# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

22 Nov 2026

# EFFECTS OF VIRTUAL REALITY WITH MOTOR IMAGERY TECHNIQUES IN ADDITION TO ROUTINE PHYSICAL THERAPY IN PATIENTS WITH PARKINSON'S DISEASE: A RANDOMIZED CONTROLLED TRIAL

## Protocol summary

**Study aim**

1. To compare the effects of virtual reality with motor imagery techniques in addition to routine physical therapy on balance in patients with Parkinson's disease 2. To compare the effects of virtual reality with motor imagery techniques in addition to routine physical therapy on motor function in patients with Parkinson's disease 3. To compare the effects of virtual reality with motor imagery techniques in addition to routine physical therapy on activities of daily living in patients with Parkinson's disease

**Design**

parallel group, single blind, randomized controlled trial

**Settings and conduct**

Department of Physical Therapy, Safi Hospital, Faisalabad, Pakistan.

**Participants/Inclusion and exclusion criteria**

Inclusion Criteria:  Idiopathic Parkinson's disease  Modified Hoehn and Yahr (H&Y) Stage-1 to Stage-3  Between the ages of 50 and 80 years of both gender  Independent in transfers  Score equal to or greater than 24 score on the Mini-Mental State Examination (MMSE)(62).  Previous lack of participation in balance or motor training Exclusion Criteria: The following exclusion criteria will be applied:  History of any neurological conditions such as stroke, multiple sclerosis, epilepsy other than Parkinson's disease  History of orthopedic issues such as pain, fracture or lower limb pathology  History of visual abnormalities  History of any chronic or cardiovascular pathology that can interfere with the transfer procedure or can affect the training sessions  The participants having severe dyskinesia's or "on-off" phases  Previous history of surgery for PD.  History of Virtual games used in past 3 months  Virtual game phobia

**Intervention groups**

Intervention Group– will get Routine Physical Therapy + Virtual Reality + Motor Imagery 60 minutes of session, Alternative three days/ week for 12 weeks.

**Main outcome variables**

Motor Function, Balance and Activities of Daily Living

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20200221046567N1**
Registration date: **2020-04-01, 1399/01/13**
Registration timing: **prospective**

Last update: **2020-04-01, 1399/01/13**
Update count: **0**

**Registration date**

2020-04-01, 1399/01/13

**Registrant information**

**Name**

Muhammad Kashif

**Name of organization / entity**

Riphah International University

**Country**

Pakistan

**Phone**

+92 41 8777210

**Email address**

kashif.shaffi@gmail.com

**Recruitment status**

**Not yet recruiting**

**Funding source**

**Expected recruitment start date**

2641-07-06, 2020/04/15

**Expected recruitment end date**

2642-01-05, 2020/10/15

**Actual recruitment start date**
empty
**Actual recruitment end date**
empty
**Trial completion date**
empty

**Scientific title**
EFFECTS OF VIRTUAL REALITY WITH MOTOR IMAGERY TECHNIQUES IN ADDITION TO ROUTINE PHYSICAL THERAPY IN PATIENTS WITH PARKINSON'S DISEASE: A RANDOMIZED CONTROLLED TRIAL

**Public title**
EFFECTS OF VIRTUAL REALITY WITH MOTOR IMAGERY TECHNIQUES IN ADDITION TO ROUTINE PHYSICAL THERAPY IN PATIENTS WITH PARKINSON'S DISEASE: A RANDOMIZED CONTROLLED TRIAL
**Purpose**
Treatment
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
 Idiopathic Parkinson's disease  Modified Hoehn and Yahr (H&Y) Stage-1 to Stage-3  Between the ages of 50 and 80 years of both gender  Independent in transfers  Score equal to or greater than 24 score on the Mini-Mental State Examination (MMSE)  Previous lack of participation in balance or motor training
**Exclusion criteria:**
 History of any neurological conditions such as stroke, multiple sclerosis, epilepsy other than Parkinson's disease  History of orthopedic issues such as pain, fracture or lower limb pathology  History of visual abnormalities History of any chronic or cardiovascular pathology that can interfere with the transfer procedure or can affect the training sessions  The participants having severe dyskinesia's or "on-off" phases  Previous history of surgery for PD.  History of Virtual games used in past 3 months  Virtual game phobia
**Age**
From **50 years** old to **80 years** old
**Gender**
Both

**Phase**
1
**Groups that have been masked**

- Outcome assessor

**Sample size**
Target sample size: **34**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
Lottery method
**Blinding (investigator's opinion)**
Single blinded
**Blinding description**
The study would be single-blinded as assessors of the study would be kept blind of the treatment group to which the patient will be allocated.
**Placebo**
Not used
**Assignment**
Factorial
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Institutional Review Board of University Institute of Physical Therapy, The University of Lahore
**Street address**
1 KM Raiwind Road
**City**
Lahore
**Postal code**
54792
**Approval date**
2641-04-11, 2020/01/22
**Ethics committee reference number**
IRB-UOL-FAHS/694/2020

## Health conditions studied

### 1

**Description of health condition studied**
PARKINSON'S DISEASE
**ICD-10 code**
G20
**ICD-10 code description**
Parkinson's disease, virtual reality, motor imagery, balance, motor function, activities of daily living

## Primary outcomes

### 1

**Description**
Balance
**Timepoint**
before intervention and 6, 12 week and after one month of intervention
**Method of measurement**
Berg Balance Scale and Activities specific Balance Confidence Scale

### 2

**Description**
Motor Function
**Timepoint**
before intervention and 6, 12 week and after one month of intervention
**Method of measurement**
Unified Parkinson's Disease Rating Scale (UPDRS) (Part-III)

**3**

**Description**
Activities of Daily livings
**Timepoint**
before intervention and 6, 12 week and after one month of intervention
**Method of measurement**
Unified Parkinson's Disease Rating Scale (Part-II)

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**
**Category**
*empty*

**2**

**Description**
Intervention group:
**Category**
Treatment - Other

**3**

**Description**
Control group:
**Category**
Treatment - Other

## Recruitment centers

**1**

**Recruitment center**
**Name of recruitment center**
Safi Hospital
**Full name of responsible person**
Muhammad Kashif
**Street address**
Satiana Road
**City**
Faisalabad
**Postal code**
3800
**Phone**
+92 41 8777210
**Email**
kashif.shaffi@gmail.com

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
University of Lahore
**Full name of responsible person**
Prof. Dr Ashfaq Ahmad
**Street address**
1 KM Defence Road
**City**
Lahore
**Postal code**
54792
**Phone**
+92 42 35322501
**Email**
ashfaq.ahmad@uipt.uol.edu.pk
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
University of Lahore
**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 of Lahore
**Full name of responsible person**
Muhammad Kashif
**Position**
PhD Scholar
**Latest degree**
Master
**Other areas of specialty/work**
Physiotherapy
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## Person responsible for scientific inquiries

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**Full name of responsible person**
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**Position**
Professor
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Ph.D.
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## Person responsible for updating data

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**Latest degree**
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**Other areas of specialty/work**
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**Postal code**
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**Email**
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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**
Yes - There is a plan to make this available
**Analytic Code**
Yes - There is a plan to make this available
**Data Dictionary**
Yes - There is a plan to make this available
**Title and more details about the data/document**
IPD collected for the primary outcome measure only
**When the data will become available and for how long**
After the publication of the study.
**To whom data/document is available**
academic institutions and researchers
**Under which criteria data/document could be used**
On informed request from the investigators
**From where data/document is obtainable**
via email or telephonic contact with investigators
**What processes are involved for a request to access data/document**
on email request, data will be provided within week.
**Comments**