

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

19 Jun 2026

### The effect of corrective exercises on balance in hyperkyphotic elderly women

#### Protocol summary

##### Summary

Objectives: Women with hyperkyphosis have impaired balance and increased body sway, which can increase their risk of falls. Impaired balance, mobility, and postural stability are the main risk factors for falling. This study examined the effectiveness of corrective exercises on mobility, postural stability, and balance in hyperkyphotic elderly women. Design: In this randomized controlled trial, participants were randomly assigned to an experimental group and a control group. Setting and conduct: The subjects in exercise group participated in an 8 week (3 sessions a week) corrective exercise program. But the control group didn't participate in any intervention. Participants: 30 adults (60- 75 years old) who lived in Arak and didn't have any of these conditions: geriatric patients with orthopedic disease in the last 5 years, diabetes, Alzheimer's, Parkinson's, cancer or visually impaired, heart problems limiting activity, The use of assistive devices (such as canes and walkers), weakness, fainting and dizziness, subjects with vestibular disorders, subjects with head injuries, people who were not able to perform the exercise protocol and procedures. Intervention: corrective exercise program was prescribed to The subjects in exercise group in 8 week (3 sessions a week). Main outcome measures: Time up and go (TUG), turn 180 test, flexicurve ruler, Berg balance scale were used in pre and post-test for evaluation of mobility, postural stability, kyphosis degree and balance. The number of falls and fear of falling were also recorded.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2014090319024N1**

Registration date: **2016-01-10, 1394/10/20**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2016-01-10, 1394/10/20

##### Registrant information

###### Name

Fahime Mahmoudi

###### Name of organization / entity

Arak University

###### Country

Iran (Islamic Republic of)

###### Phone

+98 71 5383 0850

###### Email address

f-mahmoudi@arshad.araku.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Investigator

##### Expected recruitment start date

2014-01-21, 1392/11/01

##### Expected recruitment end date

2014-06-20, 1393/03/30

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The effect of corrective exercises on balance in hyperkyphotic elderly women

##### Public title

The effect of corrective exercises on balance in hyperkyphotic elderly women

##### Purpose

Treatment

## Inclusion/Exclusion criteria

Major exclusion criteria: geriatric patients with orthopedic disease in the last 5 years; diabetes; Alzheimer's; Parkinson's; cancer; visually impaired; heart problems limiting activity; The use of assistive devices (such as canes and walkers); weakness; fainting; dizziness; subjects with vestibular disorders; subjects with head injuries; people who were not able to perform the exercise protocol and procedures. Major inclusion criteria: elderly women (60- 75 years old) who lived in Iran, Arak.

## Age

From **60 years** old to **75 years** old

## Gender

Female

## Phase

2-3

## Groups that have been masked

*No information*

## Sample size

Target sample size: **30**

## Randomization (investigator's opinion)

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 Arak University of Medical Sciences

##### Street address

Arak University of Medical Sciences, Sardasht, Arak, Iran

##### City

Arak

##### Postal code

#### Approval date

2014-02-24, 1392/12/05

#### Ethics committee reference number

92-159-19

## Health conditions studied

### 1

#### Description of health condition studied

Balance in hyperkyphotic elderly women

#### ICD-10 code

M40.0

#### ICD-10 code description

Postural kyphosis

## Primary outcomes

### 1

#### Description

Mobility

#### Timepoint

Pre and post test

#### Method of measurement

Time Up and Go Test

### 2

#### Description

Postural Stability

#### Timepoint

Pre and post test

#### Method of measurement

Turn 180 Test

### 3

#### Description

Balance

#### Timepoint

Pre and post test

#### Method of measurement

Berg Balance Scale

## Secondary outcomes

### 1

#### Description

Kyphosis Degree

#### Timepoint

Pre and post test

#### Method of measurement

Flexicurve ruler

## Intervention groups

### 1

#### Description

The subjects in exercise group participated in an 8 week (3 sessions a week) corrective exercise program.

#### Category

Treatment - Other

### 2

#### Description

The control group didn't participate in any intervention.

#### Category

Treatment - Other

## Recruitment centers

1

### Recruitment center

**Name of recruitment center**

Jahandideh Daily Geriatric Rehabilitation Center

**Full name of responsible person**

Jahan ban

**Street address**

Jahandideh Daily Geriatric Rehabilitation Center,  
Meisam street, Shahid Beheshti street, Arak, Iran

**City**

Arak

Arak University, Shareaati street, Arak, Iran

**City**

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**Postal code**

38156 - 879

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**Email**

f-mahmoudi@arshad.araku.ac.ir;

mahmoudi\_321@yahoo.com

**Web page address**

## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**

Vice chancellor for research, Arak University

**Full name of responsible person**

Doctor Alireza Fazlaali

**Street address**

Vice chancellor for research, Arak University, Oloum  
Alley, Shariati Square, Arak, Iran

**City**

Arak

**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, Arak University

**Proportion provided by this source**

100

**Public or private sector**

*empty*

**Domestic or foreign origin**

*empty*

**Category of foreign source of funding**

*empty*

**Country of origin**

**Type of organization providing the funding**

*empty*

## Person responsible for general inquiries

### Contact

**Name of organization / entity**

Arak University

**Full name of responsible person**

Fahime Mahmoudi

**Position**

M.Sc of Physical Training and Sport Sciences

**Other areas of specialty/work**

**Street address**

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Arak University

**Full name of responsible person**

Fahime Mahmoudi

**Position**

M.Sc of Physical Training and Sport Sciences

**Other areas of specialty/work**

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mahmoudi\_321@yahoo.com

**Web page address**

## Person responsible for updating data

### Contact

## Sharing plan

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

*empty*

**Study Protocol**

*empty*

**Statistical Analysis Plan**

*empty*

**Informed Consent Form**

*empty*

**Clinical Study Report**

*empty*

**Analytic Code**

*empty*

**Data Dictionary**

*empty*