Clinical Trial Protocol
Iranian Registry of Clinical Trials

14 Sep 2026

Investigating the effect of a toothbrush reminder application and a health education video on the oral health of patients undergoing orthodontic treatment.

Protocol summary

Study aim
Determining the effect of a toothbrush reminder program combined with a hygiene education video on the oral health of patients that are having orthodontic treatment.

Design
60 patients are randomly selected and divided into two groups. One group receives an intervention and the control group receives no intervention.

Settings and conduct
In this study, 30 patients with orthodontic treatment will be randomly divided into two groups: an intervention group and a control group. The intervention group will receive a toothbrush reminder app and the control group will only receive a hygiene education video.

Participants/Inclusion and exclusion criteria
The conditions for entering the study are having dental plaque, having a fixed or removable orthodontic appliance, having a smart phone, and being a member of the application to join the virtual network group of this study. Also, not smoking and not having systemic diseases or congenital diseases. The criteria for exiting the study are unwillingness to cooperate.

Intervention groups
For the experimental group, an app will be used to remind patients of their brushing schedule. This app, along with a training video, will be provided to the patient to ensure the patient uses the app and to answer patients' questions about how to control hygiene. All selected patients in the experimental group will be members of a group in the virtual space and will daily report their use of the app and their questions. If the patient does not report, follow-up will be done. Only a training video will be provided to the control group.

Main outcome variables
The results obtained can be used practically. Furthermore, this research will determine whether existing applications for improving human health can improve oral hygiene in this study or are merely commercial and research-oriented.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20241123063809N1**
Registration date: **2024-12-25, 1403/10/05**
Registration timing: **prospective**

Last update: **2024-12-25, 1403/10/05**
Update count: **0**

Registration date
2024-12-25, 1403/10/05

Registrant information

Name
Samira Behrad

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 23 3332 1026

Email address
samirabehrad84@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-02-03, 1403/11/15

Expected recruitment end date
2025-02-08, 1403/11/20

Actual recruitment start date
empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating the effect of a toothbrush reminder application and a health education video on the oral health of patients undergoing orthodontic treatment.

Public title

Investigating the effect of a toothbrush reminder application and a health education video on the oral health of patients undergoing orthodontic treatment.

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Age range 15-40 Having smart phone Using orthodontic appliance fix or removable Having messenger application

Exclusion criteria:

Not using cigarettes

Age

From **15 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Semnan University of Medical Sciences and health services

Street address

Semnan, 17 Shahrivar Blvd., Dental Faculty of Semnan, Iran

City

Semnan

Province

Semnan

Postal code

35187-94431

Approval date

2024-10-14, 1403/07/23

Ethics committee reference number

IR.SEMUMS.REC.1403.139

Health conditions studied

1

Description of health condition studied

oral health situation

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Dental plaque burden

Timepoint

Dental plaque index at baseline and 3 months post-intervention

Method of measurement

Dental explorer probe and Plaque disclosing tablet

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Developing a reminder app for brushing and educational videos on oral hygiene for orthodontic patients at Semnan Dental School.

Category

Prevention

2

Description

Control group: Disseminating educational videos regarding oral hygiene protocols.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Semnan Dental School

Full name of responsible person

Samira Behrad

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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Semnan University of Medical Sciences
Full name of responsible person
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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
Semnan 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
Semnan University of Medical Sciences
Full name of responsible person
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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

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

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All data can be potentially shared after individuals have been de-identified.

When the data will become available and for how long

The data will be accessible for a period of one month following the publication of the results.

To whom data/document is available

The data will be made available to all individuals working in the field of dentistry.

Under which criteria data/document could be used

Individuals with expertise in both statistics and dentistry will be authorized to submit requests for access to the data or documentation.

From where data/document is obtainable

The documents will be received via email at the samirabehrad84@gmail.com address.

What processes are involved for a request to access data/document

The data will be provided to the requester after the request has been evaluated and the individual's identity and qualifications have been verified.

Comments