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CORRESPONDENCE

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Reply to Schriever et al.

To the Editor,

We read with interest the comment by Schriever et al. about the published article, "COVID-19, anosmia, ageusia in atopic children" and as such, we thank the authors for giving us an opportunity to clarify some issues and update the literature.[1]

Although the article was published in 2022, it was written in the first half of 2021 and summarizes data from a survey conducted between February and March 2021. The references cited were posthumous to drafting the manuscript. Instead of affirming that some statements appear misleading or incorrect, it would be appropriate to specify that COVID-19 is a novel disease, and the information derived from the literature was evolving. Below are point-by-point responses to the comment:

1. More complete data on survey results were published in another article by our group. Although children with allergic pathology are more likely to develop olfactory dysfunction, our data suggests that allergy does not appear to be a predisposing factor to the development of SARS-CoV-2 infection or something more aggravating in the case of disease.[2]
2. We discussed the diagnostic approach to the COVID-19 child with taste and smell abnormalities in another review.[3] The Smell Identification Test (UPSIT) and the Sniffin'Sticks test battery are the most common smell tests. One can evaluate the impact of taste and smell dysfunction through the Questionnaire of Olfactory Disorders-Negative Statements (sQUAD-NS), available in a reduced version and translated into different languages. For the pediatric population, all children with a confirmed nasopharyngeal swab for COVID-19 are advised to perform the "Pediatric Smell Wheel." This associates the proposed smell with known objects (onion, soap, popcorn, chewing gum, banana, cherry, rose, chocolate, smoke, peppermint, and cinnamon).[3,4]
3. The study by Rusetsky et al. was published after our own article. This study shows that in the pediatric population, olfactory dysfunction seems to be an early symptom of COVID-19. Psychophysical testing was found to be more sensitive than the subjective survey.[5] Considering recent observations, one can agree with Schriever and claim that self-assessment may have underestimated the problem.
4. As for the pathogenetic mechanism, there are still doubts despite some certainty. According to recent literature, after writing our article, SARS-CoV-2 no longer has a direct neurotropic action; olfactory dysfunction is triggered by transient but insufficient support from the sustentacular cells.).[6,7]

In terms of what has been written, we confirm that the issue of gustatory and olfactory disorders of COVID-19 in children has been a topic of interest: during the pandemic, many pathogenetic mechanisms were diagnosed. Yet, certain aspects must be assessed in the pediatric population, where diagnostic likelihood is more limited than in the adult population.

AUTHOR CONTRIBUTIONS

Giuseppe Fabio Parisi: Conceptualization (equal); Data curation (equal); Formal analysis (equal); Funding acquisition (equal); Investigation (equal); Methodology (equal); Resources (equal); Supervision (equal); Validation (equal); Visualization (equal); Writing – original draft (equal); Writing – review & editing (equal). **Michele Miraglia del Giudice:** Conceptualization (equal); Data curation (equal); Formal analysis (equal); Funding acquisition (equal); Investigation (equal); Methodology (equal); Resources (equal); Supervision (equal); Validation (equal); Visualization (equal); Writing – original draft (equal); Writing – review & editing (equal).

PEER REVIEW

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REFERENCES

1. Parisi GF, Brindisi G, Indolfi C, et al. COVID-19, anosmia, and ageusia in atopic children. *Pediatr Allergy Immunol*. 2022;33(Suppl. 27):99-101. 10.1111/pai.13644. PMID: 35080301.
2. Brindisi G, Zicari AM, Parisi GF, et al. Prevalence of COVID-19 in children affected by allergic rhinoconjunctivitis and asthma: results from the second "SIAIP rhinosinusitis and conjunctivitis committee" survey. *Ital J Pediatr*. 2022;48(1):1. 10.1186/s13052-021-01198-y. PMID: 34991654; PMCID: PMC8733922
3. Parisi GF, Brindisi G, Indolfi C, et al. Upper airway involvement in pediatric COVID-19. *Pediatr Allergy Immunol*. 2020;31(Suppl. 26):85-88. 10.1111/pai.13356. PMID: 33236430; PMCID: PMC7753446
4. Cameron EL. Olfactory perception in children. *World J Otorhinolaryngol Head Neck Surg*. 2018;4(1):57-66. 10.1016/j.wjorl.2018.02.002. PMID: 30035263; PMCID: PMC6051253
5. Rusetsky Y, Meytel I, Mokoyan Z, Fisenko A, Babayan A, Malyavina U. Smell status in children infected with SARS-CoV-2. *Laryngoscope*. 2021;131(8):E2475-E2480. 10.1002/lary.29403. PMID: 33443298; PMCID: PMC8013292
6. Khan M, Yoo SJ, Clijsters M, et al. Visualizing in deceased COVID-19 patients how SARS-CoV-2 attacks the respiratory and olfactory mucosae but spares the olfactory bulb. *Cell*. 2021;184(24):5932-5949. 10.1016/j.cell.2021.10.027. PMID: 34798069; PMCID: PMC8564600
7. Butowt R, Meunier N, Bryche B, von Bartheld CS. The olfactory nerve is not a likely route to brain infection in COVID-19: a critical review of data from humans and animal models. *Acta Neuropathol*. 2021;141(6):809-822. 10.1007/s00401-021-02314-2. PMID: 33903954; PMCID: PMC8075028