

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

Acute Effect of Moderate Aerobic Exercise on Reaction and Anticipatory Postural Adjustment Times of Pre Crossing Phase of Obstacle Negotiation in Young and Healthy Older Adults According to Dual Task Paradigm

Protocol summary

Summary

Objective: Fall in Older Adults Especially When Obstacle Negotiation Is Common, so Fall Prevention Strategies in Older Adults When Obstacle Crossing Is Important. This Study Aimed to Evaluate Acute Effect of Aerobic Exercise on Reaction and Anticipatory Postural Adjustment Times of Pre Crossing Phase of Obstacle Negotiation According to Dual Task Paradigm. Design: In this Experimental Case Control Study, Twenty Healthy Adults and Twenty Young Adults Evaluate and Compare Before and After Aerobic Exercise Intervention. Timing Variables of Gait Initiation With or Without Obstacle Crossing Will Be Compared. Setting and Conduct: Four Test Conditions Include Gait Initiation With or Without Obstacle Crossing in Single and Dual task Situations. Reaction and Anticipatory Postural Adjustment Times Will Be Calculated. Participants: Healthy Older Adults and Young Samples according to Inclusion and Exclusion Criteria (Inclusion criteria: Twenty Years or Older; Independent Walking and Gait Initiation Ability; Independent Lifestyle in The Community; Mini-Mental State Examination Score More Than 24. Exclusion criteria: Depression and Anxiety; Neurological or Musculoskeletal Disorders; Significant Auditory or Visual Impairments). Intervention: One Session of Cycling Moderate Aerobic Exercise (8-15 Minute) With Calculated Intensity (60-70% Maximum Heart Rate). Main Outcome Measures: Reaction Time and Anticipatory Postural Adjustment Phases of Gait Initiation

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017022513146N5**

Registration date: **2017-06-03, 1396/03/13**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2017-06-03, 1396/03/13

Registrant information

Name

Maryam Hayati

Name of organization / entity

Tehran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 28 1333 7180

Email address

m_hayati@razi.tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Tehran University of Medical Sciences

Expected recruitment start date

2017-06-10, 1396/03/20

Expected recruitment end date

2017-09-01, 1396/06/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Acute Effect of Moderate Aerobic Exercise on Reaction and Anticipatory Postural Adjustment Times of Pre Crossing Phase of Obstacle Negotiation in Young and Healthy Older Adults According to Dual Task Paradigm

Public title

Acute Aerobic Exercise Effect

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: Twenty Years or Older; Independent Walking and Gait Initiation Ability; Independent Lifestyle in The Community; Mini-Mental State Examination Score More Than 24
Exclusion criteria: Depression and Anxiety; Neurological or Musculoskeletal Disorders; Significant Auditory or Visual Impairments

Age

From **20 years** old to **80 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Not 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

Tehran University of Medical Science

Street address

Tehran University of Medical Science, School of Rehabilitation, Piche Shemiran, Enghelab Avenue, Tehran

City

Tehran

Postal code

Approval date

2017-05-08, 1396/02/18

Ethics committee reference number

IR.TUMS.REC.1396.2936

Health conditions studied

1

Description of health condition studied

Interaction Between Acute Effect of Aerobic Exercise and

Imposed Learning in Gait Initiation in Old and Young Adults

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Reaction Time Phase of Gait Initiation

Timepoint

Before and After Moderate Aerobic Exercise Intervention

Method of measurement

Calculated by Detected Center of Pressure Trajectory of Force Plate

2

Description

Anticipatory Postural Adjustment Phase of Gait Initiation

Timepoint

Before and After Moderate Aerobic Exercise Intervention

Method of measurement

Calculated by Detected Center of Pressure Trajectory of Force Plate

3

Description

Reaction Time of Cognitive Task in Dual Task Conditions

Timepoint

Before and After Moderate Aerobic Exercise Intervention

Method of measurement

Calculated by Forge Program

Secondary outcomes

empty

Intervention groups

1

Description

Cycling Moderate Aerobic Exercise(8-15 Minutes) With 60-70 % Maximum Heart Rate in Healthy Older Adults

Category

Treatment - Other

2

Description

Cycling Moderate Aerobic Exercise(8-15 Minutes) With 60-70 % Maximum Heart Rate in Young Adults

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Facility Offering Activities for Older Adults in Tehran

Full name of responsible person

Maryam Hayati

Street address

Tehran University of Medical Science, School of Rehabilitation, Piche Shemiran, Enghelab Avenue, Tehran

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Science

Full name of responsible person

Saeed Talebian

Street address

Tehran University of Medical Science, School of Rehabilitation, Piche Shemiran, Enghelab Avenue, Tehran

City

Tehran

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Tehran University of Medical Science

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

Tehran University of Medical Science

Full name of responsible person

Maryam Hayati

Position

Student

Other areas of specialty/work**Street address**

Tehran University of Medical Science, School of Rehabilitation, Piche Shemiran, Enghelab Avenue, Tehran

City

Tehran

Postal code**Phone**

+98 21 8802 5345

Fax**Email**

m-hayati@razi.tums.ac.ir

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Tehran University of Medical Science

Full name of responsible person

Saeed Talebian

Position

Phd

Other areas of specialty/work**Street address**

Tehran University of Medical Science, School of Rehabilitation, Piche Shemiran, Enghelab Avenue, Tehran

City

Tehran

Postal code**Phone**

+82 17-753-4364

Fax**Email**

talebian@sina.tums.ac.ir

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Tehran University of Medical Science

Full name of responsible person

Maryam Hayati

Position

Student

Other areas of specialty/work**Street address**

Tehran University of Medical Science, School of Rehabilitation, Piche Shemiran, Enghelab Avenue, Tehran

City

Tehran

Postal code**Phone**

+98 21 8802 5345

Fax**Email**

m-hayati@razi.tums.ac.ir

Web page address

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