

Clinical Trial Protocol

Iranian Registry of Clinical Trials

22 Jun 2026

The effect of 6 weeks of high-intensity interval training (HIIT) with supplementation of Omega-3 on serum levels of brain-derived neurotrophic factor (BDNF) in sedentary male students

Protocol summary

Study aim

The effect of 6 weeks of High-intensity interval training (HIIT) with omega-3 supplementation on serum levels of brain-derived neurotrophic factor (BDNF) was inactive male students.

Design

Clinical trials with the control group, Pragmatic, With parallel groups, Not blind and Randomized.

Settings and conduct

Place of research of Sistan and Baluchestan University, Physical Education Hall, Subjects in each intervention group belonging to that group, High-intensity interval training (40 Meter speeds back and forth), Usage of omega-3 supplementation (2 grams daily), Do both interventions (High-intensity interval training plus omega-3 consumption) Or intervention control group (Without physical activity and supplementation) they did.

Participants/Inclusion and exclusion criteria

log in: healthy, Completion of consent form, Lack of supplement or medication, Lack regular exercise, No smoking. No entry: Failure to complete the consent form, Taking medicine or supplement, Heart or respiratory disease, Being athlete.

Intervention groups

Control group: During this 6-week period, No activity or consumption will have any supplement. First Intervention group: High-Intensity interval training (40 m round trip speed for 6 weeks, 4 repetitions in the first week and 8 repetitions in the sixth week). Along with taking 2 grams of omega-3 jelly capsules made by Zahravi Iran Co. at breakfast and dinner 1 gram plus one glass of water for 6 weeks. Second Intervention group: High-Intensity interval training (40 m round trip speed for 6 weeks, 4 repetitions in the first week and 8 repetitions in the sixth week). Third Intervention group: with taking 2 grams of omega-3 jelly capsules made by Zahravi Iran Co. at breakfast and dinner 1 gram plus one glass of water for 6 weeks.

Main outcome variables

Increased serum BDNF, Improve body composition indicators, Improve Indicators Hematology and lipid profiles.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20181227042149N1**
Registration date: **2019-02-23, 1397/12/04**
Registration timing: **retrospective**

Last update: **2019-02-23, 1397/12/04**

Update count: **0**

Registration date

2019-02-23, 1397/12/04

Registrant information

Name

sajjad karimi pour

Name of organization / entity

The University of Sistan & Baluchestan

Country

Iran (Islamic Republic of)

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Email address

sajad.karimi1819@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-09-23, 1397/07/01

Expected recruitment end date

2018-09-26, 1397/07/04

Actual recruitment start date

2018-09-23, 1397/07/01

Actual recruitment end date

2018-09-26, 1397/07/04

Trial completion date

2018-11-21, 1397/08/30

Scientific title

The effect of 6 weeks of high-intensity interval training (HIIT) with supplementation of Omega-3 on serum levels of brain-derived neurotrophic factor (BDNF) in sedentary male students

Public title

Effect of physical activity and supplementation on BDNF index

Purpose

Prevention

Inclusion/Exclusion criteria**Inclusion criteria:**

Completion of consent form for cooperation in research work. Non-public physical education physical education male students that have 1 to select units. Subjects do not have regular physical activity during the last 6 months. At least 6 months before the start of the study, they did not use omega-3 supplements, antioxidants or certain medications. Lack of specific disease and having physical health of subjects. Non-use of cigarettes and tobacco.

Exclusion criteria:

Physical Education Students or Students who Have Elected Physical Education 2. Failure to complete the consent form for cooperation in the research project. Subjects with respiratory, cardiac or other diseases. Subjects use a specific drug or supplement 6 months before or at the present time. Subjects have regular activities such as walking, bodybuilding, soccer and ... in the last 6 months or now. Smoking or tobacco use.

Age

No age limit

Gender

Male

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **40**

Actual sample size reached: **32**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple random method, Simple random units (groups) are selected in lottery form, Then all the names of the people are in the envelopes and each of them is selected by lot.

