Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

comparison of the education deep breathing exercises and effective cough on two methods of multimedia and demonstration and return-demonstration on postoperative pulmonary complications after elective upper abdominal surgery

Protocol summary

Study aim

Comparison of the effect of training deep and calm breathing exercises and effective cough in two methods of multimedia and demonstration return _ demonstration on postoperative pulmonary complications in patients with upper abdominal surgery

Design

In this study, 80 patients who have been diagnosed with upper abdominal surgery and entering the study are selected. Participants randomly divided into two groups: rigorous and deep breathing training in two methods of multimedia and demonstration return _ demonstration and each participant is assigned a code

Settings and conduct

The present study is a randomized double-blind randomized clinical trial in 60 patients aged 20-60 years undergoing elective abdominal surgery in Ghaem Hospital and Imam Reza Hospital in Mashhad. The research sample is selected in an accessible way and then randomly divided into two groups - display and playback - multimedia. In the multimedia group, the training of deep breathing exercises and effective cough was performed using a fifteen minute educational video of the researcher in a half-hour session on the day before and a reminder and repetition session on the day of operation (one hour before the operation). It will be given. In the show-replay group, at the stage of the presentation, the researcher carries out training on deep breathing and effective coughing, and in the testing and evaluation (revelation) of the patients, they perform respiratory and coughing exercises. The program is also performed in a half-hourly session on the day before the session and a recurring session on the day of operation (one hour before the operation begins in groups of 3 to 5 people).

Participants/Inclusion and exclusion criteria

Entry requirements include: aged 20 to 60 years, willingness to participate in the study, having at least reading and writing skills, lack of verbal, visual and auditory problems that are detrimental to education, absence of major cardiopulmonary and neuromuscular diseases, Absence of atelectasis, hearing of natural sounds of the lung, chest lack of dysfunction, pao2 between 60% and 100%, spo2 between 95% and 100%, lack of major stress in the last six months, having chest radiography and exclusion criteria include: refusal Continuing participation during the study, the lack of use of educational content or participation in two educational sessions, inability to walk, absence of pulmonary shunt, MAP pressures less than 60 mm Hg and reflexive alertness up to two hours after surgery are a major disorder in hemodynamic indices that require ICU transection.

Intervention groups

Interventions in the multimedia group include training breathing exercises, abdominal breathing (diaphragm), and breathing of the bulb and cough, which is a researcher using a 15-minute video footage from a mobile phone (mobile) unit through Bluetooth. Research or accompanying them so that they can use it at any time.The contents of the educational film include preoperative breathing exercises, including three parts of the lung building, deep breathing and effective cough and the importance of changing the bed, moving the lower extremities, and Upper and early movement of the bed. Respiratory exercises almost two hours after full recovery. And patients are encouraged to take 30 deep breaths per hour during wakefulness during the day and for the first 4 days after surgery.This maneuver is taught to breath training in three turns and at a time of 10 breaths Deeply performed and paused every time. If necessary, patients are asked to take an open cough to release their secretions during the rest period. Patients learn to perform respiratory training if possible. Sit or sit

down. After a surgical procedure,Researcher regularly encourages patients to perform respiratory exercises. For demonstration return - demonstration group show on how to perform gentle and deep breathing and effective cough based on the steps of this method (preparation, explanation and implementation) will be done. The content of the training will be exactly the same as the multimedia group. The duration of the training program is about 30 minutes, in groups of 3 to 5 people during a half-hourly session on the day before the operation and a reminder session on the day of operation (one hour before surgery). At the preparation stage, patients are provided with explanations regarding the purpose of the training session. In the explanatory step, explanations are given on how to perform deep, deep cough and effective coughing, and then at the implementation stage, which involves displaying, measuring and reviewing, the researcher initially provides deep breathing and effective cough for patients. The patients then perform effective deep breathing and coughing and check how they are done by the researcher.

Main outcome variables

The occurrence of attelectasis; acute respiratory failure; and hypoxia

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20171112037405N1**
Registration date: **2018-01-10, 1396/10/20**
Registration timing: **registered_while_recruiting**

Last update: **2018-01-10, 1396/10/20**
Update count: **0**

Registration date

2018-01-10, 1396/10/20

Registrant information

Name

mohmmad kazem jafari

Name of organization / entity

Mashhad Nursing Midwifery Faculty

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Mashhad University of Medical Sciences - Vice chancellor of research and technology

Expected recruitment start date

2017-11-27, 1396/09/06

Expected recruitment end date

2018-01-11, 1396/10/21

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

comparison of the education deep breathing exercises and effective cough on two methods of multimedia and demonstration and return- demonstration on postoperative pulmonary complications after elective upper abdominal surgery

Public title

comparison of the effect of training deep breathing exercises and effective cough on two methods of multimedia and demonstration - return demonstration on post pulmonary complications after elective upper abdominal surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Age between 20 and 60 years The desire to participate in the study Having a minimum reading and writing literacy by a patient or one of his carers The patient's Pao2 rate is between 60% and 100% The patient's spo2 rate is between 92% and 99% Having a chest radiograph before surgery hearing natural sounds of the lungs Not having cardiovascular disease Not having attelectasis

Exclusion criteria:

