Odor and taste sensitivity in children with attention deficit/hyperactivity disorder

Burcu Akın Sarı, Nilgün Taşkıntuna.

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Abstract
Objective: Attention deficit/hyperactivity disorder (ADHD) is diagnosed using Diagnostic and Statistical Manual of Mental Disorders criteria, neuropsychological testing, examinations, and parent, teacher, and self-evaluation forms. No biological, electrophysiological, or neuroimaging markers currently exist to diagnose ADHD. Many studies about the biological markers for diagnosing ADHD have been conducted. Olfactory and gustatory dysfunctions have not been well studied in ADHD for this purpose. For this reason this study aimed to evaluate both the olfactory and gustatory functions of children with ADHD.

Methods: A total of 34 children with ADHD and a control group containing 31 children aged 6-15 years participated in the study. We used the ‘Sniffin’ sticks odor tests and propylthiouracil (PROP) bitterness sensitivity test to examine odor and taste sensitivity, respectively.

Results: We found no statistically significant differences between the ADHD and control groups in terms of odor sensitivity, odor discrimination, and odor identification. A statistically significant difference between groups was observed in PROP scores.

Conclusion: PROP bitterness test is in an advantageous state for being a marker in advanced years due to ease of use, independence of age and very short test period. As a result, in our study, it is concluded that PROP bitterness test may be a biological marker for ADHD diagnosis, however, further studies are needed.