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 Sport Sciences Research Institute of Iran

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No. 3, - Alley 5., - Miremad Street., Professor Motahhari Street

City

Tehran

Province

Tehran

Postal code

1587958711

Approval date

2018-06-25, 1397/04/04

Ethics committee reference number

IR.SSRC.REC.1397.238

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

healthy people

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Serum levels of Brain-derived neurotrophic factor (BDNF)

Timepoint

Measuring serum BDNF levels at the beginning of the study 24 hours before the start of the The first session of the training and at the end (6 weeks) 48 hours after the last training session.

Method of measurement

Blood serum sampling-Laboratory kit for serum human BDNF

Secondary outcomes**1****Description**

Hematology Indicators

Timepoint

At the beginning of the study, 24 hours before the start

of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

American Sysmox Electron Microscope

2

Description

Weight

Timepoint

At the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

German Seca Digital Scale

3

Description

Blood pressure

Timepoint

At the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

Pressure gauge Japanese ALPK2

4

Description

Body fat percentage

Timepoint

At the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

Japan's Caliph Yagamy

5

Description

Maximum Oxygen Consumption

Timepoint

At the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

Test a mile running in the field

6

Description

Body mass index

Timepoint

Measuring serum BDNF levels at the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

Digital scales and gauges German Seca Model

7

Description

Waist to hip

Timepoint

At the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

Strip meter

8

Description

Lipid Profiles

Timepoint

At the beginning of the study, 24 hours before the start of the protocol and at the end of the protocol (6 weeks), 48 hours after the last session of the protocol

Method of measurement

Blood serum sampling, Special kits

9

Description

Dietary control of subjects

Timepoint

Once at the beginning of the research protocol (first week), again at the end of the week (Sixth week), three consecutive days(Includes two non-holiday days and one day end weekend)

Method of measurement

Using a 24-hour questionnaire, the dietary reminder was completed by the subjects, Calculated by the researcher by referring to the guidebook on nutritional value of Iranian diets

Intervention groups

1

Description

Control group: During this 6-week period, no activity will be involved, nor will any use be made.

Category

Prevention

2

Description

First Intervention group: High-Intensity interval training (40 m round trip speed for 6 weeks, 4 repetitions in the first week and 8 repetitions in the sixth week). Along with taking 2 grams of omega-3 jelly capsules made by Zahravi Iran Co. at breakfast and dinner1 gram plus one glass of water for 6 weeks.

Category

Prevention

3

Description

Second Intervention group: High-Intensity interval

training (40 m round trip speed for 6 weeks, 4 repetitions in the first week and 8 repetitions in the sixth week).

Category

Prevention

4

Description

Third Intervention group: with taking 2 grams of omega-3 jelly capsules made by Zahravi Iran Co. at breakfast and dinner 1 gram plus one glass of water for 6 weeks.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

University of Sistan and Baluchestan

Full name of responsible person

Sajjad karimi pour

Street address

Nikbakht School of Engineering, University of Sistan and Baluchestan, University Boulevard

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Email

info@usb.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Sistan and Baluchestan

Full name of responsible person

Sajjad karimi pour

Street address

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor

organization/entity?

Yes

Title of funding source

The University of Sistan and Baluchestan

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

Persons

Person responsible for general inquiries

Contact

Name of organization / entity

The University of Sistan and Baluchestan

Full name of responsible person

Sajjad karimi pour

Position

Student

Latest degree

Master

Other areas of specialty/work

Exercise Physiology

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Person responsible for scientific inquiries

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Full name of responsible person

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Position

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Latest degree

Master

Other areas of specialty/work

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Person responsible for updating data**Contact****Name of organization / entity**

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Full name of responsible person

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Position

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Other areas of specialty/work

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

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Total data

When the data will become available and for how long

6 months after the results are published

To whom data/document is available

Researchers working in academic institutions and scientific, People working in medicine and industry

Under which criteria data/document could be used

For future research and any kind of analysis is allowed.

From where data/document is obtainable

Refer to postal address Nikbakht School of Engineering, University of Sistan and Baluchistan, University Boulevard- Zahedan- Sistan and Baluchestan for correspondence, Or email address

sajad.kerimi1819@gmail.com, Or call With mobile

number 09150369859, in the name of Sajjad Karimi pour to answer and receive the documents or data you want

What processes are involved for a request to access data/document

After verifying the identity of the requesting person and the agreement of the professor's Help and Advisor also the relevant university, the main findings will be sent to the person.

Comments