

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Effects of resistance training on inflammatory markers, cardiorespiratory fitness and pulmonary functions in patients with Rheumatoid arthritis.

Protocol summary

Study aim

To determine the effects of progressive resistance exercise training on inflammatory markers, cardiorespiratory fitness, pulmonary function in patients with RA.

Design

Two parallel group , single blinded, randomized control trial with pre and post assessment

Settings and conduct

Will be conducted in private hospital Ittefaq hospital Lahore

Participants/Inclusion and exclusion criteria

Inclusion criteria • Patient with RA • Patients with sedentary lifestyle (no participation in structural exercise for the preceding 6 months) • RA factor positive • Both males and females • Age between 40-65 years • Stable disease • No change in DMARDS (Methotrexate, sulfasalazine, hydroxychloroquine) Exclusion criteria. • Joint surgery (in the preceding 6 months) • Cognitive disability • Other joint diseases such as Osteoporosis and Osteoarthritis • Previous history of fracture • Primary neurological disease • Comorbidity incompatible with exercise

Intervention groups

- Patients will ask to perform four exercises utilising large muscle groups (eg, leg press, shoulder press, chest press and pull ups). Intensity will determine during their first resistance exercise session using an established protocol.20 They will required to complete three sets of 12-15 repetitions during each exercise session. Mode and intensity of exercise will adjust monthly.

Main outcome variables

6 minutes walk test Spirometry Blood test

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191117045462N18**

Registration date: **2024-07-23, 1403/05/02**

Registration timing: **prospective**

Last update: **2024-07-23, 1403/05/02**

Update count: **0**

Registration date

2024-07-23, 1403/05/02

Registrant information

Name

Wajeeha Zia

Name of organization / entity

Riphah International University

Country

Pakistan

Phone

+92 42 35126110

Email address

wajeeha_z@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-08-15, 1403/05/25

Expected recruitment end date

2024-12-15, 1403/09/25

Actual recruitment start date

2024-08-15, 1403/05/25

Actual recruitment end date

2024-08-15, 1403/05/25

Trial completion date

2024-12-25, 1403/10/05

Scientific title

Effects of resistance training on inflammatory markers, cardiorespiratory fitness and pulmonary functions in patients with Rheumatoid arthritis.

Public title

Effects of resistance training on inflammatory markers, cardiorespiratory fitness and pulmonary functions in patients with Rheumatoid arthritis.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

- Patient with RA Patients with sedentary lifestyle (no participation in structural exercise for the preceding 6 months) RA factor positive Both males and females
- Age between 40-65 years
- Stable disease

Exclusion criteria:

Joint surgery (in the preceding 6 months) Cognitive disability Other joint diseases such as Osteoporosis and Osteoarthritis Previous history of fracture

- Primary neurological disease

Age

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

Gender

Both

Phase

N/A

Groups that have been masked

- Investigator

Sample size

Target sample size: **70**

Actual sample size reached: **70**

Randomization (investigator's opinion)

Randomized

Randomization description

Taking into account the above mentioned inclusion and exclusion criteria, patients will be recruited in the study through convenient sampling technique and then will be randomly assigned to each group through Random Sampling sealed opaque enveloped.

Blinding (investigator's opinion)

Single blinded

Blinding description

Investigator will be blind. Assessment will be done by 2nd therapist who will not be involved in treatment and data analysis.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Riphah College of rehabilitation & Allied health sciences

Street address

25 Raza Saeed Rd, Bhabra block M Gulberg III, Lahore. Punjab

City

Lahore

Postal code

54000

Approval date

2024-01-15, 1402/10/25

Ethics committee reference number

RCR&ACHS/REC/MS-CPPT

Health conditions studied

1

Description of health condition studied

Patients with rheumatoid arthritis

ICD-10 code

M06

ICD-10 code description

Other rheumatoid arthritis

Primary outcomes

1

Description

Resistance training

Timepoint

Pre post treatment

Method of measurement

6 minutes walk test, spirometry, blood test

Secondary outcomes

1

Description

Inflammatory markers

Timepoint

Pre post treatment

Method of measurement

Blood Test (Complete Blood Count)

Intervention groups

1

Description

Intervention group: Resistance exercise training: Patients will ask to perform four exercises utilizing large muscle groups (eg, leg press, shoulder press, chest press and pull ups). Intensity will determine during their first resistance exercise session using an established protocol. They will required to complete three sets of 12-15 repetitions during each exercise session. Each exercise session will be last about 20 to 30 minutes, depending on the individual's tolerance and fitness level. Frequency will be aimed for 2-3 sessions per week. This frequency allows for adequate recovery between

sessions while providing enough stimulus to improve fitness over time. Mode and intensity of exercise will adjust monthly.

Category

Rehabilitation

2

Description

Control group: conventional therapy along with verbal advice about the cardiovascular and arthritis related benefits of exercise for the same period

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Riphah college of rehabilitation & Allied Health Sciences

Full name of responsible person

Riphah college of rehabilitation & Allied Health Sciences

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah International University

Full name of responsible person

Dr wajiha

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Grant name

Educational

Grant code / Reference number

No

Is the source of funding the same sponsor

organization/entity?

No

Title of funding source

Riphah international university

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

Riphah International University

Full name of responsible person

Aqsa Riaz

Position

Student

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

Wajeeha zia

Position

Senior lecturer

Latest degree

Ph.D.

Other areas of specialty/work

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further information

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