Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 ≥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

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Pakistan

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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 ≥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 7-1 0 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 longs 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 longs 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 Internationl Hospital

Full name of responsible person

Dr Akhtar

Street address

Gill Road

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Email

a.hunjra@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Medcare International Hospital

Full name of responsible person

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Email

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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

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Person responsible for scientific inquiries

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Person responsible for updating data

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Other areas of specialty/work
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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