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LETTER TO THE EDITOR

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Critical appraisal of the effects of the COVID-19 pandemic on allergen sensitivity of individuals

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Abstract
This letter offers constructive feedback of the study by Sağun et al. on changing allergen sensitivity in the COVID-19 pandemic. The data presented were very interesting concerning the changing rates of sensitization, but the authors neglected some important areas requiring further consideration. The study does not take into account whether or not enhanced sensitization had translated into more clinical allergic disease, thus putting restrictions on considering actual real-world implications. Lifestyle disruption and COVID-19 infection status have not been directly measured and analyzed as potential confounds. Also, the allergy clinic's patient focus raises concerns about selection bias. Stating these issues may help shape future inquiries in building a more comprehensive picture of how the pandemic has affected allergy risks and outcomes.
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Dear Editor,
I read the article by Sağun et al. on the changing allergen sensitization patterns during the COVID-19 pandemic.[1] The big data they added gives weight to the findings—highlighting the effects of lifestyle changes on allergen sensitization. I think a couple of points need to be considered to understand what the study really means. First, although the analysis of skin prick test (SPT) results over time is useful, we need to note that sensitization does not always translate to clinical allergic disease. A positive SPT means sensitization but not necessarily asthma, rhinitis, or eczema. This is crucial, as emphasized in the Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines, which state that both clinical history and test results are needed for a reliable diagnosis of allergy.[2] Without information on actual allergic symptoms or diagnoses, we cannot determine the true impact of the observed changes in sensitization rates on public health.

The authors also suggest that increased indoor time during this pandemic and changes in the kinds of pets kept may have affected some of the trends in the allergen sensitivity noted. While these are valid points, the study does not have data on the participants' living environments, pet exposures, or lifestyle factors. All these environmental and lifestyle-related changes are already known anthropogenic contributors to allergy risks. A collection of this information

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would have allowed a more detailed understanding of how sensitization may have been modulated by the changes induced by the pandemic. This is supported by Brough et al. (2020)[3] who emphasized that pandemic-driven shifts in daily routines, such as increased time spent indoors and changes in pet ownership, are important determinants of allergy risk.

Another point to consider is the potential selection bias in the study sample. Since the data came only from children who visited an allergy clinic and had skin prick testing done, the group may not truly represent the general population. This is especially important since the COVID-19 pandemic changed the way people accessed healthcare. Many families may have avoided clinics unless their child's symptoms were serious or persistent, which means the sample is skewed toward those with more noticeable or severe issues. A recent study by Griffith et al. (2023) showed how changes in healthcare-seeking behavior during the pandemic can introduce selection bias into observational research. Their simulation-based analysis demonstrated that when study participants are not randomly selected—for example, if only those with more severe symptoms or greater health concerns seek care during a pandemic—then the resulting findings may not reflect broader population trends[4]. This study highlights the importance of thoughtful study design and careful interpretation to ensure that research conclusions are generalizable and reliable.

The study also does not note whether the subjects were previously infected with COVID-19. An emerging body of literature indicates that viral infections, including SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), may alter the immune response and/or promote allergen sensitization. Carli et al. (2021)[5] describe how COVID-19 infection may have some effect on allergic diseases; hence, infection status may considerably affect understanding changes in allergen sensitivity during this period.

This is to say that while Sağun et al. have made a major contribution to the understanding of allergen sensitization during the pandemic, examining these additional factors in future research would enable further clarification concerning the clinical and public health implications of their findings. Thank you for your consideration of these issues as we move forward with allergy research in a rapidly changing world.

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Availability of Data and Materials

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Consent for Publication

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Ethical Approval

Not applicable.

Conflicts of Interest

The authors declare no potential conflicts of interest with respect to research, authorship, and/or publication of this article.

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