Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

Comparative study on the effect of benson and progressive muscle relaxation techniques on the severity of pain after laminectomy

Protocol summary

Study aim

the aim of this study was to compare the effects of Benson and progressive muscle relaxation on the severity of pain after laminectomy surgery

Design

93 patients were randomly divided into three intervention groups including Benson relaxation, progressive muscle relaxation and control. Random assignment was performed by use of dice numbers. Patients in all groups received routine treatment (analgesic medications) in addition to corresponding interventions.

Settings and conduct

This study was performed on patients undergoing lumbar laminectomy in selected AJA hospital in Tehran. Relaxation techniques were done at three stages after laminectomy (2, 12 and 24 hours after recovery). Severity of pain was assesse before and 20 minutes after each relaxation period using visual analogue scale (VAS).

Participants/Inclusion and exclusion criteria

Inclusion criteria: age range of 18-65 years, ability of learning, being interested to do relaxation techniques and having permission from own physician. Exclusion criteria: psychological disorders, cognitive impairments, addiction to opioids, those who used sleeping pills and muscle relaxant drugs.

Intervention groups

Intervention group 1 (Benson relaxation): Patients in this group performed Benson relaxation technique.This procedure including lie down, closing the eyes, relaxing the muscles from the bottom up, starting to breathe slowly, continuing to breathe slowly as the muscles relax, open Eyes slowly and away from negative thoughts. Intervention group 2 (progressive muscle relaxation): Patients in this group performed progressive muscle relaxation technique. In this method, the individual relaxes each of his muscles (from the leg muscles to the facial muscles) by counting to 5 contractions and then counting to 10. group 3 (control group): In this group no relaxation techniques were performed on the patients.

Main outcome variables

pain

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20161213031385N3**
Registration date: **2020-01-10, 1398/10/20**
Registration timing: **retrospective**

Last update: **2020-01-10, 1398/10/20**
Update count: **0**

Registration date

2020-01-10, 1398/10/20

Registrant information

Name

Seyed Amir Hosein Pishgooie

Name of organization / entity

Army university of medical science

Country

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2016-09-23, 1395/07/02

Expected recruitment end date

2016-12-20, 1395/09/30

Actual recruitment start date

2016-09-23, 1395/07/02

Actual recruitment end date
2016-12-20, 1395/09/30
Trial completion date
2016-12-21, 1395/10/01

Scientific title
Comparative study on the effect of benson and progressive muscle relaxation techniques on the severity of pain after laminectomy

Public title
The effect of relaxation techniques on pain
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria:
ability of learning having reading and writing skills being interested to do relaxation techniques having permission from own physician
Exclusion criteria:
psychological disorders hearing and motor disorders addiction to opioids those who used sleeping pills and muscle relaxant drugs
Age
From **18 years** old to **65 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **93**
Actual sample size reached: **93**
Randomization (investigator's opinion)
Randomized
Randomization description
Patients were selected by a consecutive sampling method and randomly assigned to three groups of Benson relaxation (n=31), progressive muscle relaxation (n=31), and control (n=31). Dice were used to randomly assign individuals to groups.Dice number 1 and 2 were assigned for Benson relaxation group, 3 and 4 for progressive muscle relaxation and 5 and 6 for control group.
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 aja university of medical sciences
Street address
aja university of medical sciences, Etemadzade st, Fatemi st
City
Tehran
Province
Tehran
Postal code
1411718541
Approval date
2016-08-21, 1395/05/31
Ethics committee reference number
IR.AJAUMS.REC.1395.13

Health conditions studied

1

Description of health condition studied
Pain after Laminectomy
ICD-10 code
G89.1
ICD-10 code description
Acute pain, not elsewhere classified

Primary outcomes

1

Description
Patients' pain score based on VAS scale
Timepoint
Before surgery, 2, 12 and 24 hours after consciousness
Method of measurement
Visual Analogue Scale

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group 1: Benson relaxation group _ In this group, patients performed the Benson relaxation technique, which is a passive relaxation technique. This relaxation procedure is done in six steps, including lie down, closing the eyes, relaxing the muscles from the bottom up (without active contraction), starting to breathe slowly, continuing to breathe slowly as the muscles relax, open Eyes slowly and away from negative thoughts. This technique was performed three times after laminectomy (2, 12 and 24 hours after consciousness). Pain intensity was measured before and 20 minutes after each relaxation by visual analogue

scale (VAS).

Category

Behavior

2

Description

Intervention group 2: Progressive muscle relaxation group _ Patients in this group performed progressive muscle relaxation techniques, which are active relaxation techniques.In this method, the individual relaxes each of his muscles (from the leg muscles to the facial muscles) by counting to 5 contractions and then counting to 10.These steps are respectively for the leg muscles, femurs, abdomen, chest, buttocks, hands and forearm, arms, shoulders, neck, forehead, tongue and jaw, eyes and face until the patient feels his whole body loosely integrated, Has been repeated. This technique was performed three times after laminectomy (2, 12 and 24 hours after consciousness). Pain intensity was measured before and 20 minutes after each relaxation by visual analogue scale (VAS).

Category

Behavior

3

Description

Control group: Individuals in the control group received only routine treatment and they were not given any training or relaxation technique

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Emam reza hospital

Full name of responsible person

Reza Momen

Street address

Emam Reza Hospital, Etemadzade st, Fatemi st, Tehran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Artesh University of Medical Sciences

Full name of responsible person

Armin Zareian

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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

Artesh 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

Artesh University of Medical Sciences

Full name of responsible person

Reza Momen

Position

Instructor

Latest degree

Master

Other areas of specialty/work

Nursery

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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
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
Yes - There is a plan to make this available

Analytic Code
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available

Title and more details about the data/document
Pain score and demographic information

When the data will become available and for how long
3 months after the completion of the study

To whom data/document is available
Researchers in Medical Sciences

Under which criteria data/document could be used
unlimited

From where data/document is obtainable
Send email to rezamomen88@yahoo.com

What processes are involved for a request to access data/document
The request will be sent within three weeks

Comments