Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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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 (≥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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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
Street address
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City
Multan
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66000
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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

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Person responsible for scientific inquiries

Contact

Name of organization / entity
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Position
Punjab

Latest degree
Ph.D.

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Medical Pharmacy

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Person responsible for updating data

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Full name of responsible person
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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