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Outcomes of a Structured Olfactory and Gustatory Rehabilitation Program in Children with Post-COVID-19 Smell and Taste Disturbances**Sami Khalid Almalki**

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Background/Objectives: Severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) is closely related to SARS-CoV and uses angiotensin-converting enzyme 2 as its cellular receptor. In early 2020, reports emerged linking CoV disease 2019 (COVID-19) to olfactory and gustatory disturbances. These disturbances could be attributed to virus-induced damage to olfactory neurons or immune responses, thereby affecting sensory functions. This randomized controlled trial aimed to evaluate the effectiveness of a structured orofacial rehabilitation program in improving smell (olfaction) and taste (gustation) sensations in children post-COVID-19. **Methods:** Forty children recovering from COVID-19 in government hospitals in Saudi Arabia were included and randomly assigned to the control group or the experimental group. The orofacial program included (a) facilitation of olfactory function using the 40-item modified Arabic version of the University of Pennsylvania Smell Identification Test (UPSIT); (b) assessment of gustatory function using taste strips with four varying concentrations; and (c) orofacial myofunctional

therapy. The intervention was applied three times a week and lasted for 3 months. **Results:** The experimental group showed a significantly greater improvement in UPSIT scores (median change of 24.1%) than the control group (14.7%; $p = 0.010$). However, no significant difference was found in the taste strip test scores among the groups or between male and female participants.

Conclusions: This study suggests that a structured orofacial rehabilitation program could enhance olfactory and gustatory functions in children recovering from COVID-19.

Biography

Sami Khalid Almalki is a healthcare professional affiliated with King Abdulaziz Specialist Hospital, Saudi Arabia. He is dedicated to advancing patient care through clinical excellence and evidence-based practice. With a strong commitment to medical education and interdisciplinary collaboration, he actively contributes to improving healthcare outcomes and supports the exchange of scientific knowledge through international conferences and professional engagements.