Refusal to continue participating in the study Disorder of the hemodynamic symptoms of the patient and transfer to the ICU Inability to walk after surgery No use of educational content before surgery Inability to walk after surgery Creating a MAP pressure of less than 60 millimeters during the study

Age

From **20 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **80**

Randomization (investigator's opinion)

Randomized

Randomization description

in the surgical ward, observing the ethical considerations and considering the informed consent of the patients to participate in the study, with the available sampling method and target-based, eligible units will be selected. Then, the patients are randomly assigned (through time blocking) randomly (in time blocking) to the two groups of presentation, replay and multimedia training, so that in both hospitals, there are two groups of patients in the research environment. Due to the non-intersection of the two methods of teaching and publishing information, they were randomly selected through a lottery of eligible

patients

Blinding (investigator's opinion)

Single blinded

Blinding description

Participants in the study are unaware of the allocation of study groups

Placebo

Not used

Assignment

Parallel

Other design features

ETCO2 measurement of patients through capnography

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Mashhad University of Medical Sciences - Ethics Committee

Street address

University of Mashhad - Quraishi Building, Mashhad University of Medical Sciences

City

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Province

Razavi Khorasan

Postal code

91778-99191

Approval date

2017-11-01, 1396/08/10

Ethics committee reference number

960571/2243/reserch

Health conditions studied

1

Description of health condition studied

Atelectasis

ICD-10 code

J98.11

ICD-10 code description

Atelectasis

2

Description of health condition studied

Hypoxemia

ICD-10 code

R09.02

ICD-10 code description

Hypoxemia

3

Description of health condition studied

Acute respiratory failure with hypoxia

ICD-10 code

J96.01

ICD-10 code description

Acute respiratory failure with hypoxia

Primary outcomes

1

Description

Percentage of people with acute respiratory failure hypoxia or hypercapnia

Timepoint

Time intervals of acute respiratory failure measurement before and after intervention and on the first to fourth days after surgery

Method of measurement

Complete the physiological characteristics questionnaire before and after the intervention. - Complete the demographic and clinical characteristics of the patients before intervention. - Complete the patient's learning questionnaire from the educational content after the intervention.

2

Description

Percentage of people with atelectasis

Timepoint

Time intervals of measurement of atelectasis before the intervention and on the first to fourth days after surgery

Method of measurement

Complete the physiological characteristics questionnaire before and after the intervention. - Complete the demographic and clinical characteristics of the patients before intervention. - Complete the patient's learning questionnaire from the educational content after the intervention

3

Description

Percentage of people with hypoxemia

Timepoint

Periods of measurement of hypoxemia before the onset of intervention and on the first to fourth days after surgery

Method of measurement

Complete the physiological characteristics questionnaire before and after the intervention. - Complete the demographic and clinical characteristics of the patients before intervention. - Complete the patient's learning questionnaire from the educational content after the intervention

Secondary outcomes

empty

Intervention groups

1

Description
In the first intervention group, the training of deep breathing exercises and effective cough was performed using a fifteen minute educational video of a researcher who was given a patient a week before surgery to watch educational videos based on the educational needs. In the second intervention group, exercises for deep breathing exercises and effective cough are done through the show at the day before the surgery and re-examination by the patients. Also, an hour before the start of a surgery to commemorate the training of respiratory training by the researcher is taught to patients.

Category
Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center
Imam Reza Educational, Research and Therapeutic Center

Full name of responsible person
Dr. Abdollah Bahrami

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Imam Reza Hospital, Avicenna Street, Mashad, Iran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Mashhad University of Medical Sciences - Vice chancellor of research and technology

Full name of responsible person
Dr. Mohsen Tafaghodi

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Mashhad University Street - Quraishi Building - Mashhad University of Medical Sciences

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Grant name
-

Grant code / Reference number
-

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

Title of funding source
Mashhad University of Medical Sciences - Vice chancellor of research and technology

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
North Khorasan University of Medical Sciences

Full name of responsible person
Mohammad Kazem Jafari

Position
Bachelor of Nursing

Latest degree
Bachelor

Other areas of specialty/work
Nursery

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Person responsible for scientific inquiries

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Full name of responsible person
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Person responsible for updating data

Contact
Name of organization / entity
Mashhad University of Medical Sciences
Full name of responsible person
Mohammad Kazem Jafari
Position
nursing expert
Latest degree
Bachelor
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is 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
Title and more details about the data/document
Information and data relating to the results of the original outcome are shared.
When the data will become available and for how long
Get started 3 months after printing results
To whom data/document is available
Data and results of this study will only be available to researchers working in academic institutions.
Under which criteria data/document could be used
The use of the documentation and data is intended solely for educational purposes at academic institutions and compares the effectiveness of the training method to the patient. Also, educational supervisors can be used by effective educational methods to prevent pulmonary complications and reduce hospital costs and increase the satisfaction of hospitalized patients. No type of analysis is allowed on the objects of this study.
From where data/document is obtainable
Applicants can refer to the following email address for obtaining the required documentation or data : jafarimk941@mums.ac.ir; Or by phone number 009889155866280 ; Mohammad Kazem Jafari; Contact.
What processes are involved for a request to access data/document
After completing the necessary examinations and having the required conditions for obtaining the required documents or files, the applicant may send an application by e-mail and the researcher will be required to submit the documents to the applicant within a maximum of 20 days.
Comments