Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The effect of eight weeks of sprint interval training with RAST on levels of lipocalin-2, lipid profile, body composition and some components of physical fitness of young female volleyball players

Protocol summary

Study aim

The effect of eight weeks of sprint interval training with RAST on levels of lipocalin-2, lipid profile, body composition and some components of physical fitness of young female volleyball players

Design

The research method was quasi-experimental and twenty two12-18 yr female volleyball players were selected and were assigned to two groups of experiment and control (replacement randomization, each group was 11).

Settings and conduct

The present study was experimental study including experimental and control groups. The measurements were repeated and included pre-test (before the training period) and post-test (after the training period), and female volleyball players were studied in Saghez City.

Participants/Inclusion and exclusion criteria

Criteria for entering the study: no alcohol, tobacco, any medication or exercise supplement, no dietary regimen, no specific diseases such as cardiovascular, respiratory and musculoskeletal-orthopedic diseases, during the three months before the start of the research. Exit criteria: no regular exercise, medication, alcohol, tobacco or nutritional supplements, dietary changes, exercises other than prescribed exercises, cardiovascular, respiratory and musculoskeletal-orthopedic diseases, and failure to observe other recommended tips during the study period.

Intervention groups

The study groups consisted of the experimental group (n = 11) and the control group (n = 11). In addition to the usual volleyball exercises, the experimental group also performed sprint interval training for eight weeks. While the control group only performed the usual volleyball exercises.

Main outcome variables

lipocalin-2; lipid profile; body composition; components of physical fitness

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20120702010158N5**
Registration date: **2019-02-14, 1397/11/25**
Registration timing: **retrospective**

Last update: **2019-02-14, 1397/11/25**
Update count: **0**

Registration date

2019-02-14, 1397/11/25

Registrant information

Name
Fatah Moradi

Name of organization / entity
Islamic Azad University of Saghez

Country
Iran (Islamic Republic of)

Phone
+98 87 3630 5049

Email address
moradi_fatah@iausaghez.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-12-22, 1396/10/01

Expected recruitment end date

2018-03-21, 1397/01/01

Actual recruitment start date

2017-12-22, 1396/10/01

Actual recruitment end date
2018-03-21, 1397/01/01
Trial completion date
2018-03-21, 1397/01/01

Scientific title
The effect of eight weeks of sprint interval training with RAST on levels of lipocalin-2, lipid profile, body composition and some components of physical fitness of young female volleyball players

Public title
The effect of sprint interval training on lipocalin-2 in female volleyball players
Purpose
Education/Guidance
Inclusion/Exclusion criteria
Inclusion criteria:
Gender female, age 12-18 yr, being volleyball player
Exclusion criteria:
Alcohol, tobacco and any medication or supplements in the three months leading up to the study Being under the diet in the three months leading up to the study Cases of any specific disease such as cardiovascular, respiratory and musculoskeletal-orthopedic diseases in the three months leading up to the study
Age
From **12 years** old to **18 years** old
Gender
Female

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **22**
Actual sample size reached: **18**
Randomization (investigator's opinion)
Randomized
Randomization description
An replacement randomization method is used. First, a simple randomization method (random number table) is used first, and the randomization program is repeated as long as the desired equilibrium is achieved (that is, 11 people in each group).
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
Research Ethics Committee of Sport Sciences Research Institute
Street address
No. 3, 5th St., Mir Emad St, Motahari Ave., Tehran, Iran. Tel No: 0098 21 88529122
City
Tehran
Province
Tehran
Postal code
1587958711
Approval date
2019-02-12, 1397/11/23
Ethics committee reference number
IR.SSRC.REC.1397.011

Health conditions studied

1

Description of health condition studied
Health check-up of sports teams
ICD-10 code
Z10.3
ICD-10 code description
Routine general health check-up of sports teams

2

Description of health condition studied
Examination for participation in sports
ICD-10 code
Z02.5
ICD-10 code description
Encounter for examination for participation in sport

Primary outcomes

1

Description
lipocalin-2
Timepoint
Immediately before and 48 hours after intervention
Method of measurement
ELISA

2

Description
Lipid profile
Timepoint
Immediately before and 48 hours after intervention
Method of measurement
Auto-analyzer

3

Description

Body composition
Timepoint
Immediately before and 48 hours after intervention
Method of measurement
Body composition analyzer

4

Description
Physical fitness
Timepoint
Immediately before and 48 hours after intervention
Method of measurement
Bruce treadmill test

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Interval training with RAST (eight weeks, three sessions per week) included RAST (Running-based anaerobic sprint test).
Category
Lifestyle

2

Description
Control group: No exercise training
Category
Lifestyle

Recruitment centers

1

Recruitment center
Name of recruitment center
Sports Center 22 Bahman, Saghez City
Full name of responsible person
Awin Moradi
Street address
Sa'di St, Saghez City
City
Saghez
Province
Kurdistan
Postal code
6681934398
Phone
+98 87 3624 4718
Email
avinmoradi65@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Islamic Azad University
Full name of responsible person
Vafa Morsali
Street address
Sharifabad Town
City
Saghez
Province
Kurdistan
Postal code
6681973477
Phone
+98 87 3625 0255
Email
vafa.morsali@yahoo.com
Web page address
http://iausaghez.ac.ir/
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Islamic Azad University
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
Islamic Azad University
Full name of responsible person
Fatah Moradi
Position
Faculty Member
Latest degree
Ph.D.
Other areas of specialty/work
Physiology
Street address
Sharifabad Town
City
Saghez
Province
Kurdistan
Postal code
6681973477
Phone
+98 87 3623 6512

Email
moradi_fatah@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Islamic Azad University
Full name of responsible person
Fatah Moradi
Position
Faculty member
Latest degree
Ph.D.
Other areas of specialty/work
Physiology
Street address
Sharifabad Town
City
Saghez
Province
Kurdistan
Postal code
6681973477
Phone
+98 87 3623 6512
Email
moradi_fatah@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity
Islamic Azad University
Full name of responsible person
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Position
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Other areas of specialty/work
Physiology
Street address
Sharifabad Town
City
Saghez
Province
Kurdistan
Postal code
6681973477
Phone
+98 87 3623 6512
Email
moradi_fatah@yahoo.com

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
Participants are studied as a sample.
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
No - There is not a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
Not applicable
Analytic Code
Not applicable
Data Dictionary
Not applicable