

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

The effect of one session resistance exercise on markers of muscle damage and hemodynamic changes in anabolic steroids user professional bodybuilders

Protocol summary

Summary

The aim of the present study was to investigate the effect of one session resistance exercise on markers of muscle damage and hemodynamic changes in anabolic steroids user professional bodybuilders. Inclusion criteria: male; 22-30 years old; healthy; bodybuilding athletes; at least 5 years professional bodybuilding background. Exclusion criteria: Diseases; Injuries. In this semi-experimental study 20 bodybuilders (22-23 yrs), who had the experience of at least 5 years resistance training, were assigned to two groups including anabolic steroid group and non-steroid group. All participants performed a single bout of circuit resistance exercise. Blood samples were taken before exercise, immediately after exercise and 24 hours following exercise to be measured for serum levels of CK and LDH. Hemodynamic measurements including blood pressure and heart rate were done in the aforementioned times.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015040621625N1**
Registration date: **2015-06-29, 1394/04/08**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-06-29, 1394/04/08

Registrant information

Name

Azadeh Nasseri

Name of organization / entity

University of Tabriz

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

University of Tabriz

Expected recruitment start date

2015-05-26, 1394/03/05

Expected recruitment end date

2015-06-30, 1394/04/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of one session resistance exercise on markers of muscle damage and hemodynamic changes in anabolic steroids user professional bodybuilders

Public title

Effects of AAS and resistance training on muscle damage and hemodynamic characteristics

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion: male; 22-30 years old; healthy; bodybuilding athletes; BMI <26; at least 5 years professional bodybuilding background. Exclusion: Diseases; Injuries.

Age

From **22 years** old to **30 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
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Tabriz University of Medical Sciences

Street address

Golgasht St. Daneshgah St. Tabriz, East Azerbaijan,
Iran

City

Tabriz

Postal code

Approval date

2015-05-25, 1394/03/04

Ethics committee reference number

TBZMED.REC.1394.154

Health conditions studied

1

Description of health condition studied

Exercise-induced physiological stress

ICD-10 code

Z03.5, Z03

ICD-10 code description

Unspecified adverse effect of drug or medicament

Primary outcomes

1

Description

creatine kinase

Timepoint

immediately before the exercise session; immediately
after the exercise session; 24-h following the exercise

session

Method of measurement
spectrophotometry

2

Description

lactate dehydrogenase

Timepoint

immediately before the exercise session; immediately
after the exercise session; 24-h following the exercise
session

Method of measurement

spectrophotometry

3

Description

heart rate

Timepoint

immediately before the exercise session; immediately
after the exercise session; 24-h following the exercise
session

Method of measurement

polar heart rate monitors

4

Description

blood pressure

Timepoint

immediately before the exercise session; immediately
after the exercise session; 24-h following the exercise
session

Method of measurement

cuff devise

Secondary outcomes

empty

Intervention groups

1

Description

The subjects of AAS-user group(self-directed users) will
participate in a circuit strength exercise session involved
three sets of 6-9 repetitions at 80-85% of 1-RM.

Category

Other

2

Description

The subjects of AAS-non user group (control group) will
participate in a circuit strength exercise session involved
three sets of 6-9 repetitions at 80-85% of 1-RM.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Athletics Board of Tabriz Bodybuilding

Full name of responsible person

Saeed Nikookheslat

Street address**City**

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Tabriz

Full name of responsible person

Dr. Saeed Nikookheslat

Street address

Faculty of Physical Education and Sport Sciences,
University of Tabriz, 29 Bahman Street

City

Tabriz

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

Yes

Title of funding source

University of Tabriz

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**

University of Tabriz

Full name of responsible person

Dr Saeed Nikookheslat

Position

PhD/ Associate Professor of Exercise Physiology

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Person responsible for scientific inquiries

Contact**Name of organization / entity**

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Full name of responsible person

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MS.c in Sports Physiology

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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