

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The Effect of adaptive exercises with horses and water sports on postural sway in Response to unexpected perturbation , sensory systems contribution of postural control and lower limb muscle strength in elderly women

#### Protocol summary

##### Study aim

The purpose of this research is to find out which mechanism and system in the body increase balance through horse sports and water sports.

##### Design

The participants (elderly women 60-70 years old) will consciously complete the personal information form, the consent form and the personal health form. Participants who do not meet the inclusion criteria will be excluded and the remaining participants will be measured for balance by the Synapsis Posturography System. After the pre-test, the subjects will be placed randomly with the parallel group in three groups (exercise in water and exercise with horse and control group) according to the overall balance score among 36 elderly people.

##### Settings and conduct

Najafabad Islamic Azad University swimming pool - Khomeini Shahr chogan riding club

##### Participants/Inclusion and exclusion criteria

Being 60-70 years old, not doing sports on a daily and professional basis, physical damage due to stroke, post-surgery period, spinal disorders, shoulder or hip dislocation, high blood pressure, not having a ban on entering the water, not having a ban on riding with Horse

##### Intervention groups

Subjects will do the protocol session of training in water and training with horses for 8 weeks and the control group continues their daily life.

##### Main outcome variables

Height control sensory systems (vision, vestibule, proprioception); muscle strength

#### General information

##### Reason for update

##### Acronym

hippotherapy-hidrotherapy

##### IRCT registration information

IRCT registration number: **IRCT20230829059293N1**

Registration date: **2023-09-16, 1402/06/25**

Registration timing: **prospective**

Last update: **2023-09-16, 1402/06/25**

Update count: **0**

##### Registration date

2023-09-16, 1402/06/25

##### Registrant information

###### Name

Elham Azimzade

###### Name of organization / entity

Shahid Beheshti University of Tehran

###### Country

Iran (Islamic Republic of)

###### Phone

+98 31 4272 3873

###### Email address

ne\_hamidi@sbu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2023-09-29, 1402/07/07

##### Expected recruitment end date

2023-10-30, 1402/08/08

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

## Scientific title

The Effect of adaptive exercises with horses and water sports on postural sway in Response to unexpected perturbation , sensory systems contribution of postural control and lower limb muscle strength in elderly women

## Public title

The Effect of Adaptive exercises with horses and water sports on balance

## Purpose

Supportive

## Inclusion/Exclusion criteria

### Inclusion criteria:

being 60-70 years old not exercising daily and professionally No ban on entering the water no ban on riding horses

### Exclusion criteria:

physical damage due to stroke post-surgery period spine disorders shoulder or hip dislocation Heart disease high blood pressure

## Age

From **60 years** old to **70 years** old

## Gender

Female

## Phase

N/A

## Groups that have been masked

*No information*

## Sample size

Target sample size: **36**

## Randomization (investigator's opinion)

Randomized

## Randomization description

These people will be available and purposefully placed in three groups of water sports, horse sports and control group according to the overall balance score using a random number table in accordance with the criteria for entering the pre-test selection research. Researchers and participants cannot choose the groups at will, and the groups will be similar and that the interventions that are done for the participants can be compared objectively.

## 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 Najaf Abad Azad University

## Street address

Shariati Street - Nooryan Quay - Shehamat Quay

## City

Najaf Abad

## Province

Isfahan

## Postal code

8514845466

## Approval date

2023-06-27, 1402/04/06

## Ethics committee reference number

IR.IAU.NAJAFABAD.REC.1402.075

## Health conditions studied

### 1

#### Description of health condition studied

sensory systems for postural control

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

Allergy to water

#### Timepoint

At the beginning of the study (before the start of the intervention) and 7, 14 and 21 days after the start of the exercises

#### Method of measurement

questionnaire

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

The first intervention group: exercise in water. After the pre-test, the participants will get sports insurance and they will do 2 sessions of exercise protocol in water for 8 weeks, this protocol includes all kinds of walking and stretching in water.

#### Category

Prevention

### 2

#### Description

The second intervention group: exercise with horses. After the pre-test, the participants will get sports insurance and they will perform the exercise protocol of exercise with horses for 8 weeks and 2 sessions per week, this protocol includes riding a horse with various types of horse walking. (smooth, spiral).

#### Category

Prevention

### 3

#### Description

Control group: People in the control group will continue their normal life.

#### Category

Diagnosis

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Advertising in different groups and full awareness of the plan is completely optional

##### Full name of responsible person

neda hamidi

##### Street address

Shariati St. Nooryan Coi Shahamat St

##### City

Najaf Abad

##### Province

Isfahan

##### Postal code

8514845466

##### Phone

+98 31 4272 3873

##### Email

nedahamidi90@yahoo.com

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

University of social welfare and rehabilitation sciences

##### Full name of responsible person

Zahra Al-Sadat Rezaian

##### Street address

Hazar Jarib Street - Isfahan University of Medical Sciences and Health Services - Faculty of Rehabilitation Sciences

##### City

Esfahan

##### Province

Isfahan

##### Postal code

1985713871

##### Phone

+98 31 2218 0126

##### Email

nedahamidi90@yahoo.com

##### Web page address

<https://neshan.org/maps/places/28cd9bd193a33fb4e8bd5701722dac0f>

##### Grant name

##### Grant code / Reference number

##### Is the source of funding the same sponsor

#### organization/entity?

Yes

#### Title of funding source

University of social welfare and rehabilitation sciences

#### 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

Persons

## Person responsible for general inquiries

#### Contact

##### Name of organization / entity

Shahid Beheshti University of Tehran

##### Full name of responsible person

Elham Azimzade

##### Position

Associate professor

##### Latest degree

Ph.D.

##### Other areas of specialty/work

Geriatrics

##### Street address

Shariti St. - Nooryan Quay - Shahamat Quay

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**Province**  
Isfahan

## Sharing plan

### Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

### Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

### Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

### Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

### Clinical Study Report

Not applicable

### Analytic Code

Not applicable

### Data Dictionary

Not applicable