Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The effect of 8 weeks endurance training on buffering system and the results of three different types of recovery

Protocol summary

Study aim
The purpose of this study was to investigate the effect of 8 weeks of aerobic training on the buffering system response to three types of active, passive, and stretching recovery , in Farhangian university inactive girls.

Design
Three groups of ten people selected randomly

Settings and conduct
The program took place in a gym near the hospital. there were medical team consisted of an emergency physician to collect the subjects arterial blood and two nurses to collect samples and the samples were quickly delivered to a pathologist.

Participants/Inclusion and exclusion criteria
Farhangian university freshmen

Intervention groups
Thirty students performed three types of active, passive, and stretching recovery (n=10) during repeated high-intensity endurance test ,Arterial blood samples were taken before and after endurance testing.

Main outcome variables
Dependent variables included: PH, HCO3-, PCO2 ,O2-sat, BE.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210126050145N1**
Registration date: **2021-04-15, 1400/01/26**
Registration timing: **retrospective**

Last update: **2021-04-15, 1400/01/26**
Update count: **0**

Registration date
2021-04-15, 1400/01/26

Registrant information

Name
Mahtab Tavakoli

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 81 3823 9552

Email address
tavakoli.mahtab20@yahoo.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-04-09, 1400/01/20

Expected recruitment end date
2021-04-09, 1400/01/20

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of 8 weeks endurance training on buffering system and the results of three different types of recovery

Public title
effect of endurance training on buffering system

Purpose
Basic scienece

Inclusion/Exclusion criteria

Inclusion criteria:
Student of first year

Exclusion criteria:
Being an athlete

Age
No age limit

Gender
Female

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **30**
More than 1 sample in each individual
Number of samples in each individual: **5**
PH, PCO2 , HCO3-, O2-sat, BE,
Randomization (investigator's opinion)
Randomized
Randomization description
First of all, among the students of Farhangian University of Hamadan, Students who meet the inclusion criteria, a sample is selected according to the sampling method and based on balance block randomization method will be placed in active recovery group (A), Passive recovery group (B) and stretching recovery group (C). For this purpose, six sheets of paper are provided by the researcher, writing on two sheets “A” for “first” and on two “B” for “second” and on another two “C” for third. The paper sheets will be pooled, placed in a container, and randomly will be drawn one at a time for each student without replacement until all six sheets are drawn. Then, the six paper sheets will be placed back into the container and this action will be repeated until the sample size is reached.
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
Isfahan university ethics committee
Street address
Department of exercise physiology, sport science faculty, Isfahan University. Isfahan, Iran.
City
Isfahan
Province
Isfehan
Postal code
8174673441
Approval date
2019-12-04, 1398/09/13
Ethics committee reference number
IR.UI.REC.1398.052

Health conditions studied

1

Description of health condition studied
Effect
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
PH
Timepoint
Before and after endurance training
Method of measurement
Arterial blood draw

2

Description
HCO3-
Timepoint
Before and after endurance training
Method of measurement
Arterial blood draw

3

Description
O2SAT
Timepoint
Before and after endurance training
Method of measurement
Arterial blood draw

4

Description
BE
Timepoint
Before and after endurance training
Method of measurement
Arterial blood draw

5

Description
PCO2
Timepoint
Before and after endurance training
Method of measurement
Arterial blood draw

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group 1: After introducing the study and stating its goals, 30 students who have been selected as a sample fill out the consent form and are divided into three groups of 10 people. At first, blood samples were taken from 10 samples of this group and after Intense repetitive endurance training test with active recovery, blood samples were taken again. Then intense endurance training is performed for 8 weeks and three sessions a week, and the stages of Intense repetitive endurance training testing and blood sampling are performed exactly.

Category
Other

2

Description
Intervention group 2: At first, blood samples were taken from 10 samples of this group and after Intense repetitive endurance training test with passive recovery, blood samples were taken again. Then intense endurance training is performed for 8 weeks and three sessions a week, and the stages of Intense repetitive endurance training testing and blood sampling are performed exactly.

Category
Other

3

Description
Intervention group 3: At first, blood samples were taken from 10 samples of this group and after Intense repetitive endurance training test with Stretching recovery, blood samples were taken again. Then intense endurance training is performed for 8 weeks and three sessions a week, and the stages of Intense repetitive endurance training testing and blood sampling are performed exactly.

Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Takhti academy

Full name of responsible person
Mahtab Tavakoli

Street address
Besat hospital , Blvd shahid besheshti ,Hamedan

City
Hmedan

Province
Hamadan

Postal code
6514865669

Phone
+98 81 3264 0020

Fax

Email
besat@umsha.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
The University of Farhangian

Full name of responsible person
Dr. Hossein Khanifar

Street address
Tarbiat Moalem Ave.

City
Tehran

Province
Tehran

Postal code
1998963341

Phone
+98 21 8775 1000

Fax

Email
info@ cfu.ac.ir

Grant name

Grant code / Reference number

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

Title of funding source
The University of Farhangian

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
The University of Farhangian

Full name of responsible person
Mahtab Tavakoli

Position
Faculty

Latest degree
Master

Other areas of specialty/work
Physiology

Street address
NO 2 , Besat alley ,Rokni Ave , Hamedan

City

Hamedan

Province

Hamadan

Postal code

6516796913

Phone

+98 81 3823 9552

Email

tavakoli.mahtab20@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

The University of Isfahan

Full name of responsible person

Seyed Mohammad Marandi

Position

University Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiology

Street address

Isfahan University ,Azadi square ,Isfahan

City

Isfahan

Province

Isfehan

Postal code

8174673441

Phone

+98 31 3793 2640

Fax

+98 31 3668 7396

Email

smmarandi2001@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity

The University of Farhangian

Full name of responsible person

Mahtab Tavakoli

Position

Faculty

Latest degree

Master

Other areas of specialty/work

Physiology

Street address

NO 2 ,Besat alley , Rokni Ave , Hamedan

City

همدان

Province

Hamadan

Postal code

6516796913

Phone

+98 81 3823 9552

Email

tavakoli.mahtab20@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Not applicable

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

Title and more details about the data/document

All data is shareable

When the data will become available and for how long

One year after the publication of the results.

To whom data/document is available

If it is used for special people, there is no problem.

Under which criteria data/document could be used

If it can contribute to the result of research.

From where data/document is obtainable

I have the data.

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

It can be seen by referring to myself

Comments