Author’s response to reviews

Title: Validation of a modified version of the Spanish Geriatric Oral Health Assessment Index (GOHAI-SP) for adults and elder people

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Author’s response to reviews:

Dear Editor,

We thank you for your kind invitation to respond to the referees’ comments on our manuscript originally entitled "Validation of a modified version of the Spanish Geriatric Oral Health Assessment Index (GOHAI-SP) for adult and older people" submitted to BMC Oral Health.

We also thank the suggestions and comments from the reviewers. We have carefully addressed one-by-one to all of them and we believe that the changes have improved the article.

Together with the revised manuscript with changes in colored text you will also find the point by point response to the reviewers.

We do hope that now our paper is suitable to be published in BMC Oral Health, as a new issue in assessment of oral health with GOHAI.

Sincerely,

Napoleón Pérez-Farinós

ANSWERS TO REVIEWERS REPORTS:

Asja Celebic (Reviewer 1):
You mention 2 focus groups - 20 volunteers in each; please describe them with more details

Answer: More details for focus group were included.

Methods Section, lines 104-109, page 5.

In the results section you state:

The test-re-test correlation for the total ADD-GOHAI score was 0.75. However, you have not mention that you performed test-retest in the Method section?????? How many participants were retested, how many days or months between retest?

Answer: We have included more information.

Methods Section, lines 156-157, page 6.

You also wrote: The item-scale correlation coefficients ranged from 0.54 to 0.75. - From Table 4 I read item scale correlation differently?

Answer: The information was corrected.

Results Section, line 239, page 10.

The participants with poor oral health perception had lower scores on the ADD-GOHAI. - instead of on - of?

Answer: The information was corrected.

Results Section, line 247, page 11.

In this study, we found that the GOHAI-SPM is able to discriminate between oral health state and psychological and functional considerations (on the bases of which result?). Or I don't understand what you wanted to say

Answer: The general analysis of reliability of GOHAI-SPM and separately from the 3 dimensions (psychosocial, pain and physical) showed satisfactory results. Clarifying information was included.

Discussion Section, line 295-299, page 12.
The GOHAI-SPM cannot identify periodontal disease. However, aspects related to common typing error, should be to

Answer: The information was corrected.

Discussion Section, line 306, page 13.

Mario Brondani (Reviewer 2):

Despite addressing an important topic in oral health and quality of life, and using a good methodology, this is a confirmatory study and stronger justification is needed. There is no strong evidence to justify that the GOHAI 'has not been re-evaluated to confirm its validity in the new generations of older adults.'

Answer: For 30 years the GOHAI-SP questionnaire has been used and re-evaluated to confirm its validity in other populations. The authors recommended modifications that have not been made yet. A systematic review of the all articles related to GOHAI-SPM was carried out and is still used in its original version. We have made linguistic improvements to be used as a reference questionnaire for future studies.

Background Section, line 28-30, page 2.

Background Section, line 70-74, page 3.

How is this 'new generation' of older Spanish adults different than previous generations?

What changes would they have experienced that make them different and distinct?

Answer: We included information about this point.

Background Section, line 75-78, page 4.

Aside from the above, there is no discussion about the actual 'validity' of the GOHAI, as originally presented by Atchinson & Dolan, in three main areas: 1) the model in which GOHAI is based (Locker) has been rebutted as adequate and sensitive portrayal of oral 'health'; 2) the combination of positive and negative items makes the GOHAI difficult to be interpreted; 3) there are many other instruments that claim to measure the same issues, but have not been discussed nor acknowledged.

Answer: we consider that these issues are very relevant, and we have included in the Discussion Section 3 statements concerning them. In addition, we have included two more references (number 26 and 53).
Another point of contention is the debate about suggesting linguistic and grammatical changes to an English-based questionnaire: There is a body of literature discussing literal X liberal translation and the fact that any change to the originally thought out items would actually constitute a NEW instrument altogether, not a modified one. This discussion in not about translating English to Spanish but trying to adequate the words (which might be the case) that would now have a different meaning if back-translated to English. If the meaning changes, is that the same instrument?

