

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Comparative Analysis on the effectiveness of Hold Relax Technique and Ischemic Compression followed by a sustained stretch in treating Myofascial Trigger Points of Upper Trapezius: A Randomized Controlled Trial

Protocol summary

Study aim

To evaluate and to generalize the comparative effects of Hold-Relax technique and Ischemic compression followed by a sustained stretch in reducing pain and disability in patients with myofascial trigger points of upper trapezius.

Design

A single blind Randomized controlled trial with a parallel group design of 60 patients will have a random allocation by Chit-Box method.

Settings and conduct

Patients from the Physical-Therapy departments of Khyber Teaching Hospital, Lady Reading Hospital, Peshawar Pakistan. The patients will be recruited in three groups i.e. Group A, Group B and Group C by Randomization through Chit-box method. The outcome assessor will be kept blind during the trial. The readings will be taken for two times during the whole session (one at the start and other at the end of session).

Participants/Inclusion and exclusion criteria

1. Inclusion Criteria Age group between 20- 45 years ,Both Male and Female patients ,Chronic cases of Upper trapezius myofascial pain ,Patients with at least 15-24 points (30-48%) score in NDI 2. Exclusion Criteria Patients receiving treatment by other methods like vapocoolants, dry needling, acupuncture injections ,Neck or shoulder surgery within the past year ,Neurological or rheumatic disorders ,Radiculopathy, myelopathy or joint disorders ,Whiplash in the previous 6 months ,Recent fracture of the cervical spine ,Cervical instability ,Cervical spondylosis ,Ankylosing spondylitis ,Disc prolapsed

Intervention groups

Group-A patients will be treated with Hold-Relax technique, Group-B patients with Ischemic Compression followed by sustained stretch and Group-C with Both

techniques. The patients in all three groups will receive a series of twelve treatments and a follow up consultation over a maximum period of four weeks.

Main outcome variables

Pain ,Disability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190707044128N1**

Registration date: **2019-08-30, 1398/06/08**

Registration timing: **retrospective**

Last update: **2019-08-30, 1398/06/08**

Update count: **0**

Registration date

2019-08-30, 1398/06/08

Registrant information

Name

Ishaq Ahmed

Name of organization / entity

The university of Lahore

Country

Pakistan

Phone

+92 42 37592112

Email address

ishaqpt786@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2014-06-15, 1393/03/25
Expected recruitment end date
2014-07-30, 1393/05/08
Actual recruitment start date
2014-10-10, 1393/07/18
Actual recruitment end date
2014-12-28, 1393/10/07
Trial completion date
2015-05-10, 1394/02/20

Scientific title

Comparative Analysis on the effectiveness of Hold Relax Technique and Ischemic Compression followed by a sustained stretch in treating Myofacial Trigger Points of Upper Trapezius: A Randomized Controlled Trial

Public title

Hold Relax Technique and Ischemic Compression followed by a sustained stretch in treating Myofacial Trigger Points of Upper Trapezius

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age group between 20- 45 years, , Both Male and Female patients Chronic cases of Upper trapezius myofacial pain Patients with at least 15-24 points (30-48%) score in Neck Disability Index

Exclusion criteria:

Patients receiving treatment by other methods like vapocoolants, dry needling, acupuncture injections etc. Neck or shoulder surgery within the past year Neurological or rheumatic disorders Clinical evidence of radiculopathy, myelopathy or joint disorders Whiplash in the previous 6 months Recent fracture of the cervical spine Cervical instability Cervical spondylosis Ankylosing spondylitis Disc prolapsed Osteoporosis Mental disorders

Age

From **20 years** old to **45 years** old

Gender

Both

Phase

3

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **60**

Actual sample size reached: **60**

Randomization (investigator's opinion)

Randomized

Randomization description

The patients will be recruited in three groups i.e. Group A (Hold-Relax technique), Group B (Ischemic Compression followed by sustained stretch) and Group C (Both techniques) by randomization through Chit-box method. Chit-Box Method: For random allocation of 60 cases into three groups equally, prepare 60 chits writing "A" (for Group-A) on 20 chits, "B" (for Group-B) on 20 chits and "C" (for Group-C) on 20 chits. After folding the chits and putting in a box and well mixing, draw a chit, note the letter written on it, and then draw the second chit

without replacing the first, note it and proceed similarly until the last i.e. 60th chit is drawn. The generated random allocation sequence may be one as appears in Table below. According to this sequence the first case registered will go to the Group-A, second case again to the Group-A, third to the Group-C and so on to the last case to Group-B. Table: Chit-Box Method for Randomization Draw 1st 2nd 3rd -- 15th Result (Letters on chit) A A C B C B B A A A B C - C A B B Registered Case No. 1 2 3 4 5 6 7 8 9 10 11 12 -- 57 58 59 60 (No. Allocation)

Blinding (investigator's opinion)

Single blinded

Blinding description

The outcome assessor will be kept blind about the treatment protocols and randomization process during the whole trial.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Advanced Studies & Research Board of Khyber Medical University

Street address

Block-IV PDA building, Phase-V Hayatabad

City

Islamabad

Postal code

25000

Approval date

2014-09-29, 1393/07/07

Ethics committee reference number

ASRB000222/CA/IPM&R

Health conditions studied

1

Description of health condition studied

The Myofascial Pain Syndrome (MPS)

ICD-10 code

M79.1

ICD-10 code description

Myalgia

Primary outcomes

1

Description

Pain

Timepoint

At the start of intervention and then after one month (12sessions) of treatment administration

Method of measurement

VAS (Visual Analogue Scale) for measuring the Pain.

