

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

29 Jun 2026

### EFFECTS OF SINGLE TASK TRAINING VERSUS DUAL TASK TRAINING ON BALANCE AND COGNITION IN OLDER ADULTS

#### Protocol summary

Berg balance scale; Time up and go test; Mini Mental State Examination; Montreal Cognitive Assessment

#### Study aim

To determine the effect of single task training versus dual task training on balance and cognition in older adults

#### Design

A concealed, randomized, double blinded trial

#### Settings and conduct

Study will be conducted at Najjat trust old home Rawalpindi, Pakistan.

#### Participants/Inclusion and exclusion criteria

Inclusion criteria: both male and female; age of the participants between 50 years and above; able to walk independently without assistive devices; Mini-Mental State Examination (MMSE) score between 18 to 23; Berg balance scale score less than 50. Exclusion criteria: participant who had recent history of fall within one year; unstable medical condition; significant visual and auditory impairments; unwillingness for participation in the study; presence of other neurological or musculoskeletal conditions affecting balance.

#### Intervention groups

Control group: participants will perform functional tasks that require balance like, tandem standing with eyes open and closed, transferring from one chair to another chair, single leg standing on alternate legs, walking with a reduced base of support, obstacle crossing. Participants will perform the training 3 days a week for up to 8 weeks; 5 minutes warm up followed by 30 minutes training session and 5 minutes cool down. Treatment group: participants will perform balance tasks like, tandem standing with eyes open and closed, transferring from one chair to another chair, single leg standing on alternate legs, walking with a reduced base of support, obstacle crossing simultaneously with cognitive task. Participants will perform the training 3 days a week for up to 8 weeks; 5 minutes warm up followed by 30 minutes training session and 5 minutes cool down.

#### Main outcome variables

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20210909052419N1**

Registration date: **2021-09-19, 1400/06/28**

Registration timing: **registered\_while\_recruiting**

Last update: **2021-09-19, 1400/06/28**

Update count: **0**

##### Registration date

2021-09-19, 1400/06/28

##### Registrant information

##### Name

Hafsah Gul Khattak

##### Name of organization / entity

University of Lahore, Islamabad campus

##### Country

Pakistan

##### Phone

+92 51 4509595

##### Email address

hafsah.gul@uipt.uol.edu.pk

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-05-02, 1400/02/12

##### Expected recruitment end date

2021-10-30, 1400/08/08

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

**Trial completion date**  
empty

**Scientific title**  
EFFECTS OF SINGLE TASK TRAINING VERSUS DUAL TASK TRAINING ON BALANCE AND COGNITION IN OLDER ADULTS

**Public title**  
EFFECTS OF SINGLE TASK TRAINING VERSUS DUAL TASK TRAINING ON BALANCE AND COGNITION IN OLDER ADULTS

**Purpose**  
Treatment

**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
Both male and female participants of age 50 years and above Able to ambulate independently walk without assistive devices Mini-Mental State Examination (MMSE) score between 18 to 23 Berg balance scale score less than 50  
**Exclusion criteria:**  
Participant who had recent history of fall within one year Unstable medical condition Significant visual and auditory impairments Presence of other neurological or musculoskeletal conditions affecting balance Unwillingness for participation in the study

**Age**  
From **50 years** old

**Gender**  
Both

**Phase**  
N/A

**Groups that have been masked**

- Participant
- Outcome assessor

**Sample size**  
Target sample size: **68**

**Randomization (investigator's opinion)**  
Randomized

**Randomization description**  
The subjects will be randomly divided into 2 groups (experimental and control group) by sealed envelope method using convenient sampling technique and informed consent will be taken from each patient who willing to participate in the study.

**Blinding (investigator's opinion)**  
Double blinded

**Blinding description**  
Participants of both control and experimental group as well as the person who will assess the outcomes before and after application of intervention.

**Placebo**  
Not used

**Assignment**  
Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Institutional Review Board of University Institute of Physical Therapy University of Lahore.

##### Street address

6.7 Km Japan road, Sihala zone-5

##### City

Islamabad

##### Postal code

44000

#### Approval date

2021-04-15, 1400/01/26

#### Ethics committee reference number

UOL/UIPT/ IRB/EC/000100

## Health conditions studied

### 1

#### Description of health condition studied

Balance and cognition in older adult

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

Balance

#### Timepoint

Before intervention and after 8 weeks post intervention.

#### Method of measurement

Berg balance scale, Timed up and go test.

### 2

#### Description

Cognition

#### Timepoint

Before intervention and after 8 weeks post intervention.

#### Method of measurement

Mini mental state examination , Montreal Cognitive Assessment

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: Dual task training group participants will perform balance tasks like, tandem standing with eyes open and closed, transferring from one chair to another chair, single leg standing on alternate legs, walking with a reduced base of support, obstacle crossing simultaneously with cognitive task. Participants will perform the training 3 days a week for up to 8 weeks; 5 minutes warm up followed by 30 minutes training session and 5 minutes cool down.

**Category**

Rehabilitation

**2****Description**

Control group: Single task training group participants will perform functional tasks that require balance like, tandem standing with eyes open and closed, transferring from one chair to another chair, single leg standing on alternate legs, walking with a reduced base of support, obstacle crossing. Participants will perform the training 3 days a week for up to 8 weeks; 5 minutes warm up followed by 30 minutes training session and 5 minutes cool down.

**Category**

Rehabilitation

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Najjat trust old home

**Full name of responsible person**

Dr. Yaqoob Malik

**Street address**

P-330, Janglat Road, Banni

**City**

Rawalpindi

**Postal code**

46000

**Phone**

+92 51 5165304

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hafsah.gul@uipt.uol.edu.pk

**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Self

**Full name of responsible person**

Hafsah Gul Khattak

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House 31A, Street 9B, G-9/4

**City**

Islamabad

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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**

Self

**Proportion provided by this source**

100

**Public or private sector**

Private

**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**

University Institute of Physical Therapy University of Lahore, Islamabad campus, Pakistan

**Full name of responsible person**

Hafsah Gul Khattak

**Position**

Lecturer

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

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6.7 Km Japan road, Sihala zone-5

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**Person responsible for scientific inquiries****Contact****Name of organization / entity**

University Institute of Physical Therapy University of Lahore, Islamabad campus

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**Person responsible for updating data**

**Contact**

**Name of organization / entity**

University of Lahore, Islamabad campus, Pakistan

**Full name of responsible person**

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**Position**

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**Sharing plan**

**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Yes - There is a plan to make this available

**Informed Consent Form**

Yes - There is a plan to make this available

**Clinical Study Report**

Not applicable

**Analytic Code**

Not applicable

**Data Dictionary**

Not applicable

**Title and more details about the data/document**

Effect of single task training versus dual task training on balance and cognition in older adults; data regarding outcome measures will be shared.

**When the data will become available and for how long**

After the publication of the study.

**To whom data/document is available**

for research and clinical purposes to healthcare professional working in academic and clinical settings

**Under which criteria data/document could be used**

On informed request from the investigators

**From where data/document is obtainable**

via email

**What processes are involved for a request to access data/document**

by sending an email

**Comments**