

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

31 May 2026

### Effect of Six Weeks Combined Supplementation of Methylsulfonylmethane and Glucosamine on the Glutathione Peroxidase and Catalase following a Plyometric Exercise Session in Amutor 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 amutor male athletes will be studied in the present study. The study will be a double-blinded quasi-experimental research with a pre- and post-test design in which 22 amutor 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 beginning of intervention

#### Method of measurement

(U/gHb) by blood sampling

### 2

#### Description

Catalase

#### Timepoint

Before intervention and after 6 weeks of the beginning 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

**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**

## 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*