Author's response to reviews

Title: The Reasons for Betel-quid Chewing Scale: Assessment of factor structure, reliability, and validity

Authors:

Melissa A Little (littlemelissaa@gmail.com)
Pallav Pokhrel (ppokhrel@cc.hawaii.edu)
Kelle L. Murphy (kellem@hawaii.edu)
Crissy T Kawamoto (ckawamoto@cc.hawaii.edu)
Gil Suguitan (gsuguitan@uguam.uog.edu)
Thaddeus Herzog (therzog@cc.hawaii.edu)

Version: 3 Date: 26 April 2014

Author's response to reviews: see over
Dear Dr. Foster Page,

On behalf of my colleagues and myself I would like to thank you and the Reviewers for the opportunity to revise our manuscript. We have addressed each point raised by the reviewers, which are bullet-pointed below.

Sincerely,
Melissa Little

Reviewer: Lin-Yang Chi

Reviewer's report:
Major points:
1. It was not clear how the 351 adult betel-quid chewers were determined to serve the purposes of this study? Although the authors made it clear in the manuscript that this study was based on findings from a convenient sample, there are still issues to be addressed before readers could interpret the results properly, such as: were there adequate number of subjects for the minority subgroups, e.g. extreme numbers of chews per day, chewers of special types of betel quid?

   - We appreciate this point. Although we employed a convenience sample, there is no reason to believe that the sample is substantially unrepresentative of adult betel quid chewers in Guam. Further, the objectives of the study comprised evaluating the psychometric properties of the Reasons for Betel-quid Chewing Scale, and assessing the relationships between this scale and other variables. To meet these objectives, we do not believe that a fully representative sample is required.

2. Why only loading differences between genders were examined? How about those between different agegroups/ethnic groups etc?

   - This is an excellent observation. We had discussed conducting multiple group comparisons to assess whether the factors loaded differently across other groups, such as ethic and age groups. Unfortunately, the size of our ethnic and age groups vary and multiple group comparisons recommend that each group has equal sample size. Additionally, multiple group comparison is very power sensitive and in the current study we wouldn’t have adequate power to detect true multiple group comparisons among so many groups. However, we do feel it is important to explore group differences in the RFCS, so we decided to calculate ANOVA with Least Square Mean (LSM) comparisons to assess mean differences across age groups and ethnicities. Results of these additional LSM comparisons are presented in Table 3.

3. Some people chew betel quid without being aware of any explicit reason. They may give different answers to the same question at different time point. The authors might need to justify their choice of method for assessing reliability and validity.
• This is a very good question for future research. Because we are using a cross sectional sample in the current study, we were not able to test predictive validity and test-retest reliability of the RFCS. However, future research should explore these additional tests of validity and reliability in a longitudinal sample.

4. Are the three constructs identified by this study, i.e. reinforcement, social/cultural, and stimulation, valid for both chewing and quitting betel quid?

• The current scale is limited to reasons for chewing. Reasons for quitting is an important topic and it should be studied in order to elucidate reasons chewers make quit attempts which will ultimately inform interventions that lead to cessation.

5. It may not be true that any cross-sectional study could not conclude causality, as stated in lines 320-321.

• We agree with the reviewer. We have changed this sentence to read: “Lastly, because the current study was cross-section we did not draw any conclusions regarding causality.”

Minor points:
The symbol for the calculated statistical probability needs to be consistent. (line 213, P<.05, line 219, p<.0001)

• We have changed the symbol to be consistent.

Reviewer:Saman Warnakulasuriya

Reviewer's report:
Minor Revisions
1. The study sample is small. A convenient sample was selected. The effect of these biases should be discussed.

• We agree with the reviewer. We have added the following sentences to the limitation section.

“The findings of the current study must be interpreted in light of several limitations. The sample was limited to a small convenience sample from the Micronesian island of Guam. Although the sample included a broad range of chewers in terms of ethnicity, gender, and age, the results of the current study may not be representative of Guam chewers generally or chewers from other countries. Therefore, our results could over- or underestimate the true effects. However, given that the RBCS performed in a fashion we expected and was associated with other measures of use, we believe that our sample does not pose a great threat to the validity of our results. Nonetheless, our results should be interpreted with caution.”
2. A previous study discussed issues of dependency to areca nut in Addict Biol. 2000 Apr 1;5(2):173-9. This should be discussed in your paper in terms of instruments used to measure dependency.

A dependency syndrome related to areca nut use: some medical and Psychological aspects among areca nut users in the Gujarat community in the UK. Winstock AR, Trivedy CR, Warnakulasuriya KA, Peters TJ.

• We thank the reviewer for bringing this article to our attention. We have added the following sentences to our manuscript:

   “There is evidence suggesting a dependency syndrome related to betel quid use [18]. Therefore, we chose to assess dependency using the 16-item Betel-quid Dependence Scale (BQDS) [19-20].”

3. Close to two-thirds added tobacco the quid. How does this affect the results? Are your subjects able to report their feelings specifically to AN without any confounding by the tobacco effect? Please discuss.

• We thank the reviewer for pointing this out. We have added the following paragraph to our limitation section.

   “Two-thirds of participants (66.1%) reported adding tobacco to their betel-quid. Because of the addictive properties of tobacco, it is possible that the effects of tobacco were confounded with the effects of areca nut. However, chewers that added tobacco to their quid did not differ significantly from chewers that did not add tobacco to their quid on their endorsement of social/cultural and stimulation subscales. Thus, we do not believe this was a significant threat to the validity of our study.”

4. Would Fagerstrom’s scale be suitable to measure addiction to areca nut. If this is used its easier to compare addiction to AN against tobacco. Please enlarge on this.

• We are aware of one study (Bhat et al., 2010) that assessed betel nut dependence using an adapted version of the Fagerstrom Scale for Nicotine Dependence. We agree that it would have been interesting to have included a Fagerstrom-type measure in our survey. We chose to use the BQDS because it was specifically designed to measure betel quid dependence and has been validated with two samples of betel quid chewers (Lee et al., 2012 Herzog et al., 2014).