

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

07 Jul 2026

### Effects of muscle energy technique in patients with tension type headache on pain , range of motion and functional level

#### Protocol summary

##### Study aim

study aim was how tension type headache was improved by METS and myofascial release

##### Design

A single blinded randomized control trial with sample size of 48 patients

##### Settings and conduct

setting of study was in Rehabilitation and Injury Management Department of Medcare International Hospital Gujranwala

##### Participants/Inclusion and exclusion criteria

Patients of both gender of age 18-40 years with diagnosis of tension type headache and chronic tension type headache were included. Other inclusion criteria regarding tension type headache were at least 10 episodes occurring on  $\geq 1$  day per month for at least 3 months. Headache episodes lasting from 30 minutes to 7 days

##### Intervention groups

Muscle energy technique along with myofascial release technique on upper trapezius and sternocleidomastoid was applied on patients of experimental group . Only myofascial release technique was used on upper trapezius and sternocleidomastoid muscle to control group

##### Main outcome variables

Outcome variables of pain, range of motion and functional level of patients

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20190121042445N2**

Registration date: **2021-02-07, 1399/11/19**

Registration timing: **prospective**

Last update: **2021-02-07, 1399/11/19**

Update count: **0**

##### Registration date

2021-02-07, 1399/11/19

##### Registrant information

###### Name

Muhammad Akhtar

###### Name of organization / entity

University of Lahore,Lahore, Pakistan

###### Country

Pakistan

###### Phone

+92 55 3732032

###### Email address

a.hunjra@gmail.com

##### Recruitment status

**Not yet recruiting**

##### Funding source

##### Expected recruitment start date

2640-09-23, 2019/07/01

##### Expected recruitment end date

2641-03-22, 2020/01/02

##### Actual recruitment start date

2640-09-23, 2019/07/01

##### Actual recruitment end date

2641-03-22, 2020/01/02

##### Trial completion date

2641-03-22, 2020/01/02

##### Scientific title

Effects of muscle energy technique in patients with tension type headache on pain , range of motion and functional level

##### Public title

Effects of muscle energy technique in patients with tension type headache on pain , range of motion and functional level

##### Purpose

Treatment

**Inclusion/Exclusion criteria**

**Inclusion criteria:**  
Patients of both gender of age 18-40 years with diagnosis of ETTH and CTTH were included At least 10 episodes occurring on  $\geq 1$  day per month for at least 3 months Headache episodes lasting from 30 minutes to 7 days

**Exclusion criteria:**  
Patients with Headache that is aggravated by head movements, musculoskeletal and metabolic disorders with symptoms homogenous to headache (rheumatoid arthritis), previous neck trauma, Vertigo, dizziness, arterial hypertension, Malignancy, infection, trauma, bone deformities were excluded from the study.

**Age**  
From **18 years** old to **48 years** old

**Gender**  
Both

**Phase**  
N/A

**Groups that have been masked**  
*No information*

**Sample size**  
Target sample size: **48**  
Actual sample size reached: **48**

**Randomization (investigator's opinion)**  
Randomized

**Randomization description**  
Participants were selected through Non probability convenient sampling technique as per inclusion and exclusion criteria. Patients of TTH were randomly allocated into 2 equal groups (Group A=24 and Group B=24) and randomization was done by lottery method.

**Blinding (investigator's opinion)**  
Not blinded

**Blinding description**

**Placebo**  
Not used

**Assignment**  
Parallel

**Other design features**  
A prospective randomized clinical trial study

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

**Name of ethics committee**

Medcare International Hospital

**Street address**

Nil

**City**

Gujranwala

**Postal code**

52250

**Approval date**

2640-09-22, 2019/06/31

**Ethics committee reference number**

329

## Health conditions studied

### 1

**Description of health condition studied**

Tension type headache

**ICD-10 code**

**ICD-10 code description**

## Primary outcomes

### 1

**Description**

pain

**Timepoint**

baseline, 4th and 8th weeks since intervention

**Method of measurement**

Numerical pain Rating scale (NPRS)

### 2

**Description**

range of motion

**Timepoint**

baseline, 4th and 8th weeks since intervention

**Method of measurement**

Inclinometer is used to assess cervical range of motion.

