

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

09 Jul 2026

### The effect of peer-assisted education through jigsaw puzzle method on knowledge and performance of nursing students regarding adult basic cardiopulmonary resuscitation

#### Protocol summary

##### Study aim

determining the effect of peer-assisted education through jigsaw puzzle method on knowledge and performance of nursing students regarding adult basic cardiopulmonary resuscitation

##### Design

All four semester undergraduate nursing students at the Faculty of Nursing of the University of Iran as an intervention group and all four semester undergraduate nursing students at the University of Tehran are classified as the control group.

##### Settings and conduct

This research is a quasi-experimental study with pretest-posttest design with control group. The research environment is the nursing and midwifery faculties of Iran and Tehran Medical Sciences Universities. Then, the research units in both groups are asked to complete the demographic data form and modified Adult BLS knowledge questionnaire. The adult BLS performance test will then be based on a modified checklist and the timing of some of the BLS stages with the help of unknowing researchers from the study groups and will be considered as the basic function of the students in both groups at the beginning of the study. Both research groups will receive adult BLS instruction in a PowerPoint presentation and video presentation (in a 2-hour session) in groups of 25-30 people who are trained by a researcher and an individual in CPR training. Students in a peer-assisted group will be randomly divided into ventilating and heart groups after the initial presentation and screening about the principles of adult BLS. Each of these groups is divided into two sub-groups. The ventilation group is divided into subgroups of airway and respiratory tract, and the heart group is divided into subgroups of AED and cardiac compression. Randomly each partner will be identified from a main group in another major group and from a subgroup in another

subgroup. In this way, in addition to determining the groups and subgroups, the student's counterpart will be identified in the other subgroup and the main group. Each of these groups will attend a day at the same time at the Center for Clinical Skills. In each core group (heart and ventilation), the subgroups will be trained by the researcher for 15-15 minutes separately for each CPR mannequin, and each student will be monitored by a researcher for 10 to 5 minutes. Practice will be your subject. Similarly, in the other core group, training for subgroups will be done by the researcher. Following this stage, students will be given two subgroups in each major group to share their sub-group skills with their peers in the subgroup. In other words, the two subgroups (cardiac compression and AED) belonging to the main group (heart group) are gathered in one place, and students from each group have two skills in their puzzle pieces with their counterpart in another subgroup on the training mannequin CPRs train and practice for 20 to 15 minutes. This stage is under indirect supervision by a researcher and researcher. At the end of this process, each individual from the main group (heart and ventilation) has all the knowledge and information about that group. Then students from the heart and ventilation group are gathered in one place, and students from each group teach their knowledge and skills to their counterparts in the other group on the CPR training manne for 20 to 15 minutes, practicing their knowledge and skills. Transmit to each other. Evaluators and participants are unaware of the division.

##### Participants/Inclusion and exclusion criteria

All four semester undergraduate nursing students at both Faculty of Nursing, University of Iran and Tehran.

##### Intervention groups

Then, the research units in both groups are asked to complete the demographic data form and modified Adult BLS knowledge questionnaire. The adult BLS performance test will then be based on a modified checklist and the timing of some of the BLS stages with

the help of unknowing researchers from the study groups and will be considered as the basic function of the students in both groups at the beginning of the study. Both research groups will receive adult BLS instruction in a PowerPoint presentation and video presentation (in a 2-hour session) in groups of 25-30 people who are trained by a researcher and an individual in CPR training. Students in a peer-assisted group will be randomly divided into ventilating and heart groups after the initial presentation and screening about the principles of adult BLS. Each of these groups is divided into two sub-groups. The ventilation group is divided into subgroups of airway and respiratory tract, and the heart group is divided into subgroups of AED and cardiac compression. Randomly each partner will be identified from a main group in another major group and from a subgroup in another subgroup. In this way, in addition to determining the groups and subgroups, the student's counterpart will be identified in the other subgroup and the main group. Each of these groups will attend a day at the same time at the Center for Clinical Skills. In each core group (heart and ventilation), the subgroups will be trained by the researcher for 15-15 minutes separately for each CPR mannequin, and each student will be monitored by a researcher for 10 to 5 minutes. Practice will be your subject. Similarly, in the other core group, training for subgroups will be done by the researcher. Following this stage, students will be given two subgroups in each major group to share their sub-group skills with their peers in the subgroup. In other words, the two subgroups (cardiac compression and AED) belonging to the main group (heart group) are gathered in one place, and students from each group have two skills in their puzzle pieces with their counterpart in another subgroup on the training mannequin CPRs train and practice for 20 to 15 minutes. This stage is under indirect supervision by a researcher and researcher. At the end of this process, each individual from the main group (heart and ventilation) has all the knowledge and information about that group. Then students from the heart and ventilation group are gathered in one place, and students from each group teach their knowledge and skills to their counterparts in the other group on the CPR training manne for 20 to 15 minutes, practicing their knowledge and skills. Transmit to each other.

