



SEMMELWEIS UNIVERSITY

Faculty of Dentistry

Department of Restorative Dentistry and Endodontics

Head:

Professor János Vág DMD, PHD

Name of the working group: Halitosis working group

1. Members of the group

Supervisor: Beáta Kerémi DMD, PhD

Ph.D. fellow: Eszter Szalai DMD

2. Study title

Hyperpure chlorine dioxide versus chlorhexidine in intra-oral halitosis (ODOR trial) - a double-blinded, double-arm, parallel non-inferiority pilot randomized controlled trial

3. Abstract

Intra-oral halitosis (IOH) is the most common type of bad breath; its consequences decrease quality of life. However, evidence-based treatment protocols and guidelines are lacking. We aim to investigate the effectiveness of chlorine dioxide, which may be an applicable complementary treatment modality in IOH after tongue cleaning.

The ODOR trial is a single-centric, double-blinded, parallel-group, double-armed pilot randomized controlled trial with a non-inferiority design. The efficacy of hyperpure chlorine dioxide will be compared to chlorhexidine mouthwash. We plan to investigate the short-term effect of the intervention in a 3-hour-long period. The primary endpoint will be the changes in the organoleptic testing scores. We will calculate the sample size at the end of the pilot investigation of the first 30-30 patients. If feasible, we will continue the study by enrolling more patients.

4. Awarded grants

SE Faculty of Dentistry - Dental Faculty Funding 2022

SE Faculty of Dentistry - Dental Faculty Funding 2023

5. Conference presentations

Semmelweis Symposium 2022

Szalai, E., Tajti, P., Szabó, B., Kóí, T., Hegyi, P., Czumbel, L. M., Varga, G., Kerémi, B. Organoleptic and halitometric assessments do not correlate well in intra-oral halitosis: a systematic review and meta-analysis.

Semmelweis Symposium 2023

Szalai, E., Tajti, P., Szabó, B., Hegyi, P., Czumbel, L. M., Shojazadeh, S., Varga, G., Németh, O., Kerémi, B. Daily use of chlorine dioxide effectively treats halitosis: A meta-analysis of randomised controlled trials.

6. Publications

1. Szalai, E., Tajti, P., Szabó, B., Kóí, T., Hegyi, P., Czumbel, L. M., Varga, G., Kerémi, B. (2023). Organoleptic and halitometric assessments do not correlate well in intra-oral halitosis: a systematic review and meta-analysis. *JOURNAL OF EVIDENCE-BASED DENTAL PRACTICE* 23 : 3 Paper: 101862, 20 p.

<http://doi.org/10.1016/j.jebdp.2023.101862>

Q1, IF: 3.6

2. Szalai, E., Tajti, P., Szabó, B., Hegyi, P., Czumbel, L. M., Shojazadeh, S., Varga, G., Németh, O., Kerémi, B. (2023). Daily use of chlorine dioxide effectively treats halitosis: A meta-analysis of randomised controlled trials. *PLOS ONE* 18: 1 Paper: e0280377, 16 p.

<http://doi.org/10.1371/journal.pone.0280377>

Q1, IF:3.752