Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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+92 42 35126110

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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 thepreceding 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. Assesmnt 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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25 Raza saeed Rd, Bhabra block M Gulberg III, Lahore. Punjab

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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

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Senior lecturer

Latest degree
Ph.D.

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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