Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The Evaluation effect of aerobic exercise on serum BDNF in patients with COPD in kerman

Protocol summary

Study aim
Determine the effect of exercise on serum BDNF in patients with COPD in Kerman, Iran
Design
Parallel group, randomized controlled trial without blinding. 30 patients with COPD will be divided randomly in two groups: control and aerobic exercise
Settings and conduct
The study will be conducted in pulmonary ward, Afzalipour hospital. 30 patients will be selected as sample with convenience sampling and then will be divided in 2 groups randomly. The serum level of BDNF will be measured and compared between groups.
Participants/Inclusion and exclusion criteria
People with COPD ages 40 to 70 years and with body mass index of 19 to 24 with out other medical problems: heart disease (including recent myocardial infarction, myocardial ischemia, cardiac erythema), chronic liver, kidney, gastrointestinal, musculoskeletal, and central nervous system disease. Patients who have a resting dose of Sao2 (less than 88% of the saturated blood of o2) and are not modified by hypoxic oxygenation are excluded.
Intervention groups
The control group received routine care and the procedure was followed by telephone calls once a week for a maximum of 10 minutes. The intervention group, in addition to the usual care, participated in the lung rehab program. The aerial rehabilitation program in this study was performed on bicycles three times a week for 4 weeks.
Main outcome variables
Changes in serum level of BDNF

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20171216037904N1**
Registration date: **2019-03-31, 1398/01/11**
Registration timing: **retrospective**

Last update: **2019-03-31, 1398/01/11**
Update count: **0**
Registration date
2019-03-31, 1398/01/11

Registrant information
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elahe barkhordari
Name of organization / entity
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Iran (Islamic Republic of)
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2018-04-20, 1397/01/31
Expected recruitment end date
2018-07-22, 1397/04/31
Actual recruitment start date
2018-04-20, 1397/01/31
Actual recruitment end date
2018-07-22, 1397/04/31
Trial completion date
2018-07-22, 1397/04/31

Scientific title
The Evaluation effect of aerobic exercise on serum BDNF in patients with COPD in kerman

Public title
The effect of aerobic exercise on serum BDNF levels in

patients with COPD

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

People who have 5 years of history of the disease Age 40 to 70 years Body mass index 19 to 24 Their severity is mild to moderate

Exclusion criteria:

Patients with heart disease (including recent myocardial infarction, myocardial ischemia, cardiac erythema), chronic liver, kidney, gastrointestinal, musculoskeletal, and central nervous system were excluded.

Age

From **40 years** old to **70 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **22**

Actual sample size reached: **22**

Randomization (investigator's opinion)

Randomized

Randomization description

Twenty-two patients were selected by simple sampling method and were randomly assigned to two groups of eleven people after being consciously informed consent.

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

Ebne-sina St. Research deputy, Kerman University of Medical Sciences

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Postal code

7616913555

Approval date

2016-08-15, 1395/05/25

Ethics committee reference number

IR.KMU.REC.1395.677

Health conditions studied

1

Description of health condition studied

COPD

ICD-10 code

J44.9

ICD-10 code description

Chronic obstructive pulmonary disease, unspecified

Primary outcomes

1

Description

serum level BDNF

Timepoint

Out of all subjects in two stages, pre-test and post-test after the month of blood sampling, fasting at 5 AM was performed in the post-test phase four days after the last training session.

Method of measurement

Blood samples were collected from a 2-secreted blood sample of the antiviral antagonists of EDTA, and after 12 minutes centrifugation with 3000 doses of serum, BDNF levels were measured by ELISA method by kit.

Secondary outcomes

1

Description

serume level of BDNF

Timepoint

Before and two months after intervention

Method of measurement

Test kit

Intervention groups

1

Description

The intervention group: Eleven men with COPD in this group were scheduled to undergo aerobic exercise for two months, three sessions per week and for thirty to forty minutes each session. Blood samples were taken to measure serum BDNF levels before And then the two month period was taken.

Category

Rehabilitation

2

Description

Control group: Eleven men with COPD were in this group, and no additional action was taken during the two

months. Blood samples were taken to measure serum BDNF levels before and after the 2-month period

Category
N/A

Recruitment centers

1

Recruitment center

Name of recruitment center
Afzalipour hospital

Full name of responsible person
Elaheh Barkhordari

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
No

Title of funding source
Kerman University of Medical Sciences

Proportion provided by this source
100

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
Kerman University of Medical Sciences

Full name of responsible person
Elaheh Barkhordari

Position
General practitioner

Latest degree
Medical doctor

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General Practitioner

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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