Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Compare the effectiveness of Mulligan (Natural Apophyseal Glides & Natural Sustained Apophyseal Glides) and McKenzie (self-stretching) on improving the pain and functional ability in patients with Chronic Neck pain.

Protocol summary

Study aim

To determine the Comparision of the effectiveness of Mulligan (NAGs & SNAGs) and McKenzie (self-stretching) on improving pain and functional ability in patients with Chronic Neck pain.

Design

A concealed, experimental, blinded, randomized clinical trial with a control group design of 26 patients enrolled between September 2022 and October 2022 and followed for 2 months

Settings and conduct

This trial will be conducted at the Physical Therapy & Rehabilitation Ward of Chaudhary Akram Teaching Hospital.This Trial is assessor blind trial in which the outcome assessor was unaware of the treatment protocol

Participants/Inclusion and exclusion criteria

The ages of patients were around 20-55 years old. The entire patient has mechanical neck pain and pain due to postural abnormality. All the patients that were Included in the study should be based on Biondi questionnaire. All the patients should have a greater than 20% neck disability index score and the score of Numeric pain rating will be more than 2-3 points. All participants were excluded from this study if they had any hearing problems, vision disorders, smell issues, or any kind of taste-related problem. All participants were having systematic problems, like tension headaches, Rheumatic arthritis.

Intervention groups

Group A: In group A we applied the mulligan technique of manual therapy treatment that included the Natural Apophyseal Glides & Natural Sustained Apophyseal Glides in sitting Group B: The second group of 13 patients with chronic neck pain was given the following treatment strategies in which we applied the Mackenzie exercises in seven motions 4 movements of neck extension,2 movements in lateral flexion and rotation, and one movement in flexion direction.

Main outcome variables

Pain will be measured by a Numeric pain rating scale and the Functional ability of the neck will be measured by the Neck disability scale

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220414054537N4**
Registration date: **2022-10-16, 1401/07/24**
Registration timing: **retrospective**

Last update: **2022-10-16, 1401/07/24**
Update count: **0**

Registration date

2022-10-16, 1401/07/24

Registrant information

Name

Faisal Ghafoor

Name of organization / entity

The Superior University

Country

Pakistan

Phone

+92 42 38104221

Email address

faisal.ghafoor@superior.edu.pk

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date
2022-09-01, 1401/06/10
Expected recruitment end date
2022-09-05, 1401/06/14
Actual recruitment start date
2022-09-02, 1401/06/11
Actual recruitment end date
2022-09-07, 1401/06/16
Trial completion date
2022-10-30, 1401/08/08

Scientific title
Compare the effectiveness of Mulligan (Natural Apophyseal Glides & Natural Sustained Apophyseal Glides) and McKenzie (self-stretching) on improving the pain and functional ability in patients with Chronic Neck pain.

Public title
Effect of mulligan (Natural Apophyseal Glides & Natural Sustained Apophyseal Glides) and Mckenzie (self Stretching) on improving the pain and functional ability in patients with chronic neck pain
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
. The ages of the patients were around 20-55 years old The entire patient having the mechanical neck pain and pain due abnormal posture of neck like forward head posture were included in this study All the patients that were Included for the study should based on Biondi questionnaire All the patients should have greater than 20% neck disability index score and the score of Numeric pain rating will be more than 2-3 points
Exclusion criteria:
All participants were excluded from this study if they had any hearing problem, vision disorder, smell issues or any kind of taste related problem All participant those were having any systematic problems, like tension headache, Rheumatic arthritis, several viral and bacterial infection, Inflammatory disease, migraine, any neurological problem and fracture in neck region were excluded from this study
Age
From **20 years** old to **55 years** old
Gender
Both

Phase
1
Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **26**
Actual sample size reached: **26**
Randomization (investigator's opinion)
Randomized
Randomization description
Participants who fulfilled the inclusion criteria were selected convenient sampling technique and were then allocated randomly to Group A and Group B using the lottery method. In this method the selected total population, the divided into two groups. each member of the population has an equal chance to be get selected for any group A or B. that was selected for This distribution process is hidden between participants and researchers. This was done by a research assistant who did not participate in any further research
Blinding (investigator's opinion)
Single blinded
Blinding description
This study was double-blinded. The outcome assessor who was blinded to the therapy group was recruited to take readings at pre-treatment and post-treatment values. And the patients were also blinded as they didn't know they all have the same disorder and different techniques had been given to these patients.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Committe Azra Naheed Centre for Research & Development the Superior University ,Lahore
Street address
Main riwind road 17 km ,Lahore
City
Lahore
Postal code
54000
Approval date
2022-08-28, 1401/06/06
Ethics committee reference number
ref/cma/id456/8/28/22

Health conditions studied

1

Description of health condition studied
Chronic neck pain
ICD-10 code
M54. 2
ICD-10 code description
Neck Pain

