

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 May 2026

The effect of three months basketball practice on the amount of myostatin, testosterone and cortisol in men aged 40 to 50

Protocol summary

Study aim

The purpose of this study is to investigate the effect of 3 months of basketball training on the amount of myostatin, testosterone and cortisol in men aged 40 to 50

Design

The study is a randomized clinical trail with control group. 24 men (40-50 years, Body mass index 25-35) will be selected through purposive sampling and will randomly be divided into two intervention and control groups

Settings and conduct

The present field study is semi-experimental which will be done in Shahrkord Islamic Azad University gym. A professional coach will train the subjects and a lab technician will take their blood samples. Blood sample will be analyzed in the university lab.

Participants/Inclusion and exclusion criteria

Inclusion criteria: male gender; being at the age of 40-50years old; Body mass index between 25-35. Non inclusion criterion: metabolic disorders

Intervention groups

Intervention group will do basketball training 3 sessions per week for 3 months. Control group will not participate in any exercise

Main outcome variables

myostatin, testosterone and cortisol

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180822040849N16**

Registration date: **2021-01-16, 1399/10/27**

Registration timing: **prospective**

Last update: **2021-01-16, 1399/10/27**

Update count: **0**

Registration date

2021-01-16, 1399/10/27

Registrant information

Name

akram jafari

Name of organization / entity

Islamic azad university shahrekord branch

Country

Iran (Islamic Republic of)

Phone

+98 38 3232 6462

Email address

mrmoradi@sku.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-02-18, 1399/11/30

Expected recruitment end date

2021-05-20, 1400/02/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of three months basketball practice on the amount of myostatin, testosterone and cortisol in men aged 40 to 50

Public title

Basketball training and myostatin, testosterone and cortisol

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion criteria:

Male gender Being at the age of 45-55 years old Body mass index (BMI) of 25-35 kg/m

Exclusion criteria:

Metabolic disorders

Age

From **40 years** old to **50 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple randomization: First each subject will be taken in each groups (A or B) by tossing a coin. For example the side of the coin determines the assignment of each subject. Then each group will be named as control or experiment group by tossing a coin

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**

Ethics committee of Shahrekord branch of Islamic Azad University

Street address

Islamic Azad University; Rahmatieh

City

شهرکرد

Province

Chahar-Mahal-va-Bakhtiari

Postal code

8813733441

Approval date

2020-07-22, 1399/05/01

Ethics committee reference number

IR.IAU.SHK.REC.1399.040

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

Basketball training

ICD-10 code

Y93.67

ICD-10 code description

Activity, basketball

Primary outcomes**1****Description**

myostatin

Timepoint

Before and after 3 months basketball training

Method of measurement

Blood Sampling

2**Description**

testosterone

Timepoint

Before and after 3 months basketball training

Method of measurement

Blood Sampling

3**Description**

cortisol

Timepoint

Before and after 3 months basketball training

Method of measurement

Blood Sampling

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

Parathormon

Timepoint

Before and after 3 months basketball training

Method of measurement

Blood Sampling

2**Description**

Alkaline phosphatase

Timepoint

Before and after 3 months basketball training

Method of measurement

Blood Sampling

3**Description**

IGF1

Timepoint

Before and after 3 months basketball training

Method of measurement

Blood Sampling

Intervention groups

1

Description

Intervention group: 24 men (45-55 years, BMI 25-35) will participate in this research as intervention group. They will do basketball training 3 sessions per week for 3 months. Each exercise session includes 3 basketball workout with moderate intensity. Body mass index measurement and blood sampling will be done in fasting, 24 hours before and 48 hours after the exercise

Category

N/A

2

Description

Control group: control group will be asked not to participate in any exercise program and keep on their regular diet during research and report any changes in their life like disease, serious stress

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Islamic Azad University Shahrekord Branch

Full name of responsible person

Bahareh Banitalebi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

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Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University

Proportion provided by this source

100

Public or private sector

Private

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

Islamic Azad University

Full name of responsible person

Akram Jafari

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport Physiology

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Person responsible for scientific inquiries

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Person responsible for updating data

Contact

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All Data

When the data will become available and for how long

6 months after data publication

To whom data/document is available

Student and academic staff

Under which criteria data/document could be used

every analyses is fine for future research

From where data/document is obtainable

Researcher

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

By sending email to researcher

Comments