Peer Review File

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Reviewer A

This is a well written paper on an important issue that is relevant to many ENTs in Australasia.

Reviewer B

I think the manuscript can be accepted with revision of the paragraph starting line 256 ("This study established a raw score by…to the overall raw score.") - this needs to be edited to provide better clarity and make it more concise/impactful.

Reply: We have amended this paragraph to be more concise while still conveying the key message of the raw score's validity.

Editorial Comments

We thank the authors for submitting this great manuscript to our journal. This manuscript summarizes an examination of burnout amongst consultant ORL surgeons in New Zealand (37.3%). Overall, the topic is very innovative. However, there are still some issues that need to be addressed. The following are some suggestions:

Major concerns:

1. Title:

According to the PICO principle, we recommend author change the Title to "Examination of Burnout for Severity and Risk Factors in New Zealand Otolaryngologists: A Cross-sectional Study" (just for your information).

Reply 1: We changed the title to the above recommendation (please see amended title).

2. Abstract:

(1) Methods: It is recommended that the authors supplement the start time of the study, the collection time of all questionnaire results, inclusion criteria, information of another questionnaire developed by the authors that assessed potential correlating risk factors, and statistical analysis methods.

Reply 2(1): We made changes to the method section of the abstract to include the relevant suggested information (please see amended abstract).

(2) Results:

The authors need to report the number of participants. Additionally, in Abstract-Results, the primary outcomes (predictors and correlation of burnout) obtained by the research should be supported by the P value, correlation coefficient, and 95% CI.

In Abstract-Results, "…this single question had a positive predictive value of 82%.". Please provide sensitivity and the 95% CI of this predictive value.

Reply 2(2): We have made changes to show the p value and correlation coefficients for the primary outcomes. The 95% CI only applied to factors that are ordinal variables which were assessed for correlation with Kendalls Tau-B test – for these the 95% CI have been provided. For categorical variables such as yes/no questions (do you feel burnt out?), the chi-square test was used and this

statistical test did not produce a 95% CI but did produce a correlation coefficient which has also been provided (please see the amended results section of the abstract).

3. Methods:

(1) It is highly recommended the authors reorganize the methods section to make the content clearer. For example, you could structure it into four parts: participants, burnout survey, risk factors and correlations, and statistical analysis.

Reply 3(1): We have made the suggested changes with subheadings (please see the amended methods section of the main text).

(2) We suggest the authors describe whether the P value tests were one-sided or two-sided.

Reply 3(2): This information has been included (please see 5th sentence in the statistical analysis sub-section of the methods section).

(3) "The correlation was categorised as strong if Kendall's tau-B coefficient was > 0.5, moderate if it was 0.2 – 0.5, and weak if < 0.2." Cite relevant literature to back up this evaluation criterion.

"PA has an inverse relationship … PA score from 48 (maximum possible PA score)." Please cite literature to support this calculation method.

Reply (3): We have added a reference for the categories of Kendall's tau-B coefficients (please see end of 4th sentence in "2.4 Statistical analysis" subsection of the Methods section.

We have also added references to support the PA inverse relationship and calculation methods.

(4) "All participants answered 22 questions across the three domains of burnout in the MBI-HSS instrument…"

"In addition to the MBI-HSS, respondents also completed another questionnaire developed by the authors that assessed potential correlating risk factors."

Please supply the particulars of the two questionnaires (questions posed in the questionnaires) as supplementary materials.

Reply 3(4): We have included the questionnaire that was developed by us to assess demographic and professional factors in the supplementary materials section. I am unable to attach the questions of the Maslach Burnout Inventory (MBI) to the manuscript as it is a copyrighted instrument that we paid to use. However, the MBI is publicly accessible for anyone wanting to conduct similar research with a fee paid to the developers of the questionnaire, it has been widely validated in assessing burnout.

(5) Kindly furnish details about the research method for "Predictive accuracy of ORL-HNS identifying personal burnout". Including how the actual burnout status is obtained.

Reply 3(5): I have added the following sentence to the end of the first sentence in the ***3.3 Predictive accuracy of ORL-HNS identifying personal burnout*** section (based on the result of their response to the MBI-HSS) – the actual burnout status is based on the result of their response to the MBI-HSS survey which I have tried to explain in the methods section titled ***2.2 Burnout survey*** in the methods section.

