

# 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**

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**Position**

Student

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## Person responsible for scientific inquiries

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Phd

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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*