Reviewer's report

Title: Population-based incidence trends of oropharyngeal and oral cavity cancers by sex among the poorest and underprivileged populations

Version: 2 Date: 17 February 2014

Reviewer: Pamela Minicozzi

Reviewer's report:

Minor Essential Revisions:

Abstract
It is absent

Background
SES: could the authors explain what types of indicators were included in it?
OPC should be defined before using it
Sentence “These observed...at these different sites” needs a reference

Methods
ICD0-3 codes like 8050, 8076, and so on are not histology codes but morphology codes
Only some listed ICDO-3 codes showed the code for the behaviour (3): please, harmonise.
Please, explain or define the following variables: “anatomic site”, “histology”, “tumour stage”, “age” and “sex” (Ex: sex – men, women –).
Additionally, please change “age *at diagnosis*” and add “ethnicity – definition –”
The authors analysed data from 1981 to 2010, but they talked about the ICDO-3 only or tumour stage in general. Could the authors please clarify?
Please, add a reference for the statistical tests used and the indicators estimated in the analyses (Student’s t-test, ANOVA, AAIR, etc.)

Could the authors please clarify why they used the 1991 BC general population to standardise the incidence rates knowing that the cases under study were diagnosed in 1981-2010?

Results
Pag 8, last paragraph: please modify from “Figure 3A” to “Figure 4A”
Please, re-phrased the sentence “the highest increased in OPC......55-64 years”
Pag 9, line 3: “years....and older for OCC”# the sentence is not totally true.
Please, re-phrased.
Discussion
The authors in Table 1 showed the descriptive analysed referring to cases under study, by tumour stage and ethnicity. Nothing is done in the Results and said in the Discussion to support and justify this data. It should be interesting including and comment on trends by SES quintile and tumour stage, for example. And what about incidence by ethnicity in relation to SES?

Tables
Tables should be self explanatory. Thus, meaning of AAIR, SES, OPC, OCC, and so on have to be clarify in the footnotes or, directly, in the titles of all figures. Please, include axes titles in Figures 1-4. Please, harmonise colours in Figure 4: blue and red should show the same thing in all sub-figures.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: I declare that I have no competing interests' below