Author's response to reviews

Title: Evaluation of maxillary anterior teeth and their relation to the golden proportion and golden standard in Malaysian population

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After the peer review process and in light of the reviewers’ comments, this is a point-by-point description of the changes made.

1) We re-worded the methods part of the abstract- MAHSA University College students whom met the inclusion criteria. Who instead of whom.

2) We stated the research hypothesis in the manuscript’s background. The null hypotheses were that there is no difference between the proportions of maxillary anterior teeth of Malaysian population and the golden proportion or the golden standard values.

3) We stated how the ethnicity was determined in the study. This paragraph was added to the methods:

Participants were asked to identify their ethnicity by selecting an answer using pre-fixed ethnicity categories (e.g. Malay, Chinese, Indian, Indigenous people, Mixed and Others). Then participants were also asked to identify their father’s and mother’s ethnicity using the same pre-fixed categories.

4) We referred to the figures in the main text. The following paragraphs was amended or added accordingly.

- Making an alginate impression for the maxillary arch of a volunteer is shown in (Figure 1).
- Evaluations regarding the occurrence of the golden proportion were conducted by drawing of grids that obtained by placing the casts on a flat surface and drawing vertical lines representing the perceived mesiodistal widths of the teeth. The golden proportion grid is shown in (Figure 2).
- Measurements were done for the spaces in the grids using the digital caliper as shown in (Figure 3).
- Ratios for maxillary lateral to central incisors and canine to lateral incisor based on the golden proportion are shown in (Figure 4).
- One-way ANOVA was used to analyze the comparison between ethnics of the lateral to central incisor ratio is demonstrated in Table 1; and of the canine to
lateral incisor ratio is demonstrated in Table 2.
- The means for the widths and heights of the maxillary central incisors are shown in (Figure 5).
- Table 3 represents the one-way ANOVA that was used to analyze the comparison between ethnics of the width-to-height ratio of maxillary incisors.

5) We added these two paragraphs for clarifying why we group together all three ethnicities in the statistical analysis of the data.
- The results of this study displayed no specific effect of ethnicity on golden proportion and golden standard among the three major Malaysian ethnic groups.
- The general Malaysian data can be used in the current study to compare with other populations as the golden proportion and golden standard was not found in all ethnic groups.

6) We added more references in order to compare our results with other populations regarding the existence of golden proportion.
- Rosenstiel and others found that golden proportion was preferred only when viewing very tall teeth and less desirable for normal height or shorter teeth.
- The current study found poor correlation between teeth dimensions and the golden proportion which is similar to the findings of (Preston in 1993, Gillen et al in 1994, Mahshid et al in 2004, Hasanresioglu et al in 2005, Fayyad et al in 2006, Murthi and Ramani in 2008 and Petricevic et al in 2008). The results for Malaysian population were comparable to the results reported in similar studies of other populations, including Turkish, Iranians, Jordanians, Americans, Indians and Caucasians.

7) We added this paragraph for a recent study conducted in Korea for supporting our results regarding the golden standard.
- Recent study conducted in Korea showed similar results for the non-celebrities group.

8) We added this paragraph regarding the possible limitations placed on the study by the sample size
- The sample size was small due to time constraints and the exclusion criteria restricted the number of volunteers who could be recruited into the study. Additional research on a greater sample size selected more systematically is needed before extrapolating the results to the Malaysian population.

9) We added four more references.