

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

Submission date 05/03/2026	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 06/03/2026	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
Last Edited 06/03/2026	Condition category Oral Health	<input type="checkbox"/> Individual participant data
		<input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Principal investigator, Scientific, Public

Contact name

Prof Ioana Lile

ORCID ID

<https://orcid.org/0009-0003-6347-3497>

Contact details

B-dul Revolutiei, Nr.94-96

Arad

Romania

310009

+40 745305221

lile.ioana@uvvg.ro

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