Primary outcomes

1

Description
Neck Pain

Timepoint
Before Interention and after 8 weeks
Method of measurement
Numeric Pain Rating Scale

2

Description
Functional Ability
Timepoint
Before and after 8 weeks
Method of measurement
Neck Disability Scale

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: We applied the mulligan technique of manual therapy treatment that included the Natural apophyseal glides, Sustained natural apophyseal glides in the sitting position of the patient. Natural apophyseal glide movements are the oscillatory Movement and these mobilizations tend to be provided in the anterior-cranially direction of the selected cervical joint. The movement of the force is in a parallel direction toward the restricted cervical facet joints. We applied 3 sets of 6 repetitions each and the intensity of dosage was maintained in 2-3 hertz. The procedure of the movement as per the following instruction of the mulligan in which we applied the sustained glide and asked the patient to move their neck in several directions like Flexion, Extension, Side flexion, and rotation and this movement was maintained in pain-free direction and range
Category
Rehabilitation

2

Description
Intervention group: The second group of 13 patients with chronic neck pain was given the following treatment strategies which we applied the Mackenzie exercises in seven motions 4 movements of neck extension,2 movements in lateral flexion and rotation, and one movement in flexion direction. The pre and post value was monitored by performing the Mackenzie technique in the patient and its effect on the body was also monitored as well, especially in the soft tissue area of the neck body. Both sides of the body were measured and compared with each other. The time to take the new reading is 10 seconds. the Body skin of the neck area was pushed by 0.18 N force and after the pre-load, a force of 0.58N was applied to the neck skin at the intervel of 15 ms. Thereafter, the vibration on the skin surface was triggered by Myoton PRO (Myoton AS, Estonia), a muscle tone measurer, which was used to examine the biomechanic indices
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Chaudhary Akram Teaching Hospital
Full name of responsible person
Gulnaz Yamin
Street address
Main Riwind Road 17 km ,Lahore
City
Lahore
Postal code
54000
Phone
+92 333 4445917
Email
gulnaz.zaheer@superior.edu.pk
Web page address
https://www.superior.edu.pk/

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Committe Azra Naheed Centre for Research & Development the Superior University
Full name of responsible person
DR Zohaib Shahid
Street address
Main riwind road 17 km ,Lahore
City
Lahore
Postal code
54000
Phone
+92 333 6979114
Email
zohaib.rana@superior.edu.pk
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Chaudhary Akram Teaching Hospital
Proportion provided by this source
100
Public or private sector
Private
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
Committe Azra Naheed Centre for Research & Development the Superior University ,Lahore

Full name of responsible person
Dr Zohaib Shahid

Position
Assistant Professor

Latest degree
Ph.D.

Other areas of specialty/work
Rehabilitation management

Street address
Main Riwind Road 17 km ,Lahore

City
Lahore

Province
Punjab

Postal code
54000

Phone
+92 333 4816348

Email
zohaib.rana@Superior.edu.pk

Person responsible for scientific inquiries

Contact

Name of organization / entity
Committe Azra Naheed Centre for Research & Development the Superior University ,Lahore

Full name of responsible person
Dr Zohaib Shahid

Position
Assistant Professor

Latest degree
Ph.D.

Other areas of specialty/work
Rehabilitation management

Street address
main riwind road 17 km ,Lahore

City
Lahore

Province
Punjab

Postal code
54000

Phone
+92 333 6979114

Email
zohaib.rana@Superior.edu.pk

Person responsible for updating data

Contact

Name of organization / entity
The Superior University

Full name of responsible person
Faisal Ghafoor

Position
Consultant

Latest degree
Specialist

Other areas of specialty/work
Physiotherapy

Street address
Wafaqi colony ,Johar Town ,Lahore

City
Lahore

Province
Punjab

Postal code
54000

Phone
+92 317 4445917

Email
faisal.ghafoor@superior.edu.pk

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
Compare the effectiveness of Mulligan Natural Apophyseal Glides & Sustained Natural apophyseal Glides and McKenzie (self-stretching) on improving pain and functional ability in patients with Chronic Neck pain. The data document related to the research will be available after the completetion of the trail. These document will be available like , Patient performa, Data anlysis , spss file , result for the further studies and better patient care

When the data will become available and for how long
When the trial has been completed after the end october 2022.The data will be available for the future use and after the completion of the trial when it get published approximately after the 3 weeks in the end of the november 2022.The summary will be available after the article get published

To whom data/document is available
It will be available to all teaching institue and hospital for the better cure of the patient and more over it will be avilable for the researcher as well

Under which criteria data/document could be used
Only for the research and for the benefits of the public

From where data/document is obtainable

The Documents will be available on the following details email.: rehanfaisal68@gmail.com Contact no: +923334816348 Postal address: Department of Physical Therapy Chaudary Akram Teaching Hospital,The Superior Univeristy Lahore

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

Application will sent to the email on request rehanfaisal68@gmail.com

Comments