

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 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 ( $\geq 200$  mg/dL) Able and willing to adhere to either drug therapy or a structured exercise program LDL cholesterol ( $\geq 130$  mg/dL) Triglycerides ( $\geq 150$  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

**City**

MULTAN

**Postal code**

66000

**Phone**

+92 333 6120602

**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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Multan

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66000

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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

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Multan

**City**

MULTAN

**Province**

Punjab

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66000

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+92 312 6827130

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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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Bosan Road

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**Email**

Kiranashraf523@gmail.com

**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