Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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Name of organization / entity

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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

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

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Sponsors / Funding sources

1

Sponsor

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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

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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
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

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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