Clinical Trial Protocol
Iranian Registry of Clinical Trials

04 Jul 2026

Effects of static stretching with and without neurodynamics on range of motion, pain and functional ability in females with hamstrings tightness

Protocol summary

Study aim
The main objective of this study is to compare the effects of static stretching with and without neurodynamics on range of motion, pain and functional ability in females with hamstrings tightness.

Design
A concealed, double blinded, randomized controlled trail with a parallel group design of 62 participants, enrolled between July 2021 and January 2022 And followed for one month.

Settings and conduct
females of University of Lahore

Participants/Inclusion and exclusion criteria
Inclusion Criteria: 1.Female participants with hamstring tightness 2.Aging between 18 and 30 years 3.Participants with knee extension ≤ 20°. Non-inclusion Criteria: Patient having history of 1.Neurological disorders 2.Orthopedic diseases (Osteoarthritis, Rheumatoid Arthritis, Spondylolisthesis) 3.Hamstrings injury or strain 4.Chronic Low back pain 5.Any recent spinal surgery history

Intervention groups
Participants will randomly allocated to two different group each contain 31 participants. Group A receive neurodynamics along with static stretching while group B receive only static stretching. Both interventions will be applied for 6 days and followups will be done after 1 month.Then Results of both interventions will be compared.

Main outcome variables
Pain; Range of motion; Functional ability

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210705051796N1**
Registration date: **2022-03-07, 1400/12/16**
Registration timing: **retrospective**

Last update: **2022-03-07, 1400/12/16**
Update count: **0**

Registration date
2022-03-07, 1400/12/16

Registrant information

Name
NAYAB JOHN

Name of organization / entity
UNIVERSITY OF LAHORE

Country
Pakistan

Phone
+92 53 3705255

Email address
drnayab73@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-07-27, 1400/05/05

Expected recruitment end date
2022-01-26, 1400/11/06

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effects of static stretching with and without neurodynamics on range of motion, pain and functional ability in females with hamstrings tightness

Public title
Effects of static stretching with and without

neurodynamics on range of motion, pain and functional ability

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Female participants with hamstring tightness Aging between 18 and 30 years Participants with knee extension ≤ 20°

Exclusion criteria:

Neurological disorders Orthopedic diseases (Osteoarthritis, Rheumatoid Arthritis, Spondylolisthesis) Hamstrings injury or strain Chronic Low back pain Any recent spinal surgery history

Age

From **18 years** old to **30 years** old

Gender

Female

Phase

2-3

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor
- Data analyser

Sample size

Target sample size: **62**

Randomization (investigator's opinion)

Randomized

Randomization description

Computer generated randomization assignment will be designed by an independent statistician and randomization will be done by one of the research team members who will not be the part of any intervention, assessment or data analysis. Randomization assignments will be kept in opaque. Outcome assessors will be unaware of group assignment. The intervention will be started on the day after randomization, for both group.For both groups the intervention will be continue for 5 consecutive days and reading should be taken before and after applying intervention and followup will be done after one month .

Blinding (investigator's opinion)

Double blinded

Blinding description

Participants, care provider , outcome assessor, data analyser and investigator will be unaware of intervention.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethical Committee of The University of Lahore

Street address

1 km Raiwand Road, The University of Lahore

City

Lahore

Postal code

40050

Approval date

2021-11-22, 1400/09/01

Ethics committee reference number

IRB-UOL-FAHS/993/2021

2

Ethics committee

Name of ethics committee

Ethical Committee of The University of Lahore Institutional Review Board

Street address

1 km Raiwand Road, The University of Lahore

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Lahore

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40050

Approval date

2021-11-22, 1400/09/01

Ethics committee reference number

IRB-UOL-FAHS/993/2021

Health conditions studied

1

Description of health condition studied

Hamstrings Tightness

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Range of motion

Timepoint

Outcomes will be checked at baseline before apply intervention and after applying intervention on conservative 5 day and followup should be done after 1 month .

Method of measurement

Goniometer.

2

Description

Pain

Timepoint

Pain will be assess by using Visual analog scale . Before and after applying intervention for 5 consecutive

days,and followup will be done after one month .

Method of measurement

Numeric pain rating scale

3

Description

Functional ability

Timepoint

Functional abilities will be measured on daily bases .Base line reading will be measured and then after applying intervention again the reading will be taken, this will be continue for 5 consecutive days (DAY 1, DAY 2 , DAY 3, DAY 4, DAY 5)and after 1 month again the functional ability will be measured.

Method of measurement

The Lower Extremity functional scale (LEFS)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1:Participants will receive neurodynamics along static stretching (NS-SS) of hamstring musculature. Subjects in lying supine and their neck and thoracic spine supported in a forward flexed position. Concurrent hip and knee flexion were alternated dynamically with concurrent hip and knee extension. The therapist alternated the combination of movement depending on the tissue resistance level. This combination of movements was performed for 180 seconds on their dominant lower extremity. This position will then maintained for 30 seconds consisted of six sets of 30 s with a 60 s rest between sets and repeated 5 times further on conservative days and then follow up after 1 month.

Category

Treatment - Other

2

Description

Intervention group 2 : Participants will receive only static stretching (SS) of the hamstring muscles in their dominant leg. While subjects in lying supine, the dominant lower extremity would passively position into SLR position (hip in flexion, knee in extension and ankle in neutral) without pain/discomfort to the point where resistance to the movement will first noted. This position will then maintained for 30 seconds consisted of six sets of 30 s with a 60 s rest between sets and repeated 5 times further on conservative days and then follow up after 1 month. During the 30 second stretches, the therapist monitored the subject to ensure they did not make any compensation that could modify the stretching position. Each subject had a total of 180 seconds of stretching on their lower extremity.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

University of Lahore

Full name of responsible person

Nayab John

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Lahore

Full name of responsible person

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Grant name

Not Applicable

Grant code / Reference number

Not Applicable

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

No

Title of funding source

Not Applicable

Proportion provided by this source

1

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

Other

Person responsible for general inquiries

Contact

Name of organization / entity

University of Lahore

Full name of responsible person

Nayab John

Position

Lecturer

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

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Position

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be 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

Not yet decided.

When the data will become available and for how long

not yet applicable

To whom data/document is available

All

Under which criteria data/document could be used

NOT DECIDED YET

From where data/document is obtainable

NOT DECIDED YET

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

WILL let you later

Comments