

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jul 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 diseases

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

بلوار بسیج؛ دانشگاه علوم Basij Blvd. of Medical Sciences,
پزشکی سمنان؛ معاونت تحقیقات و فناوری

City

Semnan

Province

Semnan

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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

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Phone

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Email

Alimovi@yahoo.com

Person responsible for scientific inquiries

Contact

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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 Fakhr-Movahedi, email will be answered as soon as possible.

Comments**Person responsible for updating data****Contact****Name of organization / entity**

Semnan University of Medical Sciences

Full name of responsible person

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Latest degree

Ph.D.

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