

Clinical Trial Protocol

Iranian Registry of Clinical Trials

14 Sep 2026

The effect of interactive learning of health visitors and behvarzes in the field of oral health through smartphone software in comparison with the electronic booklet to promote oral health knowledge, attitude and self-reported practice

Protocol summary

Study aim

To investigate the effectiveness of a smart phone application as a method to activate healthcare personnel in the field of oral health, to increase and update their knowledge in this field, and to establish an interactive and sustainable platform for inter-professional and interdisciplinary approach for health promotion.

Design

Randomised controlled, superiority, two arm parallel group, on 174 samples. For randomisation, random number function of Excel software is used.

Settings and conduct

The personnel of selected Health Centers and Health Houses will be invited to participate in the study. The baseline and follow up questionnaires will be delivered by the researchers to the participants in their workplace (Comprehensive Health Centers and Health Houses), and will be collected immediately. Upon collecting the baseline questionnaire, instruction to install the SPA will be given to SPA group. The booklet will also be sent to booklet group immediately after baseline data collection either via email or social network. Before delivering the baseline questionnaire, the informed consent form will be signed by the participants.

Participants/Inclusion and exclusion criteria

1. Health visitors or Behvarzes having a Smartphone

Intervention groups

Comprehensive Health Centers and Health Houses will be randomly divided into two groups: one group receives training through smartphone application, and the other group receives an electronic booklet with the same content as SPA.

Main outcome variables

1. Knowledge of oral health
2. Attitude towards oral health
3. Self-reported oral health practice

General information

Reason for update

The initial trial registration specified an upper age limit of ≤ 35 years based on the assumption that younger primary healthcare personnel would be more likely to use smartphones. However, before recruitment, it became evident that smartphone use was common among eligible primary healthcare personnel across all age groups. Therefore, this age restriction was considered unnecessary and was not applied during participant recruitment.

Acronym

IRCT registration information

IRCT registration number: **IRCT20160910029765N2**

Registration date: **2021-04-21, 1400/02/01**

Registration timing: **prospective**

Last update: **2026-08-28, 1405/06/06**

Update count: **1**

Registration date

2021-04-21, 1400/02/01

Registrant information

Name

Mohammad Reza Khami

Name of organization / entity

Tehran University of Medical Sciences, School of Dentistry

Country

Iran (Islamic Republic of)

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+98 21 8801 5960

Email address

mkhami@tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-05-22, 1400/03/01

Expected recruitment end date

2021-07-23, 1400/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of interactive learning of health visitors and behvarzes in the field of oral health through smartphone software in comparison with the electronic booklet to promote oral health knowledge, attitude and self-reported practice

Public title

The effect of interactive learning of health visitors and behvarzes in the field of oral health through smartphone software in comparison with the electronic booklet

Purpose

Health service research

Inclusion/Exclusion criteria

Inclusion criteria:

Health visitors and Behvarzes having a Smartphone

Exclusion criteria:

Health visitors and Behvarzes who have a valid degree related to dentistry Health visitors and Behvarzes who have attended dental training courses in the past year

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

- Data analyser

Sample size

Target sample size: **174**

Randomization (investigator's opinion)

Randomized

Randomization description

First two strata, proportional to size, one for Comprehensive Health Centers, and one for Health Houses (the proportional to size: 1 to 2, respectively) will be defined. We will use simple randomization technique using random number function of Excel software, to select clusters (Health centers, Health houses) as randomization unit. Then, by flipping coin, each cluster will be assigned to intervention or control group.

Blinding (investigator's opinion)

Single blinded

Blinding description

The data collection tool is a self-administered anonymous questionnaire and only the participants know the confidential code which he/she writes in the baseline and follow up questionnaire to enable assessment of

individual changes. All the data will be remained anonymous and confidential to the statistical analyst.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Tehran University of Medical sciences

Street address

End of North Kargar, School of Dentistry, Tehran University of Medical Sciences, Oral Health Department

City

Tehran

Province

Tehran

Postal code

۱۴۳۹۹۵۵۹۹۱

Approval date

2021-01-31, 1399/11/12

Ethics committee reference number

IR.TUMS.DENTISTRY.REC.1399.211

Health conditions studied

1

Description of health condition studied

Oral health knowledge, attitude and self-reported practice of health visitors and Behvarzes

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Knowledge of oral health

Timepoint

Baseline (beginning of the study) and 4 months later

Method of measurement

Baseline questionnaire and follow-up questionnaire

2

Description

Attitude towards oral health

Timepoint

Baseline (beginning of the study) and 4 months later

Method of measurement

Baseline questionnaire and follow-up questionnaire

3**Description**

Self-reported oral health practice

Timepoint

Baseline (beginning of the study) and 4 months later

Method of measurement

Baseline questionnaire and follow-up questionnaire

Secondary outcomes

empty

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

Intervention group: receives training through smartphone application. The SPA contains various parts including educational material, question & answer section, notification panel, search, and contact information. The educational material includes mainly text and multi-media. The educational content includes general definition of common oral diseases, etiologies and signs and symptoms; how to prevent common oral diseases; appropriate methods of tooth brushing in various age groups; importance of fluoride; early childhood caries and its prevention; dietary habits; and how and when to refer a patient to dentist

Category

Other

2**Description**

Control group: receives an electronic booklet. The booklet contains educational material in text and picture format, and contact information. The educational content is the same as that in SPA

Category

Other

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

Comprehensive Health Centers and Health Houses of Tehran University of Medical Sciences

Full name of responsible person

Mohammad Reza Khami

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Tehran University of Medical Sciences

Full name of responsible person

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Keshavarz Blvd. Qods St. TUMS Headquarter, 6th floor

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Fax**Email**

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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

Tehran 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**

Tehran University of Medical Sciences

Full name of responsible person

Mohammad Reza Khami

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

Dentistry

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Mohammad Reza Khani

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

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Position

Resident

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available