Author’s response to reviews

Title: The impact of dental treatment and age on salivary cortisol and alpha-amylase levels of patients with varying degrees of dental anxiety

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Version: 2 Date: 04 Mar 2019

Author’s response to reviews:

We thank the reviewer for his detailed comments. We have tried to address the very valid points on a point by point basis.

1.) The authors should describe the study design in more detail. Particularly this refers to situational and temporal aspects of hormonal assessment. Has there been a standardized assessment that would allow to control the data for circadian variations of cortisol release? Moreover, given the delay in hormonal responding a more detailed situational description would help the reader to understand whether anticipatory or situational stress responses have been assessed. If there has not been a standardized assessment, the authors absolutely should mention this among the limitation section as this represents a huge source of error variance within the data.

We agree and more details on this aspect have been added. In order to standardize for circadian rhythm all samples were collected at a fixed time (between 10 and 12 am) using protocols previously used for the collection of saliva and normalization of variations in salivary cortisol (Hellhamer et al 2009, Pani et al 2012). This has been added to the methodology section and the advantages and limitations of the technique have been added to the discussion section.

2.) Moreover, the introduction and method sections both lack of any information concerning the aim and rationale as well as the procedure of heart-rate assessment.

We apologize for this and details regarding this have been added to both introduction and the methodology sections.

3.) Furthermore, the authors should provide information on contents of pharmacological or non-pharmacological behaviour management techniques.

This has been added to the materials and methods section (page 5).

4.) What was the rationale behind conducting several ANOVAs in this longitudinal study? Instead, the authors could also run one repeated measures ANOVA which would allow to test for additional within-group effects. Moreover, the authors should explain the rationale behind conducting analyses in "homogenous subsets". How have subsets been composed? Please provide information on this.
The study was indeed longitudinal, however the use of each test period as a separate test group. This is because this enabled the analysis of all samples at a given time period without excluding patients lost to attrition. For homogenous subsets, each group represented a subset with no statistical differences when tested for intra group variations using the post hoc test. The tables have been revised in consultation with the statistician and the differences have been mentioned in the text with scripts used in the main table to denote significant difference. We hope the changes make it clearer for the reader.

5.) The authors should go into details about possible clinical applications of their findings. For example, do they recommend special interventions for children who display enhanced cortisol-release in dental-relevant situations?

A section has been added to the discussion

Minor comment:

1.) Within the method section the authors mention post-hoc Scheffé tests had been made in case of significant ANOVA-results. However, in the result section always Tukey-test results are reported. We apologize, while the initial protocol called for the reading of highest significant difference, the statistician advised the use of a least significant difference post hoc test thus necessitating the use of the Tukey. We have corrected this in the methodology.

2.) Please provide units of measures in table headings

Units have been added.

3.) The manuscript would greatly benefit from a careful check of grammar and spelling as there still are some awkward wordings and spelling errors.

A detailed proof reading has been carried out and we sincerely apologize for errors in the previous manuscript.