Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effects of Posture Correction Band on Pulmonary Function and Chest Expansion in Asymptomatic Population with Forward Head Posture

Protocol summary

Study aim
This study aimed to elucidate the effects of the posture correction band on the pulmonary function and chest expansion in young adults with forward head posture.

Design
Randomized Control Trial (G1: Posture Correction Belt) (G2: No Treatment)

Settings and conduct
Physiotherapy clinic named Johar Pain Relief Center Lahore, Pakistan

Participants/Inclusion and exclusion criteria
Inclusion Criteria: • Had a cranio-vertebral angle less than 50° • Had some neck pain and disability, less than 5 as measured by Urdu version of the neck disability index (NDI). Exclusion criteria • had a history of spinal or chest surgery • had a history of smoking • had an acute or chronic neuromusculoskeletal pain • had severe obesity (body mass index > 40), diabetes, or malignant tumors • had clinical abnormalities or severe comorbidities.

Intervention groups
Subjects were divided in two groups. G1 group will be the treatment group who wore posture correction belt for 2 hours and their Pulmonary Function Test (PFT) will be performed after that. G2 group will be control group. The PFT of this group individuals were performed without the trial of posture belt. PFT will be performed two times: before and immediately after undressing the postural band. Vital capacity (VC), forced vital capacity (FVC), peak expiratory flow (PEF), and forced expiratory volume at one second (FEV1) were measured. Chest expansion will be also measured with measuring tape before and after undressing posture belt.

Main outcome variables
Main outcome variables are vital capacity, forced vital capacity, peak expiratory flow, forced expiratory volume in one second and chest expansion

General information

Reason for update
Due to Covid-19 Wave spread, could not start the trial.

Acronym
PFT, FHP

IRCT registration information
IRCT registration number: **IRCT20191117045462N4**
Registration date: **2021-08-16, 1400/05/25**
Registration timing: **prospective**

Last update: **2021-09-02, 1400/06/11**
Update count: **1**

Registration date
2021-08-16, 1400/05/25

Registrant information

Name
Wajeeha Zia

Name of organization / entity
Riphah International University

Country
Pakistan

Phone
+92 42 35126110

Email address
wajeeha_z@yahoo.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-06-01, 1400/03/11

Expected recruitment end date
2021-08-01, 1400/05/10

Actual recruitment start date
2021-09-01, 1400/06/10

Actual recruitment end date
2021-12-31, 1400/10/10

Trial completion date

2022-02-01, 1400/11/12

Scientific title
Effects of Posture Correction Band on Pulmonary Function and Chest Expansion in Asymptomatic Population with Forward Head Posture

Public title
Effects of Posture Correction Band on Pulmonary Function and Chest Expansion in Asymptomatic Population with Forward Head Posture

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Had a cranio-vertebral angle less than 50° Had some neck pain and disability, less than 5 as measured by Urdu version of the neck disability index (NDI).

Exclusion criteria:
Had a history of spinal or chest surgery Had a history of smoking Had an acute or chronic neuromusculoskeletal pain Had severe obesity (body mass index > 40), diabetes, or malignant tumors Had clinical abnormalities or severe comorbidities.

Age
From **18 years** old to **45 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Investigator

Sample size
Target sample size: **42**
More than 1 sample in each individual
Number of samples in each individual: **2**
spirometry and chest expansion with measuring tape before and after treatment
Actual sample size reached: **42**
More than 1 sample in each individual
Actual sample size in each individual: **2**
spirometry and chest expansion with measuring tape before and after treatment

Randomization (investigator's opinion)
Randomized

Randomization description
Patients will be recruited in the study through a convenient sampling technique and then will be randomly assigned to each group through Random Sampling sealed opaque enveloped. Labeled as 1 for group G1 and 2 for group G2. Half enveloped will be labeled with 1 and a half with labeled 2. If a patient gets the envelope with label 1 then will be treated in group G1, and if a patient gets the envelope with label 2 that will be treated in group G2.