#### **Main outcome variables**

Considering the importance of educating adult BLS in nursing students and the need to improve and maintain the level of knowledge and performance of students in this regard, researchers have been studying how to improve the education of adult BLS by Jigsaw method on improving the knowledge and performance of nursing students. Finally, in the case of the impact of the educational method, it can be proposed to nursing nursing and nursing teachers to apply the method to CPR education for students.

## **General information**

### **Reason for update**

### **Acronym**

### **IRCT registration information**

IRCT registration number: **IRCT20171110037363N1**

Registration date: **2018-01-21, 1396/11/01**

Registration timing: **retrospective**

Last update: **2018-01-21, 1396/11/01**

Update count: **0**

### **Registration date**

2018-01-21, 1396/11/01

### **Registrant information**

#### **Name**

Afsaneh Javaheri Arasteh

#### **Name of organization / entity**

University

#### **Country**

Iran (Islamic Republic of)

#### **Phone**

+98 21 3360 2431

#### **Email address**

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### **Recruitment status**

**Recruitment complete**

### **Funding source**

### **Expected recruitment start date**

2017-11-06, 1396/08/15

### **Expected recruitment end date**

2017-11-06, 1396/08/15

### **Actual recruitment start date**

empty

### **Actual recruitment end date**

empty

### **Trial completion date**

empty

### **Scientific title**

The effect of peer-assisted education through jigsaw puzzle method on knowledge and performance of nursing students regarding adult basic cardiopulmonary resuscitation

### **Public title**

peer-assisted education method on knowledge and performance regarding adult basic cardiopulmonary resuscitation

### **Purpose**

Education/Guidance

### **Inclusion/Exclusion criteria**

#### **Inclusion criteria:**

All nursing students in fourth semester

#### **Exclusion criteria:**

No attending at any of the training sessions

### **Age**

No age limit

### **Gender**

Both

### **Phase**

N/A

### **Groups that have been masked**

- Participant

- Outcome assessor

### Sample size

Target sample size: **35**

### Randomization (investigator's opinion)

Not randomized

### Randomization description

### Blinding (investigator's opinion)

Double blinded

### Blinding description

Participants are categorized consciously in the control and intervention groups after obtaining informed consent. They themselves are not aware of this classification. Assessors are unaware of their classification when assessing students.

### 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

Rashid yasmi st. , valiasr st. , vanak sq. tehran town

##### City

TEHRAN

##### Province

Tehran

##### Postal code

۱۹۹۶۷۱۳۸۸۳

#### Approval date

2017-06-20, 1396/03/30

#### Ethics committee reference number

IR.IUMS.FMD.REC1396.9413449001

## Health conditions studied

### 1

#### Description of health condition studied

education

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

knowledge

#### Timepoint

Before intervention - Immediately after intervention -

Three months after intervention

### Method of measurement

A modified knowledge assessment questionnaire containing 20 questions.

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: Students in a peer-assisted group will be randomly divided into ventilating and heart groups after the initial presentation and screening about the principles of adult BLS. Each of these groups is divided into two sub-groups. The ventilation group is divided into subgroups of airway and respiratory tract, and the heart group is divided into subgroups of AED and cardiac compression. Randomly each partner will be identified from a main group in another major group and from a subgroup in another subgroup. In this way, in addition to determining the groups and subgroups, the student's counterpart will be identified in the other subgroup and the main group. Each of these groups will attend a day at the same time at the Center for Clinical Skills. In each core group (heart and ventilation), the subgroups will be trained by the researcher for 15-15 minutes separately for each CPR mannequin, and each student will be monitored by a researcher for 10 to 5 minutes. Practice will be your subject. Similarly, in the other core group, training for subgroups will be done by the researcher. Following this stage, students will be given two subgroups in each major group to share their sub-group skills with their peers in the subgroup. In other words, the two subgroups (cardiac compression and AED) belonging to the main group (heart group) are gathered in one place, and students from each group have two skills in their puzzle pieces with their counterpart in another subgroup on the training mannequin CPRs train and practice for 20 to 15 minutes. This stage is under indirect supervision by a researcher and researcher. At the end of this process, each individual from the main group (heart and ventilation) has all the knowledge and information about that group. Then students from the heart and ventilation group are gathered in one place, and students from each group teach their knowledge and skills to their counterparts in the other group on the CPR training manne for 20 to 15 minutes, practicing their knowledge and skills. Transmit to each other. Evaluators and participants are unaware of the division.

#### Category

N/A

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Iran university of medical sciences , nursing and midwifery faculty

**Full name of responsible person**

Afsaneh javaheri arasteh

**Street address**

Rashid yasmi st. , valiasr st. , vanak sq. tehran town

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tehran

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**Email**

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**Web page address**

<http://www.fnm.iums.ac.ir>

## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**

Iran University of Medical Sciences

**Full name of responsible person**

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**Street address**

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1996713883

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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**

no

**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**

Afsane Javaheri Araste

**Position**

student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Nursery

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## Person responsible for scientific inquiries

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student

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## Person responsible for updating data

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**Position**

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**Latest degree**

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**Other areas of specialty/work**

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**Email**

a.javaheri\_7@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