

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

Comparative effects of rosuvastatin and 10-week resistance band exercises for obese individuals of Multan

Protocol summary

Study aim

The primary aim of this study is to compare the effects of lipid-lowering drugs and a 10-week resistance band training program on lipid profiles, body composition, and overall health outcomes in obese patients with elevated cholesterol levels.

Design

Pragmatic, community based, parallel group, double blinded, randomized controlled trial. Total 380 patients will be enrolled.

Settings and conduct

Muhammad physical therapy clinic and rehabilitation center, Multan.

Participants/Inclusion and exclusion criteria

Inclusion criteria • Adults aged 18-65 years • Diagnosed with dyslipidemia, defined as elevated levels of total cholesterol, LDL cholesterol or triglycerides , or low HDL cholesterol • Able and willing to adhere to either drug therapy or a structured exercise program Exclusion Criteria • History of cardiovascular diseases • Uncontrolled hypertension • Recent history of smoking or current tobacco use • Conditions contraindicating exercise • Current use of lipid-lowering drugs or recent participation in a structured exercise program • Pregnant or lactating women

Intervention groups

Group A: Will receive e.g., Rosuvastatin 5mg administered orally once daily. Group B: Participants in the exercise intervention group will undergo a structured resistance training program, tailored to individual fitness levels and conducted under the supervision of a certified exercise trainer. The exercise regimen will include a 5-minute warm-up, 30 minutes of resistance training (including chest press, seated row, shoulder press, biceps curl, squats, deadlift, wood chopper, Russian twists), followed by a 5-minute cool-down. Training sessions will be held three times a week for 12 weeks

Main outcome variables

Lipid profile parameters (total cholesterol, low density

lipids, high density lipids, and triglycerides) will be measured at three time points: baseline, 5 weeks, and 10 weeks.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230202057310N15**

Registration date: **2024-12-27, 1403/10/07**

Registration timing: **prospective**

Last update: **2024-12-27, 1403/10/07**

Update count: **0**

Registration date

2024-12-27, 1403/10/07

Registrant information

Name

Imran Ahmad Khan

Name of organization / entity

Muhammad Nawaz Shareef University of Agriculture, Multan

Country

Pakistan

Phone

+92 333 6120602

Email address

imran.ahmad@mnsuam.edu.pk

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-01-06, 1403/10/17

Expected recruitment end date

2025-04-06, 1404/01/17

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparative effects of rosuvastatin and 10-week resistance band exercises for obese individuals of Multan

Public title
Rosuvastatin and 10-week resistance band exercises for obese individuals of Multan

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Adults aged 18-65 years • Diagnosed with dyslipidemia, defined as elevated levels of total cholesterol (≥ 200 mg/dL) Able and willing to adhere to either drug therapy or a structured exercise program LDL cholesterol (≥ 130 mg/dL) Triglycerides (≥ 150 mg/dL) ow HDL cholesterol (< 40 mg/dL for men, < 50 mg/dL for women)
Exclusion criteria:
History of cardiovascular diseases (e.g., myocardial infarction, angina) Uncontrolled hypertension ($\geq 160/100$ mmHg) Conditions contraindicating exercise (e.g., musculoskeletal disorders) Recent history of smoking or current tobacco use Current use of lipid-lowering drugs or recent participation in a structured exercise program Pregnant or lactating women

Age
From **18 years** old to **65 years** old

Gender
Both

Phase
1-2

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size
Target sample size: **380**

Randomization (investigator's opinion)
Randomized

Randomization description
Randomization will be done by computer-generated numbers to ensure fairness. Medications will be given in numbered white boxes, each with a unique medication number. The treatment codes will be kept by the principal investigator.

Blinding (investigator's opinion)
Double blinded

Blinding description
Statistical analyser and outcome assessor will be kept blind so that the result obtained will be without biasness.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

The Institutional Ethical Committee of Muhammad Institute of Medical and Allied Sciences

Street address

Bosan Road

City

Multan

Postal code

66000

Approval date

2024-12-07, 1403/09/17

Ethics committee reference number

MIMAS/07/19/IAK

Health conditions studied

1

Description of health condition studied

Obesity

ICD-10 code

E66

ICD-10 code description

Overweight and obesity

Primary outcomes

1

Description

Lipid profile parameters (total cholesterol, LDL, HDL, and triglycerides)

Timepoint

10 weeks

Method of measurement

Blood sample

2

Description

Body mass index

Timepoint

10 weeks

Method of measurement

Calculated from weight and height (measured using a digital scale and stadiometer).

Secondary outcomes

1

Description

Blood pressure

Timepoint

10 weeks

Method of measurement

Measured using a calibrated sphygmomanometer after a 5-minute rest in a seated position.

2**Description**

Waist-to-Hip Ratio, Hip to knee ration and Hip circumference

Timepoint

10 weeks

Method of measurement

Assessed using a flexible measuring tape

3**Description**

Quality of life

Timepoint

10 weeks

Method of measurement

SF-36

Intervention groups**1****Description**

Intervention group: Group 1: Participants in the drug intervention group will receive e.g., Rosuvastatin 5mg administered orally once daily. This medication has been selected based on its established efficacy in lowering LDL cholesterol and improving overall lipid profiles

Category

Treatment - Drugs

2**Description**

Intervention group: Participants in the exercise intervention group will undergo a structured resistance training program, tailored to individual fitness levels and conducted under the supervision of a certified exercise trainer. Exercise Protocol: The exercise regimen will include a 5-minute warm-up, 30 minutes of resistance training (including chest press, seated row, shoulder press, biceps curl, squats, deadlift, wood chopper, Russian twists), followed by a 5-minute cool-down. Training sessions will be held three times a week for 10 weeks

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Muhammad Rehabilitation Centre, Multan

Full name of responsible person

Komal Ammar Bukhari

Street address

Multan

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MULTAN

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Email

komalbukhari680@gmail.com

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Muhammad Institute of Medical and Allied Sciences, Multan, Pakistan.

Full name of responsible person

Qurat Ul Ain

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Multan

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Email

qain0635@gmail.com

Grant name

Student fund

Grant code / Reference number

MIMAS/12/4Kiran

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

Yes

Title of funding source

Muhammad Institute of Medical and Allied Sciences, Multan, Pakistan.

Proportion provided by this source

70

Public or private sector

Public

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**

Muhammad Institute of Medical and Allied Sciences, Multan, Pakistan.

Full name of responsible person

Maliha Khalid Khan

Position

Punjab

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

Street address

Multan

City

MULTAN

Province

Punjab

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66000

Phone

+92 312 6827130

Email

malihatareen1997@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Muhammad Nawaz Sharif University of Agriculture
Multan

Full name of responsible person

Imran Ahmad Khan

Position

Punjab

Latest degree

Ph.D.

Other areas of specialty/work

Medical Pharmacy

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Person responsible for updating data

Contact

Name of organization / entity

Muhammad Institute of Medical and Allied Sciences,
Multan, Pakistan.

Full name of responsible person

Kiran Ashraf

Position

Final Year Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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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

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