Reviewer’s report

Title: Constrained posture in dentistry - a kinematic analysis of dentists

Version: 0 Date: 27 Apr 2017

Reviewer: Grace Szeto

Reviewer's report:

The study is well written and well organized. However, there is a lot of similarities of this paper with what the authors have published in 2016 in the same journal. doi:10.1186/s12891-016-1288-0. but in this manuscript you have added the tables describing the various dental tasks and the numbers for % of time in static posture etc. There is some duplication in the data presented.

Also, there are some areas for improvement:

1. In the Introduction, you have described the common MSD problems in dentists, and presented the research published using RULA for evaluating the postures of dentists. However, your study involved using another method - CUELA. You should mention some past research that has been done using this system rather than only talk about it in "Method". RULA is by visual observation whereas CUELA involves the use of motion sensors, the pros and cons of these 2 types of systems should be mentioned in the introduction.

2. Under "subjects", it gives the impression that these are all dentists from the same "established practice"? does it mean they would all use the same furniture? this can have pros and cons and it should be mentioned when you discuss the implications of the study. and why "21" dentists? is this the calculated sample size? or because these 21 dentists were the only ones who responded to the call for participants?

3. What are the setup of the dental office? is an adjustable dental chair being used? If there is an ergonomic analysis, there should be more information such as the dental (patient) chair dimensions, the chair that the dentist sits on. Is the dentist positioned on the right or left side of the patient? I would suggest having a Table to describe the body sizes of the dentists and whether they are right handed or left handed.

4. If the dentists are all healthy and pain free, then it will be a contradiction that their postural habits are contributing to "increased risk" for MSD. You would have to justify this.

5. Your tables are hard to read and extract the important information from it. I have to look at them for a long time to understand them.
6. In the discussion, you can also address the limitation of looking at the data for the different body regions but not the relationship between them. Do the static awkward posture in the neck, thoracic and back regions occur at the same time? The "breaks" are also recorded. If the dentists have frequent breaks in between working, it would relieve the strain on the spine. This could be the reason why the dentists that you have recruited are all painfree. and what do you expect the ones who are symptomatic would show in terms of static posture? it would be important to address this in discussion too.

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

Yes

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.

Yes

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 recommend additional statistical review

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