

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jun 2026

Evaluation of Effects of Exercise Training on Oxidative Stress Parameters in Hemodialysis Patients.

Protocol summary

Summary

This study is aimed to investigate the effect of exercise on oxidative stress in hemodialysis patients. Eighteen subjects will be selected from patients undergoing chronic hemodialysis three times a week in a treatment center. The patients must have no limit for and being interested in doing exercise. They will be enrolled in an exercise program that will be performed during each hemodialysis session for eight weeks. Meanwhile, 18 patients undergoing hemodialysis with the same condition will be selected as the control group. The exercise will be cycling with a minibike during the first hour of dialysis. The exercise will last 20-30 minutes, with a maximum time of 45 minutes, depending on patient's endurance. Before the beginning of hemodialysis session and exercise, blood samples will be taken from the patients in each group and will be stored for later evaluation on inflammatory markers, including albumin, C-reactive protein (CRP), white blood cells, and serum ferritin. Other parameters such as nitrosative stress factors and the end products of lipid peroxidation such as malondialdehyde will be also examined. In addition, total plasma antioxidant capacity such as ferric ion reducing capacity, and thiol group including glutathione will be assessed. After eight weeks exercise, all the mentioned parameters will be measured again in both groups. Finally, the results of the tests before and after the eight weeks will be compared between groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017040433205N1**

Registration date: **2017-06-19, 1396/03/29**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2017-06-19, 1396/03/29

Registrant information

Name

Azadeh Saber

Name of organization / entity

Kerman University of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research, Kerman University of Medical Sciences

Expected recruitment start date

2017-04-20, 1396/01/31

Expected recruitment end date

2017-09-21, 1396/06/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of Effects of Exercise Training on Oxidative Stress Parameters in Hemodialysis Patients.

Public title

Effects of Exercise on Hemodialysis Patients.

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: Patients under hemodialysis three times a week who are interested to do exercise.
Exclusion criteria: Any infectious or inflammatory disease or active malignancy; Limited circumstances for exercise such as: atopy, asthma, known ischemic heart disease or history of heart attack during past three months; a history of stroke or transient ischemic attack during past three months; Any disorder in the musculoskeletal system such as osteoarthritis, osteoporosis, joint problems and any disability that prevents exercise; Hypoxia; Fever.

Age

No age limit

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: 36

Randomization (investigator's opinion)

Not randomized

Randomization description**Blinding (investigator's opinion)**

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics Committee of Kerman University of Medical Sciences

Street address

Central Organization of the University, Shafa crossroad, Jomhori Eslami Blvd, Kerman

City

Kerman

Postal code**Approval date**

2007-02-25, 1385/12/06

Ethics committee reference number

95000141

Health conditions studied**1****Description of health condition studied**

Chronic hemodialysis patients

ICD-10 code

Z49.1

ICD-10 code description

Extracorporeal dialysis

Primary outcomes**1****Description**

Uric Acid

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

biochemistry tests

2**Description**

Albumin

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

biochemistry test

3**Description**

Ferritin

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

biochemistry test

4**Description**

White Blood Cell

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

biochemistry test

5**Description**

Chain Reactive Protein

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

biochemistry test

6**Description**

Carbonyl Group

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

Spectrophotometry

7

Description

Malondialdeid

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

Spectrophotometry

8

Description

Ferric Ion Reductive Ability

Timepoint

before and after exercise(8 weeks interval)

Method of measurement

Spectrophotometry

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Exercise includes cycling with minicycle on the bed in the first hour of every dialysis session and exercise timing has been planned to be less than the tolerance level of the patients. Every session lasts 4 hours and the sessions will be held 3 times a week (every other day) for 8 weeks.

Category

Rehabilitation

2

Description

Control group: not any exercise during hemodialysis session

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Hemodialysis Center; Shafa Hospital; Kowsar Blvd;
Kerman

Full name of responsible person

Dr.Azadeh Saber

Street address

Shafa Hospital, Kowsar Blvd, Kerman

City

Kerman

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research, Kerman University of
Medical Sciences; Haft Baghe Alavi Highway; Kerma

Full name of responsible person

Dr.Pardakhty

Street address

Research Center, University Paradise, Kerman
University of Medical Sciences; Haft Baghe Alavi
Highway; Kerman Province

City

kerman

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice Chancellor for Research, Kerman University of
Medical Sciences; Haft Baghe Alavi Highway; Kerma

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

University campus, Kerman University of Medical
Sciences; Haft Baghe Alavi Highway; Kerman Province

Full name of responsible person

Azadeh Saber

Position

Nephrology Subspecialist

Other areas of specialty/work

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University campus, Kerman University of Medical Sciences; Haft Baghe Alavi Highway; Kerman Province

Full name of responsible person

Azadeh Saber

Position**Sharing plan****Deidentified Individual Participant Data Set (IPD)**

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty