Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

comparative effect of preoperative resistance and aerobic training in pre frail to moderately frail patients for improving quality of recovery in post coronary artery bypass grafting surgery patients

Protocol summary

Study aim
To determine the comparative effect of resistance and aerobic training in pre frail to moderately frail patients for improving quality of recovery in post coronary artery bypass grafting surgery patients

Design
Non Randomized, quasi experimental design of 46 patients were enrolled. Two arm parallel group with non blinded outcome assessment

Settings and conduct
The setting was Faisalabad Institute of Cardiology Faisalabad and the trial was quasi experimental study and factorial design was used.

Participants/Inclusion and exclusion criteria
The participants were selected on the basis of age 40 -65 years, both male and female were included, patient with double and triple vessel coronary artery disease were also included and patients who were mildly to moderately frail and had a Clinical Frailty Scale of 4-6 before surgery at the hospital setting and the participants were excluded on the basis of patient with unstable or recently unstable cardiac syndrome, prehabilitation is contraindicated in cases where a patient cannot follow study protocols due to cognitive impairment, patients who were severely frail (CSF 7-9) and a lack of consistency in attending prehabilitation treatments.

Intervention groups
Intervention group 1: After giving participants the baseline treatment. Group 1 recieved aerobic training including walking for 10-15 minutes and stepping 8-12 repetitions. Intervention group 2: After giving participants the baseline treatment. Group 2 recieved resistance training including shoulder overhead press, biceps curl, hamstrings curl and knee lift 10-15 repetitions.

Main outcome variables
Clinical Frailty Scale Quality of recovery WHO Disability Assessment Score 2.0

General information

Reason for update

Acronym
CABG

IRCT registration information
IRCT registration number: **IRCT20220902055851N1**
Registration date: **2022-10-17, 1401/07/25**
Registration timing: **retrospective**

Last update: **2022-10-17, 1401/07/25**
Update count: **0**

Registration date
2022-10-17, 1401/07/25

Registrant information

Name
Dr Nimra Aftab

Name of organization / entity
GOVT COLLEGE UNIVERSITY FIASALABAD, PUNJAB, PAKISTAN

Country
Pakistan

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+92 41 8536999

Email address
nimraaftab866@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2022-06-04, 1401/03/14

Expected recruitment end date
2022-09-28, 1401/07/06

Actual recruitment start date
2022-06-04, 1401/03/14
Actual recruitment end date
2022-08-28, 1401/06/06
Trial completion date
2022-09-04, 1401/06/13

Scientific title
comparative effect of preoperative resistance and aerobic training in pre frail to moderately frail patients for improving quality of recovery in post coronary artery bypass grafting surgery patients

Public title
comparative effect of preoperative resistance and aerobic training in pre frail to moderately frail patients for improving quality of recovery in post coronary artery bypass grafting surgery patients
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Age: 4o -65 years Both male and female Patient with double and triple vessel coronary artery disease Patients who were mildly to moderately frail and had a Clinical Frailty Scale of 4-6 before surgery at the hospital setting
Exclusion criteria:
Patient with unstable or recently unstable cardiac syndrome Prehabilitation is contraindicated in cases where a patient cannot follow study protocols due to cognitive impairment Patients who are severely frail (CSF 7-9) A lack of consistency in attending prehabilitation treatments
Age
From **45 years** old to **65 years** old
Gender
Both

Phase
0
Groups that have been masked
No information
Sample size
Target sample size: **55**
Actual sample size reached: **46**
Randomization (investigator's opinion)
Not randomized
Randomization description
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committe of Government College University Faisalabad
Street address
C389+CXH, Kotwali Rd, Gurunanakpura, Faisalabad, Punjab
City
Faisalabad
Postal code
38000
Approval date
2022-03-10, 1400/12/19
Ethics committee reference number
GCUF/ERC/1125

Health conditions studied

1

Description of health condition studied
CABG (coronary artery bypass grafting surgery)
ICD-10 code
Z50.0
ICD-10 code description
Cardiac rehabilitation

Primary outcomes

1

Description
The primary outcome was Quality of recovery.
Timepoint
3 timepoints including Baseline, preoperative 3rd week after treatment and postoperative before discharge.
Method of measurement
15- item Quality of recovery was utilized to assess pain

Secondary outcomes

1

Description
The secondary outcome was frailty.
Timepoint
3 timepoints including Baseline, preoperative 3rd week after treatment and postoperative before discharge
Method of measurement
Clinical Frailty Scale was used to assess frailty. The CFS scale consist of 9 points, which range from non-frail that scores 1–3, vulnerable/pre-frail that has scoring of 4 and frailty scores from 5–9.

2

Description

Another secondary outcome was disability free survival.

Timepoint

2 timepoints including baseline and postoperative one month after discharge

Method of measurement

WHO Disability Assessment Schedule 2.o score was used to monitor changes in disability free survival. Disability scores ranges from 0-4%, 5-24%, 25-49%, 50-95%, 96-100% for none, mild moderate, severe and complete disability respectively.

Intervention groups

1

Description

Intervention group 1: After giving participants the baseline treatment. Group A recieved aerobic training included walking for 10-15 minutes and stepping 8-12 repetitions.

Category

Rehabilitation

2

Description

Intervention group 2: After giving participants the baseline treatment. Group B recieved resistance training included shoulder overhead press, biceps curls, hamstrings curls and knee lift one set of 10-15 repetitions.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Faisalabad Institute of Cardiology

Full name of responsible person

Dr. Amir Mushtaq

Street address

New Chenab Club, sargodha Rd, Civil Lines, Faisalabad, Punjab.

City

Faisalabad

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38000

Phone

+92 41 9201529

Email

ms.ic.fsd@punjab.gov.pk

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Faisal Institute Of Health Sciences

Full name of responsible person

Dr. Ramisha Tahir

Street address

673-A Lower Canal Rd E, Block A People's Colony No 1, Faisalabad, Punjab

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fihsfsd@outlook.com

Grant name

Grant code / Reference number

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

No

Title of funding source

Self Financed

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

Faisal Institute Of Health Sciences

Full name of responsible person

Dr. Komal Tariq; PT

Position

Principle Investigator/Student

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

Street address

C483+95F, Block A People's Colony No 1, Faisalabad, Punjab

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Faisalabad

Province

Punjab

Postal code

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Person responsible for scientific

inquiries

Contact

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Person responsible for updating data

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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
Not applicable

Analytic Code
Not applicable

Data Dictionary
Not applicable