

Clinical Trial Protocol

Iranian Registry of Clinical Trials

04 Jul 2026

Effect of median and ulnar nerve neurodynamics to improve motor hand function in carpal tunnel syndrome patients

Protocol summary

Study aim

To find out the effect of median and ulnar nerve neurodynamics to improve motor hand function in carpal tunnel syndrome patients

Design

Single blinded, parallel assigned, multi center, randomized clinical trial that will be conducted on 30 participants with diagnosed carpal tunnel syndrome. purposive sampling technique will be used and randomization would be done by sealed and identical slips of paper which will contain their group numbers.

Settings and conduct

Allied hospital and district head quarter hospital Faisalabad. Participants will be kept anonymous for conducting single blinded trial.

Participants/Inclusion and exclusion criteria

30 to 50 years age both male and female patients, Work related and unilaterally diagnosed carpal tunnel syndrome, Mild (only sensory symptoms pain, paresthesias and numbness) and moderate carpal tunnel syndrome (motor weakness and symptoms) symptoms from less than one year, Without any conservative treatment before, Willing to participate will be included. Participants with pain due to severe carpal tunnel syndrome, Trauma to affected hand from last 12 months, Cervical radiculopathy, Brachial plexopathy, Previously use of any steroid injection, Current pregnancy, Thoracic outlet syndrome, Inflammatory joint diseases, Rheumatoid arthritis and osteoarthritis, Central nervous system disorder, Guyon tunnel syndrome, Neoplasm, Language and cognitive disorder patients, Drug abusers will be excluded.

Intervention groups

Active control group A: Participants will first receive common treatment (ultrasound and tendon gliding exercises) then median nerve neurodynamics. Intervention group B: participants will receive common treatment then median nerve neurodynamics and ulnar nerve neurodynamics.

Main outcome variables

Boston carpal tunnel questionnaire: symptoms severity and functional status scale and quick disabilities of arm shoulder and hand questionnaire

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210820052237N1**
Registration date: **2021-08-31, 1400/06/09**
Registration timing: **retrospective**

Last update: **2021-08-31, 1400/06/09**

Update count: **0**

Registration date

2021-08-31, 1400/06/09

Registrant information

Name

Azka Mustafa

Name of organization / entity

The university of faisalabad

Country

Pakistan

Phone

+92 41 5389581

Email address

dr.azkamustafa@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-05-31, 1400/03/10

Expected recruitment end date

2021-08-10, 1400/05/19

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effect of median and ulnar nerve neurodynamics to improve motor hand function in carpal tunnel syndrome patients

Public title
Effect of nerve mobilization in carpal tunnel syndrome patients

Purpose
Health service research

Inclusion/Exclusion criteria
Inclusion criteria:
Carpal tunnel syndrome patients range from 30 to 50 years age including both male and females Unilateral carpal tunnel syndrome Diagnosed with mild carpal tunnel syndrome (only sensory symptoms pain, paresthesia and numbness) and moderate carpal tunnel syndrome (motor weakness and symptoms) Work related carpal tunnel syndrome Symptoms shorter than one year duration Willing to participate in the study Had not undergone any conservative treatment before

Exclusion criteria:
Previous carpal tunnel syndrome surgery in the study hand Pain and trauma to the study hand past 12 months Severe CTS (thenar muscles atrophy) Previous pharmacotherapy e.g steroid injection in carpal tunnel of study hand in 2 weeks before the study Polyneuropathy e.g diabetes Cervical radiculopathy Current pregnancy Inflammatory joint diseases e.g rheumatoid arthritis and osteoarthritis Brachial plexopathy Thoracic outlet syndrome Central nervous system disorders (multiple sclerosis and small cerebral infarct) Thyroid disease Severe medical illness Any skin disease and wound condition History of neoplasm Previous fracture to the study hand Language difficulties and cognitive disorders Known abuse of drugs and alcohol abuse

Age
From **30 years** old to **50 years** old

Gender
Both

Phase
3

Groups that have been masked

- Participant

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Non probability purposive sampling technique will be used for randomization of 30 patients of carpal tunnel syndrome and participants will be allocated into two groups: Active control group A and intervention group B. Participants will be randomized by choosing sealed and identical slips of paper which will contain their group

numbers.

