



## Letter to the editor about the article: “The psychological impact of COVID-19 on ear, nose and throat (ENT) specialists”

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Dear Editor,

I read with interest the article “The psychological impact of COVID-19 on ear, nose and throat (ENT) specialists” by Crotty et al. [1], recently published in the *Irish Journal of Medical Science*. A wide range of studies conducted since the beginning of the COVID-19 pandemic have identified its significant impact on the mental and physical health of healthcare professionals [2–4], so an investigation of the specific impacts on ENT specialists was welcome. As identified by the authors, healthcare workers are at higher risk of contracting COVID-19 than the population at large and have been subjected to unique work pressures caused by redeployment of staff and surges in COVID-19 cases.

Although the aim of the study, which was to gauge the psychological impact of COVID-19 on ENT specialists in Ireland, is worthwhile, there are a number of methodological issues which have not been considered by the authors which prevent the study meeting this aim. The primary methodological issue is the use of a cross-sectional design used to capture data at a single point in time in 2020 across the target population, and provided the authors with interesting information about the anxiety status of the cohort in the first months of the pandemic. Crotty et al. [1] used a survey instrument distributed to ENT specialists in Ireland to collect data regarding anxiety in the sample ( $n = 38$ ; 24 male, 12 female). This survey instrument was used before the COVID-19 pandemic.

However, the use of a cross-sectional, rather than longitudinal, design means that it is not possible for the study to conclude how the COVID-19 pandemic has impacted on the mental health of ENT specialists in Ireland because there was no baseline value taken before the pandemic to compare these results with. As such, the study is fundamentally

incapable of discovering whether the level of anxiety observed (34% of the sample) was affected by the pandemic. Indeed, it is even possible that this figure could be lower than before the COVID-19 pandemic began, but there is no way of the study determining this.

The authors use the discussion section to compare the results of their study with those of studies undertaken before the pandemic, but only a single study is referenced which investigated anxiety in doctors prior to 2020. This study, by Paiva et al. [5], found anxiety present in 19.4% of the sample, which Crotty et al. [1] suggest is an indication that anxiety levels have risen as a result of the pandemic. However, this study was undertaken in a sample of oncologists of all levels of training ( $n = 323$ ) at a single hospital in Brazil. The study also used the hospital anxiety and depression scale (HADS) to measure anxiety in the sample whereas Crotty et al. [1] used Spitzer’s 7-item General Anxiety Disorder scale (GAD-7). The differences of country, setting, specialism, and anxiety scale could all be confounding factors contributing to a difference in anxiety between the study by Paiva et al. [5] and the present study by Crotty et al. [1].

A further methodological issue is the low response rate to the study, with only 40.8% of the target population responding to the online survey. It is commonly recognized that non-response effects can have a significant impact on the validity of the study when there are systematic differences between the sample responding to a survey and the non-responders [6]. If, for example, doctors with anxiety were less likely to complete an online survey, then there would be a systematic underreporting of anxiety in the study due to differences between responders and non-responders. Crotty et al. [1] do not include demographic or other data relating to the non-responders and it is not transparent in the published study whether any attempt was made to account for or mitigate non-responder effects. In this regard, it is beneficial for the study that the sample represents 40.8% of the whole population (ENT specialists in Ireland) rather than being an attempt at a smaller representative sample, but the

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relatively small sample size ( $n = 34$ ) combined with the lack of characterization of non-responders means that there is a significant risk of bias [7].

The final methodological issue present in the study by Crotty et al. [1] is the use of a self-report questionnaire to measure anxiety and its causes in the sample. Self-report bias in psychological studies may result from asking respondents to online surveys to report their own symptoms as opposed to the researcher directly observing these symptoms in person and providing a diagnosis [8, 9]. The use of an online survey by Crotty et al. [1] may be justified due to the exceptional nature of the COVID-19 pandemic, but no attempt has been made to account for potential self-report bias. This lack of transparency is especially concerning as the respondents are doctors themselves and are likely to understand how their responses will be used to assess anxiety, which could introduce an additional dimension to any bias. As well as the potential for self-report bias, there is also an issue with the way the authors have collected data regarding the potential causes of anxiety. The survey designed by the authors only appears to have collected information regarding causes directly related to COVID-19, such as lack of personal protective equipment availability, but it is clear that there are a wide range of factors which could contribute to anxiety among doctors of all specialisms. This would perhaps not be such an important issue if the authors did not state in the discussion section that anxiety “appeared to centre around two key factors” [1], both related to COVID. As the study did not investigate factors other than COVID, this is not a valid inference.

I appreciate the work of the authors in producing a study on this important topic, but in the published study, it is not apparent that the aim has been met or that the inferences drawn in the discussion are valid, based on the methods used. In particular, the use of a cross-sectional, self-report

survey cannot measure the psychological impact of COVID-19 on the sample without a baseline measure for comparison.

## Declarations

**Conflict of interest** The author declares no competing interests.

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