

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Jul 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

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

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 two 12-18 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

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

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Sharifabad Town

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moradi_fatah@yahoo.com

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

Islamic Azad University

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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

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