

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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<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

afsane javaheri arasteh

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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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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