Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Jun 2026

Comparative Effects of Strain Counterstain and Post-Isometric Relaxation Techniques on Pain, Range of motion and Functional Disability in Patients with Upper Cross Syndrome

Protocol summary

Study aim

To determine the comparative effects of strain counterstain and post-isometric relaxation techniques on pain, range of motion and functional disability in patients with upper cross syndrome.

Design

This study will be Randomized Clinical Trial, parallel-group, triple blinded

Settings and conduct

The Trial would be conducted in District Headquarters DHQ Hospital OKARA City

Participants/Inclusion and exclusion criteria

inclusion criteria Individuals with chronic neck pain from > 6 weeks Both male and female gender Age from 20-40 years Neck Pain on > 3 on numerical pain rating scale Individuals diagnosed with craniovertebral angle less than 50cm Occiput to wall distance greater then 2cm exclusion criteria Subjects who will have signs of recent surgery Whiplash injury or open wounds Cervical spine pathologies like radiculopathies disc herniation, spondylolisthesis, sensory changes in neck region Any neurological defect

Intervention groups

Group A will receive strain counterstain technique; the position of ease will be produced through positioning the muscle in relaxed/ shortened position, ease will be defined as where a reduction in pain at least 70% then, pressure is applied to Trp and it will be held for 90-120 seconds with 3-5 repetitions per treatment session (three session per week for 3 weeks). Group B will receive post-isometric relaxation technique with 3-5 muscle contraction at sub maximal pain-free effort (20% of available strength) with 5-7 seconds for 5 repetitions per treatment session (three sessions per week for 3 weeks).

Main outcome variables

Pain; Range of motion; Functional disability

General information

Reason for update

Acronym

randomized clinical trial

IRCT registration information

IRCT registration number: **IRCT20190717044238N6**
Registration date: **2023-03-06, 1401/12/15**
Registration timing: **registered_while_recruiting**

Last update: **2023-03-06, 1401/12/15**
Update count: **0**

Registration date

2023-03-06, 1401/12/15

Registrant information

Name

Fareeha Amjad

Name of organization / entity

The University of Lahore

Country

Pakistan

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+92 42 99200600

Email address

fari_fairy22@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-03-01, 1401/12/10

Expected recruitment end date

2023-06-30, 1402/04/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Comparative Effects of Strain Counterstain and Post-Isometric Relaxation Techniques on Pain, Range of motion and Functional Disability in Patients with Upper Cross Syndrome

Public title
Comparative Effects of Strain Counterstain and Post-Isometric Relaxation Techniques on Pain, Range of motion and Functional Disability in Patients with Upper Cross Syndrome

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Individuals with chronic neck pain from > 6 weeks Both male and female gender Age from 20-40 years Neck Pain on > 3 on numerical pain rating scale Individuals diagnosed with craniovertebral angle less than 50cm Occiput to wall distance greater then 2 cm

Exclusion criteria:
Subjects who will have signs of recent surgery Whiplash injury or open wounds Cervical spine pathologies like radiculopathies disc herniation, spondylolisthesis, sensory changes in neck region Any neurological defect

Age
From **20 years** old to **40 years** old

Gender
Both

Phase
3

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size
Target sample size: **70**

Randomization (investigator's opinion)
Randomized

Randomization description
As per the inclusion and exclusion criteria of the study , patients will be divided into two groups randomly by Random Number Generator table

Blinding (investigator's opinion)
Triple blinded

Blinding description
The patients taking part in the study would be blinded, they would not be able to know the group they have been allocated to, either Strain Counterstain and Post - Isometric Relaxation Techniques, The assessor of the outcomes would be blinded and lastly, out data analyzer would be blinded too, making it a triple blinded clinical trial

Placebo
Not used

Assignment
Parallel

Other design features
This study will be Randomized Clinical Trial, parallel-group, triple blinded (patients, assessor and data analyzer will make it triple blinded)