Secondary outcomes

1

Description

Disability

Timepoint

At the start of intervention and then after one month (12sessions) of treatment administration.

Method of measurement

NDI (Neck Disability Index) for measuring the Disability

Intervention groups

1

Description

Intervention group: Group-A of 20 patients (Experimental group) will be treated with a Hold-Relax technique that will be applied on the upper Trapezius muscle of the affected side for 1 set of 5 repetitions with 10 seconds hold. It involves a stretch of the muscle up to a point of a resistance barrier. The patient then contracts the muscle to about 25% of their own muscle force against the practitioner's resistance. The body part remains in a static position resulting in an isometric contraction. The patient holds this contraction for 10 seconds. After this the patient is asked to relax for the next 10 seconds. This is then followed by a further 10 seconds stretch in order to find a new barrier position.

Category

Treatment - Other

2

Description

Control group: Group-B of 20 patients (Control group) will be treated with Ischemic compression followed by a sustained stretch technique. Firstly, the trapezius muscle is stretched to the point of discomfort then a digital pressure is applied for 20 seconds with the examiners thumb or finger which temporarily occludes the blood supply to the area. It is then followed by a sustained stretch of 15 seconds on the same muscle. This procedure will be repeated for five times in one session.

Category

Treatment - Other

3

Description

Control group: Group-C of 20 patients will be treated with a combined therapy containing Hold relax technique plus Ischemic compression followed by a sustained stretch technique for 1 set of 5 repetitions.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Khyber Teaching Hospital

Full name of responsible person

Dr. Abid Ali

Street address

University Rd, Rahat Abad

City

Peshawer

Postal code

25000

Phone

+92 922 440008

Fax

+92 91 9224423

Email

info@kth.com.pk

Web page address

<https://www.kth.gov.pk/>

2

Recruitment center

Name of recruitment center

Lady Reading Hospital

Full name of responsible person

Dr. Muhammad Khan

Street address

Hospital Road

City

Peshawer

Postal code

25000

Phone

+92 91 9211441

Fax

+92 91 9211401

Email

info@lrh.gov.pk

Web page address

<https://lrh.edu.pk/>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

khyber medical university

Full name of responsible person

Dr. Mohammad Bin Afser Jan

Street address

Block-IV, PDA building, Phase-V Hayatabad

City

Peshawer

Postal code
25000
Phone
+92 91 5892885
Email
ipmr@kmu.edu.pk
Web page address
<http://www.kmu.edu.pk/>
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
khyber medical university
Proportion provided by this source
100
Public or private sector
Public
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 Lahore
Full name of responsible person
Ishaq Ahmed
Position
Assistant Professor/ Head of Department
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
Street address
Soan Garden, Islamabad
City
Islamabad
Province
Punjab
Postal code
75500
Phone
+92 42 111 865 865
Email
ishaqpt786@gmail.com
Web page address
<https://www.uol.edu.pk/campuses/islamabadcampus>

Person responsible for scientific inquiries

Contact
Name of organization / entity
The University of Lahore
Full name of responsible person

Ishaq Ahmed
Position
Assistant Professor/ Head of Department
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
Street address
Soan Garden, Islamabad
City
Islamabad
Province
Punjab
Postal code
75500
Phone
+92 42 111 865 865
Email
ishaqpt786@gmail.com
Web page address
<https://www.uol.edu.pk/campuses/islamabadcampus>

Person responsible for updating data

Contact
Name of organization / entity
The University of Lahore
Full name of responsible person
Ishaq Ahmed
Position
Assistant Professor/ Head of Department
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
Street address
Soan Garden, Islamabad
City
Islamabad
Province
Punjab
Postal code
75500
Phone
+92 42 111 865 865
Email
ishaqpt786@gmail.com
Web page address
<https://www.uol.edu.pk/campuses/islamabadcampus>

Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available
Justification/reason for indecision/not sharing IPD
there is no further information
Study Protocol
No - There is not a plan to make this available
Statistical Analysis Plan
No - There is not 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

No - There is not a plan to make this available

Title and more details about the data/document

Informed Consent Form, Clinical Study Report, Analytic Code files could be shared

When the data will become available and for how long

2 months after publication

To whom data/document is available

people working in academic institutions or people working in businesses can also apply to receive it

Under which criteria data/document could be used

Intervention purpose

From where data/document is obtainable

ishaqpt786@gmail.com

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

Full description about the Purpose/Aim of using the documents Insight about the Disorder and intervention of the research

Comments