

Clinical Trial Protocol

Iranian Registry of Clinical Trials

31 Jul 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 voluntarily 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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+98 31 1793 4283

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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/ع

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
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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
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Master of Science in Exercise Physiology
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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