Reviewer's report

Title: The role of gender in a smoking cessation intervention: a cluster randomized clinical trial

Version: 2 Date: 17 February 2011

Reviewer: Iñaki Galán

Reviewer's report:

Although authors have greatly improved the manuscript there are a number of outstanding issues that need attention.

Abstract: line 9, should be changed from “fixed-effects logistic regression model” to “mixed-effects logistic regression model” since the model contains both fixed effects and random effects. The same change should be done in line 13.

Introduction:
In the first paragraph you could update the mortality figures with 2006 data. This information has been published recently:

The third paragraph of the introduction should be integrated into the first one. Furthermore, this paragraph should be improved because it has been misunderstood the epidemiological pattern of the evolution of tobacco consumption in Spain, providing unreferenced figures. In Spain, consumption in men is down from the mid seventies and women reached a peak in the late nineties, falling slightly in the current decade.

Methods:
Data analysis.
- Some analyses were stratified by gender (Tables 1-3) but not the main analysis (Table 4). For this reason the heading "Analyses were stratified by gender" (first line of the Results section) should be corrected.
- Paragraph explaining the analysis used in the results described in Table 3 is very confusing, "Linear and / or mixed-effects models (analysis of covariance)". Do you use linear mixed-effects analysis at all? Why and / or? Have you used the analysis of variance in some cases?

Results:
- The last paragraph on page 11 is related to Table 4, however is located in the text before of Table 3. Given that this information is not presented in tables should be minimized and put in context of the results of Table 4.
- The description of Table 3, which is very complex in its interpretation, is little developed in the text (first paragraph on page 12). Authors should make a longer description of the results of this section.
- The information of Table 3 is very confusing. As mentioned above, it states that it has conducted an analysis of covariance, linear regression and mixed models, but it is not known exactly where and how they are applied. For example, as stated footnotes at the bottom of the Table 3, "mixed-effects linear models" have been only implemented in the variable “number of cigarettes per day” for women. There are numerous empty cells in the absence of an explanation about it (this reviewer assumes that each of the eight models has different variables selection, but it should be explained at the bottom of the Table 3). The title of the columns 3 and 4 varies for men and women. Also, given the large amount of data, it would be advisable in this table to eliminate the standard errors. It would be enough show p-values.

- The titles of Tables 1, 2 and 4 should be reduced. Table 3 has a confusing title, only referring to its statistical component.

- I recommend including 1 decimal (in some data there is 1 while in others there are two), except for p values.

Other comments:
- Replace "autonomous communities" by "regions" since this term does not exist in English.

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

**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 declare that I have no competing interests