Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Effect of one to four-week omega-3 consumption on muscle damage indices after an eccentric exercise session

Protocol summary

Study aim
The purpose of this study is evaluate the effect of1to 4-week omega-3 consumption on muscle damage indices after eccentric resistance exercise

Design
A clinical trial with control group, with parallel group, triple-blinded and randomized on 60 subjects; using random number table for simple randomization

Settings and conduct
The study will be conducted at the Iran Football Medical Assessment and Rehabilitation Center (IFMARK).After receiving informed consent,participants will receive a nutritional questionnaire that records their diet for 12days, 3days a week, and then will be evaluated using NUTRITION4 software. After7days of the 1RM session ,supplementation will be begun. the subjects will be randomly divided into 6 groups of12 people The last supplement will be received8 hours before the eccentric resistance exercise. Before performing the exercise program, a blood sample test will be received from subjects to measure the levels of CK enzyme activity and LDH activity. The muscle pain perception will also be evaluated

Participants/Inclusion and exclusion criteria
Entery conditions:males with normal weight(18/5<BMI<24/9).Exit condition: having a history of sports activities;taking dietary supplements,medication and painkillers;following a diet other than the general pattern of Iranian diet and following a special diet

Intervention groups
Intervention group1: 1week omega-3, 1200mg(EPA=720 and DHA=480),twice a day, for 1 week/ Intervention group2: 2 weeks omega-3, 1200mg(EPA=720 and DHA=480), twice a day, for 2 weeks/study group3: 3weeks omega-3, 1200 mg(EPA=720 and DHA=480), twice a day, for 3 weeks/Intervention group4: 4weeks omega-3,1200mg (EPA=720 and DHA=480), twice a day,for4 weeks/Control group1: sunflower oil capsules(placebo),1200mg, twice a day, for 4 weeks/ Control group2: without supplementation.

Main outcome variables
Serum creatine kinase enzyme; serum lactate dehydrogenase enzyme; muscle pain perception

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20200327046871N2**
Registration date: **2020-10-11, 1399/07/20**
Registration timing: **registered_while_recruiting**

Last update: **2020-10-11, 1399/07/20**
Update count: **0**

Registration date
2020-10-11, 1399/07/20

Registrant information

Name
yasaman khazaei

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 21 0000 0000

Email address
khazaei.y@iums.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-09-22, 1399/07/01

Expected recruitment end date
2020-10-21, 1399/07/30

Actual recruitment start date
empty

Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effect of one to four-week omega-3 consumption on muscle damage indices after an eccentric exercise session

Public title
Effect of omega-3 on muscle damage indices
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Normal weight (18/5 < BMI < 24/9) Being male
Exclusion criteria:
Having a history of sports activities Taking dietary supplements, medication and painkillers Following a diet other than the general pattern of iranian diet Following a special diet
Age
No age limit
Gender
Male

Phase
N/A
Groups that have been masked

- Participant
- Investigator
- Outcome assessor
- Data analyser

Sample size
Target sample size: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
The 60 subjects will be divided into six groups of ten using simple randomization method and by random number table. First, a list of all participants will be provided and the names from the list will be deleted. Then, using the random number table, the researcher will start from a random point and moves through the the row from left side, and assigns each selected number to each study group, randomly. This will continue until the number of people in each group is completed. Therefore, the researcher will not have the opportunity to change the status of the assignment of individuals or predict it.
Blinding (investigator's opinion)
Triple blinded
Blinding description
The data analyst, outcome assessor, researcher and participants in the study do not know who is in the intervention groups and who is in the placebo group.
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committee of Sport Sciences Research Institute
Street address
13th Floor, Block A, Center of the Ministry of Health, Treatment and Medical Education, Simai Iran St., between south Flamak and Zarafshan st., Qods Town.
City
Tehran
Province
Tehran
Postal code
1587958711
Approval date
2020-09-14, 1399/06/24
Ethics committee reference number
IR.SSRC.REC.1399.066

Health conditions studied

1

Description of health condition studied
Muscle damage
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Serum keratin kinase enzyme activity
Timepoint
Before intervention, immediately, 24 hours, 48 hours and 72 hours after intervention
Method of measurement
Level of enzyme activity by enzymatic colorimetric method

2

Description
Serum lactate dehydrogenase enzyme activity
Timepoint
Before intervention, immediately, 24 hours, 48 hours and 72 hours after
Method of measurement
سطح فعالیت آنزیم از طریق روش رنگ سنجی آنزیمی

3

Description

pain perception

Timepoint

Before intervention, immediately, 24 hours, 48 hours and 72 hours after

Method of measurement

Pain Assessment Scale(PAS)

Secondary outcomes

empty

Intervention groups

1

Description

First intervention group: omega-3, 1200 mg (EPA=720 mg and DHA=480 mg), twice a day, for one week

Category

Prevention

2

Description

Second intervention group: omega-3, 1200 mg (EPA=720 mg and DHA=480 mg), twice a day, for two weeks

Category

Prevention

3

Description

Third intervention group: omega-3, 1200 mg (EPA=720 mg and DHA=480 mg), twice a day, for three weeks

Category

Prevention

4

Description

Fourth intervention group: omega-3, 1200 mg (EPA=720 mg and DHA=480 mg), twice a day, for four weeks

Category

Prevention

5

Description

First Control group: sunflower oil capsules (as placebo), 1200 mg , twice a day, for four weeks

Category

Prevention

6

Description

Second control group: without supplementation

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Iran Football Medical Assessment and Rehabilitation Center (IFMARK)

Full name of responsible person

Foad Asjodi

Street address

IFMARK Medical Center, Iran National Football Center, above the Olympic Hotel, West boulevard of Azadi stadium

City

Tehran

Province

Tehran

Postal code

1484813111

Phone

+98 21 4473 8641

Email

info@ifmarc.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran Football Medical Assessment and Rehabilitation Center (IFMARK)

Full name of responsible person

Foad Asjodi

Street address

Ifmark Medical Center, Iran National Football Center, above the Olympic Hotel, West boulevard of Azadi stadium

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Postal code

1484813111

Phone

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Email

info@ifmarc.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Iran Football Medical Assessment and Rehabilitation Center (IFMARK)

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

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Iran University of Medical Sciences

Full name of responsible person

Yasaman KHazaei

Position

Master student

Latest degree

Bachelor

Other areas of specialty/work

Nutrition

Street address

Next to Milad tower, Hemmat highway

City

Tehran

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Postal code

1449614535

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Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Iran University of Medical Sciences

Full name of responsible person

Yasaman KHazaei

Position

Master student

Latest degree

Bachelor

Other areas of specialty/work

Nutrition

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Person responsible for updating data

Contact

Name of organization / entity

Iran University of Medical Sciences

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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

no more informations

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

No - There is not 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