Blinding (investigator's opinion)
Single blinded

Blinding description
Accessor therapist will be blind. He will only document outcome variables but treatment will be provided by the other therapist.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research and Ethics Comittee (REC), Riphah college of rehabilitation and allied health sciences

Street address
Quaid-e-Azam Industrial State, Kot Lakhpath, Lahore, Pakistan

City
Lahore

Postal code
54000

Approval date
2021-03-19, 1399/12/29

Ethics committee reference number
RCRS-RE-MSPT-CPPT/Spring 20/060

Health conditions studied

1

Description of health condition studied
Forward Head Posture: Forward head posture (FHP) defines as an increased curvature of the cervical vertebrae due to the extension of head and upper cervical vertebrae (Cl-C3) and the flexion of the lower cervical vertebrae (C4-C7), resulting in the forward head posture.

ICD-10 code
R29.3

ICD-10 code description
Abnormal posture

2

Description of health condition studied
Neck pain is associated with Forward head posture.

ICD-10 code
M54.2

ICD-10 code description
Cervicalgia

Primary outcomes

1

Description
Vital Capacity (VC)

Timepoint

Pre and Post treatment (2 hours)

Method of measurement

Pulmonary function test: spirometer

2

Description

Forced Vital Capacity (FVC)

Timepoint

Pre and Post treatment (2 hours)

Method of measurement

Pulmonary function test: spirometer

3

Description

Peak Expiratory Flow (PEF)

Timepoint

Pre and Post Treatment (2 hours)

Method of measurement

Pulmonary function test: spirometer

4

Description

Forced Expiratory Volume at one second (FEV1)

Timepoint

Pre and Post Treatment (2 hours)

Method of measurement

Pulmonary function test: spirometer

5

Description

Chest Expansion

Timepoint

Pre and Post Treatment (2 hours)

Method of measurement

Measuring Tape

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: G1 group will be the treatment group who wore posture correction belt for 2 hours and their Pulmonary Function Test (PFT) and chest expansion will be measured after that. PFT and chest expansion measurements will be performed two times: before dressing the posture correction band and immediately after undressing the postural band.

Category

Treatment - Devices

2

Description

Control group: G2 group will be control group. The PFT of this group individuals were performed without the trial of posture belt.

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Johar Pain Relief Center

Full name of responsible person

Myda Tahir

Street address

273-H2 block, Johar town, Lahore, Pakistan

City

Lahore

Postal code

54000

Phone

+92 42 35126110

Email

jprc.lahore@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah College of Rehabilitation and Allied Health Sciences

Full name of responsible person

Wajeeha Zia

Street address

28-M, Quaid-e-Azam Industrial State, Kot Lakhpath, Lahore, Pakistan

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54500

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wajeeha_z@yahoo.com

Grant name

Grant code / Reference number

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

No

Title of funding source

Riphah College of Rehanilitation and Allied Health Sciences

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

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Riphah College of Rehabilitation and Allied Health Sciences, Lahore

Full name of responsible person

Wajeeha Zia

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

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Person responsible for scientific inquiries

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Danish Hassan

Position

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Latest degree

Ph.D.

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

Riphah College of Rehabilitation and Allied Health Sciences

Full name of responsible person

Maryam Shabbir

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is 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

Yes - There is a plan to make this available

Title and more details about the data/document

All collected deidentified IPD, IPD collected for the primary outcome measure

When the data will become available and for how long

Starting 6 months after publication

To whom data/document is available

Academic institutions

Under which criteria data/document could be used

All the data will remain under the management of academic institution under whom research work is being done. the authorized person by the university will be responsible for reviewing requests.

From where data/document is obtainable

wajeeha_z@yahoo.com mohtishim_7@hotmail.com

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

To access data, the person can simply emailed on the

specified email for request to access data. probably email will be answered within a day. After that the requestee must clearly mention the reason for accessing data along with some other details mentioned on the form. the data will be provided in 3 days after proper workup by the responsible person

Comments