Blinding (investigator's opinion)
Single blinded

Blinding description
The participants will not be aware of the study groups and this will be accomplished by keeping them anonymous for the study period

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics and technical committee of the University of Faisalabad

Street address
University Town, Sargodha Road Faisalabad.

City
Faisalabad

Postal code
38000

Approval date
2021-05-25, 1400/03/04

Ethics committee reference number
TUF/DR/MSPP/306

Health conditions studied

1

Description of health condition studied
Decreased motor hand function with sensory, motor hand symptoms and weakness due to median nerve entrapment at wrist joint

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
Function and symptoms of hand

Timepoint
Before intervention, and after 4th week of intervention

Method of measurement
Boston carpal tunnel questionnaire subscale functional status scale and symptoms severity scale will be used to measure function of affected hand

2

Description

Disabilities and functional abilities of upper limb

Timepoint

Before intervention, and after 4th week of intervention

Method of measurement

Quick disabilities of arm, shoulder and hand scale will be used to assess disabilities and functional capacity of upper limb.

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Active control Group A will receive common treatment (ultrasound therapy and tendon gliding exercises) for 10 minutes and median nerve neurodynamics (10 reps , 3 sets/ session with 1 minute rest interval for 15 minutes duration) 3 days per week for 4 weeks duration.

Category

Treatment - Other

2

Description

Intervention group: Intervention group B will receive common treatment (ultrasound therapy and tendon gliding exercises) for 10 minutes with median and ulnar nerve neurodynamics (10 reps of each technique , 3 sets/session, with 1 minute rest interval between sets for 30 minutes duration) 3 days per week for 4 weeks duration.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Allied Hospital Faisalabad

Full name of responsible person

Sobia Nawaz

Street address

Government Hospital, Dr. Tusi Rd, Faisalabad

City

Faisalabad

Postal code

38000

Phone

+92 41 9210082

Email

info@pmc.edu.pk

Web page address

<https://health.hamariweb.com/faisalabad/hospitals/alli>

ed-hospital_hos3722

2

Recruitment center

Name of recruitment center

District Head Quarter Hospital

Full name of responsible person

Shaista Bano

Street address

Mall Road, Faisalabad

City

Faisalabad

Postal code

38000

Phone

+92 41 9200140

Email

info@pmc.edu.pk

Web page address

<https://citybook.pk/listing/district-headquarter-hospital-faisalabad/>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Yasmin physiotherapy center

Full name of responsible person

Osama Ramzan

Street address

Sargodha Road, Near Muslim town 3 opposite KIA motors

City

Faisalabad

Postal code

38000

Phone

+92 41 8785675

Email

osamaramzan@gmail.com

Web page address

<http://omiphysio.com/>

Grant name

Grant code / Reference number

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

No

Title of funding source

Yasmin physiotherapy center

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

Allied hospital faisalabad

Full name of responsible person

Azka Mustafa

Position

Clinical physiotherapist

Latest degree

Master

Other areas of specialty/work

Physiotherapy

Street address

Government hospital, Dr. Tusi Rd, Faisalabad

City

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Postal code

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Phone

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Email

info@pmc.edu.pk

Web page address

https://health.hamariweb.com/faisalabad/hospitals/allied-hospital_hos3722

Person responsible for scientific inquiries

Contact

Name of organization / entity

Allied hospital faisalabad

Full name of responsible person

Azka Mustafa

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Web page address

<https://www.marham.pk/hospitals/faisalabad/allied-hospital/jail-road>

Person responsible for updating data

Contact

Name of organization / entity

Allied hospital faisalabad

Full name of responsible person

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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

Consent form would be signed by the participants and they would make sure that their data will not be shared anywhere else other than in current study.

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

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

The primary outcome measures data will be shared and no further details regarding patients personal information will be provided.

When the data will become available and for how long

Starting in January 2022

To whom data/document is available

For everyone regarding field

Under which criteria data/document could be used

Whoever will request for the data

From where data/document is obtainable

Through Email address

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

An email starting the use of data will be appreciated
Comments