

Clinical Trial Protocol

Iranian Registry of Clinical Trials

29 Jun 2026

Evaluation of effectiveness of multimedia teaching lessons of research methodology course (Types of study and types of errors) between groups with and without gamification on learning achievement on dental students

Protocol summary

Study aim

To compare effectiveness of multimedia education in research methodology course (parts: research types and error types) in two groups: one with and the other without gamification on learning achievement of dentistry students

Design

Randomized Controlled Clinical Trial Phase 3, Parallel groups, Open label.

Settings and conduct

Study settings: Dentistry School-Tehran University of Medical Sciences In this study masking is not applicable. Learning content will be prepared in format of a multimedia and will be delivered to both groups. A pool of multiple choice questions with answers in format of MS Word will be given to comparison group and in format of gamified mobile application will be given to intervention group.

Participants/Inclusion and exclusion criteria

students possessing research methodology course without history of post-taking

Intervention groups

Intervention group: Students taking course material through the application. Comparison group: Students taking course material through sample questions.

Main outcome variables

Post intervention standard exam scores will be measured and compared according to educational topics and as total.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190612043874N1**

Registration date: **2019-10-01, 1398/07/09**

Registration timing: **retrospective**

Last update: **2019-10-01, 1398/07/09**

Update count: **0**

Registration date

2019-10-01, 1398/07/09

Registrant information

Name

Keyvan Shahpouzadeh

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 4279 0000

Email address

pharmacologybuff@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-09-23, 1398/07/01

Expected recruitment end date

2019-09-23, 1398/07/01

Actual recruitment start date

2019-09-23, 1398/07/01

Actual recruitment end date

2019-09-23, 1398/07/01

Trial completion date

2020-02-04, 1398/11/15

Scientific title

Evaluation of effectiveness of multimedia teaching lessons of research methodology course (Types of study and types of errors) between groups with and without

gamification on learning achievement on dental students

Public title

Evaluation of Game-Based-Education effect on learning

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Dentistry students qualified for taking research methodology unit

Exclusion criteria:

History of post-taking research methodology course

Age

From **18 years** old to **30 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **44**

Actual sample size reached: **51**

Randomization (investigator's opinion)

Randomized

Randomization description

simple random allocation

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 Tehran University of Medical Sciences

Street address

Tehran university of medical sciences central HQ, Qods street, Keshavarz blvd, Tehran

City

Tehran

Province

Tehran

Postal code

1417653761

Approval date

2019-01-15, 1397/10/25

Ethics committee reference number

IR.TUMS.VCR.REC.1397.783

Health conditions studied

1

Description of health condition studied

Learning efficiency

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Standard test score

Timepoint

after intervention

Method of measurement

Standard test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: application users

Category

Other

2

Description

Control group: Questions in word format users

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

School of dentistry

Full name of responsible person

Keyvan Shahpourzadeh

Street address

School of Dentistry, North Karegar st., Tehran, Iran

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Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Mohammad Ali Sahraeian

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Vice Chancellor for Research, Tehran University of Medical Sciences, Qods st., Enghelab st., Tehran, Iran

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

No

Title of funding source

Dental Research Institute - 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

Ahmad Reza Shamshiri

Position

assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Epidemiology

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Person responsible for scientific inquiries

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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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Full name of responsible person

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Position

Student

Latest degree

Medical doctor

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Dentistry

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1911936367

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+98 21 2222 6276

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pharmacologybuff@yahoo.com

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

not possible due to ethical reasons

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

No - There is not 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

Standard test scores

When the data will become available and for how long

after study

To whom data/document is available

journal critiques, support organisations

Under which criteria data/document could be used

validation without names

From where data/document is obtainable

scientific authority

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

contacting scientific authority

Comments