Reviewer’s report

Title: Number of natural teeth, denture use and mortality in Chinese elderly: A population-based prospective cohort study

Version: 0  Date: 24 Jun 2019

Reviewer: Takafumi Yamamoto

Reviewer's report:

Abstract

1) The authors need to check the spellings (ex; Background part line2).

Manuscript

Introduction

1) Please provide more information and reference about why this is true. (Page3, Line1-2)

2) Please provide the mechanisms between tooth loss and death, denture use and mortality with proper references.

3) In the introduction, explanation about previous studies on denture is insufficient. For example, the effect of denture use is still controversial (ref). This should be considered

4) The authors need to add proper reference about number of remaining teeth and mortality. In 2018, one systematic review has already pointed out the same opinion (Page3, Line15).

Method

5) The authors described CLHLS, representing 985 million persons, which is a large survey (Page 4, Line 1-2). However, the authors used only 36,283 participants. Why most of participants were excluded? Please provide more information about the exclusion criteria.
6) The authors showed information about participant enrollment (Figure S1), between 2 groups (Page 4, Line 16). Why the number of these groups were a little bit different? Please provide more information.

7) Page 4, Line 19-20; In subjects who participate in multiple waves, it is considered that there may be a contradiction in the number of teeth (e.g., they answered the number of teeth is increased in the next wave). If these participants existed, their answer's correctness was doubtful. How did the authors deal with this problem? Please provide more information.

8) Please show us the reason why the authors selected these covariates, including references or biological reason. Especially, why fresh fruit intake and vegetable consumption were included (Page 5, Line 7-13)?

9) The Authors used multivariable models adjusted residence (urban or rural) (Page 6, Line 2). Please show the detail of residence, especially definition.

10) The authors didn't mention the reasons why subgroup analysis were conducted (Page 6, Line 10-13).

11) The authors didn't show detail about how to deal with the missing values. Please provide more information.

Result

12) In the Figure 1, the authors need to add more information about the number at risk table. What is the variable in the horizontal axis unit?

13) The authors showed "The median age of participants was 90 years" (Page 7, Line 1). Does the population distribution in this study match the population distribution in China? If not, the authors need to mention that in the discussion part.

Discussion

14) Please clarify this statement "The mortality risk decreased with number of natural teeth" (Page 9 Line 12-14). Should replace to "increment of number of natural teeth"?

15) It is not proper to say that the hockey stick-like relationship has been confirmed (Page 9, Line 11-12). Because increment of mortality risk among the people with 29 or more teeth is "Not significant".

16) Please describe the appropriate mechanism for the clinical significance of 25 teeth at present (Page 9, Line 14-15).
17) The authors need to describe the mechanism of the sex difference of the present results. (Page10, Line20-21).

18) The intention of this sentence is unclear (Page11, Line11-14).

19) Please show these mechanisms at the discussion part (some are mentioned previously);
   1. Why does the risk of death increase as the number of teeth decreases?
   2. Why the risk of death varies with age?
   3. Why does the use of dentures help reduce the risk of death?
   4. Why there was a gender difference?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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