Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Nov 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)

Phone

+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
Street address
End of North Kargar, School of Dentistry, Tehran University of Medical Sciences, Oral Health Department
City
Tehran
Province
Tehran
Postal code
1439955934
Phone
+98 21 8801 5960
Fax
+98 21 8801 5961
Email
mkhami@tums.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Mohammad Ali Sahraeian
Street address
Keshavarz Blvd. Qods St. TUMS Headquarter, 6th floor
City
Tehran
Province
Tehran
Postal code
1417653761
Phone
+98 21 8163 3685
Fax
Email
vcr@tums.ac.ir
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

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

City
Tehran

Province
Tehran

Postal code
1439955934

Phone
+98 21 8801 5960

Fax
+98 21 8801 5961

Email
mkhami@tums.ac.ir

Person responsible for scientific 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

Street address
End of North Kargar, School of Dentistry, Tehran University of Medical Sciences, Oral Health Department Work Phone: 88015960

City
Tehran

Province
Tehran

Postal code
1439955934

Phone
+98 21 8801 5960

Fax
+98 21 8801 5961

Email
mkhami@tums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
Tehran University of Medical Sciences

Full name of responsible person
Farid Farrokhi

Position
Resident

Latest degree
Medical doctor

Other areas of specialty/work
Dentistry

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

City
Tehran

Province
Tehran

Postal code
1439955934

Phone
+98 21 8801 5960

Fax
+98 21 8801 5961

Email
Farid_Farokhi2004@yahoo.com

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