Reviewer's report

Title: An exploratory pilot study to assess self-perceived changes among social assistance recipients regarding employment prospects after receiving dental treatment

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Reviewer: Daniel Reissmann

Reviewer's report:

The manuscript entitled “An exploratory pilot study to assess self-perceived changes among social assistance recipients regarding employment prospects after receiving dental treatment” presents an interesting topic. However, there are several concerns.

Major Compulsory Revisions:

Major concerns:

1. As indicated in the title and the abstract, the authors assessed whether dental treatment induced changes in OHRQoL measured using the OHIP-14 is associated with changes in job-seeking self-efficacy. However, in the manuscript there is a large second part with respect to perceived barriers of the patients assessed using a qualitative approach. Hence this study applied a mixed-method approach. I think this is innovative and can provide a deeper insight in the investigated topic. However, the authors actually failed in successfully combining the qualitative and the quantitative part. Currently, both analyses are presented separately, making the manuscript long and hard to comprehend. In my opinion, both analyses are worth to publish, but not in the current form. Authors should consider either to better combine the two approaches in one manuscript or to publish two separate papers. I would prefer the latter.

2. The authors calculated two scores (physical and psychosocial domain) for the OHIP-14. Even though they refer to a paper from Ozhayat 2013, this is neither a valid nor an internationally accepted OHRQoL model. There has been a lot of research regarding OHIP dimension, and looking into this research one can conclude that there is no final conclusion. The best available evidence suggests that the original seven-dimension model cannot be empirically proven and there might be a stable four-factor model with a strong general factor. However, not all items have strong loadings into the four factors. Therefore, the OHIP-14 summary score is currently the best option to analyse these data. If the authors really want to investigate dimensions, the seven-domain model is still an option, even though not the best one. However, the two-domain model should be not option at all.

Minor concerns:
Abstract:
3. The abstract should give an insight into the entire study and not only in one part. If the authors wish to keep the qualitative part, they should present it in the abstract too.

Introduction:
4. The authors designed a conceptual model how dental treatment might affect job-seeking efficiency and, furthermore, employment outcomes. In my opinion, this model is not correct and not supported by evidence. There are several associations that are highly questionable, e.g., why should appearance affect general health, why should all effects from the dental treatments on self-efficacy been mediated by general health, and why is there no direct link between general health and quality of life, just to mention some of my concerns. Furthermore, what is the benefit of this model? But most important, as this model presented in the introduction seems to be a hypothesis, where is the validation of the model? I cannot find any data in the manuscript that support the entire model nor is there any adopted or revised model. With the data the authors have assessed, it seems almost impossible to validate the model anyway. I would recommend to drop the model or present a simplified one that is easily verifiable.

Methods:
5. Provide more information on how the qualitative data were assessed. How many questions were asked? Was the interview structured (or semi-structured)? Who has defined the topics for the interviews?

6. Provide the reference number of the ethical approval.

7. Who has developed the “ad-hoc questions”?

8. According to Cohen, an effect size of .5 is considered moderate, not .4! Please correct.

9. The investigation of the association between changes in OHIP and JSS would benefit from a more profound analysis. This should start with the test whether the summary scores (not change scores) are correlated. This could be visualised with a plot of both summary scores. Furthermore, linear regression analyses for the assessment of the impact of changes in OHIP scores on changes in JSS scores would allow to compute confidence intervals and could be controlled for potential confounders.

10. Provide more informant on the processing of the qualitative data. What systematic methodology has been applied, e.g., Grounded Theory?

Results:
11. Do not discriminate between quantitative and qualitative results. Especially, since the first two paragraphs are basically a description of the sample (and could be moved to the method section).
12. According to the central limit theorem, a normal distribution of the OHIP and the JSS data can be assumed and no testing is necessary. Furthermore, the sample is derived from the general population where a normal distribution of the scores seems reasonable. Therefore, the use of parametric test statistics is justified.

Discussion:

13. Considering the large amount of results presented, the discussion is too short and does not sufficiently and critically debate the findings and the study’s methodology. Please add more comparisons to the literature and extend the strengths and limitations paragraph.

14. The conclusion should refer only to the findings and not overgeneralise the study’s results.

Minor Essential Revisions:

Tables:

15. Tab 1. This table is hard to comprehend. Please structure the table. How is “Child <= 4 years,” Single with children,” and “No children” related? Are these district categories, i.e., are they mutually exclusive? What about a single without a children? Please clarify.

16. Tab 2. As the two OHIP domains are not valid (see above), this table should be either modified or removed.

Figures:

17. Fig 1. See comment above. I would recommend to omit it.

18. Fig 2. Should be presented in a table (e.g, Tab 1) instead of a graph.

19. Fig 3. See comment re OHIP domains.

20. Fig 3&4. Present 95%-CI for differences. Actually a table would be more appropriate for these findings.

21. Fig 5. Could not find the reference in the text.

Discretionary Revisions:

Additional files:

22. There is no need to present the OHIP-14 or the JSS. Furthermore, there is no need for a “Vicious cycle of unemployment and self-efficacy” as a figure. Should be removed. The figure “Self-perceived changes after dental treatment” is identical to Fig 5 in the manuscript. If you consider the table “Pearson correlation between teeth/smile and barrier for job interview or confidence in finding work” important, incorporate it in the manuscript. An appendix should contain additional informant and not that one that is considered an important finding of the study.
Level of interest: An article whose findings are important to those with closely related research interests

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.