

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 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 received aerobic training including walking for 10-15 minutes and stepping 8-12 repetitions. Intervention group 2: After giving participants the baseline treatment. Group 2 received 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 committee 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 received 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 received 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

#### **City**

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

##### **Street address**

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

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##### **Email**

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## **Person responsible for scientific**

## **inquiries**

### **Contact**

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## **Person responsible for updating data**

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Faisal Institute of Health Sciences

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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