

Clinical Trial Protocol

Iranian Registry of Clinical Trials

06 Jul 2026

Comparison of the effects of two types of acute weight loss program (2% and 4%) on the levels of creatine kinase and cardiac troponin enzymes in wrestlers

Protocol summary

Study aim

Comparison of the effects of two types of acute weight loss program (2% and 4%) on the levels of creatine kinase and cardiac troponin enzymes among wrestlers

Design

Clinical trial without control group, parallel group, randomized, cross-over design.

Settings and conduct

all subjects were weighed as fasting after three days of complete rest at the Ardabil wrestling house. Skin thickness, heart rate and blood pressure were measured and the first blood sampling was performed before the beginning of weight loss program. Then, both groups immediately lost weight by 2 and 4 percent from 9 am to 2 pm in a dry sauna at 55 °C with a frequency of 10 × 20 minutes. The second, third and fourth blood samples was taken from both groups immediately, 6 and 24 hours later after weight loss from each subject. Finally, the samples were sent to the Ardabil Reference Laboratory for measurement. After two weeks of washout, the two groups were replaced. (The first group did 4% and the second group 2%).

Participants/Inclusion and exclusion criteria

Inclusion criteria: being healthy and having medical examinations; professional wrestling experience with competitions. Non-inclusion criteria: ergogenic supplements; infectious diseases; surgery history; Not having complete physical health

Intervention groups

Intervention group 1: Acute weight loss 2%. Intervention group 2: Acute weight loss of 4%. Subjects in each group were exposed to dry sauna for one day for up to 5 hours based on their determined weight loss (2% and 4%). These five hours consisted of at most ten 20-minute sessions to reach the desired weight. Since the study was cross-over and there was no control group, after two weeks rest, the two groups were replaced and the same

procedure was performed for other group.

Main outcome variables

Cardiac troponin

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190923044853N1**

Registration date: **2019-11-08, 1398/08/17**

Registration timing: **retrospective**

Last update: **2019-11-08, 1398/08/17**

Update count: **0**

Registration date

2019-11-08, 1398/08/17

Registrant information

Name

reza farzizadeh

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 45 3150 5643

Email address

reza_farzizadeh@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-07-27, 1396/05/05

Expected recruitment end date

2017-08-21, 1396/05/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effects of two types of acute weight loss program (2% and 4%) on the levels of creatine kinase and cardiac troponin enzymes in wrestlers

Public title

The effects of rapid weight loss on the cardiac cell damage

Purpose

Prevention

Inclusion/Exclusion criteria**Inclusion criteria:**

Health and medical examinations professional experience in wrestling with attending in competitions

Exclusion criteria:

Ergogenic Supplements Infectious diseases surgical record lack of complete physical health

Age

From **16 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **16**

Randomization (investigator's opinion)

Not randomized

Randomization description**Blinding (investigator's opinion)**

Not blinded

Blinding description**Placebo**

Not used

Assignment

Crossover

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics Committee, Research-Institute of Physical Education and Sport Sciences

Street address

No. 3, 5th alley., Mir Emad street, Motahari avenue, Tehran

City

Tehran

Province

Tehran

Postal code

1587958711

Approval date

2019-07-01, 1398/04/10

Ethics committee reference number

IR.SSRC.REC.1398.092

Health conditions studied**1****Description of health condition studied**

Acute weight loss

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Cardiac Troponin

Timepoint

At baseline (before weight loss), immediately after weight loss and 6 and 24 hours after weight loss

Method of measurement

Biochemical Auto analyzer Model BT3500 Made in Germany and Iranian Pars Azmoon Kit

Secondary outcomes**1****Description**

Cardiac creatine kinase

Timepoint

At baseline (before weight loss), immediately after weight loss and 6 and 24 hours after weight loss

Method of measurement

Biochemical Auto analyzer Model BT3500 Made in Germany and Iranian Pars Azmoon Kit

Intervention groups**1****Description**

"Intervention group 1:" Weight loss by 2%. After one week of weight control (pre-exercise, post-exercise and fasting), the subjects were present in the dry sauna to reduce their body weight by 2% of their initial weight. The test was conducted in a single day and up to 5 hours. These five hours consisted of at most ten 20-minute sessions until reaching the desired weight. Since the study was as cross-over, after two weeks rest, the same procedure was conducted for second group.

Category

Prevention

2

Description

"Intervention group 2:" Weight loss by 4%. After one week of weight control (pre-exercise, post-exercise and fasting), the subjects were present in the dry sauna to reduce their body weight by 4% of their initial weight. The test was conducted in a single day and up to 5 hours. These five hours consisted of at most ten 20-minute sessions until reaching the desired weight. Since the study was as cross-over, after two weeks rest, the same procedure was conducted for second group.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Ardabil wrestling house

Full name of responsible person

Reza Farzizadeh

Street address

Bakeri street

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5619911367

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Web page address

<http://www.koshtiardebil.ir>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Deputy Director of Research and Technology
University of Mohaghegh Ardabili

Full name of responsible person

Dr Mohammad Narimani

Street address

No, 179, University of Mohaghegh Ardabili,
Daneshgah street, Ardabil

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info@uma.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Deputy Director of Research and Technology University
of Mohaghegh Ardabili

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 Mohaghegh Ardabili

Full name of responsible person

Reza Farzizadeh

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Department of Physical Education and Sport Sciences
The sport physiology

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Person responsible for scientific inquiries

Contact

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Person responsible for updating data

Contact

Name of organization / entity

University of Mohaghegh Ardabili

Full name of responsible person

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Position

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Other areas of specialty/work

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The sport physiology

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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

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

Undecided - It is not yet known if there will be 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