Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

The effect of preoperative respiratory exercises on pulmonary complications in coronary artery diseased patients After cardiac surgery

Protocol summary

Summary

This study is conducted for evaluating the effect of preoperative respiratory exercise on pulmonary complication in patients undergoing Coronary artery bypass surgery in Kowthar Hospital. In this study 100 patients who are candidate for CABG randomly allocated to groups of experiment and control. Patients who have emergency surgery and neuromuscular and cognitive disorders will not be studied. Patients who are allocated in experiment group will receive planned breathing exercises including deep breathing and directed cough maneuvers 3 days before operation. This breathing exercise is initiated one hour after extubation and will be done in the first four days after surgery, two times every day. Patients who are allocated in control group will receive the hospital routine treatment. For comparing the outcomes ABG and atelectasis in chest x ray will be compared. Arterial blood gasses and chest X ray will be compared preoperation and first, second and third day post operatively.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201404096778N5**
Registration date: **2014-08-16, 1393/05/25**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2014-08-16, 1393/05/25

Registrant information

Name

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Name of organization / entity

School of nursing and midwifery, Tehran university of medical sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Baqiyyatallah university of medical sciences

Expected recruitment start date

2014-01-12, 1392/10/22

Expected recruitment end date

2014-03-12, 1392/12/21

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of preoperative respiratory exercises on pulmonary complications in coronary artery diseased patients After cardiac surgery

Public title

The effect of preoperative respiratory exercises on pulmonary complications after coronary artery bypass graft surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Incluson criteria: Negative history of neurological disorders; muscular or cognitive disorders; no emergency surgery; negative history of previous CABG; Lack of preoperative pulmonary disease (pneumonia, chronic obstructive pulmonary disease, atelectasis,

pleural effusion and asthma); the ability to perform planned breathing exercises; negative history of severe renal dysfunction) Exclusion criteria: need for mechanical ventilation more than 24 hour; need for reopration due to surgery complications; Patient refusal of further participation in the study at any stage of the work; incidence of cognitive and neurological disorders after surgery; severe hemodynamic impairment

Age
From **30 years** old to **80 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **100**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Baqiyyatallah University of medical sciences

Street address
Baghyattallah university of medical sciences, Ŝheikh Bahaei St, Tehran

City
Tehran

Postal code

Approval date
2013-11-09, 1392/08/18

Ethics committee reference number
11/340/س

Health conditions studied

1

Description of health condition studied
Atelectasis

ICD-10 code
j98.1

ICD-10 code description
Collapse of lung

Primary outcomes

1

Description
Atelectasis

Timepoint
First, second and third day after surgery

Method of measurement
Chest X ray

Secondary outcomes

1

Description
saturation of arterial oxygen

Timepoint
First, second and third day after surgery

Method of measurement
arterial blood gas analysis

Intervention groups

1

Description
Patients who are allocated to experiment group will receive planned breathing exercises including deep breathing and directed cough maneuvers three days before operation.In every waking hour they will do five deep breathes following by five direct cough maneuvers.

Category
Prevention

2

Description
Patients who are allocated in control group will receive the hospital routine treatment. Any intervention is not done before surgery for this group of patients.

Category
Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center
Kowsar Hospital

Full name of responsible person
Mrs Abolghasemi

Street address
Kowsar Hospital, Ghasroldasht St, Shiraz

City
Shiraz

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Nursing faculty, Baghiyatallah University of medical sciences
Full name of responsible person
Dr Abbas Ebadi
Street address
Baghiyatallah University of medical sciences, Sheykh Bahaei street, Tehran
City
Tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Nursing faculty, Baghiyatallah University of medical sciences
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

Contact
Name of organization / entity
Nursing Faculty, Baqiyyatallah University Of medical Sciences
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Web page address

Person responsible for updating data

Contact

Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty