

## Peer Review File

Article information: <https://dx.doi.org/10.21037/ajo-23-21>

### Reviewer A

Well written and interesting look at burnout in ENT consultants during the COVID pandemic.

The study used validated research tools in an appropriate manner and made sensible conclusions based on the results. Many of the conclusions were based on trends rather than statistically significant findings but the authors are clear on this in their report.

The recommendations are sensible and this is an important area of research for everyone's wellbeing.

It is a minor point, but perhaps mention could be made of how the COVID pandemic affected individual states. Given our state-run health system, rather than the US style centralised CDC system, we had very different approaches to the pandemic in different states. For example, life in Western Australia was very minimally affected by the pandemic compared to the prolonged lockdowns seen in Victoria. Therefore, one would assume this would have had an effect on how the pandemic affected burnout in individual states. I am not sure how the authors could quantify the degree of impact the pandemic had on individual states but they could perhaps mention that each state was not affected equally.

- The geographical differences have been addressed on page 9
- Looking at geographical differences it is also important to consider the impacts COVID-19 had on individual states within Australia. The Australian Institute of Health and Welfare reported on the number and rate of COVID-19 related deaths across the Australian states and territories. This report identified that New South Wales and Victoria accounted for more than 80% of COVID-19 related deaths in Australia (38% and 46% respectively). Victoria and New South Wales also recorded the highest mortality rates (364 and 248 deaths per million respectively) with the lowest rates in Western Australia and the Northern Territory (15 and 41 deaths per million respectively). These rates were also reflected in the local measures implemented by each state to control the spread of COVID-19. During 2021, Victoria enforced the most stringent policies including multiple stay at home orders and over 170 days of school closures within its capital city, Melbourne. These policies likely contributed to the differences seen in burnout rates across the Australian states and territories.

### Reviewer B

This paper is acceptable for publication.

### Editorial Office

Abstract and Keywords

1. Please provide the time (year-month-day) the questionnaire was first distributed and redistributed.

Reply:

- Dates added on line 45
- “Our survey was distributed through the Australian Society of Otolaryngology Head and Neck Surgery mailing list on the 15<sup>th</sup> of March 2021 with re-distribution on the 16<sup>th</sup> of April 2021”

2. You need to supplement the statistical methods in the Abstract-Methods.

Reply:

- we have updated this in the abstract-methods section – see lines 48-49
- “All statistical analyses were performed using the Scientific Python library (“scipy”; version 1.5.4) and R (version 4.0.2) through the Jupyter notebook interface”

3. The primary outcomes obtained by the research should be supported by the odds ratio, P value, and 95% CI.

Reply:

- Burnout rates have been summarized in the abstract. The odds ratios have been summarized in table 2 and are only relevant when comparing burnout rates within each subgroup. The burnout rates summarized in the abstract are from multiple different subgroups, for this reason odds ratios have not been reported in this section. No changes made.

Introduction

4. It is necessary for the authors to describe the prevalence of SARS-CoV-2 in Australia during the survey period.

Reply:

- We have addressed the prevalence of COVID-19 during the survey period in relation to the four waves – see lines 95-107
- “Australia experienced four waves of COVID-19 since the beginning of the pandemic. The first wave affected all states and territories across Australia between March and April of 2020. The second wave occurred in the Winter of 2020 with most cases documented in Victoria. It was not until the following Winter of 2021 that there was another wave primarily affecting New South Wales and Victoria. The fourth wave begun in December 2021 with cases across all states and territories.

A study is, therefore, needed to explore if the high rate of burnout in Australian Otolaryngology Head and Neck Surgery (OHNS) trainees translates to burnout in OHNS consultants. Our study aims to assess burnout using a standardized instrument and explore the effect of various demographic, clinical practice, and lifestyle covariates on burnout levels in a nation-wide cohort of practicing ASOHNS surgeons during COVID-19. Our survey was performed at a time between the second and third COVID-19 waves where there was not a significant burden of disease”

## Methods

5. Line 102-104 “The survey was initially distributed to ASOHNS members in March 2021 with subsequent re-distribution one month after to maximize response numbers”

You need to provide a specific time (year-month-day), not one month later.

Reply:

- Dates added on lines 118-119
- “The survey was initially distributed to ASOHNS members on the 15<sup>th</sup> of March 2021 with subsequent re-distribution on the 16<sup>th</sup> of April to maximize response numbers”

6. Were the incomplete questionnaires excluded?

Reply:

- Adjusted on lines 120-121: “Missing data from incomplete questionnaires was excluded from further analysis.”

7. The MBI is a 17-item instrument. See: “The Measurement Of Engagement And Burnout: A Two Sample Confirmatory Factor Analytic Approach”. Why only 3 questions in the Appendix 3? It seems incomplete. Or did the authors adapt the scale?

Reply:

- As per the Maslach Burnout Inventory License agreement only the three attached sample items may be used in any thesis or dissertation. We have clarified on line 414 “Only three sample items are included above as per the Mind Garden license agreement”

8. How was missing data handled? How to perform the sample size estimation? This should be added in the Methods.

Reply:

- A sample size calculation was not performed as we were performing a survey of the entire ASOHNS cohort

9. “Continuous and ordinal variables predictive of burnout were tested in univariable logistic regression models”, this should be binary and ordinal variables? Please check again.

Reply:

- Thank you, this has been changed, to clarify, logistic regression has been used because the outcome variable of the model is binary (burnout yes versus no) – see lines 138-139

10. Please provide the test level of the P value and report whether the P value was a one-sided or two-sided test.

Reply:

- all p values in this paper are always two sided, see line 139

11. “Finally, respondents’ level of burnout was assessed using the Maslach Burnout Inventory – Human Services Survey for Medical Personnel.....and reduced personal accomplishment were  $\geq 27$ ,  $\geq 14$  and  $\leq 30$  respectively.” Please add citations to back up these assessment methods.

Reply:

- Adjusted on lines 129-130: “Burnout was defined when a high threshold was met in one or more of the three MBI domains, as guided by previously established cut-off scores.(6)”

Results

12. Please complete the odds ratio, 95% confidence intervals, and P values in Table 2 and report them in the Results.

Reply:

- Where possible we have provided odds ratios, 95% confidence intervals and associated P-values compared to a baseline group. Some results could not be calculated due to small group sizes. See lines 451-454

13. Please put figures 1-5 into a stacked column chart with difference colors, or arrange the data in figures 1-5 in a table.

Reply:

- a stacked column chart has been created on page 19 to summarize the previous figures 1-5 (these figures now deleted)

14. Table 2 was not mentioned in the main text. Please cite.

Reply:

- table 2 referenced in text – see line 168

Conclusion

15. Please insert a separate Conclusion section at the end of the article.

Reply:

- discussion formatted and conclusion added as separate section at the end – see lines 288-302