Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Effects of Prehabilitation Resistance Exercise in mild to moderate clinically frail patients for improving postoperative outcomes in Coronary Artery Bypass Grafting patients.

Protocol summary

Study aim
To evaluate effects of Prehabilitation Resistance Exercise in mild to moderate clinically frail patients for improving postoperative outcomes in Coronary Artery Bypass Grafting patients.

Design
Single Blinded Quasi Experimental Clinical Design

Settings and conduct
Faisalabad Institute of Cardiology,Faisalabad,Punjab,Pakistan setting used for research purpose.Patients will be allocated in groups according to Inclusion and exclusion Criteria.HHQ-GP 1 will be used as screening tool.Trails will be performed and results obtained from outcome variables will be noted at baseline,3rd week and Postoperative before discharge.

Participants/Inclusion and exclusion criteria
Inclusion Criteria: Patients between the ages of 40-65 years. Both male and female. Patients who are awaiting Coronary Artery Bypass Grafting. Pstients who are willing to participate in study will be included.Exclusion Criteria: Patients who are suffering from Chronic respiratory conditions like asthma,chronic obstructive pulmonary and intersitial lung disease. Patients with neurological disability. Patients with endocrine abnormalities e.g; hypo and hyperthyroidism. Patients with concomitant valve disease,anemia,pacemaker reliance and obesity according to Body Mass Index will be excluded.

Intervention groups
Treatment will be provided for 2 times a day , 10-15 repetitions, five days and for three weeks to both groups. Resistance Training Group will perform resistance exercises of major mucle groups of upper and lower limbs which consists of Shoulder over head press, Biceps Curl, Knee lift and Hamstring Curls exercises . Conventional Group will perform Early Mobilization and Deep Breathing exercises which includes Diaphragmatic Breathing with pursing of lips .

Main outcome variables
Clinical Frailty Scale,Distance covered in 6 Minute Walk Test,Heart Rate and Oxygen Saturation.

General information

Reason for update

Acronym
CABG

IRCT registration information
IRCT registration number: **IRCT20220704055364N2**
Registration date: **2023-02-18, 1401/11/29**
Registration timing: **prospective**

Last update: **2023-02-18, 1401/11/29**
Update count: **0**

Registration date
2023-02-18, 1401/11/29

Registrant information

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Name of organization / entity
Faisal institute of health sciences faisalabad

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Pakistan

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-02-26, 1401/12/07

Expected recruitment end date

2023-05-25, 1402/03/04

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of Prehabilitation Resistance Exercise in mild to moderate clinically frail patients for improving postoperative outcomes in Coronary Artery Bypass Grafting patients.

Public title

Effects of Prehabilitation Resistance Exercise in mild to moderate clinically frail patients for improving postoperative outcomes in Coronary Artery Bypass Grafting patients.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Patients between the ages of 40-65 Years. Patients who are awaiting Coronary artery bypass grafting. Patients who are willing to participate in study.

Exclusion criteria:

Patients who are suffering from chronic respiratory conditions like asthma,chronic obstructive pulmonary disease and intersitial lung disease. Patients suffering from chronic renal insufficiency. Patients with endocrine abnormalities e.g hypo and hyperthyroidism. Patients with concomitant valve disease,Anemia,pacemaker reliance and obesity according to Body Mass Index will be excluded .

Age

From **40 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **58**

More than 1 sample in each individual

Number of samples in each individual: **29**

Patients will be non -randomly assigned each group each group will comprise of 29 patients.

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 Faisal institute of health sciences, faisalabad

Street address

673-A Lower Canal Road E, Block A peoples Colony no 1, Faisal Hospital, Faisalabad.

City

Faisalabad

Postal code

38000

Approval date

2023-01-25, 1401/11/05

Ethics committee reference number

FIHS/DPT/805

Health conditions studied

1

Description of health condition studied

Coronary Artery Bypass Grafting (CABG) is a medical treatment to increase blood flow to the heart is often known as heart bypass surgery.

ICD-10 code

T82.2

ICD-10 code description

Mechanical complication of coronary artery bypass graft and biological heart valve graft

Primary outcomes

1

Description

The Clinical Frailty Scale (CFS) is a frailty instrument based on judgement that assesses key areas such as comorbidity, function, and cognition to produce a frailty score ranging from 1 (extremely fit) to 9 (terminally ill).

Timepoint

3time points including Baseline, After 3rd week and Postoperatively before discharge .

Method of measurement

CFS will be measured by Clinical Frailty Scale Questionnaire.

Secondary outcomes

1

Description

The six-minute walk test (6MWT) calculates a person's maximum walking distance over the course of six minutes on a level, firm surface.

Timepoint
3time points including Baseline, After 3rd week and Postoperatively before discharge
Method of measurement
6 Minute Walk Test will be measured by Distance Covered in 6 Minute Walk .

2

Description
Heart rate is define as the rate of heartbeat."The average heart rate is 72 beats per minute."
Timepoint
3time points including Baseline, After 3rd week and Postoperatively before discharge
Method of measurement
Heart Rate will be measured by pulse Oximetry.

3

Description
The oxygen saturation test determines how much oxygen is carried by your blood's haemoglobin. Humans' arterial blood oxygen saturation values are typically between 97 and 100 percent.
Timepoint
3time points including Baseline, After 3rd week and Postoperatively before discharge
Method of measurement
Pulse oximetry will be used to measured Oxygen Saturation.

4

Description
Ventilation Duration(hours) is the time from the patient entered the ICU to the time of extubation.
Timepoint
1 time postoperatively.
Method of measurement
Ventilation Duration will be measured in hours from the patient entered the ICU to the time of extubation.

5

Description
Postoperative Hospital Stay (Days) is the days patient stay in hospital after surgery.
Timepoint
1 time postoperatively
Method of measurement
Postoperative Hospital Stay (Days) will be measured by days patient stay in hospital after surgery.

Intervention groups

1

Description
Intervention group 1; Resistance Training Group will perform resistance exercises of major mucle groups of upper and lower limbs which consists of Shoulder over head press, Biceps Curl, Knee lift and Hamstring Curls exercises will be provided for 2 times a day , 10-15 repetitions, five days and for three weeks.
Category
Rehabilitation

2

Description
Control group 2; Conventional Group will perform Early Mobilization and Deep Breathing exercises which includes Diaphragmatic Breathing with pursing of lips will be provided for 2 times a day , 10-15 repetitions, five days and for three weeks.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Faisalabad Institute of Cardiology Faisalabad
Full name of responsible person
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Sponsors / Funding sources

1

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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
Academic

Person responsible for general 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
Not applicable
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