Answer: We have added some information concerning those issues.

Methods Section, line 151, page 7.

Results Section, line 213-218, page 9.

Table 1, line 562-564, page 21.

The last point is inherent to all these quality of life instruments: there is no evidence for a cut off summative scores that would represent better or worse oral health related quality of life: it is no longer sufficient to say that 'a high score indicates better oral health and quality of life.' What does a high value means? How high or low" Is a person with a GOHAI score of 20 twice as bad as somebody with a score of 40?

Answer. We included more information.

Background Section, line 122-125 and 128, page 5.

Mariana Campomar Seoane, PhD (Reviewer 3): General comments

Evaluating OHRQoL with validated and cultural adapted instruments is an issue of interest.

It could be very useful to include the Spanish version in the manuscript. This is a study which have very good implication for Latin-American research, includes linguistic modification and "colloquial" terms, this is why it is necessary to read it in the Spanish version. If it possible, with the two versions, the original and the new one.
Answer: The Spanish version of the geriatric oral health assessment index (GOHAI-SP) has been included.

Table 1, line 562-564, page 21.

Some specifications are included in the following.

Background

1. Paragraph one could introduce some clarification (in red) to be more precise as Atshinson and Dolan proposed: "with 3 dimensions, physical *function*, psychosocial *function*, and pain *or discomfort*". … I recommend to use the same criteria for chapter: "The GOHAI questionnaire"

Answer: That clarification has been included.

Methods Section, line 117-120, page 5.

Background Section, line 58-60, page 3.

2. Target population is "older people", nevertheless, the study includes subjects of 55-70 years old. Is it correct to say they are "older people"?

Answer: We absolutely agree with the reviewer. This has been a controversial issue in the PREDIMED-Plus study, because is difficult to consider to 55 years people as older. That is the reason because we have decided to change the title, and to add “adult and older” in several statements in the paper.

Title, page 1.

Background Section, line 84 and 85, page 4.

3. The argumentation that justify the study include that psychometric validation has not been performed since 1999. Further, authors mention only one study that validates the measure into Spanish language (reference 5). Pinzón-Pulido SA, Gil-Montoya JA. Validación del Índice de Valoración de Salud Oral en Geriatría en una población geriátrica institucionalizada de Granada. Rev Esp Geriatría Gerontol. 199916; 34:273-82. Nonetheless, Sánchez-García S. et al, did valuate the psychometric properties of GOHAI in Mexican population, and authors include this reference later. For this reason, it is not accurate to establish that "the psychometric properties of the index have not been reviewed" I think, authors wanted to say that no revision of the original version in terms of linguistic adaptation have been performed.

Answer: That information has been corrected.
Even more, results of Sánchez-García et al (2010) could have been used in this manuscript for discussion, since internal consistency was better (0.61 for Sánchez-García, authors 0.87)

Answer: We included information.

Discussion Section, line 274-278, page 12.

Methods. In general methods are well presented. Nevertheless, some aspects should be addressed for better understanding and more accurate analysis.

1. Why did the authors establish this eligible criterion?

   a. "at least 3 of the diagnostic criteria for metabolic syndrome [21] were eligible to participate in the study"

Answer: That criterion is not exclusive for this study, but for the PREDIMED-Plus trial. As it is said in the Methods Section, a sample of participants from the ongoing trial PREDIMED-Plus was used, so those participants were selected with the PREDIMED-Plus criteria.

b. Authors used three different population: 1) for a initial focal study; 2) for a second focal study "to be performed after modifications of the GOHAI-SP" and 3) a sample for psychometric analyses of the 'new instrument' "In addition, a sample of participants was selected for the validation of the modified GOHAI-SP.". The first two, were voluntaries. Later, the authors explain that the third group was establish by a random process. Nonetheless, they incorporated the subjects of the other two. Why the authors made that decision?

