

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Comparative Effectiveness of Resistance Training With and Without Finger Movement Exercises on Hand Grip Strength and Hand Function in Elderly Population

Protocol summary

Study aim

The aim of this study is to check the effectiveness of finger movement exercises on hand grip strength and hand function among elderly individuals.

Design

A randomized, double blinded clinical trial having parallel group design of 24 patients.

Settings and conduct

Subjects of study from • Old Shelter Home Faisalabad. • Faisal Islam Foundation (old citizen), Faisalabad. • Fatima foundation, Faisalabad will be considered.

Participants/Inclusion and exclusion criteria

Inclusion criteria Individuals who will be willing to participate by signing consent form, Male and female age \geq 65 years, Conscious and able to communicate, No defect in upper extremity and able to give us measurement of hand grip strength, No disease that cause restriction to individual to perform exercise, Ability to remain in sitting position Exclusion criteria Severe impairment in cognitive function, Severe arthritis, Fracture and nerve injury in upper extremity, Any chronic illness, Systemic disease including diabetes and hypertension

Intervention groups

Group A will receive resistance exercise with hand gripper as a baseline treatment and Group B will receive Finger movement exercises in addition to baseline treatment of resistance exercise.

Main outcome variables

Primary outcome will be Hand grip strength and secondary outcome will be Hand function

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200720048148N1**

Registration date: **2020-09-05, 1399/06/15**

Registration timing: **retrospective**

Last update: **2020-09-05, 1399/06/15**

Update count: **0**

Registration date

2020-09-05, 1399/06/15

Registrant information

Name

Hira Zahid

Name of organization / entity

The University of Faisalabad

Country

Pakistan

Phone

+92 41 8753585

Email address

hirazahid21@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-07-22, 1399/05/01

Expected recruitment end date

2020-09-01, 1399/06/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative Effectiveness of Resistance Training With and Without Finger Movement Exercises on Hand Grip

Public title

Compare effect of two exercises on hand grip strength in old age

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Individuals who were willing to participate by signing consent form Male and female age 65 -95 years Conscious and able to communicate No defect in upper extremity and able to give us measurement of hand grip strength No disease that cause restriction to individual to perform exercise Ability to remain in sitting position

Exclusion criteria:

Severe impairment in cognitive function Severe arthritis Fracture and nerve injury in upper extremity Any chronic illness. Systemic disease including diabetes and hypertension.

Age

From **65 years** old to **95 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size

Target sample size: **25**

Randomization (investigator's opinion)

Randomized

Randomization description

Convenient sampling technique will be used to collect sample and this sample will be allocated into two groups by lottery method of randomization. First of all we will collect sample from our place of convenience on the basis inclusion/exclusion criteria. After that, we will write names of each participant on page, close them and will ask the 3rd person to choose 12 closed pages and place them on side and then we will allocate them to treatment and control groups without opening the pages.

Blinding (investigator's opinion)

Double blinded

Blinding description

In our study participants and outcome assessor who will give treatment to participants are blinded to avoid biasness at any level. Blinding means both participants and assessors are unaware of results of intervention. They don't know whether the treatment is effective or not.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of The University of Faisalabad

Street address

Sargodha Road, University Town, Faisalabad.

City

Faisalabad

Postal code

38000

Approval date

2020-02-13, 1398/11/24

Ethics committee reference number

TUF/DR/DPT/070

Health conditions studied

1

Description of health condition studied

Loss of hand grip strength in old age

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Hand grip strength

Timepoint

Before intervention and after 4 weeks of intervention

Method of measurement

CAMRY Hand Held Dynamometer

Secondary outcomes

1

Description

Hand function

Timepoint

Before and after 4 weeks of intervention

Method of measurement

Dorouz Hand Index (DHI)

Intervention groups

1

Description

Intervention group: will receive resistance exercise with hand gripper as a baseline treatment. In addition to baseline treatment this group will also receive a set of finger movement exercises that includes pinching, flipping, crooking, finger counting and pressing. Each movement will be repeated 20 times in a single session.

These exercises will be performed in 3 sessions per week for total of 4 weeks.

Category

Rehabilitation

2

Description

Control group:will receive resistance exercise with hand gripper as a baseline treatment. The individuals will be in sitting position and asked to compress both arms of hand gripper with maximum force. This resistance exercise for intrinsic hand muscles will be performed for both right and left hands with four sets of 10 repetitions. Each set has resting interval of 2 minutes. This exercise has three sessions per week for 4 weeks.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Faisal Islam Foundation (old citizen), Faisalabad.

Full name of responsible person

Faisal Islam

Street address

351/C, Batala Colony, Faisalabad

City

Faisalabad

Postal code

38000

Phone

+92 41 5348289

Email

faisalislamfoundation@gmail.com

Web page address

2

Recruitment center

Name of recruitment center

Fatima foundation, Faisalabad

Full name of responsible person

Asma Awan

Street address

House# 4, Street# 7, Gulbahar colony, Satiana road, Faisalabad

City

Faisalabad

Postal code

38000

Phone

+92 41 7614661

Email

fatimafoundation@gmail.com

3

Recruitment center

Name of recruitment center

Old Shelter Home, Faisalabad
Full name of responsible person

Umair

Street address

Narwala Road, Opposite Jawad Club, Faisalabad,

City

Faisalabad

Postal code

38000

Phone

+92 41 4080554

Email

oldshelterhomefaisalabad@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Faisalabad

Full name of responsible person

Dr. Nimra Arshad; PT

Street address

Sargodha Road, University Town, Faisalabad

City

Faisalabad

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Phone

+92 41 8868326

Fax

+92 41 8868220

Email

info@tuf.edu.pk

Web page address

https://www.tuf.edu.pk

Grant name

Grant code / Reference number

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

Yes

Title of funding source

The University of Faisalabad

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Foreign

Category of foreign source of funding

Sponsor: country of origin

Country of origin

PK

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

The University of Faisalabad

Full name of responsible person

Hira Zahid

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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P-63, Judicial Housing Society, Sheikhpura road,
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Full name of responsible person

Hira Zahid

Position

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Latest degree

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Other areas of specialty/work

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Person responsible for updating data**Contact****Name of organization / entity**

The University of Faisalabad

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available