

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effects of Muscle energy Technique versus Bruegger's Relief Exercise on the Forward Head Posture among the electronic gadget users -A Pilot study

Protocol summary

Study aim

Effects of Muscle Energy Technique versus Bruegger's Relief Exercises on the Forward Head Posture, pain, function and ROM

Design

Two parallel group trial with single blinded outcome assessment .Sample size was 24. Randomization was centralized and computerized with concealed randomization sequence carried out at an external site.

Settings and conduct

District Head Quarter Hospital Khushab Road Sargodha. it is a single blinded study.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age:18-35 years, male and female, Craniovertebral angle <52. Numeric Pain Rating Scale >3, Neck Disability Index>10, usage of smart phones for 4 hours or more per day. Exclusion criteria: Inflammation, neurological disorder, Neck pain radiating into arms, headache ,Vertebrobasilar insufficiency , trauma fracture, therapeutic intervention or medical treatment.

Intervention groups

After taking baseline assessment, Groups A will be treated with Hot pack for 7-10 min and then Muscle energy technique will be performed, 4 weeks 3 sessions in a week MET applied to Upper trapezius, Levator scapulae, Scalene and the Pectoralis major muscles. Groups B will be treated with Hot pack for 7-10 min and then , Bruegger's Relief Exercise, An elastic resistance band wrapped on each hand of the participant leaving the palm open then abduct and extend of thumb along with fingers, wrist extension and forearm supination, perform scapular retraction with shoulder external rotation, elbow extension, shoulder abduction, extension and chin tuck. Intervention will be starts from 10 sec hold to 30 sec with 2 sec increment in every session. Rest time would be 30 sec, 4 sets 12 times repetition.

Treatment time of each session approximately 20-30 min

Main outcome variables

Pain, Neck Disability Index, Range of motion and Craniovertebral angle

General information

Reason for update

Acronym

EMETBREFHP

IRCT registration information

IRCT registration number: **IRCT20201019049069N3**

Registration date: **2021-09-26, 1400/07/04**

Registration timing: **registered_while_recruiting**

Last update: **2021-09-26, 1400/07/04**

Update count: **0**

Registration date

2021-09-26, 1400/07/04

Registrant information

Name

Hamna Afzal

Name of organization / entity

Riphah International University

Country

Pakistan

Phone

+92 48 3768660

Email address

hamnaafzal101@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-08-11, 1400/05/20

Expected recruitment end date

2021-09-30, 1400/07/08
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effects of Muscle energy Technique versus Bruegger's Relief Exercise on the Forward Head Posture among the electronic gadget users -A Pilot study

Public title
Effects of Muscle Energy Technique versus Bruegger's Relief Exercise on the Forward Head Posture among the electronic gadget users

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Age: participants having range 18-35 years both male and female are included. Craniovertebral angle<52
□NPRS>3 and NDI>10. Patients having neck pain due to usage of smart phones or computers for 4 hours or more per day. Patients are willing to participate. Patients having neck pain due to sustained posture and after activity.
Exclusion criteria:
Inflammation malignancy, neurological disorder. Metabolic disorders. Neck pain radiating into arms and upper extremity. Neck pain associated with headache and facial pain. Recent surgery. Vertebrobasilar insufficiency (VBI) positive. History of recent trauma and fractures of cervical spine. Patients having any other therapeutic intervention or medical treatment.

Age
From **18 years** old to **35 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **24**

Randomization (investigator's opinion)
Randomized

Randomization description
Written informed consent will be taken. After enrollment into study, patient will be allocated either to group A or Group B by lottery method. No. of Chits will be equal to total sample size, odd Numbers will be allocated to Group A and even number will be allocated to Group B. Each patient will be requested to draw a chit from the box and after that patient will be recruited into either Group A or Group B

Blinding (investigator's opinion)
Single blinded

Blinding description

outcome assessor will be blinded by labeling the participants with different codes

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethical review committee of sargodha institute of health sciences, Government college university Fai
Street address
117-C, Zafar Ullah Road, Sattelite Town, Sargodha
City
Sargodha
Postal code
40100
Approval date
2021-07-17, 1400/04/26
Ethics committee reference number
SIHS/21/158

Health conditions studied

1

Description of health condition studied
Forward head posture is due to extension of upper cervical spine and flexion of lower cervical spine and cause neck pain

ICD-10 code
M54.2

ICD-10 code description
Cervicalgia

Primary outcomes

1

Description
pain

Timepoint
before treatment and after treatment (4th week)

Method of measurement
Numeric Pain Rating Scale (NPRS)

2

Description
Functional performance

Timepoint
before treatment and after treatment (4th week)

Method of measurement

Neck Disability Index (NDI)

3

Description

Cervical AROM

Timepoint

before treatment and after treatment (4th week)

Method of measurement

Universal Goniometer

4

Description

Craniovertebral angle

Timepoint

before treatment and after treatment 4th week

Method of measurement

image J software

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Before applying METs we will apply heat pack for 10-15 minutes. Protocol of Muscle Energy Technique. We will apply protocol for 4 weeks 12 Sessions (3 sessions in a week) and 10 sec rest between each segment with 3-5 times repetition than their will 7-10 second Isometric contraction followed by 5 second relaxation than 30 second hold for MET stretch. Effort and counter pressure will be modest(20%). Cervical spine non-thrust mobilization (Grade 3) will be given to each segment from C2-C7 will be followed by rest between segments. MET will be applied to Upper trapezius , Levator scapulae, Scalene and the Pectoralis major muscles. Following the 7-10 seconds isometric contraction and complete relaxation of all elements, the stretch is maintained for 30 seconds.

Category

Treatment - Other

2

Description

Intervention group: Before applying Bruegger's relief exercise we will apply heat pack for 10-15minutes. Protocol of Bruegger's Relief Exercise: Participant will be in a high sitting position. An elastic resistance band will be wrapped on each hand of the participant leaving the palm open and will be told to abduct and extend of thumb along with fingers, followed by wrist extension and forearm supination, the participant will be instructed to perform scapular retraction with shoulder external Than rotation, elbow extension, shoulder abduction, and extension and chin tuck. Intervention will be starts from 10 seconds hold to30 seconds with 2 seconds increment in every session

.Rest time would be 30 seconds, 4 sets 12 times repetition.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

District Headquarter Hospital Sargodha

Full name of responsible person

Hamna Afzal

Street address

Khushab Road, Sargodha, Punjab

City

Sargodha

Postal code

40100

Phone

+92 48 3768660

Email

hamnaafzal101@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

District Headquarter Hospital Sargodha

Full name of responsible person

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Street address

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Grant name

none

Grant code / Reference number

none

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

No

Title of funding source

District Headquarter Hospital Sargodha

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
Other

Phone
+92 48 3768660
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Person responsible for general inquiries

Contact

Name of organization / entity
District Head Quarter (DHQ) Hospital, Sargodha.
Full name of responsible person
Hamna Afzal
Position
Senior lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
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Person responsible for scientific inquiries

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Latest degree
Master
Other areas of specialty/work
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Person responsible for updating data

Contact

Name of organization / entity
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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

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

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

Clinical Study Report

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

Analytic Code

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

Data Dictionary

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