   If randomization was possible, why authors decided to include people who were part of the discussion of the instrument, and they knew it in depth? All voluntaries participated in this process of validation (40?) they were 40 of 96 or, they were 96 + 40?

Answer: A sample for psychometric analyses of the new instrument NOT included the volunteers of the previous focus groups (96+40).

Methods Section, line 164, page 7.

For focus group,

1. There is no mention of the criteria used for selection of participant. Only voluntaries? Was there any exclusion? Women and men together? Only one FG could reduce variability which is necessary for saturation.
2. Second FG were performed "to evaluate the linguistic modifications to the questionnaire". Were they the same population?

Answer: The criteria used for a selection of participants were only volunteers from the PREDIMED-plus study. Men and Women together. A clarification has been included. Methods Section, line 104-109, page 5.

Methods Section, line 96-101, page 4.

Results

1. Authors mention at results Qualitative focus group study. But, essentially, it is not a qualitative study, it is a verification of comprehension using focus group. If this is a qualitative FG study, method should be reviewed, incorporating bibliographic references, techniques used, and saturation and variability concerns, among others.

Answer: That issue has been corrected.

Results Section, line 131, page 6.

Results Section, line 203, page 9.

2. Assessment of the GOHAI-SPM. Authors mention that "Explanations by the administrator were not necessary for the participants to understand the questionnaire and answer it correctly". What do you mean by "correctly"? Is it with no problem of comprehension? When a subjective measure is correctly answered?

Answer: A clarification has been included.

Results Section, line 221-222, page 9.

3. "Participants with 13 or more teeth had better ADD-GOHAI scores than those with fewer than 12 teeth. The differences were significant". Why the authors decided this cutting point? For functional occlusion, 20 teeth are frequently used.

Answer: we selected 13 teeth as cutting point from the statistics of the National Institute of Dental and Craniofacial Research (Tooth loss in seniors). We have included a reference (26).

Discussion

1. In this chapter, authors should include an explanation or justification for sample selection, for example, the inclusion of participant of FG into the random sample, the mention of older people when the age range is wider.
Answer: The participants of the focus group were not part of the random sample.

Methods Section, line 164-165, page 7.

2. There were minor modification which doesn't seem to be culturally influenced. Could be mostly a problem of colloquial expression than a cultural-linguistic adaptation?

Answer: We appreciate the comment, and we also think that it is not a completely clear issue. The Spanish population has suffered deep changes in the last years, both in age structure and in a strong immigration. However, we already expressed it in the Discussion Section, line 279, page 12.

3. "Although the GOHAI questionnaire was validated decades ago, few studies have considered revisiting it before applying it to studying a population". In this part of discussion, the study of Sánchez-García et al should be incorporated since some psychometric results are different and other are the same and, because of some originality in this manuscript that Sánchez-García et al didn’t have. Later, in paragraph 5 of discussion, an allusion of "other study" is presented, but considering the justification incorporated in the discussion, more analyses could be done from both studies. Otherwise, originality of this study could not be seen.

Answer: We added information concerning that issue.

Discussion Section, line 274-278, page 12.

Discussion Section, line 291-293, page 12.

4. "The participants in this study stated that the questions of the questionnaire after their revision and linguistic update were easier to understand." Did the authors show to the same subjects, the new version of the instrument (FG1 and FG2)? In methods, it seems that two different group pf subjects participated in FG.

Answer: A clarification has been included.

Discussion Section, line 285-286, page 12.

Conclusion

"The new version of the GOHAI-SP has adequate psychometric properties and can be used as a useful tool for evaluating OHQoL in the elderly population. The use of this more modern version has advantages in the clinical application of the questionnaire". Is it correct to stablish this is a new version? Table 1 called it a "modified version" which seems to be a more appropriated term.

Answer: We have changed the term “new” by “modified”, even in the title.
Title, page 1

Conclusion Section, line 327, page 14.