

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Sep 2026

Comparison of immediate and long-term effects of eccentric exercise with concentric exercise on reducing blood pressure in people with hypertension controlled with medication

Protocol summary

Summary

The aim of this study is to evaluate the effects of eccentric exercise on blood pressure in people with high blood pressure controlled by medication. This study is a single-blind, randomized. Inclusion criteria: those with systolic blood pressure is between 140 to 179 mm Hg and diastolic blood pressure between 90 and 109 mm Hg, the blood pressure is controlled by medication. All participants must have an inactive lifestyle and don't have a regular exercise program in the past 6 months. Exclusion criteria: smokers, alcoholic and diabetic patient are excluded. those patient who have respiratory, kidney and heart disease are excluded. The sample size $n = 20$ is considered. Our involvement is walking in the negative slope of 10 percent of the treadmill for 30 minutes and three times a week for 4 weeks. Outcome of the study is the change in the blood pressure in the intervention persons.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014061618108N1**
Registration date: **2015-01-22, 1393/11/02**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-01-22, 1393/11/02

Registrant information

Name

Hamideh Mashhadi Hashemi

Name of organization / entity

Semnan University of Medical Science

Country

Iran (Islamic Republic of)

Phone

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Email address

info@semums.ac.ir

Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2014-10-07, 1393/07/15

Expected recruitment end date

2014-10-22, 1393/07/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of immediate and long-term effects of eccentric exercise with concentric exercise on reducing blood pressure in people with hypertension controlled with medication

Public title

Effects of eccentric exercise on blood pressure in patients with hypertension

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Persons 20 to 70 years with systolic blood pressure between 140 and 179 mmHg and diastolic blood pressure between 90 and 109 mmHg controlled with medication; menopausal women
Exclusion criteria: Very thin and very obese individuals ;

smokers ; alcoholic persons ; diabetes ; persons who have respiratory ; kidney ; heart disease are excluded.

Age

From **20 years** old to **70 years** old

Gender

Both

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)**

Single blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Semnan University of Medical Sciences

Street address

Rehabilitation Faculty, Semnan University of Medical Science, 5th K.m of Damghan Rd, Semnan

City

Semnan

Postal code**Approval date**

2014-12-16, 1393/09/25

Ethics committee reference number

93/538814

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

hypertension

ICD-10 code

I10-I15

ICD-10 code description

Hypertensive diseases

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

blood pressure

Timepoint

30 minute after training

Method of measurement

sphygmomanometer

Secondary outcomes

empty

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

The intervention group participants walk 30 minutes on the treadmill with an incline of 10 percent of their chosen walking speed 3 times a week for 4weeks.

Category

Rehabilitation

2**Description**

Another group participants walk 30 minutes with neutralize gradient and the speed their choice 3 times a week for 4 weeks.

Category

Rehabilitation

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

Cardiology clinic of Kosar hospital in Semnan University of Medical Sciences

Full name of responsible person**Street address**

Basij Blv.

City

semnan

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

Semnan University of Medical Sciences

Full name of responsible person

Doctor Ali Rashidipur

Street address

Rehabilitation Faculty, Semnan University of MedicalScience, 5th K.m of Damghan Rd, Semnan

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Semnan

Grant name

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

Yes

Title of funding source

Semnan University of Medical Sciences

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**

Semnan University of Medical Sciences

Full name of responsible person

Hamideh Mashhadi Hashemi

Position

Master of Physical Therapy student

Other areas of specialty/work**Street address**

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PhD in Physical Therapy

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Position

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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