Reviewer’s report

Title: Parents education level and caries status in children with an immigration background in Austria

Version: 2 Date: 16 October 2013

Reviewer: Sigrid Van den Branden

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The paper describes the caries experience in twelve-year old children living in Austria and the associations with their immigration background, educational level of the parent, and type of school. Only univariate ANOVA’s were performed, and it seems to me that more elaborate analyses are necessary to confirm the findings and make correct interpretations. I have some remarks for the authors to consider:

Major compulsory revisions

Abstract
1. In the sentence on the methods, include information on the number of participant, age of the children, selection of participants, statistical techniques
2. Also include some p-values for the most important results

Background
3. It is not clear to me how ‘type of school’ can serve as a proxy for educational level of the child. Please provide some references to make this clear and explain the underlying mechanism.

Methods
4. What is the response rate? 736 children out of how many invited?
5. It is not clear to me how the children were selected. I understand that you randomly selected 39 schools, but how were the children in the schools chosen? In the introduction, it is stated that 11.5% of the Austrian population has a foreign background. However, in your sample, 50% of the children has an immigrant background, so it seems to me this is no representative proportion for the society and a specific selection of children has taken place?
6. Please elaborate a bit on what the SiC Index stands for and how it should be interpreted.
7. The major shortcoming in this paper are the limited statistical analyses, which seem to elementary to derive any conclusions. Multivariate analyses are necessary to interpret the complex relationships between these factors. Educational level and immigration background should be inserted together in a multivariate model and the interaction between both factors should be taken into account. It would also be good to control for other related factors such as gender
and age of the child.
8. It is not clear to me how the data can be normally distributed. In the results section it is stated that 29.8 and 40.5% of the children were caries-free, so it seems impossible to have normally distributed data. A model should be used which takes into account the excess of children with zero results.

9. A kruskal-wallis test can indeed be used if data are not normally distributed, but is mostly applied to non-parametric data, which is not the case for DMFT or DMFS data.

Discussion
10. It should be tested whether the conclusions can be confirmed with multivariate analyses.

Discretionary revisions

Abstract
11. First sentence: ‘Education and immigration background are risk factors’… Please be more specific about ‘education’, do you mean educational level, of the parents, of the child, is a high or low educational level a risk factor, …?

Background
12. Line 2: What do you mean by ‘educational work’? Health education?
13. Line 3: The sentence starting with ‘it is mainly the industrialized…’ does not read well, please rephrase

14. In the international literature, the relationship between the socio-economic status of a person and his or her oral health status is well described. Educational level is generally considered a measure of the socio-economic status of a person. In the WHO report on social determinants of health (Solar & Irwin, 2010) the rationale for this is described as well as the underlying theories of how educational level (of the parents) can have an impact on one’s (oral) health. It could be interesting to include this in your paper.

15. Page 3, last paragraph, sentence on ‘the question arises…’: What do you mean by ‘independent or dependent risk factors’? Isn’t it more the question of how both risk factors are interrelated or not and have an impact on each other or not?

16. The authors mention correctly that the health care system is a related factor in the development en treatment of dental caries. It would be interesting to apply an ecological model to describe the related risk factors to caries in children, for example Fisher-Owens et al, 2007.

Results
17. First paragraph: Please avoid repeating data in the text and tables.
18. I would suggest moving the sentence ‘A DMFT score less than 3 already …’ to the discussion section.
19. Rephrase the sentence ‘these results are also supported by / observed when using? the DMFS index.'
20. DMFS results are not shown in Table 3

References


Level of interest: An article of importance in its field

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.