

# 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 Hajihhasani

###### Name of organization / entity

Semnan University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 23 1444 1522

###### Email address

hajihhasani@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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**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*