### 3

**Description**

functional level

**Timepoint**

baseline, 4th and 8th weeks since intervention

**Method of measurement**

Headache disability index and headache impact test

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**

Intervention group; Muscle Energy Technique on upper trapezius The patient places in a moderate opposed exertion (20% of the accessible solidarity) to convey the decent shoulder to the ear (a shrug movement) and the ear to the shoulder. There ought to be a moderate level of duty and no uneasiness ought to be experienced. The compression goes on for 7-10 seconds and when the exertion is totally loose. Muscle energy technique on sternocleidomastoid Patient is approached to lift a little degree to the roof the completely turned head and to hold the breath. There is no requirement for the

professional to apply opposition when the head is raised as this is adequately given by gravity. Between 7-10 seconds of isometric constriction, the patient is advised to discharge the exertion (and breath) bit by bit and position the head on the table so that there is a little level of expansion. Moist heating pad is applied for 10 minutes before each session. Protocol 2: Myofascial release technique on upper trapezius The muscle is put on a gentle leeway by moving the ear somewhat to the shoulder on a similar side with the patient recumbent, or presumably sitting. The whole mass of the upper trapezius is raised off the supraspinatus muscle and summit in a pincer grasp. The muscle at that point rolls firmly between the fingers and thumb to palpate for a knob and tight groups to discover Trigger point's spot delicacy. Treatment session lasts for 10 minutes of myofascial release on each side. Myofascial release technique on sternocleidomastoid The patient sits in a low-upheld firm-sitting easy chair easily and loose with each hand's fingers snared under the seat or under the thigh. The patient's head might be supported in the administrator's hand to enable the patient to loosen up the neck muscles, with the administrator's head leaning against the administrator's arm or chest. The patient is encouraged to rest the administrator's head weight and utilize greatest profound stomach breathing, which likewise unwinds. Therapist applies pressure on trigger points located in sternal and clavicular divisions of muscle with pincer grip. Gradually increasing the pressure and releasing the trigger points one by one. This is followed by stretching of muscle by deep inhalation, rotation of head on opposite side and rotation of chin on same side. Treatment session lasts for 10 minutes of myofascial release on each side.

**Category**

Treatment - Other

**2**

**Description**

Control group: Treatment applied in this group is myofascial release technique for upper trapezius and sternocleidomastoid muscle. This was applied in the same way mentioned in the protocol 2 of intervention no. 1.

**Category**

Treatment - Other

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**  
Medcare International Hospital

**Full name of responsible person**  
Dr Akhtar

**Street address**  
Gill Road

**City**  
Gujranwala

**Postal code**

52200

**Phone**

+92 55 3732032

**Email**

a.hunjra@gmail.com

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**  
Medcare International Hospital

**Full name of responsible person**  
Dr Akhtar Hunjra

**Street address**  
Gill Road

**City**  
Gujranwala

**Postal code**  
52200

**Phone**  
+92 55 3732032

**Email**  
a.hunjra@gmail.com

**Grant name**  
N/A

**Grant code / Reference number**  
N/A

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

**Title of funding source**  
Medcare International Hospital

**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**  
Medcare International Hospital

**Full name of responsible person**  
Dr Akhtar

**Position**  
Consultant

**Latest degree**  
Ph.D.

**Other areas of specialty/work**  
Physiotherapy

**Street address**  
gujranwala

**City**

Gujranwala  
**Province**  
Punjab  
**Postal code**  
52200  
**Phone**  
+92 55 3732032  
**Email**  
a.hunjra@gmail.com

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
Medcare International Hospital  
**Full name of responsible person**  
Dr Akhtar  
**Position**  
Consultant  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**  
Physiotherapy  
**Street address**  
Gill Road  
**City**  
Gujranwala  
**Province**  
Punjab  
**Postal code**  
52200  
**Phone**  
+92 55 3732032  
**Email**  
a.hunjra@gmail.com

## Person responsible for updating data

### Contact

**Name of organization / entity**  
Medcare International Hospital  
**Full name of responsible person**  
Dr Akhtar  
**Position**  
Consultant  
**Latest degree**  
Ph.D.  
**Other areas of specialty/work**  
Physiotherapy  
**Street address**  
Gill road

**City**  
Gujranwala  
**Province**  
Punjab  
**Postal code**  
52200  
**Phone**  
+92 55 3732032  
**Email**  
a.hunjra@gmail.com

## 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

Individual participant data will not be shared to others as it is my personal property

### Study Protocol

Yes - There is a plan to make this available

### Statistical Analysis Plan

No - There is not a plan to make this available

### Informed Consent Form

No - There is not a plan to make this available

### Clinical Study Report

No - There is not a plan to make this available

### Analytic Code

No - There is not 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

Effects of muscle energy technique in patients with tension type headache on pain , range of motion and functional level 1)Study protocol will be shared on request through email. 2) All collected deidentified IPD and IPD collected for the primary outcome measures will be shared on request through email.

### When the data will become available and for how long

After publication of my articles

### To whom data/document is available

For academic institutions and Hospitals use

### Under which criteria data/document could be used

The person who will request for data. All types of analysis will be shares through email on request

### From where data/document is obtainable

data can be obtained through email to Dr. Akhtar Hunjra

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

Through email or phone call request data can be available

### Comments

N/A