Clinical Trial Protocol
Iranian Registry of Clinical Trials

14 Jun 2026

The effect of glycyrrhiza glabra, salvia officinalis and zinc extract mouth wash on oral health of dental students: Clinical trial study

Protocol summary

Study aim
In according to previous studies herbal mouth washes had obvious beneficial effects on dental caries and gingival health. In according to harmful effect of chemical mouth washes, herbal mouth washes production with minimal side effects and affordable for all of society population is very important. The aim of this study is evaluation of glycyrrhiza glabra, salvia officinalis and zinc extract mouth washes individually and in combination on streptococcus mutans growth, carious bacteria reduction and gingival health.

Design
Dental students voluntary participated to study are divided into five equal groups.By selecting the mouthwash blindly, they entered the mouthwashes and control group (water). The researcher is also unaware of the type of mouthwash and prescribes it as a code.

Settings and conduct
The study will be conducted in the dental faculty of Hamadan Dental Students on a three-blinded basis.

Participants/Inclusion and exclusion criteria
Healthy dental students with informed consent without systemic disease, drug use, periodontal disease and pregnancy

Intervention groups
Mouth wash containing of glycyrrhiza glabra, salvia officinalis and zinc extract

Main outcome variables
Reduction of carious bacteria growth, gingival inflammation, plaque index and bleeding on probing.

General information

Reason for update
In according to other references study duration reduced from 30 day to 15 day 2 times a day.

Acronym

IRCT registration information
IRCT registration number: **IRCT20191225045891N1**
Registration date: **2020-01-31, 1398/11/11**
Registration timing: **prospective**

Last update: **2020-07-11, 1399/04/21**
Update count: **2**

Registration date
2020-01-31, 1398/11/11

Registrant information

Name
Fatemeh Ahmadi-Motamayel

Name of organization / entity

Country
Iran (Islamic Republic of)

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+98 81 3838 1059

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-04-20, 1399/02/01

Expected recruitment end date
2022-04-21, 1401/02/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of glycyrrhiza glabra, salvia officinalis and zinc extract mouth wash on oral health of dental students: Clinical trial study

Public title
Glycyrrhiza glabra, salvia officinalis and zinc extract

mouth wash on oral health

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Healthy dental students Students with informed consent

Exclusion criteria:

Systemic disease Drug taking Gingival and periodontal disease Pregnancy

Age

From **20 years** old to **30 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Investigator
- Data analyser

Sample size

Target sample size: **200**

Randomization (investigator's opinion)

Not randomized

Randomization description

Blinding (investigator's opinion)

Triple blinded

Blinding description

participants, principle investigator, healthcare providers and data analyses are blinded

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Hamadan University of Medical Sciences

Street address

Shahid Fahmideh

City

Hamadan

Province

Hamadan

Postal code

6517838677

Approval date

2019-12-21, 1398/09/30

Ethics committee reference number

IR.UMSHA.REC.1398.786

Health conditions studied

1

Description of health condition studied

Gingival health

ICD-10 code

K02

ICD-10 code description

Dental caries

Primary outcomes

1

Description

Gingival health

Timepoint

Before intervention and 1 month after mouth wash using

Method of measurement

Observational

Secondary outcomes

1

Description

Plaque accumulation

Timepoint

Before and 1 month after intervention

Method of measurement

Oral disclosing tablets

Intervention groups

1

Description

Intervention group: 200 dental student voluntaryselected and divided randomly to five group each group consisting 40 student. 1. control group recieve water 2. This group receive combination of glycyrrhiza glabra, Salvia officinalis and zinc mouth washes, 3. this group receive glycyrrhiza glabra, mouth washes4. this group receive Salvia officinalis mouth washes, 5. this group receive zinc mouth washes, Two file filled for all students. one before and one 15 day after intervention. each persons used mouth washes 2 times a day for 1 minutes. Files consist: biographic data, bleeding on probing, gingival index and plaque accumulation

Category

Prevention

2

Description

Control group: Only receive water.

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center
Hamadan Dental School

Full name of responsible person
Fatemeh Ahmadi-Motamayel

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Hamedan University of Medical Sciences

Full name of responsible person
Saeed Bashirian

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Hamedan University of Medical Sciences

Proportion provided by this source
100

Public or private sector
Public

Domestic or foreign origin
Domestic

Category of foreign source of funding
empty

Country of origin

Type of organization providing the funding
Academic

Person responsible for general inquiries

Contact

Name of organization / entity
Hamedan University of Medical Sciences

Full name of responsible person
Fatemeh Ahmadi-Motamayel

Position
Professor

Latest degree
Specialist

Other areas of specialty/work
Dentistry

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
There is no further information

Study Protocol
Yes - There is a plan to make this available

Statistical Analysis Plan
Yes - There is a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
No - There is not a plan to make this available

Analytic Code
Not applicable

Data Dictionary
Not applicable

Title and more details about the data/document
IPD collected for the primary outcome measure only

When the data will become available and for how long
starting 6 months after publication

To whom data/document is available
people working in academic institutions

Under which criteria data/document could be used
Only for information about results

From where data/document is obtainable
fatahmadim@yahoo.com

What processes are involved for a request to access data/document
6 month after article publication and 1 month after request

Comments