

Postural biofeedback training for managing neck pain

Submission date 17/02/2025	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 25/02/2025	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 20/02/2025	Condition category Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Mechanical neck pain (MNP) is a common problem that can strain healthcare resources and create economic challenges. Poor and prolonged neck posture can lead to neck pain. This study aims to see if combining posture correction exercises with visual and auditory feedback can help reduce neck pain and improve movement in people with MNP.

Who can participate?

Adults of any gender who are experiencing mechanical neck pain can participate in this study.

What does the study involve?

Participants are divided into two groups. One group performs neck exercises as a placebo, while the other group engages in posture correction exercises with visual and auditory feedback. Both groups will complete four sessions, and changes in their symptoms will be measured before and after the study.

What are the possible benefits and risks of participating?

Participants in the training group may experience reduced neck pain and improved movement. However, the exercises might cause temporary discomfort or mild soreness.

Where is the study run from?

Kaohsiung Medical University in Taiwan.

When is the study starting and how long is it expected to run for?

June 2013 to June 2014

Who is funding the study?

The study is funded by the National Health Research Institutes (NHRI), the Research Center for Precision Environmental Medicine at Kaohsiung Medical University, and the Ministry of Education (MOE) in Taiwan.

Who is the main contact?

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Contact information

Type(s)

Public, Scientific, Principal Investigator

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Additional identifiers

EudraCT/CTIS number

Nil known

IRAS number

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

KMUH-IRB-20130102

Study information

Scientific Title

The application of postural correction biofeedback training for clients with mechanical neck pain

Study objectives

The hypothesis was that postural correction biofeedback training would lead to improvements in sensorimotor function and a reduction in clinical symptoms in clients with mechanical neck pain

Ethics approval required

Ethics approval required

Ethics approval(s)

Approved 14/06/2013, Kaohsiung Medical University Hospital (No. 100, Shiquan 1st Road, Sanmin District, Kaohsiung, 807378, Taiwan; +886 73121101; irb@kmuh.org.tw), ref: KMUH-IRB_20130102

Study design

Interventional randomized controlled trial

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Laboratory

Study type(s)

Treatment

Participant information sheet

No participant information sheet available

Health condition(s) or problem(s) studied

Mechanical neck pain

Interventions

Twenty subjects with mechanical neck pain from outpatient clinic of Kaohsiung Medical University Hospital were randomly divided into two groups: a control group and a training group with drawing lottery system.

The control group was instructed to perform 6-direction active cervical range of motion exercises, 15 times for each direction in session, as a placebo intervention. The training group, on the other hand, carried out postural correction biofeedback exercises, consisting of one trial per hour. Both groups underwent a total of four intervention sessions.

Total duration: 2 weeks

Intervention Type

Other

Primary outcome measure

1. Joint position error with absolute value, constant value, and variable value, measured at baseline and 2 weeks after intervention
2. Neck kinematic data of movement unit, head moving velocity, max range of planar motions at baseline and 2 weeks after intervention

Secondary outcome measures

1. Neck pain measured by visual analogue score (VAS) at baseline and 2 weeks after intervention
2. The index of fear-avoidance belief questionnaire (FABQ) at baseline and 2 weeks after intervention
3. Neck Disability Index (NDI) at baseline and 2 weeks after intervention

Overall study start date

14/06/2013

Completion date

13/06/2014

Eligibility

Key inclusion criteria

1. Neck pain caused by musculoskeletal system dysfunction
2. Pain occurring in the area between the occipital bone and the scapula
3. Myofascial neck pain
4. Radiating head/neck pain

Participant type(s)

Patient

Age group

Adult

Lower age limit

20 Years

Upper age limit

60 Years

Sex

Both

Target number of participants

40

Total final enrolment

20

Key exclusion criteria

1. Neck pain caused by neurological or other pathological mechanisms: rheumatic or neurological diseases
2. A history of traumatic injury to the head or neck
3. A history of cervical spine surgery
4. A whiplash injury within the past six weeks
5. Pain not originating from the neck itself
6. Neurological symptoms in the upper limbs

Date of first enrolment

14/06/2013

Date of final enrolment

31/12/2013

Locations

Countries of recruitment

Taiwan

Study participating centre**Kaohsiung Medical University**

No. 100, Shiquan 1st Road, Sanmin Distri

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Sponsor information**Organisation**

Kaohsiung Medical University

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Sponsor type

University/education

Website

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ROR

<https://ror.org/03gk81f96>

Funder(s)**Funder type**

Government

Funder Name

National Health Research Institutes

Alternative Name(s)

NHRI

Funding Body Type

Government organisation

Funding Body Subtype

Local government

Location

Taiwan

Funder Name

Kaohsiung Medical University Research Center Grant

Funder Name

Kaohsiung Medical University the Research Center for Precision Environmental Medicine

Funder Name

Ministry of Education, The Featured Areas Research Center Program within the framework of the Higher Education Sprout Project

Results and Publications

Publication and dissemination plan

Planned publication in a peer-reviewed journal

Intention to publish date

31/03/2025

Individual participant data (IPD) sharing plan

The dataset during the current study would be available upon request from LI,YAN-CHENG (kelly01100110@hotmail.com)

IPD sharing plan summary

Available on request