Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
Isfehan

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
Isfehan
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
Isfehan
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
City
Najafabbad
Province
Isfehan
Postal code
8514845466
Phone
+98 31 4272 3873
Fax
Email
ne_hamidi@sbu.ac.ir

Person responsible for scientific inquiries

Contact
Name of organization / entity
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Person responsible for updating data

Contact

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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