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ripah College of Rehabilitation and Allied Health Sciences Lahore

Street address
F83G+V25, Madar-e-Millat Road, Quaid-e-Azam Industrial Estate Quaid e Azam Industrial Estate, Lahore, Punjab

City
Lahore

Postal code
54000

Approval date
2023-01-02, 1401/10/12

Ethics committee reference number
REC/RCR& AHS/23/0110

Health conditions studied

1

Description of health condition studied
Upper Cross Syndrome

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
Functional Disability

Timepoint
Total intervention protocol will be given for three weeks of duration, 3 sessions per week for three weeks, Outcomes will be assessed at Baseline, at the end of 3 week(last treatment session) and at the end of 6th week

Method of measurement
NDI is the self-report questionnaire that is designed to determine how the neck pain affects a patient’s daily life and the disability of patients with neck pain. It consists of 10 questions that ask about ADLS. More the score, greater was the disability. Sample questionnaire is attached at the end. Four sections relate to subjective symptoms, and the remaining 6 sections relate to activities of daily living. Each section is scored from 0 to 5 points, giving a maximum score of 50. The total score of the NDI ranges from 0 to 50 points

Secondary outcomes

1

Description
Pain
Timepoint
Total intervention protocol will be given for three weeks of duration, 3 sessions per week for three weeks, Outcomes will be assessed at Baseline, at the end of 3 week (last treatment session) and at the end of 6th week
Method of measurement
Patient level of pain will be assessed using Numerical Pain Rating Scale (NPRS) This scale ranges from 0 to 10. 0 indicates “no pain” and 10 indicates “worst pain”

2

Description
Range of Motion
Timepoint
Total intervention protocol will be given for three weeks of duration, 3 sessions per week for three weeks, Outcomes will be assessed at Baseline, at the end of 3 week (last treatment session) and at the end of 6th week
Method of measurement
Changes from the Baseline ROM range of Motion of Cervical spine will be taken with the Help of universal Goniometer

Intervention groups

1

Description
Intervention group: group A will receive strain counterstain technique; the position of ease will be produced through positioning the muscle in relaxed/ shortened position, ease will be defined as where a reduction in pain at least 70% then, pressure is applied to Trp and it will be held for 90-120 seconds with 3-5 repetitions per treatment session (three session per week for 3 weeks)
Category
Treatment - Other

2

Description
Intervention group: group B will receive post-isometric relaxation technique with 3-5 muscle contraction at sub maximal pain-free effort (20% of available strength) with 5-7 seconds for 5 repetitions per treatment session (three sessions per week for 3 weeks).
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
DHQ hospital Okara
Full name of responsible person
Dr Zaheer Abbas khan
Street address
RC6R+QVF, Eid Gah Rd okara, Punjab
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okara
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56300
Phone
+92 322 5536578
Email
zeeokg@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Ripah international university
Full name of responsible person
Dr. Fareeha Amjad
Street address
Ripah international university Maddar e Millat Road, Quaid e Azam industrial Estate Lahore, Punjab
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Phone
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Email
fareeha.amjad@ripah.edu.pk
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Ripah international university
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
Ripah international university
Full name of responsible person
Anila Ramzan
Position

student

Latest degree
Master

Other areas of specialty/work
Physiotherapy

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Person responsible for scientific inquiries

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Person responsible for updating data

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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
All collected identified IPD

When the data will become available and for how long
Data will be available after the completion of study and will remain available till 6 months

To whom data/document is available
Data will be available for other people almost 6 months after the completion of study

Under which criteria data/document could be used
The data/document could be used by communicating with the principle investigator Hadiqa Naeem on email address hadiqa621@gmail.com

From where data/document is obtainable
Hadiqa Naeem , hadiqa621@gmail.com

What processes are involved for a request to access data/document
The data/document could be used by communicating with the principle investigator Hadiqa Naeem on email address hadiqa621@gmail.com

Comments