Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The effect of diaphragmatic breathing on chest pain, anxiety and physiologic parameters in patients with acute coronary syndrome in the emergency department

Protocol summary

Study aim
Effect of diaphragmatic breathing on chest pain, anxiety and physiologic parameters in patients with acute coronary syndrome in the emergency department

Design
A clinical trial with a parallel group, with randomized block design, With a sample size of 60 patients

Settings and conduct
To perform the study, research samples were assigned to the following groups randomly: The first group: performing of diaphragmatic breathing for 10 minutes. The second group: routine actions. The intensity of chest pain, anxiety and the vital signs of systolic pressure, diastolic pressure, pulse, and oxygen saturation will be measured in before and after the intervention/routine actions in the two groups.

Participants/Inclusion and exclusion criteria
Ability to communicate; Addiction; Diabetes diseaes

Intervention groups
Intervention group: Perform diaphragmatic breathing for 10 minutes, first raising the patient's head up to 30 degrees, and asking the patient to place his hands preferably on the abdomen and then first take a gentle breath from the nose. The patient is requested to focus on the abdomen while breathing deeply, and to pay attention to the extent of the abdomen to a maximum extent so that its elevation can be seen or felt by the hands it is placed on the abdomen. Then, after a full tail, the exertion is slowly performed. Control group: Routine action is done.

Main outcome variables
Chest pain severity; anxiety; vital signs

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20101108005134N12**
Registration date: **2019-01-09, 1397/10/19**
Registration timing: **registered_while_recruiting**

Last update: **2019-01-09, 1397/10/19**
Update count: **0**

Registration date
2019-01-09, 1397/10/19

Registrant information

Name
Ali Fakhr-Movahedi

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 23 3365 4192

Email address
Alimovi49@semums.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-12-22, 1397/10/01

Expected recruitment end date
2020-03-21, 1399/01/02

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of diaphragmatic breathing on chest pain, anxiety and physiologic parameters in patients with

acute coronary syndrome in the emergency department

Public title
Effect of diaphragmatic breathing pain severity, anxiety and physiologic parameters
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Ability to communicate The first time of getting acute coronary syndrome Normal respiration pattern in patient
Exclusion criteria:
Addiction Diabetes disease Injury to chest and abdomen Occurring crisis condition Alteration in patient status
Age
From **40 years** old to **80 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
The research sample assigned to the groups of the study by permuted blocks randomization. Also, blocking be used within gender and age strata.
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 Semnan University of Medical Sciences
Street address
Research and technology deputy, Semnan University of Medical Sciences, Basij Blvd
City
Semnan
Province
Semnan
Postal code
35198-99951
Approval date
2018-11-20, 1397/08/29
Ethics committee reference number
IR.SEMUMS.REC.1397.194

Health conditions studied

1

Description of health condition studied
Acute ischemic heart disease
ICD-10 code
I24.9
ICD-10 code description
Acute ischemic heart disease, unspecified

Primary outcomes

1

Description
Chest pain severity
Timepoint
Before and immediately after intervention
Method of measurement
The pain numerical rating scale

2

Description
Anxiety
Timepoint
Before and after intervention
Method of measurement
7 item anxiety Spielberger scale

3

Description
Blood pressure
Timepoint
Before and after intervention
Method of measurement
Aneroid sphygmomanometer

4

Description
Pulse
Timepoint
Before and after intervention
Method of measurement
Pulse oximeter

5

Description
O2 saturation
Timepoint
Before and after intervention
Method of measurement
Pulse oximeter

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Perform diaphragmatic breathing for 10 minutes, first raising the patient's head up to 30 degrees, and asking the patient to place his hands preferably on the abdomen and then first take a gentle breath from the nose. The patient is requested to focus on the abdomen while breathing deeply, and to pay attention to the extent of the abdomen to a maximum extent so that its elevation can be seen or felt by the hands it is placed on the abdomen. Then, after a full tail, the exertion is slowly performed.

Category
Treatment - Other

2

Description
Control group: Routine action is done.

Category
N/A

Recruitment centers

1

Recruitment center

Name of recruitment center
Army hospital 502

Full name of responsible person
Dr. Masoud Memarian

Street address
Corner of Bahar St., Taleghani Ave.

City
Tehran

Province
Tehran

Postal code
15717

Phone
+98 21 8882 8001

Email
info@502hospital.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Semnan University of Medical Sciences

Full name of responsible person
Dr. Parviz Kokhaei

Street address
Research and technology deputy, Semnan University of Medical Sciences, Basij Blvd. بلوار بسیج؛ دانشگاه علوم پزشکی سمنان؛ معاونت تحقیقات و فناوری

City
Semnan

Province
Semnan

Postal code
35198-99951

Phone
+98 23 3344 1022

Email
p_kokha@yahoo.com

Grant name

Grant code / Reference number

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

Title of funding source
Semnan 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
Semnan University of Medical Sciences

Full name of responsible person
Dr. Ali Fakhr-Movahedi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
Nursery

Street address
Nursing School, Semnan University of Medical Sciences, 5th km Damghan road

City
Semnan

Province
Semnan

Postal code
35198-99951

Phone
+98 23 3365 4192

Email
Alimovi@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Semnan University of Medical Sciences
Full name of responsible person
Dr. Ali Fakhr-Movahedi
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Nursery
Street address
Nursing School, Semnan University of Medical Sciences, 5th km Damghan road
City
Semnan
Province
Semnan
Postal code
35198-99951
Phone
+98 23 3365 4192
Email
Alimovi@yahoo.com

Person responsible for updating data

Contact
Name of organization / entity
Semnan University of Medical Sciences
Full name of responsible person
Dr. Ali Fakhr-Movahedi
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Nursery
Street address
Nursing School, Semnan University of Medical Sciences, 5th km Damghan road
City
Semnan
Province
Semnan
Postal code
35198-99951
Phone
+98 23 3365 4192
Email
Alimovi@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
No more information
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
Not applicable
Data Dictionary
Not applicable
Title and more details about the data/document
1. The study protocol 2. The results of the study
When the data will become available and for how long
After termination of the study
To whom data/document is available
1. Faculty members 2. The clinical nurses 3. The medical and nursing students
Under which criteria data/document could be used
Access to data or documentation is subject to the following conditions: 1- Use in Future Studies References 2- The future studies
From where data/document is obtainable
Please contact Ali Fakhr-Movahedi Email: alimovi@yahoo.com
What processes are involved for a request to access data/document
After emailing Ali Fakhrmohahdi, email will be answered as soon as possible.
Comments