COVID-19 as a Turning Point in the Need for Specialized Smell Units

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The high prevalence of olfactory dysfunction (OD) caused by SARS-CoV-2 has revealed the lack of specialized units [1,2].

Our main objectives were to collect data on new smell units (SUs) implemented since the COVID-19 pandemic and to evaluate the tests used for diagnosis, management, and treatment of OD. We also aimed to provide up-to-date data on current practice in Spain. Given the increase in COVID-19 and other diseases related to OD, the creation of new SUs is necessary, considering that OD is a predictive symptom of these diseases that affects all age groups [3]. To our knowledge, this is the first study on SUs. We found no studies performed in other countries.

We performed a prospective cross-sectional study based on a 17-item survey (Supplementary file 1). The survey was developed by 6 experts and distributed to all members of Spanish ENT and allergy societies through the Google platform. We considered the SU to comprise a team (ENT specialist or allergist) with the infrastructure and staff to perform the assigned functions (validated test, well-ventilated cabin with controlled humidity and temperature).

The statistical analysis was performed using STATA and based on the Shapiro-Wilk test, χ^2 test, and Spearman correlation analysis.

A total of 136 facilities were finally included (112 otolaryngologists [82.4%] and 24 allergists [17.6%]).

We found that a mean 40.5% (7.6%) of SUs were created after the pandemic and that in 42 cases (33.9%) the SU was new, whereas 25 centers (22.3%) already had an SU (P<.001), ie, 17% of hospitals that did not have an SU before COVID-19 implemented one, whereas 82.8% are still lacking an SU (Figure).

None of the comparisons yielded statistically significant results, except for new SUs in private practice compared with the public health service (17.7% vs 12%; P<.001) (Table S1).

A stratified analysis of whether a center had an SU or not revealed that facilities with an SU were more likely to prescribe olfactory training (P<.001) and for longer periods (P=.003) (Table S2). Centers with an SU were more likely to assess olfaction (P<.001) and taste (P<.001) (Figure S1A). Finally, SUs were more common in private practice than in the public health sector (P=.023).

The common causes of OD assessed by allergists were chronic rhinosinusitis with nasal polyps (CRSwNP) (50.0%), followed by COVID-19 (20.8%), allergic rhinitis (12.5%), and nonallergic rhinitis (4.2%). The respective values for otolaryngologists were 36.6%, 29.5%, 4.5%, and 5.4% (P>.05). It was more common for those with SUs (90.2%) than for those without SUs (62.2%) (P=.001).

Olfactory training was prescribed by 88.1% of the respondents. The most common method was combined rehabilitation (mix of validated kits with essential oils) (40.5%), while the least common was in-house approaches (10.8%). There were no differences according to the preferred method between facilities with and without an SU, presence of an SU before or after COVID-19, specialty, or private practice. However, it is noteworthy that those who prescribe olfactory training are more likely to use both a visual analog scale and a smell test to assess olfaction (P=.020).

Olfactory training was prescribed for 1-3 months by 18.9% of respondents, 3-6 months by 67.6%, and >6 months by 18.8%. Those with an SU prescribed training over longer periods (P<.001), with the most frequent answer being 3-6 months (59.5%) in the case of centers with an SU and 1-3 months (23.7%) in those without an SU.

Follow-up visits were not planned by 8.1% of the respondents but were planned every 3 months by 42.7% and every 6 months by 8.8%. Overall, no differences were found between those with and without an SU (Table S2). Follow-up visits were prescribed less frequently in those who did not have an SU (P=.023).

Oral corticosteroids were prescribed by 32.4% of respondents, whereas topical corticosteroids were prescribed by 51.5%, with no differences between those with and without an SU, between private and public settings, or between specialties.

Stratified analysis by specialty revealed olfactory training to be more common for otolaryngologists (67.9%) than allergists (29.2%) (Table S3). There were also differences in the way olfaction is studied, with instrumental assessment being more varied among otolaryngologists than allergists (P=.016) (Figure S1B and Supplementary Figure 2).

Stratified analysis by public/private center revealed that private centers were more likely to have an SU (P=.023) and to use instrumental evaluation (P=.006) (Table S4). In contrast, they were less likely to provide olfactory training and arrange shorter follow-up visits.

