

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Jun 2026

The use of Eccentric and Concentric Exercises and studying thier effects on biochemical and biomechanical parameters and functional activities of type 2 Diabetic patients as a new approach for treatment.

Protocol summary

Summary

Undergraduate goal of this study is comparison of the effects of eccentric and concentric exercises in specifically on biochemical, biomechanical and functional activity parameters in the control and treatment of disease and complications of Patients with Type 2 Diabetes. In this study participate 22 cases of type 2 diabetic patients , with a history of getting at least five years, rated between 4-9 of the questionnaire WALK, absence of heart and cardiovascular disease, hepatic dysfunction and motor movement problem that for about 8 weeks (three sessions per week) under eccentric and concentric exercise training (by treadmill with the slope, intensity and time specified) randomly in the two groups are separate. In this study, biochemical, biomechanical and functional activity parameters in patients participating in the study are assess, analyze and compare before and after intervention in both groups separately. We hope this study according to the characteristics of Eccentric and Concentric exercises and the effects of these exercises in patients with diabetes, we can positive and effective step identify and provide a more appropriate way of physical exercise in improving control and reducing complications of diabetes that its remarkable widespread growth in the human society. So we hope create maximum efficiency in the survey admitted to increase motivation in developing and supplying physical activity.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138905124485N1**

Registration date: **2011-04-10, 1390/01/21**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2011-04-10, 1390/01/21

Registrant information

Name

Abdolhamid Hajjhasani

Name of organization / entity

Semnan University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 23 1444 1522

Email address

hajjhasani@sem-ums.ac.ir

Recruitment status

Recruitment complete

Funding source

University of Tarbiat Modaress

Expected recruitment start date

2010-09-16, 1389/06/25

Expected recruitment end date

2011-03-16, 1389/12/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The use of Eccentric and Concentric Exercises and studying thier effects on biochemical and biomechanical parameters and functional activities of type 2 Diabetic patients as a new approach for treatment.

Public title

The effect of exercise on diabetic patients.

Purpose

Treatment

Inclusion/Exclusion criteria

Patient selection criteria: in both groups patients had to be tete conditions for entering the study. 1) infected person type 2 diabetes. 2) in the age of 60-40 years. 3) at least 5 years from Diabetes to cancer patients. 4) diabet has been controlled. 5) theseteen questionnaire valk 4 to 9. In both groups have patients under conditions of the study will be removed. 1) patients over 60 years. 2) A patient inability in motion Takyiy need to go to the means of aid or help people. 3) patient with orthopedic disaster, the wound, neuropathy (upon non-diabet),neuromuscular and retinopathy. 4) patient with kidney and liver problems. 5) fell ill with heart diseases-vascular problems. 6) a patient instability of the vital signs.

Age

From **40 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **22**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

University of Tarbiat Modaress

Street address

Nasr bridge-Jalal aal ahmad Highway

City

Tehran

Postal code

14115-331

Approval date

2010-10-23, 1389/08/01

Ethics committee reference number

5259736

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

Befor and after of control & treatment period

Method of measurement

Test of blood glucose in Laboratory

2

Description

Adiponectine

Timepoint

Befor and after of control & treatment period

Method of measurement

Test of bloob Adiponectine in Laboratory

3

Description

HbA1C

Timepoint

Befor and after of control & treatment period

Method of measurement

Test of blood Adiponectine in Laboratory

4

Description

Velocity of gait

Timepoint

Befor and after of control & treatment period

Method of measurement

Motion analysis set

5

Description

Displament of Center OF Pressure

Timepoint

Befor and after of control & treatment period

Method of measurement

Motion analysis set and Force Plate

6

Description

Angular velocity of Ankle Joint

Timepoint

Befor and after of control & treatment period
Method of measurement
Motion analysis Set

N/A

7

Description

6 Minutes Walking Test

Timepoint

Befor and after of control & treatment period

Method of measurement

Stopwatch(kornometer) and Meter

8

Description

Time up & Go

Timepoint

Befor and after of control & treatment period

Method of measurement

Stopwatch(kornometer) and Meter

Secondary outcomes

1

Description

Weight

Timepoint

Befor and after of control & treatment period

Method of measurement

Weighing scale

Intervention groups

1

Description

One group of intervention has Concentric exercise (running on treadmill with 4 possitive degree) with 70%-75% Maximal Heart Rate and 20 minutes duration of exercise (plus 5 minutes Warm up and 5 minutes Cool down) and 24 session (3 Times a week)

Category

Treatment - Other

2

Description

One group of intervention has Eccentric exercise (running on treadmill with 4 possitive degree) with 70%-75% Maximal Heart Rate and 20 minutes duration of exercise (plus 5 minutes Warm up and 5 minutes Cool down) and 24 session (3 Times a week)

Category

Treatment - Other

3

Description

Control group non intervension

Category

Recruitment centers

1

Recruitment center

Name of recruitment center

Fatemieh Hospital

Full name of responsible person

Ahmad Moslemi

Street address

17 Shahrivar Boulevard

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Tarbiat Modares

Full name of responsible person

Dr Yaeghoob Fatollahi

Street address

Nasr bridge- Jalal Aal Ahmad Highway

City

Tehran

Grant name

Grant code / Reference number

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

Yes

Title of funding source

University of Tarbiat Modares

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 Science

Full name of responsible person

Abdolhamid Hajjhasani

Position

MS - lecturer

Other areas of specialty/work

Street address

No 37- First eastern of Agagia street- Golestan area

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Full name of responsible person

Abdolhamid Hajihasani

Position

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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*