

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

02 Jul 2026

### The prophylactic effect of air-powder plashing versus robber-cap plashing on plaque removal & brackets debonding in orthodontic patients: a double blind randomized clinical trial

#### Protocol summary

##### Summary

Objectives: To assess the effect of air-powder plashing versus robber-cap plashing on plaque removal & brackets debonding in orthodontic patients. Design: a double blind randomized clinical trial. Setting and conduct: The eligible patients who underwent orthodontic procedure who will refer to Dr Poormoradi's private clinic during the study period will be enrolled into the trial. Inclusion criteria: (a) orthodontic procedure on both of the jaws; (b) plaque index equal to or greater than 30. Exclusion criteria: (a) having cardiovascular disease or hypertension; (b) contraindication of sodium use regiment; (c) having gum erosion. Intervention: Prophylactic treatment with air-powder plashing once. Control: Prophylactic treatment with robber-cap plashing once. Primary outcome: Measuring the plaque index of all teeth before and after the intervention using O'leary index. Secondary outcome: Measuring brackets debonding before and after the intervention through physical examination.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT201506029014N65**

Registration date: **2015-06-06, 1394/03/16**

Registration timing: **registered\_while\_recruiting**

Last update:

Update count: **0**

##### Registration date

2015-06-06, 1394/03/16

##### Registrant information

###### Name

Jalal Poorolajal

##### Name of organization / entity

Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

##### Country

Iran (Islamic Republic of)

##### Phone

+98 81 1838 0090

##### Email address

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##### Recruitment status

**Recruitment complete**

##### Funding source

Vice-chancellor for Research the Technology, Hamadan University of Medical Sciences

##### Expected recruitment start date

2014-12-29, 1393/10/08

##### Expected recruitment end date

2015-09-23, 1394/07/01

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The prophylactic effect of air-powder plashing versus robber-cap plashing on plaque removal & brackets debonding in orthodontic patients: a double blind randomized clinical trial

##### Public title

The prophylactic effect of air-powder plashing versus robber-cap plashing on plaque removal & brackets debonding in orthodontic patients

##### Purpose

Treatment

##### Inclusion/Exclusion criteria

Inclusion criteria: (a) orthodontic procedure on both of the jaws; (b) plaque index equal to or greater than 30. Exclusion criteria: (a) having cardiovascular disease or hypertension; (b) contraindication of sodium use regiment; (c) having gum erosion.

**Age**

No age limit

**Gender**

Both

**Phase**

2

**Groups that have been masked**

No information

**Sample size**

Target sample size: 50

**Randomization (investigator's opinion)**

Randomized

**Randomization description****Blinding (investigator's opinion)**

Double blinded

**Blinding description****Placebo**

Not used

**Assignment**

Parallel

**Other design features**

Randomization: Random assignment of the upper and lower jaws in every patient to the either of interventions one at a time. Blinding: Patients will be unaware of the type of intervention. The physician who will examine the patients will not be aware of the intervention. Therefore, the trial will be run as double blind.

**Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Research Ethic Committee of Hamadan University of Medical Sciences

**Street address**

Vice-chancellor of Research the Technology, Hamadan University of Medical Sciences, Shahid

**City**

Hamadan

**Postal code**

6517838695

**Approval date**

2015-01-20, 1393/10/30

**Ethics committee reference number**

D/P/16/35/9/4781

**Health conditions studied****1****Description of health condition studied**

orthodontics

**ICD-10 code**

Z46.4

**ICD-10 code description**

Fitting and adjustment of orthodontic device

**Primary outcomes****1****Description**

Measuring the plaque index of all teeth

**Timepoint**

before and after the intervention

**Method of measurement**

using O'leary index

**Secondary outcomes****1****Description**

Measuring brackets debonding

**Timepoint**

before and after the intervention

**Method of measurement**

through physical examination

**Intervention groups****1****Description**

Prophylactic treatment with air-powder plashing once

**Category**

Treatment - Other

**2****Description**

Prophylactic treatment with robber-cap plashing once

**Category**

Treatment - Other

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Dr Poormoradi's private clinic

**Full name of responsible person**

Dr Banafshe Poormoradi

**Street address**

Dr Poormoradi's private clinic, Buali Ave

**City**

Hamadan

## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**

Vice-chancellor for Research the Technology,  
Hamadan University of Medical Sciences

**Full name of responsible person**

Dr Saeid Bashirian

**Street address**

Hamadan University of Medical Sciences, Shahid  
Fahmideh Ave

**City**

Hamadan

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Vice-chancellor for Research the Technology, Hamadan  
University of Medical Sciences

**Proportion provided by this source**

100

**Public or private sector**

*empty*

**Domestic or foreign origin**

*empty*

**Category of foreign source of funding**

*empty*

**Country of origin****Type of organization providing the funding**

*empty*

## Person responsible for general inquiries

**Contact****Name of organization / entity**

Dentistry School

**Full name of responsible person**

Faeze behgozin

**Position**

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## Person responsible for scientific inquiries

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**Position**

Periodontist

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## Person responsible for updating data

**Contact****Name of organization / entity**

Department of Epidemiology & Biostatistics

**Full name of responsible person**

Dr Jalal Poorolajal

**Position**

Associate Professor

**Other areas of specialty/work****Street address**

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**

*empty*

**Study Protocol**

*empty*

**Statistical Analysis Plan**

*empty*

**Informed Consent Form**

*empty*

**Clinical Study Report**

*empty*

**Analytic Code**

*empty*

**Data Dictionary**

*empty*