Article Title:
"Position Yourself for Success: An Ergonomic Educational Program to Reduce Work-Related Musculoskeletal Disorders Among Dental Students"
Editor's Comment

Is the manuscript important for the scientific community?
Yes. This manuscript addresses a timely and persistent concern in healthcare education—work-related musculoskeletal disorders (MSDs) among dental students. MSDs impact not only quality of life but also the long-term sustainability of dental careers. The authors introduce an educational ergonomic intervention with interdisciplinary collaboration, including occupational therapists, which is highly relevant to both clinical and academic audiences.

Is the title of the article suitable?
Yes. The title clearly conveys the scope, population, and focus of the study.

Do you have any alternative title in your mind?
An alternative could be: "Reducing Musculoskeletal Disorders in Dental Students Through Ergonomic Education: A Randomized Intervention Study."
However, the original title is appropriate and engaging.

Is the abstract of the article comprehensive?
The abstract succinctly describes the background, objectives, methodology, results, and conclusions. It may benefit from earlier placement of the total sample size and a brief mention of the study limitations.

Do you think the English quality of the article is suitable for scholarly communications?
Yes. The manuscript is written in clear, professional English appropriate for scholarly communication. Occasional stylistic refinements would improve flow, but the overall clarity is strong.

Section-by-Section Evaluation

Introduction:
Well-written and supported by literature. The high prevalence of MSDs in dental students is effectively established, and the rationale for the intervention is clearly explained. The integration of occupational therapy into dental education is a novel and welcome addition.

Methods:
The description of the intervention is clear and replicable. The authors randomized students by clinical workstation, which is practical but may introduce limitations related to cluster effects. A notable limitation is the inability to link individual pre-test and post-test data. This significantly reduces the power and interpretability of within-subject outcomes. Additionally, no detail is given on how missing data were managed, and baseline equivalence between groups is not reported.

Results:
Findings are presented clearly, with appropriate descriptive statistics. However, while inferential tests are used (e.g., t-tests, chi-square), no effect sizes are reported, and assumptions for statistical tests are not addressed. The lack of individual paired data limits confidence in attributing effects solely to the intervention. A clearer integration of tables and figures into the discussion would strengthen the interpretation of findings.

Discussion:
The discussion section ties results back to existing literature and appropriately acknowledges the study's limitations, including participant attrition and non-linked responses. The role of occupational therapy is briefly mentioned and could be more fully explored as part of the interdisciplinary benefit.

Conclusion:
The conclusions drawn are consistent with the results, though they should be slightly tempered in light of methodological limitations.

Statistical Methods: Focused Evaluation

- The use of chi-square and t-tests is appropriate for the comparisons made, but no assumptions are described (e.g., normality or expected frequencies).
- No effect sizes (e.g., Cohen's d or odds ratios) are reported, which limits the interpretation of clinical significance.
- There is no indication that baseline characteristics were compared between groups to ensure equivalence prior to the intervention.
- The decision not to link individual pre- and post-test data is acknowledged, but it weakens the statistical approach. Paired data would allow for more rigorous within-subject analysis.
- There is no mention of how missing data were addressed.
- Multiple outcomes were tested, but no corrections for multiple comparisons are discussed.
- Overall, statistical reporting is adequate but would benefit from more thorough justification and transparency.

The study reports reductions in self-reported musculoskeletal pain and improved ergonomic behavior among the intervention group. For instance, only 7.4% of intervention participants reported musculoskeletal pain affecting activities outside the dental lab, compared with 35% of controls. Reports of shoulder and knee pain in the last seven days also declined significantly in the intervention group. Participants valued the individualized photographic feedback and reported greater comfort when adjusting their workstations. Methodologically,

the randomized design and inclusion of one validated outcome measure (the Cornell Musculoskeletal Discomfort Questionnaire) are strengths. However, randomization by workstation may not have fully controlled for confounding variables. Additionally, response rates differed between groups (73% in the intervention group versus 40% in the control group at post-test), and pre- and post-test data could not be linked due to anonymization. The researcher-developed survey lacks psychometric validation, and statistical analyses were limited to chi-square tests and t-tests without adjustment for potential confounders. Both groups received baseline lectures and visual reminders, which may have diluted measurable effects of the intervention. Future studies should adopt more rigorous randomization procedures, ensure higher retention, validate all measurement tools, and apply statistical models that account for baseline differences and group clustering.

References

The reference list is current, relevant, and well integrated into the manuscript. No concerns.

Ethical and Procedural Concerns

Are there ethical issues in this manuscript?
No. The study received IRB approval, and informed consent was obtained from participants. Ethical considerations were appropriately addressed.

Are there competing interest issues in this manuscript?
No. None are declared or apparent.

Do you think the article is plagiarized?
No. The writing appears original, and the sources are properly cited.

Do you think a disclaimer is required to explain the history of this manuscript?
No. There is no indication that a disclaimer is necessary.

Objective Evaluation

Overall Score: 7.5 / 10

Recommendation: Major Revision

Article Title: “Position Yourself for Success: An Ergonomic Educational Program to Reduce Work-Related Musculoskeletal Disorders Among Dental Students”

Editor’s comments (general review)

The manuscript addresses an important occupational health issue in dental education. MSDs are highly prevalent among dental students and dental professionals, and preventive strategies introduced during training can influence practitioners’ long-term well-being. The authors evaluate a 10-week ergonomic intervention for second-year dental students that combines refresher lectures, static visual reminders, stretching exercises and individualized feedback based

on photographic analysis. A cluster-randomized controlled design with pre- and post-testing is used, with students allocated by lab workstation number. MSD symptoms are measured with the well-established Modified Nordic Musculoskeletal Questionnaire and a researcher-developed survey. Quantitative data are summarized descriptively and with chi-square tests, while open-ended comments undergo thematic analysis.

The study reports reductions in self-reported pain and improved ergonomic behavior among the intervention group. For example, only 7.4 % of intervention participants reported musculoskeletal pain affecting activities outside the dental lab compared with 35 % of controls; shoulder and knee pain in the last seven days also declined significantly. Participants valued the individualized photographic feedback and reported greater comfort adjusting their workstations.

Methodologically, the randomized design and use of a validated outcome measure are strengths. However, randomization by workstation may not have fully controlled for confounders; response rates differ between groups (73 % in the intervention group versus 40 % in the control group at baseline), and pre- and post-test data cannot be linked because of anonymization. The researcher-developed survey lacks psychometric validation, and analyses are limited to chi-square tests without adjustment for potential confounders. Both groups received lectures and visual reminders, which may have diluted differences. Future studies should employ more rigorous randomization, ensure better retention, validate measurement tools and use statistical models that adjust for baseline differences.

Overall, the paper offers a valuable contribution but requires clarification of the randomization process, additional analytical rigor and editorial polishing. I recommend a *major revision*.