Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Immediate Effects Of Autogenic Inhibition Versus Reciprocal Inhibition On Hamstring Muscle Flexibility

Protocol summary

Study aim
the aim of this study was to look for the immediate effects of autogenic inhibition versus reciprocal inhibition on pain, knee extension range of motion and hamstring flexibility in patients with altered hamstring flexibility.

Design
a single-blinded randomized clinical trial was conducted with forty two participants included using convenient sampling technique

Settings and conduct
the study was conducted at InMotion Physiotherapy Clinic, Ijaz Medical Center and Madinah Teaching Hospital Faisalabad. the participants were blinded of the treatment given to them.

Participants/Inclusion and exclusion criteria
the participants of both genders having age 25 to 50 years, no history of lower back injuries, unilateral or bilateral hamstring tightness, asymptomatic hamstring tightness with range 70 to 90 degrees measured via SLR test. any recent hip or knee injury, recent cases of ineffective arthroplasty at hip or knee joint, any lower limb nerve injury, hamstring injury and any neurological or orthopedic disorder, pregnancy, recent knee fracture

Intervention groups
there were two interventional groups named as group A (Autogenic inhibition) and group B (reciprocal inhibition). the participants of group A received autogenic inhibition technique as the treatment which targeted the hamstring muscle while the participants of group B received reciprocal inhibition as treatment approach in which the main target was quadriceps muscle group.

Main outcome variables
the main outcome variables were pain, knee extension range of motion and hamstring flexibility.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20240719062473N1**
Registration date: **2024-07-23, 1403/05/02**
Registration timing: **retrospective**

Last update: **2024-07-23, 1403/05/02**
Update count: **0**

Registration date
2024-07-23, 1403/05/02

Registrant information
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Muhammad Usman Saqib
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2024-02-12, 1402/11/23
Expected recruitment end date
2024-04-12, 1403/01/24
Actual recruitment start date
2024-02-17, 1402/11/28
Actual recruitment end date
2024-04-30, 1403/02/11
Trial completion date
2024-05-30, 1403/03/10

Scientific title
Immediate Effects Of Autogenic Inhibition Versus Reciprocal Inhibition On Hamstring Muscle Flexibility

Public title
Immediate Effects Of Autogenic Inhibition Versus Reciprocal Inhibition On Hamstring Muscle Flexibility
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
participants having age between 25 to 50 years both genders no history of lower back injuries unilateral or bilateral hamstring muscle tightness asymptomatic hamstring tightness with range 70 to 90 degrees measured via SLR test
Exclusion criteria:
any recent hip and knee injury recent cases of ineffective arthroplasty at hip or knee joint patient with any lower limb injury hamstring injury and any neurological or orthopedic disorder pregnancy all trimesters recent knee fracture
Age
From **25 years** old to **50 years** old
Gender
Both

Phase
3
Groups that have been masked

- Participant

Sample size
Target sample size: **42**
Actual sample size reached: **42**
Randomization (investigator's opinion)
Randomized
Randomization description
Randomization was done using chit and draw method by making forty two chits numbered one to forty two. all the participants with even numbered chits were made to enter in group A while all the participants having odd numbered chits were entered in group B. this was done to avoid the probability of biasness.
Blinding (investigator's opinion)
Single blinded
Blinding description
the treatment techniques used in this study are manual therapy soft tissue techniques. both groups received a baseline treatment of hotpack so both groups were comparable and similar in order to blind the patients. the groups were homogenous at baseline i.e. of same age group and of similar levels of muscle tightness. the interventions given to both groups were sufficiently similar in terms of implementation without the use of any instrument in either group.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of The university of Faisalabad
Street address
University town, Sargodha road
City
Faisalabad
Postal code
38000
Approval date
2024-02-17, 1402/11/28
Ethics committee reference number
TUF/DR/SA/MSPP/2024/421

Health conditions studied

1

Description of health condition studied
Hamstring Muscle Tightness
ICD-10 code
S76
ICD-10 code description
Injury of muscle, fascia and tendon at hip and thigh level

Primary outcomes

1

Description
pain
Timepoint
before and after session
Method of measurement
Numeric pain rating scale was used

2

Description
range of motion
Timepoint
before and after session
Method of measurement
goniometer was used

3

Description
hasmtring flexbility
Timepoint
before and after session
Method of measurement
knee extension angle measured via goniometer

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: the participants of group A received hotpack as baseline treatment for 15 minutes. then they received autogenic inhibition in which the contraction was made by hamstring muscle. the contraction was hold for 8 seconds then there was a rest interval of 5 seconds and 5 repetitions were performed
Category
Rehabilitation

2

Description
Intervention group: the participants of group B received hotpack as baseline treatment for 15 minutes. then they received reciprocal inhibition in which the contraction was made by quadriceps muscle. the contraction was hold for 8 seconds then there was a rest interval of 5 seconds and 5 repetitions were performed.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
InMotion Physiotherapy Clinic
Full name of responsible person
Dr. Hanan Abdullah
Street address
Haseeb Shaheed Colony
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2

Recruitment center
Name of recruitment center
Ijaz Medical Center
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3

Recruitment center
Name of recruitment center
Madinah Teaching Hospital
Full name of responsible person
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Sponsors / Funding sources

1

Sponsor
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The University of Faisalabad
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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
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
Other

Person responsible for general inquiries

Contact
Name of organization / entity

Madinah Teaching Hospital

Full name of responsible person
Muhammad Usman Saqib

Position
Physiotherapist

Latest degree
Master

Other areas of specialty/work
Physiotherapy

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

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

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

Clinical Study Report
Not applicable

Analytic Code
Not applicable

Data Dictionary
Not applicable