Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 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 conseravtive 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 ,Thorasic 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 Thorasic 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/allied-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
Faisalabad

Province
Punjab

Postal code
38000

Phone
+92 41 5389581

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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Street address
Government hospital, Dr. Tusi Rd, Faisalabad

City
Faisalabad

Province
Punjab

Postal code
38000

Phone
+92 41 5389581

Email
dr.azkamustafa@gmail.com

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
Azka Mustafa

Position
Clinical physiotherapist

Latest degree
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Other areas of specialty/work
Physiotherapy

Street address
Government hospital, Dr. Tusi Rd, Faisalabad

City
Faisalabad

Province
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Postal code
38000

Phone
+92 41 5389581

Email
dr.azkamustafa@gmail.com

Web page address
https://www.marham.pk/hospitals/faisalabad/allied-hospital/jail-road

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