Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of nerve tissue mobilization and Mulligan mobilization techniques in patients with lumbar radiculopathy; a randomized clinical trial

Protocol summary

Study aim
Investigating the effect of nerve tissue mobilization and Mulligan's mobilization techniques on pain and function of patients with lumbar radiculopathy

Design
control group with experimental parallel groups including: 1. Routine physiotherapy 2. Mulligan vertebral mobilization with routine physiotherapy 3. Nerve mobilization with routine physiotherapy Simple randomization with sealed envelopes Sample size of 10 people in each group

Settings and conduct
in the Hazrat Abulfazl clinic, physiotherapist divided the participants into three separate groups and without blinding. Patients are randomly divided into groups(10 people) and each person receives 10 sessions of lumbar physiotherapy (1 hour) in all groups. intervention groups receive 15 minutes of relevant intervention each session, Mulligan's vertebral mobilization or nerve mobilization. patients must not have fractures and surgery and deformities of the lumbar spine.

Participants/Inclusion and exclusion criteria
Inclusion criteria: 1. Multi root chronic lumbar radiculopathy (injury to the roots of the lumbar nerves that causes symptoms such as numbness, burning, pain, and muscle weakness in the lower limbs) with the diagnosis of a specialist doctor 2. Male and female between 30 and 50 years old 3. Body mass index between 25 and 30 Exclusion criteria: 1. osteoarthritis and rheumatic diseases and in the lumbar region and peripheral nerve damage from the sciatic or femoral nerve 2. Spondylolisthesis, malignancy, metabolic and internal and cognitive problems that make the patient unable to perform physical therapy exercises. 3.Unwillingness of people to continue the experiment.

Intervention groups
1. Routine physiotherapy 2. Mulligan vertebral mobilization with routine physiotherapy 3. Nerve mobilization with routine physiotherapy

Main outcome variables
visual analog scale Oswestry disability index Quebec back pain disability scale

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210516051322N2**
Registration date: **2024-08-24, 1403/06/03**
Registration timing: **prospective**

Last update: **2024-08-24, 1403/06/03**
Update count: **0**

Registration date
2024-08-24, 1403/06/03

Registrant information

Name
Amir Dodangeh

Name of organization / entity
Tarbiat Modares University

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2024-08-26, 1403/06/05

Expected recruitment end date

2024-10-21, 1403/07/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of nerve tissue mobilization and Mulligan mobilization techniques in patients with lumbar radiculopathy; a randomized clinical trial

Public title
Comparison of nerve mobilization and vertebral mobilization in patients with back pain

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Confirmation of multi-root chronic lumbar radiculopathy by the diagnosis of the relevant specialist Male and female sufferers between 30 and 50 years old Body Mass Index (BMI) between 25 and 30

Exclusion criteria:
Contraindications to the use of joint and nerve tissue mobilizations include severe osteoarthritis and other rheumatic diseases and blood circulation problems in the lumbar region, as well as damage to the nerves branching from the lumbar vertebrae such as severe sciatica (neurotmesis or axonotmesis). Have a history of vertebral fracture in the lumbar region. Have a history of Fixation and Laminectomy surgeries. A patient with spondylolisthesis, malignancy, metabolic and internal problems having cognitive problems and not being able to learn and perform physical therapy exercises Patients with spinal deformities such as scoliosis, etc. should not be Reluctance of people to continue testing.

Age
From **30 years** old to **50 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple randomization is done using sealed envelopes A sealed envelope is assigned to each participant in the plan for random entry into one of the groups. After opening it, we will find out which group the participant belongs to. Of course, they don't see these envelopes and only the researcher notices.

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
In the discussion of Mulligan vertebral mobilization, we will use the mobilization with leg movement technique, so far there is no article that has worked on this Mulligan technique in lumbar radiculopathy, so the principle of innovation is in the implementation method. The next point is that no study has been done comparing these two manual treatments in lumbar radiculopathy with the control group that performs routine physiotherapy. Meanwhile, the results of the studies that have compared these two methods have sometimes been contradictory. It should be noted that most of the participants in this study are military personnel and it has been proven that one of the common musculoskeletal problems in military personnel is back pain Aggression is done along with the control group.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Baqiyatullah-ul-Azam Medical Education Center (Ethics in Research Committee)

Street address
Floor 13, Block A, Ministry of Health & Medical Education Headquarters, Between Zarafashan & South Falamak, Qods Town, Tehran, Iran.

