

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

08 Jun 2026

### Comparing the effect of 12 weeks of Pilates and Aquatic training on balance, muscle strength and range of motion in patients with Parkinson's disease

#### Protocol summary

##### Study aim

Comparing the Effect of Twelve weeks Pilates and Aquatic Training on Balance, Muscle strength and Range of Motion in Patients with Parkinson's Disease

##### Design

This research is semi-experimental and applied. Among the male patients referred to AlZahra Isfahan Hospital, 50 people were selected as a sample and divided into three groups of Pilates, water exercise and control in a non-random manner.

##### Settings and conduct

Isfahan University

##### Participants/Inclusion and exclusion criteria

1. Absence of cardiovascular diseases 2. Not suffering from mental illnesses 3. No history of metabolic diseases 4. Age range 35-75 years 5. No history of orthopedic diseases 6. Not participating in regular sports activities in the two months before the study 7. All the subjects had passed at least one year since the diagnosis of their disease. 8. The gender variable was controlled (all subjects of the research were men). 9. Subjects were selected from AlZahra Hospital, Isfahan. 10. The subjects were in stage 2 and 3 of Hun and Yahr scale.

##### Intervention groups

1. Pilates 2. Aquatic training 3. Control

##### Main outcome variables

Balance Muscle strength Range of motion

#### General information

##### Reason for update

Adding the rest of the measured factors and other information needed to complete the study information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2015120825436N1**  
Registration date: **2015-12-30, 1394/10/09**

Registration timing: **retrospective**

Last update: **2023-05-09, 1402/02/19**

Update count: **1**

##### Registration date

2015-12-30, 1394/10/09

##### Registrant information

###### Name

Hakimeh Baziyar

###### Name of organization / entity

-

###### Country

Iran (Islamic Republic of)

###### Phone

+98 38 3422 7674

###### Email address

hakimehbaziyar@yahoo.com

##### Recruitment status

**Recruitment complete**

##### Funding source

Vice Chancellor for research of Isfahan University

##### Expected recruitment start date

2012-03-19, 1390/12/29

##### Expected recruitment end date

2013-03-20, 1391/12/30

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Comparing the effect of 12 weeks of Pilates and Aquatic training on balance, muscle strength and range of motion in patients with Parkinson's disease

## Public title

Comparing the effect of Pilates and Aquatic training in treatment of Parkinson's disease

## Purpose

Other

## Inclusion/Exclusion criteria

### Inclusion criteria:

Based on the neurologist's diagnosis, the patients have mild to moderate Parkinson's disease (stage 1 to 3). No diagnosis of musculoskeletal problems is evident. No defects are observed in the organs. No cardiovascular disease or acute illness has been reported and they are not undergoing physical therapy, but they have the ability and willingness to do Pilates and hydrotherapy exercises.

### Exclusion criteria:

## Age

No age limit

## Gender

Male

## Phase

2-3

## Groups that have been masked

No information

## Sample size

Target sample size: 50

## 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

Ethics Committee of Isfahan University

##### Street address

Isfahan University, Hezaar Jerib Street, Isfahan

##### City

Isfahan

##### Province

Isfahan

##### Postal code

8871916797

#### Approval date

2022-11-23, 1401/09/02

#### Ethics committee reference number

IR.UI.REC.1401.109

## Health conditions studied

### 1

#### Description of health condition studied

Parkinson's disease

#### ICD-10 code

G30, G31,

#### ICD-10 code description

Other degenerative diseases of the nervous system

## Primary outcomes

### 1

#### Description

balance

#### Timepoint

before intervention-three months after the intervention

#### Method of measurement

Berg Balance Scale

### 2

#### Description

Muscle strength

#### Timepoint

before intervention-three months after the intervention

#### Method of measurement

Isokinetic Biodex system (3)

### 3

#### Description

Range of motion

#### Timepoint

before intervention-three months after the intervention

#### Method of measurement

Isokinetic Biodex system (3)

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: for 12 weeks took part in 3 sessions (each 60 minutes) of Aquatic training and Pilates, as well as taking medication

#### Category

Rehabilitation

### 2

#### Description

Control group: medication

#### Category

Treatment - Drugs

## Recruitment centers

1

### Recruitment center

**Name of recruitment center**

Alzahra Hospital

**Full name of responsible person**

Dr Ahmad Chitsaz

**Street address**

Alzahra Hospital, Sofeh Boulevard, Shahid Keshvari Highway, Isfahan

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**Province**

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887191677

**Phone**

+98 913 979 4823

**Email**

hakimehbaziyar@yahoo.com

## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**

Vice Chancellor for research of Isfahan University

**Full name of responsible person**

Dr Mehdi Kargarfard

**Street address**

Faculty of Physical Education, Isfahan University

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**Email**

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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**

Vice Chancellor for research of Isfahan University

**Proportion provided by this source**

100

**Public or private sector**

Public

**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**

دانشگاه اصفهان

**Full name of responsible person**

Hakimeh Baziyar

**Position**

PhD student of Exercise Physiology

**Latest degree**

Master

**Other areas of specialty/work**

Physiology

**Street address**

No. 17, 27 Street, Bouali Boulevard, Borujen

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Hakimehbaziyar@yahoo.com

**Web page address**

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Isfahan Uni

**Full name of responsible person**

Hakimeh Baziyar

**Position**

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## Person responsible for updating data

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**Full name of responsible person**

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## Sharing plan

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

No - There is not a plan to make this available

**Justification/reason for indecision/not sharing IPD**

There is no further information

**Study Protocol**

No - There is not a plan to make this available

**Statistical Analysis Plan**

No - There is not a plan to make this available

**Informed Consent Form**

No - There is not a plan to make this available

**Clinical Study Report**

No - There is not a plan to make this available

**Analytic Code**

No - There is not a plan to make this available

**Data Dictionary**

No - There is not a plan to make this available