# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

08 Nov 2026

## Investigating the effect of case-based learning on the learning of medical students in the internship stage

### Protocol summary

**Study aim**
Investigating the learning rate of interns in the field of emergency medicine using a patient-based learning method / Examining the level of satisfaction of emergency medicine interns with the patient-based learning method

**Design**
control group: In this group, just theoretical topics are conducted in face-to-face classes based on lectures and on the basis of predetermined curriculum.

**Settings and conduct**
Hospitals affiliated with Iran University of Medical Sciences, where interns spend a month in the emergency department. First, before the intervention, a pre-test is taken from both groups. Then, in each group, the corresponding action described in the previous sections is performed. Next, in order to evaluate the effect of the training, a post test is taken and the questionnaire of satisfaction level from the educational method is given to them. Finally, the results of these cases are compared in two groups.

**Participants/Inclusion and exclusion criteria**
The inclusion criteria is medical students in the internship stage, and the exclusion criteria is not agreeing to participate in the study.

**Intervention groups**
In this group, we will provide an educational package to the medical students of the internship stage at the beginning of the one-month emergency medicine course. This package aims to provide case-based learning on important emergency topics, including topics prepared in text, PowerPoint with audio, and podcasts, as well as printed reports from patients in reputable medical journals. Also, in this group, like other students, theoretical topics are conducted in face-to-face classes based on lectures and on the basis of predetermined curriculum.

**Main outcome variables**
Pre-test result - Post-test result - Student satisfaction level from the educational method

### General information

**Reason for update**
**Acronym**
**IRCT registration information**
IRCT registration number: **IRCT20230307057653N1**
Registration date: **2023-03-29, 1402/01/09**
Registration timing: **prospective**

Last update: **2023-03-29, 1402/01/09**
Update count: **0**

**Registration date**
2023-03-29, 1402/01/09

**Registrant information**
**Name**
omidreza malekpour
**Name of organization / entity**
**Country**
Iran (Islamic Republic of)
**Phone**
+98 21 86701
**Email address**
malekpouro@yahoo.com

**Recruitment status**
**Recruitment complete**
**Funding source**

**Expected recruitment start date**
2023-04-04, 1402/01/15
**Expected recruitment end date**
2023-07-06, 1402/04/15
**Actual recruitment start date**
empty
**Actual recruitment end date**
empty
**Trial completion date**

empty

**Scientific title**
Investigating the effect of case-based learning on the learning of medical students in the internship stage

**Public title**
Effect of case-based learning on the learning of medical students
**Purpose**
Education/Guidance
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Medical students in the internship stage
**Exclusion criteria:**
Lack of consent to participate in the study
**Age**
From **20 years** old to **30 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **240**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
Students are randomly divided into two main groups. Students with odd number in the list are included in to group 1 and patients with even number are included in group 2.
**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 Iran University of Medical Sciences
**Street address**
Iran University of Medical Sciences, Hemmat Highway, Tehran
**City**
Tehran
**Province**
Tehran
**Postal code**
۱۴۴۹۶۱۴۵۳۵
**Approval date**
2023-02-01, 1401/11/12
**Ethics committee reference number**
IR.IUMS.REC.1401.898

## Health conditions studied

### 1

**Description of health condition studied**
Learning of medical students
**ICD-10 code**
**ICD-10 code description**

## Primary outcomes

### 1

**Description**
The result of the pre-test
**Timepoint**
before holding classes and receiving training
**Method of measurement**
Questionnaire

### 2

**Description**
The result of the post-test
**Timepoint**
After holding classes and receiving training
**Method of measurement**
Questionnaire

### 3

**Description**
Level of satisfaction with the educational method
**Timepoint**
After holding classes and receiving training
**Method of measurement**
Questionnaire

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
Intervention group: We will provide the educational package to the medical students of the internship stage at the beginning of the one-month emergency medicine course. This package aims to provide case-based learning on important emergency topics, including topics prepared in text, PowerPoint with audio, and podcasts, as well as printed reports from patients in common medical journals. Also, like other students, the teaching of theoretical topics is done in face-to-face classes on the

basis of lectures and on the basis of a predetermined curriculum.

**Category**

Behavior

**2**

**Description**

Control group: In this group of medical students in the internship stage who will undergo a one-month in the emergency department, only theoretical topics are taught in face-to-face classes based on lectures and based on a pre-specified curriculum.

**Category**

Behavior

## Recruitment centers

**1**

**Recruitment center**

**Name of recruitment center**
Iran University of Medical Sciences

**Full name of responsible person**
Omidreza Malekpour

**Street address**
Iran University of Medical Sciences, Hemmat Highway, Tehran

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malekpouro@yahoo.com

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## Sponsors / Funding sources

**1**

**Sponsor**

**Name of organization / entity**
Iran University of Medical Sciences

**Full name of responsible person**
Omidreza Malekpour

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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**
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**
Omidreza Malekpour

**Position**
Medical Student

**Latest degree**
A Level or less

**Other areas of specialty/work**
Medical Education

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Iran University of Medical Sciences, Hemmat Highway, Tehran

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## Person responsible for scientific inquiries

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## Person responsible for updating data

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**Full name of responsible person**
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**Other areas of specialty/work**
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**Email**
malekpouro@yahoo.com

## 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 potential data can be shared after publication of result

**When the data will become available and for how long**
At the end of data collection period until the publication of results

**To whom data/document is available**
Only doctors and medical students

**Under which criteria data/document could be used**
Only when people intend to research about this topic

**From where data/document is obtainable**
To the scientific and executive members of the project

**What processes are involved for a request to access data/document**
Communicate with the scientific and executive authorities of the project - Submitting their official letter from research centers -using the patient's information only at designated center - Submitting their final report obtained by information.

**Comments**