

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The effect of 12 weeks plyometric and soccer training on the cardiac structural and functional in 13\_15 year's old boys

#### Protocol summary

##### Summary

The purpose of this investigation was to examine the effects of 12 weeks plyometric and soccer training on the cardiac structural and functional of 13\_15 year old healthy boys. For this purpose 20 non-athlete healthy boys voluntarily participated in this study and were randomly divided into two groups: control (n = 10) and training (n = 10). Training group performed plyometric exercises and Football training for 12 weeks, three times a week. The control group during the period of investigation refused to participate in regular sports activities. The dependent variables (left ventricular end-diastolic dimension, left ventricular end-systolic dimension, left ventricular posterior wall thickness, ventricular septal thickness, stroke volume, injection fraction) in both groups at the beginning and the end of plan was measured.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2016070326752N2**

Registration date: **2016-11-28, 1395/09/08**

Registration timing: **prospective**

Last update:

Update count: **0**

##### Registration date

2016-11-28, 1395/09/08

##### Registrant information

##### Name

Bahman Ebrahimi- Torkmani

##### Name of organization / entity

Allameh Tabatabai University in Tehran

##### Country

Iran (Islamic Republic of)

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+98 914 913 2656

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##### Recruitment status

**Recruitment complete**

##### Funding source

Investigator

##### Expected recruitment start date

2016-12-01, 1395/09/11

##### Expected recruitment end date

2017-03-03, 1395/12/13

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The effect of 12 weeks plyometric and soccer training on the cardiac structural and functional in 13\_15 year's old boys

##### Public title

Effect of plyometric and soccer training on the cardiac structural and functional in boys

##### Purpose

Health service research

##### Inclusion/Exclusion criteria

Inclusion criteria: No prior history of participation in any regular activity; month before the start of protocol Good health condition; The ages ranged between 13 to 15 years. Exclusion criteria: Lack of preparation before exercise testing; Inability to perform physical activities.

##### Age

From **13 years** old to **15 years** old

##### Gender

Male

**Phase**

N/A

**Groups that have been masked**

No information

**Sample size**

Target sample size: 20

**Randomization (investigator's opinion)**

Randomized

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

Double blinded

**Blinding description****Placebo**

Not used

**Assignment**

Other

**Other design features****Secondary Ids**

empty

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

Sport Sciences Reserch Institute of IRAN

**Street address**

Fifth alley, Miremad street, Motahari, Tehran, Iran.

**City**

Tehran

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1587958711

**Approval date**

2016-08-28, 1395/06/07

**Ethics committee reference number**

IR.SSRI.REC.1395.107

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

Relationship of 12-weeks plyometric and football training with heart structure and function in 13\_15 years old boys

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

Left ventricular End-diastolic dimension (LVEDD), Left ventricular end-systolic dimension (LVESD), Left ventricular end diastolic posterior wall dimension-(LVPWd), Interventricular septal end diastolic dimension(IVSd), Stroke volume (SV), Ejection fraction (Ef)

**Timepoint**

Before the training - At the end of the 12 week

**Method of measurement**

Echocardiography.

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

Left ventricular end- diastolic dimension (LVEDD) , Left ventricular end-systolic dimension (LVESD) , Left ventricular end diastolic posterior wall dimension (LVPWd), Interventricular septal end diastolic dimension(IVSd), Stroke volume (SV), Ejection fraction (Ef)

**Timepoint**

At the end of the twelfth week

**Method of measurement**

Echocardiography.

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

Participants in training group: The training group performed an exercise program for 12 weeks, three times a week and 90 minutes per session for 3 months. The training program includes a 15 minute warm up, 25 minutes plyometric exercises, 40 minutes of football training and a 10 minute recovery. The intervention of training group: They did not participate in any regular exercises programs during the training period.

**Category**

Lifestyle

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Soccer Academy

**Full name of responsible person****Street address**

Azerbaijani Soccer school, Miyaneh, East Azarbaijan, Iran

**City**

Miyaneh

**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Investigator

**Full name of responsible person**

Bahman Ebrahimi

**Street address**

Department of Education Turkmenchay, East

Azarbaijan, Iran

**City**

Miyaneh

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Investigator

**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**

Mohaghegh Ardabili University

**Full name of responsible person**

Bahman Ebrahimi-Turkmani

**Position**

PhD student of exercise physiology

**Other areas of specialty/work**

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**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*