Clinical Trial Protocol
Iranian Registry of Clinical Trials

25 Oct 2026

Comparison of the effect of Throwers Ten Exercises and Modified Stretching Movements on fatigue intensity in patients with type 2 diabetes

Protocol summary

Study aim
Determining Comparison of the effect of Throwers Ten Exercises and Modified Stretching Movements on fatigue intensity in patients with type 2 diabetes

Design
Clinical trial with control group, with parallel, randomized groups, 75 patients

Settings and conduct
Approval of the research plan in the ethics committee of the university vice chancellor for research. First, complete the demographic checklist and the Smets's Multidimensional Fatigue Inventory. The number of training sessions in the two groups of Throwers Ten Exercises and Modified Stretching Movements is 3 times a week for a month and each session is 30 to 45 minutes at 10 and 11 o'clock in the morning. Immediately after the sessions, the patients' fatigue severity will be re-evaluated using a Smets's Multidimensional Fatigue Inventory. The exercises will be performed at the patients' homes using a CD and a pamphlet prepared by the researcher.

Participants/Inclusion and exclusion criteria
Admission requirements: 1- Ability to communicate and answer questions 2- At least 6 months have passed since the diagnosis of type 2 diabetes by an endocrinologist. Conditions of non-entry: 1- Performing amputation in the arms and legs 2- Previous participation in studies similar to the current research

Intervention groups
Intervention group 1: Throwers Ten Exercises: These exercises are 3 times a week for a month and each session is 30 to 45 minutes at 10 and 11 in the morning. Intervention group 2: Modified Stretching Movements: These exercises are 3 times a week for a month and each session is 30 to 45 minutes at 10 and 11 in the morning. Control group: Non-intervention: This training group will not be given.

Main outcome variables
Fatigue

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210209050312N1**
Registration date: **2021-06-22, 1400/04/01**
Registration timing: **registered_while_recruiting**

Last update: **2021-06-22, 1400/04/01**
Update count: **0**

Registration date
2021-06-22, 1400/04/01

Registrant information

Name
Mohammadreza Abbasipour
Name of organization / entity
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-05-22, 1400/03/01

Expected recruitment end date
2021-09-22, 1400/06/31

Actual recruitment start date
empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect of Throwers Ten Exercises and Modified Stretching Movements on fatigue intensity in patients with type 2 diabetes

Public title

Comparison of the effect of Throwers Ten Exercises and Modified Stretching Movements on fatigue intensity in patients with type 2 diabetes

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

Ability to communicate and answer questions Consent to participate in the study and sign the informed consent form Age 30 to 60 years At least 6 months have passed since the diagnosis of type 2 diabetes by an endocrinologist

Exclusion criteria:

Perform amputations on the arms and legs Neurological illnesses such as (depression and schizophrenia) and taking psychiatric medications Previous participation in studies similar to current research Cervical disc, lumbar disc and orthopedic problems Class 3 and 4 heart failure

Age

From **30 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **75**

Randomization (investigator's opinion)

Randomized

Randomization description

Random block properties will be assigned using the List Randomization site and the creation of different number of blocks between the three groups of intervention 1 (Throwers Ten Exercises), intervention 2 (Modified Stretching Movements) and control. Using the site (https://www.sealedenvelope.com/simple-randomiser/v1/lists) random blocks of different sizes and multiplied by 3 (9, 6, 3) will be created.

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

Ethics committee of Yasuj University of Medical Sciences

Street address

Yasuj, Shahid Motahari Blvd., Yasuj University of Medical Sciences

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Yasuj

Province

Kohgilouyeh-va-Boyrahmad

Postal code

7591741417

Approval date

2021-05-15, 1400/02/25

Ethics committee reference number

IR.YUMS.REC.1400.025

Health conditions studied

1

Description of health condition studied

Type 2 diabetes

ICD-10 code

E10-E11- E

ICD-10 code description

Diabetes mellitus

Primary outcomes

1

Description

Fatigue

Timepoint

Patients' fatigue at the beginning of the study (before the intervention) and immediately after the start of the study

Method of measurement

Smets's Multidimensional Fatigue Inventory

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group1: Throwers Ten Exercises: Exercises in this group include 10 exercises in the upper limbs, including hands - elbows - shoulders - wrists and arms in different directions, which will be in accordance with the principle of overload (holding time and number of hands) that these exercises include ; Diagonal pattern in the form of hand opening, external rotation around the waist,

external rotation at shoulder level, shoulder distance from shoulder surface, raising the scapula (scissors), Sidelying, lying on the abdomen in a horizontal position and limbs from Body rotation, pressing presses, UPS pressure, Bicep Curl, wrist extension or opening, wrist, lying down open, diagonal pattern with hand bending, internal rotation around waist, internal rotation on surface Shoulders, lying on the abdomen in a horizontal position and keeping the hands away from the body 100 degrees, Elbow Extension, diagonal pattern opening and bending the hands, diagonal pattern bending and opening the arms, internal and external rotation Around the waist, internal and external rotation at shoulder level, in the abdomen, opening and bending the elbow, bending the wrist, wrist open downwards (opposite to the previous position) and external rotation to the abdomen. These exercises are 3 times a week for a month and each session is 30 to 45 minutes at 10 and 11 o'clock in the morning.

Category

Rehabilitation

2

Description

Intervention group 2: Modified Stretching Movements: These movements should be gentle and regular, including; Triceps, sliding against the wall, spine rotation, squatting, elbows close to the knees while moving, lifting while walking, twisting one leg, stretching the thighs while standing, stretching the muscles behind the thighs with the help of Sitting posture, Twin leg stretching, Diagonal stretching of the thigh in standing position, Stretching of the back thigh muscles with the help of standing posture, Horseshoe stretching in the standing position, Stretching of the thigh in the supine position, Cross stretching of the back thigh muscles with the help of cross, Stretching Standing twin and horseshoe muscles, bending the pelvis while kneeling, stretching the muscles behind the thighs while lying down with a towel, and stretching the twin and standing horseshoe muscles. These exercises are 3 times a week for a month and each session is 30 to 45 minutes at 10 and 11 o'clock in the morning.

Category

Rehabilitation

3

Description

Control group: Non-intervention: This training group will not be given.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Shahid Fayaz-Bakhsh Hospital

Full name of responsible person

Mohammadreza Abbasipour

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Yasouj University of Medical Sciences

Full name of responsible person

Hossein Mari Oryad

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Grant name

Grant code / Reference number

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

Yes

Title of funding source

Yasouj University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity
Yasouj University of Medical Sciences
Full name of responsible person
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Master student of medical-surgical nursing
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
Undecided - It is not yet known if there will be a plan to make this available
Informed Consent Form
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Undecided - It is not yet known if there will be a plan to make this available
Analytic Code
Undecided - It is not yet known if there will be a plan to make this available
Data Dictionary
Undecided - It is not yet known if there will be a plan to make this available