Author's response to reviews

Title: A Case-Control Study of Determinants for High and Low Dental Caries Prevalence in Nevada Youth

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Version: 2 Date: 20 October 2010

Author's response to reviews: see over
October 20, 2010

Tim Shipley, PhD
Executive Editor
BMC-series Journals
BioMed Central
Floor 6, 236 Gray's Inn Road
London, WC1X 8HL
email: editorial@biomedcentral.com

Dear Dr. Shipley,

Re: MS: 3571010640263895 - A Case-Control Study of Determinants for High and Low Dental Caries Prevalence in Nevada Youth

Thanks for your kind comments and those of two reviewers to our manuscript as listed above.

In the attached table, we have endeavored to list each of the actionable comments from the reviewers and the editorial office in the left column with what action we have taken in each instance in the right column.

We are also attaching the manuscript in which the track changes demonstrate the changes made to the manuscript, the references, and the tables. We are certain that the changes required have helped to further improve the quality of the presentation, and we are happy to return this to you for final approval. We are looking forward to achieving your confirmation of this.

Should you have any questions, feel free to contact me at marcia.ditmyer@unlv.edu or in care of:

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Regards,

Marcia M. Ditmyer, PhD, CHES
### Reviewer’s/Editor’s comments

**Reviewer 1:**

1. This part has to move into discussion section...
   "Unlike NHANES, there were restrictions placed by the funding agency in our study preventing the use of compressed air and explorers. However, researchers compared studies using visual methods without probes and drying with studies using visual/tactile methods with explorers and compressed air and subsequently found that only in groups with low caries prevalence were statistical differences observed [11]. Additionally, there is an increasing amount of research that indicates the use of a dental explorer for assessing noncavitated incipient lesions may not be a best practice approach [12]. Some experts suggest that the use of an explorer for this purpose can penetrate the surface and convert a subsurface lesion to a frank cavity [13]. Additionally, there have been a number of false-positive diagnoses on occlusal surfaces thus indicating the value of the dental explorer is limited [9, 12, 13]. In this study, the prevalence of dental caries in Nevada youth is higher than the national average, therefore considered high prevalence and it was not felt that this would bias the results."

**Authors’ response**

1. We have moved this section to the end of the discussion where we are discussing limitations and future recommendations. That section has now been appropriately amended and references renumbered.

**Reviewer 2:**

1. Table 2 compared 30% of Nevada students with highest caries level to a nationally representative sample. Naturally the sample with highest caries levels in Nevada showed higher levels of caries than the national average.

2. Table 3 would be easier to read and make comparison if reported percentages within the case group rather than numbers. For example, it is more meaningful to say 61% and 43% of students without and with sealants were in the case group, respectively.

**Authors’ response**

1. We agree with the reviewer’s observation, but it was felt an important piece of information to contrast the two sets of values.

2. We have now merged Table 3 and Table 4 and made necessary consequential notational changes. In the revised Table 3 we have added a column illustrating the percentage distribution of the respective populations for each variable.
3. Since Table 4 only shows the results from bivariate regression analysis, it could be merged with Table 3.

4. Page 10, 2nd paragraph: the authors stated that the global average of caries is no more than 3 DMFT, and that the case group had higher caries than the global and national average. However, the case group represents individuals with highest caries level in Nevada. We do not know from the results of this study how the average of caries in the whole population of Nevada compares to national or global average. It should be made clear that the authors do not imply that caries levels in Nevada are higher than the national or global average.

5. There was a significant difference between males and females in DMFT score but not in D-component. It would be useful if the authors comment on this specific finding.

6. Other limitations of the study should be reported in the discussion. For example, the lack of controlling for socioeconomic factors, and direct oral health behaviors (hygiene, dental visits and sugar consumption), and limiting the regression analysis to bivariate, rather than multivariate analysis.

3. Please, see point 3 above.

4. We have amended this part of the text to emphasize that the global average of 3 DMFT was an aspirational goal set by the WHO at a time when it looked like caries would explode in developing as well as developed countries. In many countries the goal was achieved, but oftentimes was replaced by a polarized situation where some had no and some had a lot of dental caries. This is what we have tried to identify here.

5. Since this study focused on the two extreme groups in caries prevalence, the caries-free and the high DMFT scorers, this study cannot be used to make inferences about the general DMFT status in Nevada youth or the ranking of Nevada youth oral health in a national context.

6. We have added a brief section to this effect in the beginning of the discussion. We have added language in the limitations to this effect. Although not every conceivable variable was chosen in this study we do feel that the over 40% explanation of the variation of the dependent variable does attest to the relevance and importance of the independent variables chosen. We believe that the dental insurance question has functioned as a proxy for a SES variable, albeit not as detailed. On the basis of this comment we expanded the analysis to include a multivariate logistic regression analysis which further confirmed some of our concepts.
Editorial comments:
1. Please include a 'Competing interests' section between the Conclusions and Authors' contributions. If there are none to declare, please write 'The authors declare that they have no competing interests'.

2. Please include an Authors' contributions section before the Acknowledgements and Reference list.

3. We strongly encourage you to include an Acknowledgements section between the Authors' contributions section and Reference list.

4. We would be grateful if you could address the comments in a revised manuscript and provide a cover letter giving a point-by-point response to the concerns.

5. Please also highlight (with 'tracked changes/colored/underlines highlighted text) all changes made when revising the manuscript to make it easier for the Editors to give you a prompt decision on your manuscript.

1. Competing interests section added.

2. Authors’ contributions added.

3. Acknowledgments section moved to correct place.

4. Done.

5. Done.