Reviewer's report

Title: Oral health of 12-year-old Dai children in Yunnan Province, China

Version: Date: 8 June 2015

Reviewer: Constantine Oulis

Reviewer's report:

Specific Comments:

Major Compulsory Revisions

Abstract

Methods: This is a very poor abstract, not well organized with most of the important information regarding the criteria of registering caries and periodontal status missing while the given data in the results is considered very little.

Introduction (page 3)

In general, most of the space and effort is consumed in the presentation of the geographic characteristics of the area and it's population without any information regarding the caries status and periodontal condition of these ethnic groups. The literature review is irrelevant to the topic and the introduction is considered very poorly organized, not satisfying the reasoning for conducting this study.

Methods (page 5)

Selection of the Sample: There was a good methodology selecting the sample but more information, regarding the questions (probably by including the questionnaire) and the methodology on how they measured the oral health knowledge and the final score, should have been included.

Questionnaire Survey

Page 115: it is stated that information on the “oral health-related behaviours (snacking habits)…” was collected, without explaining how this questionnaire was formulated and how the snacking habits were registered and evaluated.

Page 117-119: the same goes for “the oral health knowledge was measured with standardized questions on the causes and prevention of dental diseases, and a dental knowledge score was constructed” and why the questionnaire is missing from the paper.

Data Entry and Analysis:

1) The data on DMFT scores with 40% of the children having caries and a mean DMFT of 0.9, apparently constitutes a very skewed distribution of caries and non-parametric tests are better for the statistical analysis of such data.
Results:
In general the way that the results are presented is very poor with very little data in percentages and giving only the total means without details and analytical presentation of the values or scores i.e: the CPI index

1) Page 183: “Daily snacking habits were common, and no significant difference was found between boys and girls”.

Q 1: Why, this data is not given in a table along with the other information?
Q 2: How “Daily snacking habits” were registered and what was the measurement unit?
Q 3: why there is no comparison between those with caries and those without..? since on line 236 the lower caries prevalence is attributed to lower sugar consumption?

2) The results of the study might be biased since percentages with parametric tests are used and in table 2 comparisons are made between the three parameters and gender and not with those having caries and these they don’t. Why there is no any multifactorial analysis of the data?

3) page 184-186: “..a dental knowledge score was constructed...The mean dental knowledge score of the 12-year-old Dai children was 7.8 ± 3.6. Higher oral health related knowledge was found among the girls than among the boys (8.1 ± 3.3 vs. 7.5 ± 3.8, p=0.007).

Q 1: Why there is no such a table showing the different scores in comparison with the other parameters and caries?
Q 2 : The study might have been more meaningful with better elaboration of the findings in terms of assessing the distribution of caries (Occlusal vs proximal sites) and based on the findings to conclude whether prevention has to go towards more often and better tooth brushing with a fluoridated toothpaste or the use of pit and fissure sealants.

Discussion
The discussion is devoted to comments and comparisons of the results of the study with studies only from China and not from other parts of the world or Europe. The DMFT score of 0.9 for the 12 year-old children and 60 % of them free of caries is an extra ordinary figure and ideal oral health target for many European countries, .

The authors are talking on how to establish better preventive programs, which I don’t see that might offer any further reduction in caries ...instead of focusing on teaching the population to brush their teeth twice a day .....or cover the population with a public insurance scheme applying pit and fissure sealants.

Therefore the discussion should have focussed on the findings of the high percentage of untreated caries and how to prevent it from happening (fluorides and sealants) and secondly on how to treat the consequences of the disease.
In conclusion, the study cannot be published in the present form due to methodological errors and inadequate statistical management of the data. The study has to be re-written and resubmitted after a major revision in the introduction and the statistical analysis, adding more information on the DMFS index and the distribution of caries according to surfaces in order to support the effect of sugar on the proximal surfaces or absence of sealants on the Occlusal surfaces, before to suggest any preventive intervention.

**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 in relation to this research or paper I have reviewed.