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Province
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1435915392

Approval date
2024-06-29, 1403/04/09

Ethics committee reference number
IR.BMSU.BAQ.REC.1403.059

Health conditions studied

1

Description of health condition studied
Lumbar Radiculopathy

ICD-10 code
M51.1

ICD-10 code description
Neuritis or radiculitis:brachial NOSlumbar NOSlumbosacral NOSthoracic NOSRadiculitis NOSlumbar and other intervertebral disc disorder

Primary outcomes

1

Description
Disability score in Oswestry questionnaire
Timepoint
The beginning of the study and the end of 10 physiotherapy sessions (20 days after the start of the study)
Method of measurement
Questionnaire of oswestry disability index

2

Description
Disability score in Quebec questionnaire
Timepoint
The beginning of the study and the end of 10 physiotherapy sessions (20 days after the start of the study)
Method of measurement
Questionnaire of Quebec back pain disability scale

3

Description
Pain score
Timepoint
The beginning of the study and the end of 10 physiotherapy sessions (20 days after the start of the study)
Method of measurement
Visual Analogue Scale

Secondary outcomes

empty

Intervention groups

1

Description
Control group: routine physiotherapy (electrotherapy including the use of ultrasound devices, tennis currents, infrared rays, and therapeutic exercise including isometric contraction of paravertebral muscles, diaphragmatic, mobility, McKenzie and Williams method) and massage which is performed during 10 sessions, including 3 sessions of 1 hour each week
Category
Rehabilitation

2

Description
Intervention group: Mulligan vertebral mobilization with routine physical therapy That is, only Mulligan vertebral mobilization is added to the treatment content of the control group that was mentioned with the same conditions of duration of sessions and treatment program. Mulligan Vertebral Mobilization is a method under manual therapy that manipulates the vertebrae of the spine with or without movement of the lower limbs, where the method of manipulating the vertebrae in the appropriate direction of flexion or extension using the movement of the lower limbs is about 15 minutes. It will be added to the routine treatment in each session.
Category
Rehabilitation

3

Description
Intervention group: Nerve mobilization along with routine physiotherapy That is, to the treatment content of the control group that was mentioned, with the same conditions of the duration of the sessions and treatment program, only nerve mobilization is added.Nerve mobilization is a method of manual therapy that uses the movement of the joints, the body is placed in positions that cause shortening and lengthening of the nerves branched from nerve networks such as femoral and sciatic, etc., which have anti-inflammatory effects and It has pain relief and in this group, 15 minutes will be added to the routine treatment for each session.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Physiotherapy Department of Hazrat Abulfazl Clinic
Full name of responsible person
Dr. Vahid Sobhani
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Sponsors / Funding sources

1

Sponsor
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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
Bagheiat-allah 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
Bagheiat-allah University of Medical Sciences
Full name of responsible person
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Position
Researcher
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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
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
Yes - There is a plan to make this available

Data Dictionary
Yes - There is a plan to make this available

Title and more details about the data/document
The information related to the three questionnaires, the individual data of the participants in the study are coded and do not include names. All information from these

questionnaires can be published after the end of the patient recruitment process and the end of the trial sessions. Questionnaires include VAS-Oswestry Disability Index-Quebec Low Back Pain Disability Scale

When the data will become available and for how long

The access period starts 6 months after the results are published.

To whom data/document is available

Researchers of relevant topics such as medical science groups

Under which criteria data/document could be used

Medical science researchers who are working under the name of research institutes and educational centers. There will be no obstacle for using the documents by mentioning the source of the documents and the name of the researchers of this trial.

From where data/document is obtainable

1. Dr. Vahid Sobhani, faculty member of Baqiyatullah University via email sobhani518@gmail.com 2. Amir Dodangeh, Master of Physiotherapy, via email amirdodangeh76@gmail.com

What processes are involved for a request to access data/document

After emailing the mentioned people and providing scientific research information, these statements will be verified and the requester will receive the confirmation, then the documents will be emailed to them within 10 days after the confirmation of the documents.

Comments