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Evaluation of chamomile, sage, and ginger mouthwashes in reducing plaque and gum inflammation

Submission date 05/03/2026	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 06/03/2026	**Overall study status** Completed	
Last Edited 06/03/2026	**Condition category** Oral Health	

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Principal investigator, Scientific, Public

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Additional identifiers

Study information

Scientific Title
Comparative clinical evaluation of chamomile, sage, and ginger mouthwashes in reducing plaque and gingival inflammation

Acronym
CCECSGRPGI

Study objectives
This study objectives are to evaluate the short-term clinical potential of three herbal mouthwashes—Matricaria chamomilla (chamomile), Salvia officinalis (sage), and Zingiber officinale (ginger)—in reducing dental plaque and gingival inflammation in young adults.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 13/10/2025, Research Ethics Committee of the Vasile Goldis University of Arad (bd. Revolutiei nr. 94, Arad, 310009, Romania; +40 (0)257 280 260; eticacercetarii@uvvg.ro), ref: 27

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Placebo

Assignment
Single

Purpose
Health services research

Study type(s)

Health condition(s) or problem(s) studied
Prevention of dental plaque accumulation and prevention of gingival inflammation in young adults

Interventions
A randomised controlled clinical trial conducted on 175 systemically healthy participants, allocated equally into five groups (three herbal groups, placebo, and chlorhexidine). Each herbal group used a 2% aqueous infusion three times daily for twelve weeks. Clinical assessments were performed at baseline (T0), weeks 1–4 (T1), 5–8 (T2), and 9–12 (T3), using the Silness–Löe Plaque Index and the modified Löe–Silness Gingival Index.

Participants were randomly allocated to one of five study groups using a computer-generated randomisation sequence created prior to participant recruitment by an independent investigator who was not involved in enrolment, clinical examination, or data analysis. Allocation concealment was ensured by sequentially numbered, opaque, sealed envelopes containing the

group assignments. The envelope was opened only after the participant was included and the baseline examination was completed. Both participants and clinical examiners were blinded to group allocation, and all mouthwash formulations were dispensed in identical opaque containers.

Intervention Type
Behavioural

Primary outcome(s)
1. Dental plaque measured using the Silness–Löe Plaque Index at baseline, week 1-4 (T1), week 5-8 (T2) and week 9-12 (T3)

2. Gingival inflammation measured using the modified Löe–Silness Gingival Index at baseline, week 1-4 (T1), week 5-8 (T2) and week 9-12 (T3)

Key secondary outcome(s)

Completion date
05/03/2026

Eligibility

Key inclusion criteria
1. Age between 20 and 45 years
2. At least 20 natural teeth and no extensive prosthetic rehabilitation
3. No orthodontic or periodontal treatment in the past 6 months
4. Willingness to use only the assigned mouthwash and follow study instructions
5. Provided written informed consent

Healthy volunteers allowed
Yes

Age group
Adult

Lower age limit
20 Years

Upper age limit
45 Years

Sex
All

Total final enrolment
175

Key exclusion criteria
1. Known allergy or hypersensitivity to chamomile, sage, or ginger
2. Use of antibiotics, anti-inflammatories, or antiseptic mouthwashes within the last 4 weeks
3. Pregnant or lactating women

4. Current orthodontic appliances or extensive prosthetic restorations
5. Active caries or acute oral infections at baseline

Date of first enrolment
13/10/2025

Date of final enrolment
23/10/2025

Locations

Countries of recruitment
Romania

Sponsor information

Organisation
Universitatea de Vest "Vasile Goldis" din Arad

Funder(s)

Funder type

Funder Name
Universitatea de Vest "Vasile Goldis" din Arad

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Other files	Informed consent form		06/03/2026	No	No