Author’s response to reviews

Title: Annual Alveolar Bone Loss in Older Adults Taking Oral Bisphosphonate: A Retrospective Cohort Study

Authors:

Mohammad Helmi (mhelmi1988@gmail.com)
Sara AlOsaimy (salosaimy@wayne.edu)
J. Goodson (mgoodson@forsyth.org)
Hatice Hasturk (hhasturk@forsyth.org)
ZUHAIR NATTO (z_world@hotmail.com)

Version: 2 Date: 06 Sep 2019

Author’s response to reviews:

September 6, 2019

Dear Professor Ganz,

Our manuscript entitled Annual Alveolar Bone Loss in Older Adults Taking Oral Bisphosphonate: a Case-Control Study (OHEA-D-19-00400) has now been revised per the recommendations by the Reviewer and resubmitted (uploaded) for publication in BMC Oral Health.

Each of the recommendations by the Reviewers has been addressed and the manuscript has been revised accordingly. Please see the revised manuscript and our Response to the Reviewers. Please note that the changes made in the revised manuscript are identified by yellow highlights. We thank the Reviewers for their thorough reviews that have assisted us greatly in clarifying points of uncertainty thereby resulting in a significantly improved manuscript. We have fully addressed the Reviewers’ recommendations, and we look forward to your review of this revised manuscript.

Best regards,

Zuhair Natto, BDS, MBA, MPH, MS, MSc, DrPH
Reviewer reports:

Fabian Cieplik (Reviewer 1): The quality of the manuscript has improved considerably due to the revisions made. However, there are still a few points that need to be revised before this paper may be ready for publication, as follows:

1) My point: "The sample size of 26 patients in each group seems to be quite small for a case-control study. Furthermore, I am a bit surprised that there were only 30 patients with medical history of BIS-intake in the electronic health record of the Harvard Dental Center between 2008 and 2015?!"

Answer of the authors: "Although we are celebrating 150 years, we are a small school with about 250 students only. In addition, we want bitewings for patients with multiple visits (one year of interval) which ended to very few patients. For this reason, 2 years was OK with about 30 patients with completed medical history. This number dropped severely if we go to 3 years or more."

I understand that point. However, this is a clear drawback of this study and needs extensive discussion in the discussion section.

Yes, we have added several parts in the methods and discussion regarding sample size.

2) My point: "Table 1: Instead of mean age, I would suggest to state median age as well as 25/75% percentiles. It is not clear to me, why a standard error is given for percentage of females or percentage of mild, moderate or severe periodontitis? This seems not be necessary?! (also applicable to the other tables)"

Answer of the authors: "Yes true. It was a mistake and we have removed the females column and SE. For the mean or median, it will not change anything since it is a match data on age and gender"
Mean values are only appropriate for normally-distributed data. Your data probably is not strictly normally-distributed wherefore medians and neighboring quartiles (25/75% percentiles) are the correct way to depict these data. Therefore, please change mean values to medians, show 25/75% percentiles and omit the SE for all tables.

Median age and IQR were added to table 1 and corrected in the manuscript.

These two graphs above show the approximately normal distribution of the outcome of interest at baseline. It is important to keep in mind that the outcome was assessed using multilevel mixed effect model. Repeated measures of samples on three level; sites level, teeth level, and individual level. Hence, estimated change of mean alveolar bone level have standard errors instead of standard variation.

3) My point: "Figure 2: is this figure really necessary?! Furthermore, it seems implausible to me that the measured values are only at baseline (timepoint "0") and after 2 years (timepoint "2") because (as far as I understood from the materials&methods section, ln. 105) patients were included when they had radiographs with an at least one-year interval. Therefore, there may be several values between baseline and 2 years?"

Answer of the authors: "We thought for visual comparison this figure will be necessary because it showed there is increasing in bone loss among bisphosphonate group until become comparable to non bisphosphonate group regarding bone loss.

Yes, this is true. However, we think what will be matter is the long term effect of bisphosphonate which it turned to be almost comparable to non bisphosphonate group regarding bone loss as we can see in the confidence interval."

This figure is absolutely not appropriate as the data points given are not correct and just given for two time points ("0" and "2"), as discussed above. So, please change this figure accordingly or remove it from the manuscript.

We have removed figure 2. Thank you
Rohana de Silva (Reviewer 2): Thank you for resubmitting your article. Please correct the following areas of your article.

Page 4 line 85 Correct the spelling of "statically" to "statistically".

Done

Table 2 - As I have mentioned before and you indicated, please remove unnecessary data.

Done

Table 4 - Please remove the procedures nor performed on any of your patients - D4240, D4241, D4260.

Done.