

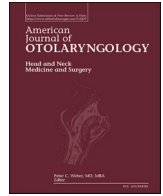


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Commentary on Letter to the Editor regarding “Eight-month follow-up of olfactory and gustatory dysfunction in recovered COVID-19 patients”

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Dear Editor,

We read with interest the letter to the editor sent by Lechien et al. and we believe that their comments illustrate their outstanding knowledge in this field. The first study on “Olfactory and Oral Manifestations of COVID-19”, included a web-based questionnaire which was distributed among 140 quarantined COVID-19 patients in March–April 2020 [1]. The second study [2] was a follow-up among the original study participants, of whom 97 agreed to respond to a telephone survey. We acknowledge that using subjective methods for diagnosing olfactory and gustatory dysfunction may lead to less accurate scores. However, Seok et al. [3] investigated the correlation between semi-objective olfactory tests and self-reported smell dysfunction scores among 1555 patients, and concluded that there was a significant correlation between the semi-objective and self-reported scores among the study group. Semi-objective tests are considered to be validated, objective olfactory dysfunction (OD) tests [4]. Yet, these semi-objective psychophysical tests might be affected by cultural and cognitive factors.

The patients who participated in the initial study [1] were quarantined in a designated hotel and could not be reached physically. Therefore, a web-based survey was used due to safety restrictions mandated by the Israeli authorities. We used the same methodology among the follow-up study group, to better interpret and compare results.

In this study [2], we attempted to evaluate the normal subjective smell score for each patient by using two different questions in the questionnaire. The first was “Is your sense of smell normal compared to your sense prior to the illness? (YES/NO)” and the second was “Rate your sense of smell to date, on a scale from 1 to 10”. We used the first question to as a baseline for the “Normal subjective sense of smell” for each patient. A recovered sense of smell (subjective normal sense) was considered only if the patients answered “yes” to the first question, and gave a score equal to or higher compared to the pre-ailment scores,

obtained from the first survey [1].

In the first study [1], we did not find significant statistical differences between taste subgroups. Unfortunately, semi-objective tests for taste perception were not available at our institute and we are aware that confusion regarding taste dysfunction might have occurred. Therefore, a study with semi-objective tests for smell and taste is planned.

Olfactory dysfunction is a common finding among COVID-19 patients. The pathogenesis is still being investigated and is not fully understood. OD could result from direct damage to the neuroepithelium or local inflammation and congestion, or both [5]. Management of post-COVID-19 olfactory dysfunction is still controversial. Currently, there is no consensus in Israel regarding management of post-COVID-19 OD, and the treatment offered to patients is based solely on physicians' expertise and perspectives.

Declaration of competing interest

None.

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References

- [1] Biadsee A, Biadsee A, Kassem F, Dagan O, Masarwa S, Ormianer Z. Olfactory and oral manifestations of COVID-19: sex-related symptoms—a potential pathway to early diagnosis. *Otolaryngol Head Neck Surg* 2020;163:722–8. <https://doi.org/10.1177/0194599820934380>.
- [2] Biadsee A, Dagan O, Ormianer Z, Kassem F, Masarwa S, Biadsee A. Eight-month follow-up of olfactory and gustatory dysfunctions in recovered COVID-19 patients. *Am J Otolaryngol* 2021;42:103065. <https://doi.org/10.1016/j.amjoto.2021.103065>.
- [3] Seok J, Shim YJ, Rhee C-S, Kim J-W. Correlation between olfactory severity ratings based on olfactory function test scores and self-reported severity rating of olfactory

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- loss. *Acta Otolaryngol* 2017;137:750–4. <https://doi.org/10.1080/00016489.2016.1277782>.
- [4] Hummel T, Kobal G, Gudziol H, Mackay-Sim A. Normative data for the “Sniffin’ sticks” including tests of odor identification, odor discrimination, and olfactory thresholds: an upgrade based on a group of more than 3,000 subjects. *Eur Arch Otorhinolaryngol* 2007;264:237–43. <https://doi.org/10.1007/s00405-006-0173-0>.
- [5] Meng X, Deng Y, Dai Z, Meng Z. COVID-19 and anosmia: a review based on up-to-date knowledge. *Am J Otolaryngol* 2020;41:102581. <https://doi.org/10.1016/j.amjoto.2020.102581>.

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