Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 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 ,Vertebrobasiliar 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
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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. Vertebrobasiliar 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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
District Headquarter Hospital Sargodha
Full name of responsible person
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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

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 lecturar
Latest degree
Master
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Physiotherapy
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Person responsible for updating data

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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