Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparative Effect Of Post Isometric Relaxation and Static Stretching on Stride Length And Flexibility In Patients With Hamstrings Tightness; A Randomized Clinical Trial

Protocol summary

Study aim
To determine the comparative effect of post isometric relaxation and static stretching on stride length in students with hamstrings tightness.

Design
A single blinded quantitative study following the randomized clinical trial with blinded post-treatment outcome and assessment and randomization will be done by lottery method.

Settings and conduct
The population for this study will be undergraduate students of Government college University Faisalabad, Pakistan. Participants will be blinded they will not be aware which treatment technique will they have. Data will be collected pre and post treatment.

Participants/Inclusion and exclusion criteria
Inclusion Criteria •University students •Age from 18-27 years •Sitting duration more than 6 hours •Subjects with at least 15° loss of knee extension on Active knee extension test •SLR less than 60° •Bilateral Hamstrings tightness Exclusion Criteria • Any recent trauma history (within last 3 months) •Neuromuscular disorders of the lower extremity • Acute spasm of hamstring muscles •Spinal deformity or injury •Leg length discrepancy • Recent hamstring strain •Foot deformity/ disorder

Intervention groups
For static stretching group (Group A) treatment protocol will be passive static stretch with 30 se hold and repeat for 3 in each session. 3 sessions in a week will give to subjects on alternate days and for 3 weeks. For PIR group (Group B) therapist will ask subject to perform isometric contraction with 20% force and hold it for 10 sec after that subject will relax and therapist will apply passive stretch and hold for 30 sec. the same process will be repeated 3 times in each session. 3 sessions in a week will be given to subjects on alternate days and for 3 weeks

Main outcome variables
Stride length and hamstrings flexibility

General information

Reason for update

Acronym
PIR (Post Isometric relaxation), SS (Static Stretching)

IRCT registration information
IRCT registration number: **IRCT20230628058605N1**
Registration date: **2024-05-20, 1403/02/31**
Registration timing: **retrospective**

Last update: **2024-05-20, 1403/02/31**
Update count: **0**

Registration date
2024-05-20, 1403/02/31

Registrant information

Name
Alina Mann
Name of organization / entity
The University of Faisalabad
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Pakistan
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anniemann64@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-08-17, 1402/05/26

Expected recruitment end date
2023-09-18, 1402/06/27

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative Effect Of Post Isometric Relaxation and Static Stretching on Stride Length And Flexibility In Patients With Hamstrings Tightness; A Randomized Clinical Trial

Public title

Effect of Post Isometric Relaxation and Static Stretching on Stride Length and Flexibility in Patients with Hamstrings Tightness

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

The University students who have age from 18 to 27 years. Sitting duration more than 6 hours Subjects with at least 15° loss of knee extension on Active knee extension test and SLR less than 60° Subjects having Bilateral Hamstrings tightness

Exclusion criteria:

Any recent trauma history (within last 3 months) Neuromuscular disorders of the lower extremity Acute spasm of hamstring muscles Spinal deformity or injury Leg length discrepancy Recent hamstring strain Foot deformity/ disorder

Age

From **18 years** old to **27 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **44**

Randomization (investigator's opinion)

Randomized

Randomization description

Sample is allocated in two groups by simple randomization. Randomization is done by lottery method. Randomly a number is picked and allocated to group A and Group B.

Blinding (investigator's opinion)

Single blinded

Blinding description

Participants of both group will be unaware of the treatment. Participants of both groups will receive the same baseline treatment that is 10 minutes walking. After that Physiotherapist will apply two techniques PIR and SS to both groups and subjects will unaware of that which one will they have.

Placebo

Not used

Assignment

Other

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committe of The University of Faisalabad

Street address

4-Km, Sargodha road, university town, Faisalabad Pakistan

City

Faisalabad

Postal code

38000

Approval date

2023-08-16, 1402/05/25

Ethics committee reference number

TUF/DR/MSPP/322

Health conditions studied

1

Description of health condition studied

Hamstring tightness which represents itself as limited motion at the hip and knee due to the diminished capacity of the muscle to stretch and permit adequate joint movement needed to perform the important activities is common issue. Hamstring tightness is considered to be the result of decrease ability of muscle to elongate which can be due to myofascial adhesions and neural or mechanical problems. This restricted the ability of muscle to glide freely and limit the full joint motion.

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Stride Length

Timepoint

Before treatment, after 3 weeks of treatment and after 1 month follow up

Method of measurement

Peadometer

Secondary outcomes

1

Description

Hamstrings Flexibility

Timepoint
Before intervention after 3 weeks of intervention and after 1 month follow up
Method of measurement
By active knee extension test and straight leg raise test

Intervention groups

1

Description
Intervention group1: Static stretching (Group A): For static stretching group treatment protocol will be passive static stretch with 30 se hold and repeat for 3 in each session. 3 sessions in a week will give to subjects on alternate days and for 3 weeks.
Category
Rehabilitation

2

Description
Intervention group 2: Post isometric relaxation (Group B): For PIR group passively flex the hip until restriction will be found at this point therapist will ask subject to perform isometric contraction with 20% force and hold it for 10 sec after that subject will relax and therapist will apply passive stretch and hold for 30 sec. the same process will be repeated 3 times in each session. 3 sessions in a week will be given to subjects on alternate days and for 3 weeks
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Government college university of Faisalabad , Pakistan
Full name of responsible person
Prcipal of University
Street address
Kotwali Rd, Gurunanakpura, Faisalabad, Punjab
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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Full name of responsible person
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Web page address
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
The university of Faisalabad
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
The University of Faisalabad
Full name of responsible person
Dr. Sidra Majeed; PT
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Associate Professor
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Other areas of specialty/work
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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

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available

Title and more details about the data/document

All collected deidentified participant data set for the outcome measure.

When the data will become available and for how long

4 months after publication

To whom data/document is available

People working in academic institutions

Under which criteria data/document could be used

IPD and any additional supporting documents will be provided

From where data/document is obtainable

Contact person: Alina Mann Contact: 923247106668 Email: anniemann64@gmail.com

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

Data files will be provided

Comments