Author's response to reviews

Title: One year survival of ART and conventional restorations in patients with disability.

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Author's response to reviews: see over
Dear Editors,

On behalf of our co-authors, we hereby re-submit the manuscript originally entitled: **ART restorations in patients with disability: methodological considerations and one year follow up.**

We are grateful to reviewers´suggestions which helped to improve the quality of the manuscript. Responses to reviewers are included in this letter, in bold letters, after each of their comments.

Reviewer 1:

This is a good study on how to apply some of these restorative techniques in patients with a handicap. However, I only have just a few concerns to raise to the authors:

**ESSENTIAL REVISIONS:**

1. This was a comparative study between ART and conventional method in clinic environment and under GA. My suggestion to the authors is to re-look at the title of the MS to be in tandem with the study, as it stands it only means the survival of ART restorations after one year and methods applied. And this is not the case. **Response:** The title has been changed to “One year survival of ART and conventional restorations in patients with disability”.

2. Some attention is needed to the English grammar in several parts of the MS. **Response:** Although one of the authors who significantly contributed to the writing of the MS has English as a mother language, the MS was re-sent for language check.
3. On page 7, first paragraph, one of the inclusion criteria is “teeth with spontaneous pain and mobility”. Was that the real case? **Response:** The manuscript states without spontaneous pain and mobility - this sentence has been rephrased in the manuscript for clarity.

4. Although some opening explanation has been given for allowing respondents to make choices of the method used to treat the patients, how objective was this method, given that they had to go away and return to affirm the chosen method? Could there have been the possibility of the respondents meeting each other and exchanging views before treatment, ending up with skewed outcomes as seen in the numbers for each category? **Response:** It was very unlikely that patients/parents/caregivers had the chance to exchange views. However, researchers recorded the reasons that led them to choose either one or the other option, in order to identify their expectations and perceived barriers for dental treatment.

5. Otherwise, the MS is informative, and one would have only hoped more numbers could have been used, and the balances for each category could have been attained. **Response:** We are very satisfied that we did not assign patients to a treatment group, but let them choose as objectively as possible and allowing us to assess their level of satisfaction with the decisions they made freely.

**Reviewer 2**

The study deals with the treatment of disabled patients, a demanding subject and this submission is welcome, since it will contribute to diminish patient suffering. The aim of the study was to assess the survival rate of ART restorations compared to conventional restorations in people with disability.

1. In the Abstract section there is a mistake regarding the percentage of patients who received CRT/Clinic: instead of (13%) it should be (7.5%). I also suggest that all percentages appear with decimals to standardize the data. **Response:** The percentage has been changed accordingly and all the percentages appear to one decimal point in the manuscript.
2. The Background section starts with a statement based on the systematic review done with adult patients, but this detail is not mentioned. I suggest citing that the study was done in adults. I also suggest the inclusion of the study done by Oliveira et al (2013) with adolescents and adults, and having siblings as controls: The authors observed that ID patients have more decayed and missing teeth, fewer restorations and had a greater need for tooth extraction than their siblings had. **Response: The contribution of the reviewer is very much appreciated. This information has been added to the Background section with its corresponding reference.**

3. In addition to the established aim of the study, the authors added that they would also outline the methods used to obtain and analyze the data in details, as a basis for future reports and many other variables, resulting in weakness to the work. This was reported in the last paragraph of the Discussion section: “In addition to the non-random assignment of patients to restorative strategies, the study presents a certain number of other limitations. No power calculation could be performed resulting in an unevenly distributed sample size over the treatment group”. My suggestion to overcome this weakness is that this paper should be published as a Pilot Study. **Response: Although a relatively small sample size and the uneven distribution of treatment groups were considered as possible limitations that might weaken the quality of the study, the authors are convinced that after a six months period of inclusion of patients, it cannot be considered a pilot study. Regarding the distribution of patients, we are aware that a random distribution could have been undertaken in a more homogeneous population. People with disability included in the present study represented too broad a spectrum of different medical conditions for randomisation. This was the reasoning behind the choice of a non-randomized control study where patients/parents/caregivers selected a treatment option according to their needs and expectations, using objective information.**

4. At the Development of Information Brochures, there is a reference to (appendix 1) that should be deleted. **Response: The reference to appendix 1 has been deleted.**

5. The authors should add a reference at the end of the second paragraph in Study design and attribution to treatment group. This paragraph starts with “Randomization
of persons…and ends with consent,” and the reference would support this statement.  
**Response:** Two references relating to this point have been added.

6. In Treatment Procedures, “dentine carious lesions…. were prepared” should be changed to “were initially removed after” ... **Response:** This sentence has been changed accordingly.

7. At the Evaluation Section, it is stated that the two examiners were calibrated, but the inter-examiner kappa was 0.62 and the percentage of agreement was 91.7%. Could the authors explain the calibration process? **Response:** The calibration process has been explained in more detail.

8. At the Results Section, I suggest that the authors mention how many patients planned to receive ART treatment went to CRT and vice versa and how many went to GA. **Response:** As this information is given in Figure 1, we did not want to repeat it in the text.

9. In the last paragraph of the “Effect of background variables on the treatment groups” Table 1 was cited. How to explain that there were significantly more restorations in permanent teeth treated with GA then the ones treated using the other protocols if DMFT and the D component is higher for the CRT and ART treated patients? **Response:** The information regarding the number of restorations, both in the primary and permanent dentitions shown in Table 1, was deleted as it does not belong to the “background variables at baseline”. During the procedures under GA, all dental treatment required was carried out, including all restorations. The mean N of restorations in the permanent teeth was significantly higher in patients undergoing GA because this value was obtained by dividing a large number of restorations (29) performed for a few patients (5). DMFT in this group was lower because the 14 patients (not only these 5) presented some permanent teeth without caries.

10. Although Tables 1 and 2 and Figure 1 show the results after 6 months, the text misses a comment in this regard. **Response:** The six month follow up was carried out
to identify immediate failures or emergency situations related to the restorations. This comment has now been included in the Results section.

11. The authors should make a revision of the whole text and when making a citation of an organization or a technique for the first time should add an abbreviation and subsequently only the abbreviation. **Response: A revision of the whole text was undertaken to make sure that abbreviations were used accordingly.**

12. In the Reference Section, I suggest the inclusion of the following paper:

Oliveira JS, Prado Jr RR, Lima KRS, Amaral HO, Moita Neto JM, Mendes RF. Intellectual disability and impact on oral health: a paired study. Spec Care Dentist: 262-268, 2013. **Response: This reference has been added.**

We are looking forward to further correspondence.

Kindest regards

[Signatures]

Dr. Gustavo F. Molina    Dr. Jo E. Frencken