use: are there enough respondents in these analyses to do the comparative analyses? Maybe it would be good to put the number of respondents within every category in the table (for example ‘Smokeless Tobacco Products (n = …))

17. Age: (first time) indicate that this variable is used as a continuous variable in this analysis.

18. Wealth index: also continuous variable, indicate that.

19. Page 10: other + muslim + traditional have a lower relative probability compared to Christian. So instead of ‘People from other religious faiths’, it is better to say ‘People from all other religious faiths studied’. What about the comparison between for example Muslim and traditional, …?

20. Page 11: FCTC: by whom adopted? Also by Madagascar? In which amount? Taxes, Protection from exposure to tobacco smoke, Regulation of the contents of tobacco products, Regulation of tobacco product disclosures, Packaging and labeling of tobacco products, Education, communication, training and public awareness, Tobacco advertising, promotion and sponsorship, Demand reduction measures concerning tobacco dependence and cessation? It would be interesting to know more about these measures in Madagascar, so the reader can see what is missing and what are the next steps that must be taken to prevent tobacco in Madagascar.

21. Page 12: Smoking already starts in adolescents so why not start prevention at an earlier age when they are not already smoking or addicted? I think this is a better preventive strategy than battle smoking when people are already addicted to it.

22. Page 12: ‘In this respect, …., tobacco use was inversely related to higher education, income brackets and non-manual employment …’. This is not investigated. The authors used the categories ‘no use’, smokeless tobacco products’, ‘smoked tobacco products’ and ‘dual use of tobacco products’. To investigate tobacco use like described here, they had to look at ‘total tobacco use = sum of the 3 last categories’. If you look at these results in the first table, it suggest that non-manual + unemployed are both categories with very low tobacco use.

23. In the next sentence, the authors say that uneducated people are using more tobacco (all forms) compared with educated people. This was also not investigated as high education was the base category. To investigate this, the authors must take no education as base and compare this with the other categories.

24. Page 13: last sentence first paragraph: it is always good to have more
educated people in a country, for different aspects of life. Although, to battle tobacco use, I would say that a more achievable goal is to give more information on tobacco use to the lower educated people or to implement smoking prevention programs tailored on the lower educated people. That is the correct preventive measure here. It is not an achievable goal to make all people follow higher education, so they won’t smoke. Also, not all people have the skills to follow higher education.

This thinking is only correct for smokeless tobacco products as the results for smoking and dual use are different.

25. Page 13: second paragraph, first sentence: the authors are speaking about a reduced use of SLT and dual use when the wealth index increase. A RRR of 0.522 and 0.725 is found. This does not mean that the use reduces by 48% (1-0.52= 48) and 27% (1-0.73 = 27) respectively. As this is a ratio, the correct calculation is: for smokeless tobacco products: 1/0.52 = 1.916 # by decreasing wealth, the use of smokeless tobacco products increase by 91%. For dual use: by decreasing wealth, dual use increases by (1/0.72 = 1.379) 38%.

Or you can also say: By increasing wealth, use of SLT is decreasing by 0.52 times and dual use by 0.725 times.

26. Page 13: second paragraph: occupation: the results given about the people in agriculture, are the results compared with people who are unemployed. This reference category must also be stated here. Otherwise, it seems you compare people in agriculture with the rest of the population.

27. Page 14: First sentence: same mistake as above: 14% must be 16% (1/0.86 = 1.16).

28. Page 15: first paragraph: what does the authors mean about social norming? Do they mean the implementation of social norm interventions? Social norm interventions are part of the strategy ‘Education, communication, training and public awareness’ in the FCTC, but more can be done. I would not only focus on social norm interventions but also start at schools with smoking prevention, increasing taxes, ....

Minor essential revisions

29. Page 5-6: ‘The overall response rate for the household survey in Madagascar was 98.8%, with 17.375 females (response rate 95.6%) aged ....’ I would make two sentences of it as it is confusing to see the response rate twice but on a different topic.

30. Page 6: state the corresponding author’s institution.


32. Page 9: 7th line: it must be: males with no or primary education.

33. Page 14: 8th line: couple must be couples.

34. Page 15: limitations, 5th line: in respective country must be in the respective countries.
Discretionary revisions
35. Page 3: put an ‘a’ before ‘potential market in line 6 of the second paragraph.
37. Page 14: 4th sentence: change: However, the huge difference in the rate of smoking among married males and females indicates that still a larger percentage of the female population in the country are exposed to SHS.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests