

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effect of Six Weeks Combined Supplementation of Methylsulfonylmethane and Glucosamine on the Glutathione Peroxidase and Catalase following a Plyometric Exercise Session in Amator Male Athletes

Protocol summary

Summary

Intensive physical activity results in release of free radicals and oxidative damages in biomacromolecules. Consumption of sulfuric supplements may effect on the levels of oxidative stress following intensive exercises, specially in combined concentric and eccentric contractions. Therefore, the effect of six weeks combined supplementation of methylsulfonylmethane and glucosamine on the glutathione peroxidase and catalase following a plyometric exercise session in amator male athletes will be studied in the present study. The study will be a double-blinded quasi-experimental reseach with a pre- and post-test design in which 22 amator male athletes will be randomly assigned into two groups of supplement (n = 11) and placebo (n = 11), and participated in two bouts of plyometric exercise before and after the supplementation period. The supplementation period will include daily consumption of 3 grams combined methylsulfonylmethane and glucosamine for six weeks. The serum levels of superoxide dismutase and malondialdehyde enzymes will be determined based on the four-times blood sampling (before and after the two plyometric exercise sessions), and the collected data will be analyzed using analysis of covariance (ANCOVA) at the 95 percent confidence level. We expect the combined supplementation of methylsulfonylmethane and glucosamine increase anti-oxidant capacity in athletes through increased levels of glutathione peroxidase and catalase enzymes.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017032632873N2**
Registration date: **2017-06-28, 1396/04/07**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-06-28, 1396/04/07

Registrant information

Name

Farzad Zehsaz

Name of organization / entity

Islamic azad University, Tabriz Branch

Country

Iran (Islamic Republic of)

Phone

+98 41 3196 6245

Email address

f-zehsaz@iaut.ac.ir

Recruitment status

Recruitment complete

Funding source

Investigator

Expected recruitment start date

2017-05-15, 1396/02/25

Expected recruitment end date

2017-05-22, 1396/03/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of Six Weeks Combined Supplementation of Methylsulfonylmethane and Glucosamine on the Glutathione Peroxidase and Catalase following a

Plyometric Exercise Session in Amator Male Athletes

Public title

Effect of Supplementation on athletes oxidative stress

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: male kick boxer; amateur; from Tabriz City; healthy Exclusion criteria: having any illness; using drug

Age

From **20 years** old to **30 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **22**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Islamic Azad University, Tabriz Branch

Street address

Medical Faculty, Tabriz Islamic Azad University
Campus, Pasdaran Highway

City

Tabriz

Postal code

Approval date

2016-10-24, 1395/08/03

Ethics committee reference number

IR.IAU.TABRIZ.REC.1395.38

Health conditions studied

1

Description of health condition studied

Oxidative Stress

ICD-10 code

F43.1

ICD-10 code description

Post-traumatic stress disorder

Primary outcomes

1

Description

Glutathione Peroxidase

Timepoint

Before intervention and after 6 weeks of the begining of intervention

Method of measurement

(U/gHb) by blood sampling

2

Description

Catalase

Timepoint

Before intervention and after 6 weeks of the begining of intervention

Method of measurement

(U/gHb) by blood sampling

Secondary outcomes

empty

Intervention groups

1

Description

Intaking of combined supplementation of Methylsulfonylmethane and Glucosamine by experimental group for 6 weeks and 3 gr daily

Category

Prevention

2

Description

Intaking of 3 gr Starch by placebo group for 6 weeks

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Whole Kickboxing clubs of Tabriz

Full name of responsible person

Mehrabani Ali

Street address

Physical Education Department, Tabriz Islamic Azad
University Campus, Pasdaran Highway

City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University Tabriz Branch

Full name of responsible person

Dr. Naser Modir Shahla

Street address

Research Deputy of Islamic Azad University of Tabriz,
Tabriz Islamic Azad Campus, Pasdaran Highway

City

Tabriz

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

Yes

Title of funding source

Islamic Azad University Tabriz Branch

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

empty

Person responsible for general inquiries

Contact**Name of organization / entity**

Islamic azad University, Tabriz Branch

Full name of responsible person

Farzad Zehsaz

Position

Academic Staff Member

Other areas of specialty/work**Street address**

Physical Education Department, Tabriz Islamic Azad
University Campus, Pasdaran Highway

City

Tabriz

Postal code**Phone**

+98 41 3196 6245

Fax

+98 41 3196 6245

Email

f-zehsaz@iaut.ac.ir

Web page address

Person responsible for scientific inquiries

Contact**Name of organization / entity**

Islamic azad University, Tabriz Branch

Full name of responsible person

Farzad Zehsaz

Position

Ph.D. in Exercise Physiology

Other areas of specialty/work**Street address**

Physical Education Department, Tabriz Islamic Azad
University Campus, Pasdaran Highway

City

Tabriz

Postal code**Phone**

+98 41 3196 6245

Fax

+98 41 3196 6245

Email

f-zehsaz@iaut.ac.ir

Web page address

Person responsible for updating data

Contact**Name of organization / entity**

Islamic Azad University

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Farzad Zehsaz

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Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty