

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

The Effect of Six Weeks of Resistance Training with Active and Passive Rest with and without Blood Flow Restriction on Hormone Levels, Anaerobic and Muscular Function of Air Force Soldiers

Protocol summary

Study aim

The Effect of Six Weeks of Resistance Training with Active and Passive Rest with and without Blood Flow Restriction on Hormone Levels, Anaerobic and Muscular Function of Air Force Soldiers

Design

The present study was a randomized, 3 parallel-group trial without blinded outcome

Settings and conduct

Twenty-four soldiers were selected from the available and eligible Army Air Force, and after completing the consent form, physiological and anthropometric measurements were completed. Then Wingate and Sargent's tests were performed, and 48 hours before training blood samples were collected. Then randomly divided into three training groups. They trained for six weeks, three days a week. Forty-eight hours after the last session, the second blood sampling following an overnight fast was collected, and then all measurements were performed again in the same conditions as the pre-test.

Participants/Inclusion and exclusion criteria

The statistical population was the soldiers of the Islamic Republic of Iran Air Force. Twenty-four people without regular exercise programs were selected From The available population and the volunteers randomly that are close in terms of physical composition and fitness level as well as age. exclusion criteria were chronic conditions, no smoking, no respiratory, metabolic, cardiovascular, renal, hepatic, or other chronic diseases.

Intervention groups

3groups: traditional resistance training- resistance training with blood flow restriction and passive rest- resistance training with blood flow restriction and active rest

Main outcome variables

Changes in Growth Hormone Levels, Lactate

Dehydrogenase and C Reactive Protein

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191207045644N1**

Registration date: **2020-03-14, 1398/12/24**

Registration timing: **retrospective**

Last update: **2020-03-14, 1398/12/24**

Update count: **0**

Registration date

2020-03-14, 1398/12/24

Registrant information

Name

Vahid Fekri Kourabbaslou

Name of organization / entity

The University of Kharazmi

Country

Iran (Islamic Republic of)

Phone

+98 41 3288 2094

Email address

vfekri28@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-09-23, 1398/07/01

Expected recruitment end date

2019-10-12, 1398/07/20

Actual recruitment start date

2019-09-23, 1398/07/01

Actual recruitment end date

2019-10-02, 1398/07/10 Trial completion date 2019-11-22, 1398/09/01	No. 5, Alley of Mirmad St, Fifth Alley, Ostad Motahhari St, Tehran City Tehran Province Tehran Postal code 1587958711
Scientific title The Effect of Six Weeks of Resistance Training with Active and Passive Rest with and without Blood Flow Restriction on Hormone Levels, Anaerobic and Muscular Function of Air Force Soldiers	Approval date 2019-07-01, 1398/04/10 Ethics committee reference number IR.SSRC.REC.1398.129
Public title The effect of resistance training with blood flow and restriction and interval on hormonal and functional levels	
Purpose Basic science	
Inclusion/Exclusion criteria Inclusion criteria: People without regular exercise programs Physically healthy people Iran Air force soldiers Body mass index below 25 Between 20 and 26 years Exclusion criteria: Have a regular exercise program chronic conditions, respiratory, metabolic, cardiovascular, renal, hepatic or other chronic diseases. smoking alcohol consumption	Health conditions studied <u>1</u> Description of health condition studied Not a disease (hormonal levels, anaerobic and explosive power and endurance) ICD-10 code ICD-10 code description
Age From 20 years old to 26 years old	
Gender Male	
Phase N/A	
Groups that have been masked No information	
Sample size Target sample size: 24 Actual sample size reached: 24	<u>1</u> Description Growth hormone level Timepoint Before and after 6 weeks Method of measurement blood sample
Randomization (investigator's opinion) Randomized	ICD-10 code ICD-10 code description
Randomization description Simple randomization with dice throw. So there are 3 groups. If the dice number is 1 or 2, in the first group, if 3 and 4 are in group 2 and if 5 and 6 are in group 3.	Primary outcomes <u>1</u> Description LDH Hormone level Timepoint Before and after 6 weeks Method of measurement Blood sample
Blinding (investigator's opinion) Not blinded	<u>2</u> Description CRP Hormone level Timepoint Before and after 6 weeks Method of measurement Blood sample
Blinding description Not used	Secondary outcomes <u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula
Assignment Parallel	<u>3</u> Description CRP Hormone level Timepoint Before and after 6 weeks Method of measurement Blood sample
Other design features	<u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula
Secondary Ids empty	Secondary outcomes <u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula
Ethics committees	<u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula
<u>1</u> Ethics committee	<u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula
Name of ethics committee Sport Sciences Research Institute (SSRI)	Secondary outcomes <u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula
Street address	<u>1</u> Description Muscle endurance with 40 % of 1RM Timepoint Before and after 6 weeks of training Method of measurement Repeat to failure with 40% of 1RM(First, by the formula

of Brzeski, the maximum muscle strength was determined to perform a maximum of one repetition, and then by 40% of this Strength, they performed the Movement until they could not perform a repetition without pausing.

2

Description

Explosive Power

Timepoint

before and after 6 weeks of training

Method of measurement

Sargent jump test

3

Description

Anaerobic Power

Timepoint

before and after 6 weeks of training

Method of measurement

Anaerobic Wingate test

Intervention groups

1

Description

Group 1 was resistance training with blood flow restriction and passive rest(30-15-15-15 with 30 sec rest).

Category

N/A

2

Description

group 2 Resistance training with restricted blood flow and active rest(30-7-15-7-15)

Category

N/A

3

Description

Control group: traditional resistance training(3 sets, 10repetition with 70-80% 1RM)

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Iran Air force

Full name of responsible person

Ali Fakourian

Street address

Air force, Piroozi street, Tehran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran Air Force

Full name of responsible person

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Street address

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Grant name

Grant code / Reference number

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

No

Title of funding source

By myself

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

Persons

Person responsible for general inquiries

Contact

Name of organization / entity

The University of Kharazmi

Full name of responsible person

Vahid Fekri Kourabbaslou

Position

MSc

Latest degree

Master

Other areas of specialty/work

Exercise Physiology

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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

Hormone levels and muscular and anaerobic Function data

When the data will become available and for how long

Start accessing 6 months after printing results

To whom data/document is available

Researchers working in academic and scientific institutions

Under which criteria data/document could be used

To investigate the background of research in similar research

From where data/document is obtainable

Vahid Fekri Kourabbaslou

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

Send an Email to researcher

Comments