Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 ≥ 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

Strength and Hand Function in Elderly Population

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 gave 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 interventionCAMP
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 we includes pinching, filliping, 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, Faislabad
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
Faislabad
Postal code
38000
Phone
+92 41 4080554
Email
oldshelterhomefaislabad@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
Postal code
38000
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
Street address
P-63, Judicial Housing Society, Sheikhupura road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 41 8753585
Email
hirazahid21@gmail.com

Person responsible for scientific 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
Street address
P-63, Judicial Housing Society, Sheikhupura road, Faisalabad.
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 41 8753585
Email
hirazahid21@gmail.com

Person responsible for updating data

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
Street address
P-63, Judicial Housing Society, Sheikhupura road, Faisalabad.
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 41 8753585
Email
hirazahid21@gmail.com

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