It is evident that the pandemic has accelerated the creation of SUs, as 40% of all existing SUs were created after the pandemic. However, 82.8% of the hospitals surveyed still lack an SU. While the differences were not significant, new SUs tend to prescribe fewer oral corticosteroids but more intranasal corticosteroids. Similar differences were found between specialties. Current evidence reveals some controversy

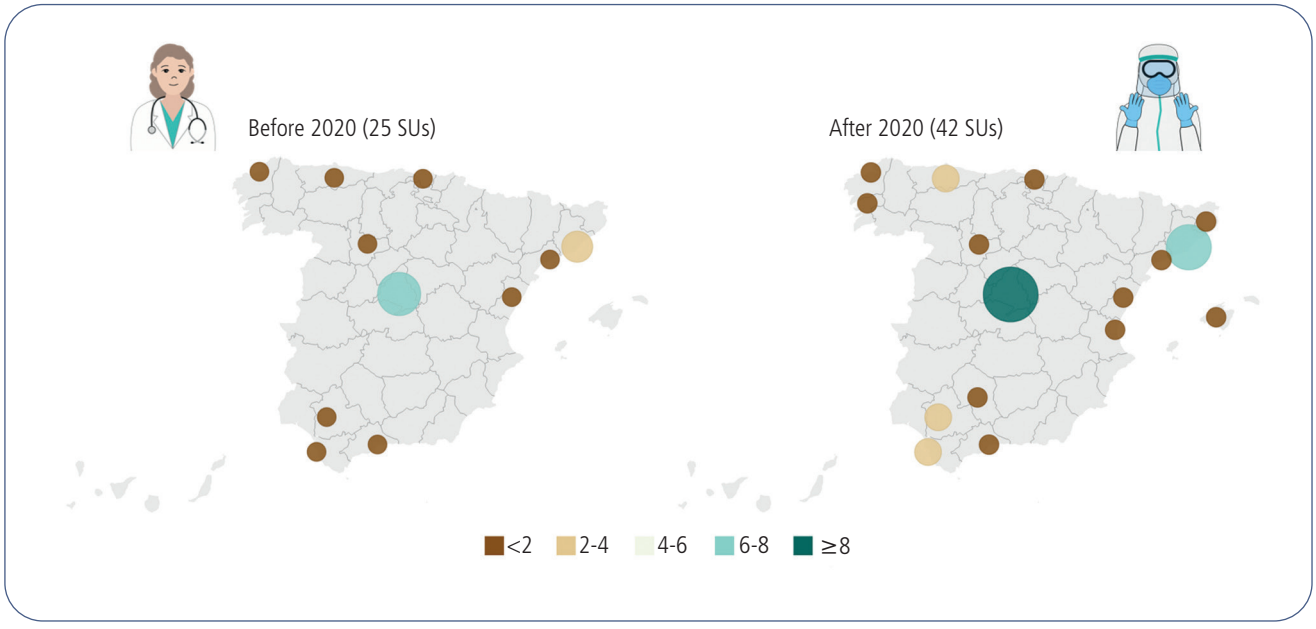

Figure. Number of smell units in Spain. SU indicates smell unit.

surrounding the effect of intranasal corticosteroids on OD in COVID-19. A recent investigation demonstrated that it could be useful to improve OD. However, others reported data that did not affect recovery time. Hence, further clinical trials are necessary [4].

Among respondents with SUs, diagnosis and treatment were more adjusted to up-to-date evidence [5-7]. They were likely to perform instrumental assessment, prescribe olfactory training for longer, and have more frequent follow-up.

Allergists use less instrumental assessment and prescribe less olfactory training, probably because they often treat allergic rhinitis, whereas CRSwNP is usually managed with medical treatment. However, not using instrumental assessment (90%) impairs their ability to assess disease severity [8].

Our survey revealed that 25% of respondents do not administer OT. In relation to the duration of OT, longer treatments have better outcomes [9,10]. Most of the respondents fail to follow their patients up for more than 6 months. However, this difference is even more problematic in centers without SUs.

Our study was limited by the fact that we did not provide a detailed definition of what constitutes an SU; therefore, interpretation bias might affect the stratified analysis. In addition, since we obtained only 136 responses from a total of 467 hospitals in the national health system, our sample cannot be considered representative.

In conclusion, this study revealed that the COVID-19 pandemic stimulated the creation of SUs. Our study demonstrated the usefulness of SUs for managing OD.

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Conflicts of Interest

Isam Alobid: Consultant for Roche, Novartis, Mylan, Menarini, MSD

Joaquim Mullol: member of national and international advisory boards, received speaker fees or funding for clinical trials and research projects from ALK, AstraZeneca, Genentech, GlaxoSmithKline, Glenmark, Menarini, Mitsubishi-Tanabe, MSD, Mylan-MEDA Pharma, Novartis, Regeneron Pharmaceuticals, SANOFI-Genzyme, UCB Pharma, and Uriach Group.

The remaining authors declare that they have no conflicts of interest.

Previous Presentation

The data reported here were presented as an oral communication at the SEORL 2022 Annual Congress.

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