(6) How was missing data handled? This should be added in the Methods.

Reply 3(6): There was very little missing data, there was one specific question not answered by on the of the respondees – this is discussed in the 6th and 7th sentences of the section titled ***2.4 Statistical analysis*** in the methods section (Of participants that completed the surveys, the responses were almost entirely complete. One individual chose not to answer the question "*Do you feel that you are suffering from burnout?*" – this response was therefore omitted from correlation analysis for that specific question.).

(7) Can statistical power be ensured with the presented sample size? We kindly suggest providing the sample size calculation in Methods. Is it based on statistical or practical considerations?
Reply 3(7): A practical decision was made to make the entire population we were studying (NZ Consultant ORL-HNS) the sample to maximise power, as other similar studies in Australasia have done so. This is explained in the 6th and 7th sentences in the "2.1 Participants" subsection of the Methods section. ("As New Zealand is a relatively small country with a small ORL-HNS workforce, a practical decision was made to include all New Zealand consultant ORL-HNS in the sample group to maximise the statistical power. Raftopulos et al. utilised similar logic when examining burnout amongst the specific, relatively small population of ORL-HNS trainees in Australia (7).")

4. Results:
(1) Line 175: "and 42.8% (n = 12) were aged 50 to 60", but in Table 1, it is 42.9%.
Line 176: "82.1% (n = 23) of burnt-out respondents were under the age of 60", but in Table 1, they add up to 82.2%.
Please revise the data for consistency.
Reply 4(1): Lines 175 and 176 have been revised to ensure consistency.

(2) "…this single question had a positive predictive value of 82%."
"This response's positive and negative predictive values were 82.4%..."
Please change 82% in the abstract to 82.4%. Keeping the full-text data consistent.
Reply 4(2): This statement has been removed from the abstract section.

(3) Lines 178-180: "No statistically significant correlation ..... and the raw score. "
Lines 195-199: "There was a moderately strong correlation ..... such as Medical Protection Society (MPS)."
Do not report vague statements simply such as "no statistically significant", "statistically significant", "moderately strong correlation", etc., because the data is greater than an arbitrary value. Please report the P value and 95% CI as well.
Reply 4(3): Thank you for this feedback, we have provided additional statistical values including P value and appropriate reporting statistics for chi-square and Kendall's Tau-B tests.

5. Discussion:
(1) Lines 213-214: "Several factors were identified as having a statistically significant correlation with likelihood of burnout." Please clearly indicate what are the "several factors".
Reply 5(1): We have added the specific factors at the end the second sentence of the discussion section to extrapolate on that statement.

(2) "Figure 1 demonstrates how the raw score provides a clearer demonstration of correlation between age and burnout risk compared with using burnout as defined by MBI-HSS alone." Please analyze the outcome of Figure 1 in Results and move this statement to the Results section.

Reply 5(2): We have moved this statement to the results section in the "*3.1 Correlation between demographic factors and burnout*" subsection, immediately after the results for assessing correlation with age have been explored. This explores the outcome of age vs burnout when compared with age vs raw score.

6. Conclusion:

Lines 289-291: "Further subclassification of results identified that only 37.3% of the workforce in New Zealand were at low risk of burnout. 25.3% and 28% were at moderate and high risk, respectively, and 9.3% were severely burnt out." These data have already been reported in the Results, and it is suggested to remove them in the Conclusion.

Reply 6: We have removed this statement from the conclusion.

Minor concerns:

7. Data:

(1) Data of the same type should retain the same number of decimal places. For instance, in Table 1, ".53" vs ".098". Meanwhile, please revise the same issue in Table 1 and Table 2.

Reply 7(1): We have made changes so that all p-values are represented with 3 decimal places for consistency.

(2) Table 2 Line 2: "P=.0003*". It is suggested to change "P=.0003*" to "P<.001*".

Reply 7(2): We have made the suggested change for consistency.

8. Please give the full name of MBI-HSS in Table 3 legend.

Reply 8: We have made the recommended change.

9. The number of references in the past three years is only one, we hope the authors update the references to make sure that the study is up-to-date.

Reply 9: Further recent references from the last three years have been used to support the study.