

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 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

Phone

+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: 40 -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 2.0 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

Postal code

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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Faisalabad

Postal code

38000

Phone

+92 41 8536999

Email

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

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Person responsible for scientific

inquiries

Contact

Name of organization / entity

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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