

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Jul 2026

The effect of feeding state on some metabolic indices following a single bout of selected Crossfit and high intensity interval exercise in active females

Protocol summary

Study aim

The aim of this study is to survey the metabolic response to a single bout of high intensity interval and/or functional exercise in fasting and feeding.

Design

Randomised parallel clinical trial with control group, not blinded

Settings and conduct

Trial location: Faculty of physical education, University of Guilan Subjects will be asked to complete a 72 h food record before the trail session and avoid to consume caffeine. In the test day, fed groups will have the regular breakfast and others will stay fasted. 1 h later the participate even in HIIT or Crossfit exercise or nothing. Both protocol lasts 53 min and OMNI scale will be used for the intensity assessment. Right after the session completion, blood samples will be collected and transferred to the lab for analysis.

Participants/Inclusion and exclusion criteria

Female physical education students who are dorm resident, 17-20 years old, healthy, no drug and supplement consumption

Intervention groups

fasted and fed groups that each group will be divided in 3 subgroups: high intensity interval training, Crossfit training and control

Main outcome variables

Lactate, PDK, CPT-1, UFFA and glucose will be measured

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190213042702N1**

Registration date: **2019-09-15, 1398/06/24**

Registration timing: **retrospective**

Last update: **2019-09-15, 1398/06/24**

Update count: **0**

Registration date

2019-09-15, 1398/06/24

Registrant information

Name

Maryam Ebrahimi

Name of organization / entity

Faculty of physical education and sport sciences,
University of Guilan

Country

Iran (Islamic Republic of)

Phone

+98 13 3377 5209

Email address

maryam.ebrahimi@guilan.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-04-20, 1398/01/31

Expected recruitment end date

2019-04-24, 1398/02/04

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of feeding state on some metabolic indices following a single bout of selected Crossfit and high intensity interval exercise in active females

Public title

Effect of feeding state on exercise metabolism

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion criteria:

Physical education students Dorm resident

Exclusion criteria:

Metabolic disorders BMI more than 27 or less than 19
Abnormal PAR-Q Questionnaire musculoskeletal injuries
Drug or sport supplements consumption Menstrual cycle

Age

From **17 years** old to **20 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **36**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple

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 Guilan University of medical sciences

Street address

Deputy of research and technology, Siadati St,
Namjoo St, Rasht/Iran

City

Rasht

Province

Guilan

Postal code

4199843653

Approval date

2019-03-15, 1397/12/24

Ethics committee reference number

IR.GUMS.REC.1398.002

Health conditions studied

1

Description of health condition studied

Healthy

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

PDK

Timepoint

Right after the exercise session

Method of measurement

ELISA

Secondary outcomes

empty

Intervention groups

1

Description

Control group: fasted untrained subjects

Category

Treatment - Other

2

Description

Intervention group 1: fed untrained subjects

Category

Treatment - Other

3

Description

Intervention group 2: 20 minutes of Crossfit exercise including 3 sections, Cardio, Gymnastics and resistance training in fasting state

Category

Treatment - Other

4

Description

Intervention group 3: 20 minutes of Crossfit exercise including 3 sections, Cardio, Gymnastics and resistance training in fed state

Category

Treatment - Other

5

Description

Intervention group 4: 20 minutes of HIIT including 1 min running and 4 min rest periods in fasting state

Category

Treatment - Other

6

Description

Intervention group 5: 20 minutes of HIIT including 1 min running and 4 min rest periods in fed state

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Faculty of physical education and sport sciences

Full name of responsible person

Maryam Ebrahimi

Street address

Faculty of physical education and sport sciences,
Rasht-Qazvin road

City

Rasht

Province

Guilan

Postal code

4199843653

Phone

+98 13 3369 0255

Email

maryam.ebrahimi@guilan.ac.ir

Web page address

<https://staff.guilan.ac.ir/maryam.ebrahimi/?lg=0>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Guilan

Full name of responsible person

Seiied Ziaeddin MirHosseini

Street address

University of Guilan

City

Rasht

Province

Guilan

Postal code

1841

Phone

+98 13 3369 0348

Email

maryam.ebrahimi@guilan.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

University of Guilan

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

University of Guilan, Faculty of physical education and sport sciences

Full name of responsible person

Maryam Ebrahimi

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Exercise biochemistry and metabolism

Street address

Faculty of physical education and sport sciences,
University of Guilan

City

Rasht

Province

Guilan

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Phone

+98 13 3369 0255

Email

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Person responsible for scientific inquiries

Contact

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University of Guilan, Faculty of physical education and sport sciences

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Person responsible for updating data

Contact

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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

There is no further information

Study Protocol

No - There is not 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

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available