Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effectiveness of Mckenzie neck exercise and conventional physical therapy in patients with chronic non-specific neck pain: A randomized controlled trial

Protocol summary

Study aim

To find out the effectiveness of McKenzie exercises compared to conventional physical therapy in patients with chronic non-specific neck pain.

Design

Randomised, superiority, parallel group trial with blinded outcome assessment. Randomisation was centralised and computerised with concealed randomisation sequence carried out at an external site

Settings and conduct

Physical therapy department of Hayatabad Medical Complex (HMC).

Participants/Inclusion and exclusion criteria

Inclusion Criteria: • Male and female individuals • Age 18 to 65 years • Having localized chronic non-specific neck pain from ≥ 3 months Exclusion Criteria: • Cervical radiating pain • History of the neck surgery in the past 12 months • History of spinal cord lesion • Diagnosed cases of serious pathologies like infection, inflammation or malignancy

Intervention groups

Control Group: The conventional physical therapy protocol will include active neck exercises, which consists of functional exercises, postural exercises, stretching, relaxation exercises and isometric neck exercises to increase strength or range of motion. Exercise therapy may also be preceded by massage (such as soft tissue release for 5 minutes), stretching, or physical therapy techniques like heat applications (such as hot pack for 10-15 minutes), interferential current, and transcutaneous electrical nerve stimulation (TENS) application. Experimental Group: The patient will be asked to keep their head as forward-facing as possible while moving it backward as much as they can. Making the movement as large as possible is crucial. After finishing, the patient goes back to their neutral rest position.

Main outcome variables

Numerical Pain Rating Scale (NPRS) for neck pain, Copenhagen neck functional disability scale (CNFDS) to measure neck functional activity and goniometer to measure cervical ROM.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230907059376N5**
Registration date: **2024-06-08, 1403/03/19**
Registration timing: **prospective**

Last update: **2024-06-08, 1403/03/19**
Update count: **0**

Registration date

2024-06-08, 1403/03/19

Registrant information

Name

Sarmad Khattak

Name of organization / entity

Rehman Medical Institute, Peshawar

Country

Pakistan

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-06-15, 1403/03/26

Expected recruitment end date

2024-09-15, 1403/06/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of Mckenzie neck exercise and conventional physical therapy in patients with chronic non-specific neck pain: A randomized controlled trial

Public title

Effectiveness of Mckenzie neck exercise and conventional physical therapy in patients with chronic non-specific neck pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Male and female individuals• Age 18 to 65 years Having localized chronic, non-specific neck pain from ≥ 3 months

Exclusion criteria:

Cervical radiating pain History of the neck surgery in the past 12 months History of spinal cord lesion Diagnosed cases of serious pathologies like infection, inflammation or malignancy Individuals who have been clinically diagnosed with psychological disorders

Age

From **18 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **26**

Randomization (investigator's opinion)

Randomized

Randomization description

The participants will be randomly allocated to groups using the sealed envelope method. This technique ensures that the assignment is unbiased and that neither the participants nor the researchers can influence the group allocation. Each participant will draw an envelope containing their group assignment, maintaining the randomness and confidentiality of the process. This method is commonly used in clinical trials and research studies to ensure the integrity of the experimental design.

Blinding (investigator's opinion)

Single blinded

Blinding description

Only the assessor, who will assess pre and post scores, will be blind in current study

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

KMU AS&RB

Street address

5-B/2 Shaukat Khanum Rd, Phase 5 Hayatabad, Peshawar, Khyber Pakhtunkhwa

City

Peshawar

Postal code

25000

Approval date

2024-05-30, 1403/03/10

Ethics committee reference number

KMU/AS&RB/IPMR/MSPT/2024/07

Health conditions studied

1

Description of health condition studied

Chronic non specific neck pain

ICD-10 code

M54.2

ICD-10 code description

Cervicalgia

Primary outcomes

1

Description

Neck Pain intensity

Timepoint

Outcome measures will be used/measured at baseline and after the intervention

Method of measurement

Numeric Pain rating scale

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Participants in this group will receive conventional therapy. Conventional physical therapy protocol will include active neck exercises, which consists of functional exercises, postural exercises,

stretching, relaxation exercises and isometric neck exercises to increase strength or range of motion. Exercise therapy may also be preceded by massage (such as soft tissue release for 5 minutes), stretching, or physical therapy techniques like heat applications (such as hot pack for 10-15 minutes), interferential current, and transcutaneous electrical nerve stimulation (TENS) application. This protocol will be done thrice a week, with thirty-minute therapy sessions, with an overall of maximum of twelve sessions.

Category

Rehabilitation

2

Description

Intervention group: This group will receive McKenzie exercise for neck pain. The patient will be asked to keep their head as forward-facing as possible while moving it backward as much as they can. Making the movement as large as possible is crucial. After finishing, the patient goes back to their neutral rest position. Four sets of ten to fifteen repetitions of the exercise are to be performed, with a one-to-two-minute break in between.First Week of applying McKenzie Protocol:The patient will be supine with their head retracted or their chin thrust in. Under the occiput, a tiny pillow will be positioned to sustain a small amount of flexion. The patient will be instructed to position their head so that it was squarely over the girdle of their shoulders by pulling the neck and head posteriorly. After holding the final position for a brief moment, the subject will be free to settle into a resting position. Frequency: Four sets of ten to fifteen repetitions of this procedure will be performed, with one to three minutes of rest in between.Second Week of applying McKenzie Protocol:The therapist will progress the patient while they were seated by adding neck extension and applying overpressure with their chin at the end of the range of motion. Frequency: Four sets of this procedure will be performed, with a one to two minute break in between.Third Week of applying McKenzie Protocol:The patient will be positioned in such a way that their head will keep off the couch while lying supine. The therapist will apply the traction exercise of retraction and extension. All along the range of motion, the traction and extension will be maintained. Fourth Week of applying McKenzie Protocol:The patient will be instructed to get into short sitting. The therapist will then apply retraction with lateral flexion, neck rotation, and then pair the retraction and flexion of the neck with overpressure. Frequency: Four sets of 10 to 15 repetitions of this procedure will be performed, with a 1- to 2-minute rest period in between.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Physical Therapy Department, Hayatabad Medical Complex, Peshawar

Full name of responsible person

Muhammad Salman Khan

Street address

Phase 4 Hayatabad, Peshawar, Khyber Pakhtunkhwa, Pakistan

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Khyber Medical University, Peshawar

Full name of responsible person

Raheela Naz

Street address

F1 Phase-6 Rd, Phase 5 Hayatabad, Peshawar, Khyber Pakhtunkhwa

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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

Khyber Medical University, Peshawar

Proportion provided by this source

50

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

Khyber Medical University, Peshawar

Full name of responsible person

Atik Arsh

Position
Assitant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
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Person responsible for scientific inquiries

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Person responsible for updating data

Contact
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Full name of responsible person
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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
Management of non specific neck pain through Mckenzie protocol will be the provided data title.
When the data will become available and for how long
After the completion of research data will be available for one year of time.
To whom data/document is available
Document will be available for the rehabilitation researchers, physiotherapy faculty and students.
Under which criteria data/document could be used
The participants registered with IRCT will have access to the data.
From where data/document is obtainable
Document will be available by contacting principal author Muhammad Salman Khan through email salmankhan9412@gmail.com
What processes are involved for a request to access data/document
The person registered with IRCT have to email the principal author.
Comments