

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Aug 2026

Effect of training on correction of respiratory patterns on capnometric indices and respiratory function in patients undergoing coronary artery bypass graft surgery

Protocol summary

Study aim

Effect of training on correction of respiratory patterns on capnometric indices and respiratory function in patients undergoing coronary artery bypass graft surgery

Design

This study was a randomized, blind clinical trial with two intervention and control groups. Each group included 10 patients.

Settings and conduct

The number of participants in this pilot study is 20, 10 in each control and intervention group. Participants are patients who undergoing coronary artery bypass graft surgery in heart hospitals affiliated to Ahwaz University of Medical Sciences. Patients are grouped randomly using a random number table. Routine respiration before and after surgery are given to the intervention and control groups. In addition, before and after surgery, the correction of respiratory patterns are given to the intervention group.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Cardiac patients referring to hospitals affiliated to Jondishapour University of Ahwaz. Exclusion criteria: People with any chronic and acute respiratory discomfort, Heart troubles, kidney problems and autonomic nerve diseases

Intervention groups

In this study, candidates for coronary artery bypass surgery eligible for this study are selected randomly. Patients in the intervention group undergo respiratory physiotherapy before and after surgery as well as correction of respiratory pattern before and after surgery and In the control group, routine respiratory physiotherapy is performed before and after surgery.

Main outcome variables

Evaluation of blood acidity balance index by measuring arterial carbon dioxide pressure and arterial oxygen pressure in cardiac patients.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180216038748N1**

Registration date: **2018-05-05, 1397/02/15**

Registration timing: **registered_while_recruiting**

Last update: **2018-05-05, 1397/02/15**

Update count: **0**

Registration date

2018-05-05, 1397/02/15

Registrant information

Name

jeida shirali

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 17 3442 3390

Email address

shirali.j@ajums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-04-04, 1397/01/15

Expected recruitment end date

2018-05-20, 1397/02/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of training on correction of respiratory patterns on capnometric indices and respiratory function in patients undergoing coronary artery bypass graft surgery

Public title

Effect of training on correction of respiratory patterns in cardiac patients

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Cardiac patients referring to hospitals affiliated with Jondishapour University of Ahwaz (Golestan and Imam) who are candidates for coronary artery bypass graft surgery

Exclusion criteria:

People with any chronic and acute respiratory discomfort
Heart valve abnormalities history of musculoskeletal disorders affecting the respiratory pattern of patients
Failure and kidney disease, heart failure and heart disease people with pace maker
Use of a respiratory aids after surgery for longer than 24 hours and autonomic nerve dysfunctions

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: 20

Randomization (investigator's opinion)

Randomized

Randomization description

This study will be conducted as a randomized, clinical trial. In this study, patients who are candidates for coronary artery bypass surgery who are eligible for this study are selected by the relevant cardiac surgeon guide. Then, by studying their case, the same patients are selected according to the main morphological indexes such as height, weight, body mass index, age, sex, type of surgery. In the next step, the selected patients in the last step are grouped to the intervention and control table by statistician expert advices , randomly. Each patient is assigned a number and these numbers are included randomly in random numbers using the software. Ultimately, patients are randomly assigned to each of the intervention and control groups.

Blinding (investigator's opinion)

Single blinded

Blinding description

In this study, patients who are candidates for coronary artery bypass surgery who are eligible for this study are selected by the relevant cardiac surgeon guide. Then, by studying their case, the same patients are selected according to the main morphological indexes such as height, weight, body mass index, age, sex, type of surgery. In the next step, the selected patients in the last

step are grouped to the intervention and control table by statistician expert advices , randomly . Finally, the complete and prerequisite explanations are provided to patients regarding to the purpose of this research project and the absence of any risks and side effects ,So the written consent form will filled in by the patients.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Ahwaz University of Medical Sciences

Street address

Ahwaz,golestan Ave, Jondishapour University of Medical Scicence

City

Ahwaz

Province

Khouzestan

Postal code

61357-15794

Approval date

2018-01-23, 1396/11/03

Ethics committee reference number

ir.ajums.rec.1396.910

Health conditions studied**1****Description of health condition studied**

cardiac patients undergoing coronary artery bypass graft surgery

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

blood acidity changes

Timepoint

one day before surgery, immediately after the stability of the patient's vital signs after the surgical process and before the discharge of patients

Method of measurement

capnography

Secondary outcomes

j_shiraly@yahoo.com

1

Description

Effect of rate of respiratory rate per minute and depth of respiration in patients' quality of life

Timepoint

One day before the surgery, immediately afterwards the stability of the vital symptoms of later surgery, pre-discharge from hospital

Method of measurement

capnography

Intervention groups

1

Description

In the intervention group for patients, in addition to a routine respiratory physiotherapy, the physiotherapy treatment of respiratory pattern correction before and after the surgery to determine its effect on respiratory indexes including pursed lip breathing with pause 2-5 seconds between the inspiration and expiration, Buteyko respiratory corrective technique is performed.

Category

Rehabilitation

2

Description

In the control group, only routine respiratory physiotherapy is performed before and after surgery, including diaphragmatic breathing, training for the use of Incentive Spirometry, training Coughing to the patient and cupping and vibration techniques for discharge secretions chest.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Golestan hospital

Full name of responsible person

Jeida Shirali

Street address

Golestan hospital, Golestan blvd, Farvardin Ave , Ahwaz town

City

Ahwaz

Province

Khouzestan

Postal code

33118-61357

Phone

+98 61 9374 3001

Email

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ahwaz University of Medical Sciences

Full name of responsible person

Dr. Mohammad Badvi

Street address

Ahwaz Jondishapur University Medical Science, Golestan Blvd, Ahwaz town

City

Ahwaz

Province

Khouzestan

Postal code

61357-15794

Phone

+98 61 3373 8383

Email

info@ajums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Ahwaz 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

Ahwaz University of Medical Sciences

Full name of responsible person

Jeida Shirali

Position

Masters student

Latest degree

Master

Other areas of specialty/work

Physiotherapy

Street address

Ahwaz University Medical Science, Golestan Blvd, Ahwaz Town

City

Ahwaz

Province

Khouzestan
Postal code
61357-15794
Phone
+98 61 3374 3505
Email
j_shiraly@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Ahvaz University of Medical Sciences
Full name of responsible person
Jeida Shirali
Position
Masters's Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Ahwaz university of medical science, Golestan Blvd,
Ahwaz town
City
Ahwaz
Province
Khouzestan
Postal code
61357-15794
Phone
+98 17 3442 3390
Email
j_shiraly@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity
Ahvaz University of Medical Sciences
Full name of responsible person

Jeida Shirali
Position
Masters Student
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
Ahwaz university of medical scienc, Golestan Blvd,
Ahwaz town
City
Ahwaz
Province
Khouzestan
Postal code
61357-15794
Phone
+98 17 3442 3390
Email
shirali.j@ajums.ac.ir

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