Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The comparative effect of regular aerobic exercise with daily activities on blood glucose, lipid profile and apolipoprotein b100 in women with type 2 diabetes

Protocol summary

Summary

The aim of this study is to determine the changes in blood glucose, lipid profile, and aerobic capacity after 8 weeks of aerobic exercise in women with type 2 diabetes. Twenty nine patients with type II diabetes (38-48 years) referred to Abolfazl clinic in Meybod voluntary participated in this study. Inclusion criteria were blood glucose in the range of 150 to 230 milligrams per deciliter and non insulin therapy. The participants were randomly divided into control (N=14) and experimental (N=15) groups based on blood glucose. The experimental group received aerobic training for 8 weeks, 3 sessions per week, 40 to 60 minutes each session and with an intensity of 60 to 75% of maximum heart rate. The control group did not participate in any physical activity and continued their daily activities. Before and 48 hours after the last training session, the participants' blood samples were taken to determine fasting blood glucose, cholesterol, triglyceride, high-density lipoprotein (HDL), low density lipoprotein (LDL) and apolipoprotein B100. Body weight, percent body fat and aerobic power of participants were also measured. Percent body fat was measured with calipers (four-point method), and one mile walking test was used to assess the aerobic power of participants.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013012312247N1**
Registration date: **2013-03-22, 1392/01/02**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2013-03-22, 1392/01/02

Registrant information

Name

Fahimeh Esfarjani

Name of organization / entity

University of Isfahan

Country

Iran (Islamic Republic of)

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Email address

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, University of Isfahan

Expected recruitment start date

2009-12-31, 1388/10/10

Expected recruitment end date

2010-02-09, 1388/11/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The comparative effect of regular aerobic exercise with daily activities on blood glucose, lipid profile and apolipoprotein b100 in women with type 2 diabetes

Public title

Effect of exercise in diabetes

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:1- Women with type 2 diabetes 2-Blood glucose in the range of 150 to 230 milligrams per deciliter 3-Not having Diabetes-related complications 4-The lack of insulin treatment 5-Consumption the metformin and Glibenclamide as a drugs Exclusion criteria: 1- Physician's disapproval of participating in exercises 2-Morbid obesity

Age
From **38 years** old to **48 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **29**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
Participants volunteered to participate in this study and were randomly divided into control and experimental groups based on blood glucose

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of Sport Sciences Faculty, University of Isfahan

Street address
Sport Sciences Faculty, University of Isfahan, Hezar Jirib St., Isfahan

City
Isfahan

Postal code
8174673441

Approval date
2009-12-24, 1388/10/03

Ethics committee reference number
287/88/غ

Health conditions studied

1

Description of health condition studied
Non-insulin-dependent diabetes mellitus

ICD-10 code
E10,E11,E1

ICD-10 code description
Diabetes mellitus

Primary outcomes

1

Description
Blood glucose

Timepoint
Before and 48 hr after intervention

Method of measurement
Enzymatic Method using Pars Azmoon kit

2

Description
Lipid profile including LDL, HDL, Cholesterol, Triglyceride

Timepoint
Before and 48 hr after intervention

Method of measurement
Enzymatic Colorimetric Method using Pars Azmoon kits

3

Description
Apolipoprotein B100

Timepoint
Before and 48 hr after intervention

Method of measurement
Immunoturbidimety (TinaQuant Apo B kit, Roche, Switzerland)

Secondary outcomes

1

Description
Percent body fat

Timepoint
Before and 24 hr after intervention

Method of measurement
Skinfold measurement using Caliper

2

Description
Aerobic power

Timepoint
Before and 48 hr after intervention

Method of measurement
One mile walking test

Intervention groups

1

Description
Intervention1:Participating in 8 weeks aerobic exercise

training, 3 times a week, 40 to 60 minutes each session

Category

Lifestyle

2

Description

Intervention2: Participating in daily activities

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Abolfazl Clinic

Full name of responsible person

Fatemeh Rashidi

Street address

Ebne Sina Building, Emam St., Meybod

City

Meybod

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research, University of Isfahan

Full name of responsible person

Mohammad Rabani

Street address

Department of Biology, Sciences Faculty, University of Isfahan, Hezar Jirib St., Isfahan

City

Isfahan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice chancellor for research, University of Isfahan

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 Isfahan

Full name of responsible person

Fatemeh Rashidi

Position

Master of Science in 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