

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effectiveness of pilates exercises with breathing re-education on pain, endurance, sleep and disability in working women with chronic non specific neck pain.

Protocol summary

Study aim

The aim of this study is to see effects of Pilates exercises with breathing reeducation on pain, endurance, sleep and disability in working women with chronic neck pain. This study show how non-invasive and effective treatments can improve the quality of life for working women with chronic neck pain.

Design

Two arm parallel group ,single blinded , single centered, randomized clinical trial.

Settings and conduct

Ghurki Trust Teaching Hospital Lahore, Pakistan.

Participants/Inclusion and exclusion criteria

INCLUSION CRITERIA: • Age 25-50 years old • Pain for more than 3 months • Females from white collar professions with daily 6 to 8 working hours per day • Pain intensity of less than or equal to 6 on NPRS
EXCLUSION CRITERIA: • Cervical radiculopathy • Rheumatological conditions • History of trauma i.e., whiplash injuries • Neurological disorders such as stroke, Parkinson or multiple sclerosis • Tumor • Pregnancy, as it can affect pain perception and exercise tolerance • Respiratory condtions like asthma, COPD

Intervention groups

BREATHING RE-EDUCATION GROUP: The patients in the intervention group received baseline treatment in the form of hot pack and neck isometric exercises 10*10 for 10 minutes. After wards patients performed mat pilates exercises for 30 minutes including swan dive, neck rolls ,cervical spine retraction chin tucks ,nodding, shoulder shrugs followed by breathing exercises for 15 minutes. The intervention was applied on alternate days for 6 weeks.

Main outcome variables

Pain, Endurance, Neck Disability, Sleep

General information

Reason for update

Acronym

PBNPS

IRCT registration information

IRCT registration number: **IRCT20200226046623N2**

Registration date: **2025-01-02, 1403/10/13**

Registration timing: **registered_while_recruiting**

Last update: **2025-01-02, 1403/10/13**

Update count: **0**

Registration date

2025-01-02, 1403/10/13

Registrant information

Name

sahreen Anwar

Name of organization / entity

The University of Lahore

Country

Pakistan

Phone

+92 41 8750106

Email address

sahreenanwar@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-10-31, 1403/08/10

Expected recruitment end date

2025-04-20, 1404/01/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of pilates exercises with breathing re-education on pain, endurance, sleep and disability in working women with chronic non specific neck pain.

Public title

role of Pilates exercises with breathing reeducation in working women with chronic neck pain.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age 25-50 years old Pain for more than 3 months
Females from white collar professions with daily 6 to 8 working hours per day • Pain intensity of less than or equal to 6 on NPRS

Exclusion criteria:

Cervical radiculopathy Rheumatological conditions
Neurological disorders Pregnancy, as it can affect pain perception and exercise tolerance Respiratory conditions like COPD

Age

From **25 years** old to **50 years** old

Gender

Female

Phase

4

Groups that have been masked

- Participant

Sample size

Target sample size: **52**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization was done using a computer generated block randomization scheme through "Random allocation" software. The blocks had different sizes(4,6,8) to ensure that the randomization process was unpredictable and to avoid selection bias. An automated randomization list was achieved with attrition rate included.

Blinding (investigator's opinion)

Single blinded

Blinding description

In this study only participants were blinded. This meant that participants were unaware of whether they were in breathing re-education group or pilates group.

Placebo

Not used

Assignment

Parallel

Other design features

It was a single blinded parallel randomized clinical trial.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethical Committee, Faculty of Rehabilitation Sciences,
Lahore university of Biological and Applied Sc

Street address

Tulspura, Canal Bank ,North Lahore 53400

City

Lahore

Postal code

54000

Approval date

2024-07-24, 1403/05/03

Ethics committee reference number

ERC/FORS/24/10

Health conditions studied

1

Description of health condition studied

Chronic Neck Pain

ICD-10 code

M54.2

ICD-10 code description

Cervicalgia

Primary outcomes

1

Description

Pain

Timepoint

Before intervention, and 3,6 weeks after intervention.

Method of measurement

Numeric Pain rating Scale (NPRS)

2

Description

Neck Disability

Timepoint

Before intervention, and 3,6 weeks after intervention.

Method of measurement

Neck Disability Index

Secondary outcomes

1

Description

Endurance

Timepoint

Before intervention, and 3,6 weeks after intervention.

Method of measurement

Craniocervical Flexion Test

2

Description

Sleep

Timepoint

Before intervention, and 3,6 weeks after intervention.

Method of measurement

Insomnia Severity Index (ISI)

Intervention groups

1

Description

Intervention group1:The patients in the intervention group received baseline treatment in the form of hot pack and neck isometric exercises 10*10 for 10 minutes. After wards patients performed mat pilates exercises for 30 minutes including swan dive, neck rolls ,cervical spine retraction chin tucks ,nodding, shoulder shrugs followed by breathing exercises for 15 minutes, the intervention was applied on alternate days for 6 weeks.

Category

Treatment - Other

2

Description

Control group: The patients in the Pilates group received baseline treatment in the form of hot pack and neck isometric exercises 10*10 for 10 minutes. After wards patients performed mat Pilates exercises for 30 minutes including swan dive, neck rolls ,cervical spine retraction chin tucks ,nodding, shoulder shrugs . The intervention was applied on alternate days for 6 weeks.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Ghurki Trust Teaching Hospital,Lahore, Pakistan.

Full name of responsible person

Dr. Hassan Bin Akram

Street address

Band Road GT Road Link Jallo Morr Lahore

City

Lahore

Postal code

54300

Phone

+92 333 4774363

Email

mianhassan653@gmail.com

Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Lahore University of Biological and Applied Sciences

Full name of responsible person

Rahmeen Murtaza

Street address

20 Qasim Block Rizwan Garden,Lahore

City

Lahore

Postal code

54300

Phone

+92 321 4087737

Email

Rahmeenmaan2000@gmail.com

Grant name

Grant code / Reference number

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

No

Title of funding source

Lahore University of Biological And Applied 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

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Lahore, University of Biological And Applied Sciences

Full name of responsible person

Sahreen Anwar

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Street#2 Sajid Garden Lahore

City

Lahore

Province

Punjab

Postal code

54300

Phone

+92 334 6591705

Email

Sahreenanwar@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Lahore University of Biological And Applied Sciences

Full name of responsible person

Sahreen Anwar

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Street#2 Rizwan Garden Lahore

City

Lahore

Province

Punjab

Postal code

54300

Phone

+92 334 6591705

Email

Sahreenanwar@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity

Lahore University of Biological and Applied Sciences

Full name of responsible person

Sahreen Anwar

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

street#2 Sajid Garden Lahore

City

Lahore

Province

PUNJAB

Postal code

54300

Phone

+92 334 6591705

Email

sahreenanwar@yahoo.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

Data will only be available upon request depending on the purpose of acquisition of the data.

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

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