

Clinical Trial Protocol

Iranian Registry of Clinical Trials

30 Jul 2026

Comparison of the effect of two types of SMS-based interventions (in the gain frame and the loss frame) on osteoporosis preventive nutritional behaviors in female students

Protocol summary

Study aim

To determine and compare the effectiveness of two types of SMS based- education interventions (in the gain frame and loss frame) on osteoporosis preventive nutritional behaviors in female students

Design

The list of 345 students at the moment of the study is available to the researchers. The subjects will be randomly assigned to one of the three study groups (intervention group 1, intervention group 2, and control group).

Settings and conduct

Setting: Two female high schools in Semnan. Conduct: 350 female students from two high schools will be selected and randomly assigned either to three groups (two intervention groups and one control group). According to pre-test results, two categories of messages gain frame and loss frame will be designed. Developed gain frame messages will be sent to students in the first intervention group. Developed loss frame messages will be sent to students in the first intervention group. Two groups will be followed one month after the intervention. Finally, data will be analyzed.

Participants/Inclusion and exclusion criteria

The main of inclusion criteria: - Having a private cell phone - Being female student
The main of exclusion criteria: -Diseases that limit calcium absorption - Consumption of drugs that limit calcium absorption

Intervention groups

Intervention group: Approximately 20-30 messages in the gain frame (focused on the positive outcome) and 20-30 messages in the loss frame (focused on the costs or the loss) regarding knowledge, attitude and osteoporosis preventive nutritional behaviors will be designed. Gain frame messages will be sent to participants in the first intervention group during 4 weeks. Loss frame messages will be sent to participants

in the second intervention group during 4 weeks. Control group: No intervention.

Main outcome variables

Osteoporosis preventive nutritional behaviors

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20110727007132N18**

Registration date: **2018-06-20, 1397/03/30**

Registration timing: **retrospective**

Last update: **2018-06-20, 1397/03/30**

Update count: **0**

Registration date

2018-06-20, 1397/03/30

Registrant information

Name

Tahereh Dehdari

Name of organization / entity

Iran University of Medical Sciences and Health Services

Country

Iran (Islamic Republic of)

Phone

+98 2188779118263

Email address

t-dehdari@tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-11-21, 1396/08/30

Expected recruitment end date

2018-02-19, 1396/11/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of the effect of two types of SMS-based interventions (in the gain frame and the loss frame) on osteoporosis preventive nutritional behaviors in female students

Public title
Comparison of the effect of two types of SMS-based interventions (in the gain frame and the loss frame) on osteoporosis preventive nutritional behaviors in female students

Purpose
Prevention

Inclusion/Exclusion criteria
Inclusion criteria:
 -Having a private cell phone -Being female student
Exclusion criteria:
 -History of diseases that limit calcium absorption (such as Rickets, Hemophilia, Thalassemia, Yuri hypercalcemia, Vitamin D deficiency in the Blood, Cushing's Syndrome, Chronic liver Diseases, Malabsorption Syndromes, Type 1 Diabetes, Hyperthyroidism, Para Thyroid, Lymphoma, Leukemia, Rheumatoid Arthritis and Chronic Renal Diseases) -History of consumption of drugs that limit calcium absorption (such as Thyroxine, Anticonvulsants, Glucocorticoids, Anticoagulants and Immunosuppressants)

Age
From **11 years** old to **14 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
 Target sample size: **345**
 More than 1 sample in each individual
 Number of samples in each individual: **115**
 115 female students who are studying in high school in Seman, Iran
 Actual sample size reached: **350**
 More than 1 sample in each individual
 Actual sample size in each individual:

Randomization (investigator's opinion)
Randomized

Randomization description
The list of 345 students at the moment of the study is available to the researchers. The subjects will be randomly assigned to one of the three study groups (intervention group 1, intervention group 2, and control group). The first person in the list will be randomly assigned to a group. The second person will be randomly assigned to one of the remained two groups. The third

person will be assigned to the third group. Similarly, the allocation of the remaining subjects will be continued in three groups.

Blinding (investigator's opinion)
Not blinded

Blinding description
Placebo
Not used

Assignment
Parallel

Other design features
There is no special characteristic in this study.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Iran University of Medical Sciences and Health Services Ethics ComCommittee of Ir

Street address

Iran University of Medical Sciences, Shahid Hemmat Highway

City

Tehran

Province

Tehran

Postal code

۱۴۳۹۶۱۴۵۳۵

Approval date

2017-10-14, 1396/07/22

Ethics committee reference number

IR.IUMS.FMD.REC 1396.9511107006

Health conditions studied

1

Description of health condition studied

Osteoporosis

ICD-10 code

M81.9

ICD-10 code description

Osteoporosis, unspecified

Primary outcomes

1

Description

Nutritional behaviors condition regarding prevention of osteoporosis

Timepoint

Before and one month after the intervention

Method of measurement

Questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: Sending developed SMSs related to osteoporosis in the gain frame (focused on the positive outcome) during 4 weeks

Category

Prevention

2

Description

Intervention group 2: Sending developed SMSs related to osteoporosis in the loss frame (focused on the loss or costs) during 4 weeks

Category

Prevention

3

Description

Control group: Not received any educational messages related to osteoporosis

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Rahe Zeynab Female High School

Full name of responsible person

Tahere Tarahomi

Street address

Motahari Square, Semnan, Iran

City

Semnan

Province

Semnan

Postal code

3512844541

Phone

+98 23 3343 9609

Email

tarahomit96@gmail.com

Web page address

2

Recruitment center

Name of recruitment center

Shahid akrami Female High School

Full name of responsible person

Maryam Farzane

Street address

Etehad town ship

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Province

Semnan

Postal code

3514973773

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+98 23 3343 5720

Email

farzanem6162@gmail.com

Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran University of Medical Sciences

Full name of responsible person

Dr Seyed Kazem Malakouti

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research@iums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Iran 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

Iran University of Medical Sciences

Full name of responsible person

Tahereh Dehdari

Position

Ph.D in Health Education

Latest degree

Ph.D.

Other areas of specialty/work

Health Promotion

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Person responsible for scientific inquiries

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Full name of responsible person

Tahereh Dehdari

Position

Ph.D in Health Education

Latest degree

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Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

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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

The results only will be published in the article

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

Not applicable

Informed Consent Form

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

Clinical Study Report

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable