Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

The effect of Functional Stretching Exercises on Functional Outcomes in Spastic Stroke Patients: A Randomized, Controlled Trial

Protocol summary

Summary

The main aim of this study was to investigate the effect of functional stretching exercises on functional outcomes in stroke patients. Materials and Methods: This study was a single-blinded (examiner) randomized control trial. Fifteen stroke patients as experimental group and fifteen stroke patients as control group wiht spasticity (Modified Modified Ashworth Scale>1) and without deformity in ankle joint with simple randomization participated in this study. Subjects in experimental group participated in a functional stretching training program at the rehabilitation center three times a week for 4 weeks. Subjects in both groups were evaluated before the training, at the end of training, and 2month follow-up. Clinical assessments such as measurement of spasticity measured with use of Modified Modified Ashworth Scale (MMAS). Functional outcomes evaluated with use of timed up-and-go test (TUG) and 10-meter walking timed test.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201610194738N6**
Registration date: **2016-12-21, 1395/10/01**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2016-12-21, 1395/10/01

Registrant information

Name

Khosro Khademi Kalantari

Name of organization / entity

Shahid Beheshti university of medical sciences, Faculty of Rehabilitation

Country

Iran (Islamic Republic of)

Phone

+98 21 7756 1411

Email address

k_khademi@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Shahid Beheshti University of Medical Sciences

Expected recruitment start date

2015-05-31, 1394/03/10

Expected recruitment end date

2016-05-30, 1395/03/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of Functional Stretching Exercises on Functional Outcomes in Spastic Stroke Patients: A Randomized, Controlled Trial

Public title

The Effect of Muscular Stretching on Functional Outcomes After Stroke

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Unilateral brain stroke; Spasticity in ankle based on the persian version of modified modified Ashworth scale (MMAS.>1); Ability to walk with or without assistive devices ; Adequate mental status with score above 24 according to persian version of Minimental Status Scale ; Adequate general health ;

enough range of motion in ankle joint. Exclusion criteria: Contracture and deformity in ankle joint; Pain in lower limb; participation in sport activities or physical therapy ; Using anti-spastic medication; Other neurological diseases such as parkinson.

Age
No age limit

Gender
Both

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)
Single blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
In this study we used simple randomization with use of random-number table.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of Shahid Beheshti University of Medical Sciences

Street address
Building number 2, Shahid Beheshti University of Medical Sciences, next to Taleghani Hospital , Velenjack

City
Tehran

Postal code

Approval date
2015-12-27, 1394/10/06

Ethics committee reference number
IR.SBMU.REC.1394.133

Health conditions studied

1

Description of health condition studied
Brain stroke

ICD-10 code
I64

ICD-10 code description
Stroke, not specified as haemorrhage or infarction

Primary outcomes

1

Description
timed up-and-go test (TUG)

Timepoint
baseline, after and two month after intervention

Method of measurement
With use of cornomometer

2

Description
10-meter walking timed test

Timepoint
baseline, after and two month after intervention

Method of measurement
With use of cornomometer

Secondary outcomes

1

Description
spasticity score

Timepoint
baseline, after and two month after intervention

Method of measurement
MMAS

2

Description
subjective experience

Timepoint
baseline, after and two month after intervention

Method of measurement
VAS

Intervention groups

1

Description
Functional stretching of gastrocnemius muscle will be applied to intervention group.

Category
Rehabilitation

2

Description
No stretch will be applied to control group.

Category
N/A

Recruitment centers

1

Recruitment center

Name of recruitment center
Physiotherapy clinic, School of Rehabilitation, Shahid Beheshti University of Medical Sciences

Full name of responsible person
Khosro Khademi Kalantari

Street address
School of Rehabilitation, Opposite to Bou Ali Hospital, Damavand Road, Tehran, Iran

City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Vice Chacellor for research of Shahid Beheshti University of Medical Sciences

Full name of responsible person
Dr Afshin Zarghi

Street address
Building number 2, Shahid Beheshti University of Medical Sciences, next to Taleghani Hospital , Velenjak

City
Tehran

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Vice Chacellor for research of Shahid Beheshti University of Medical Sciences

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
School of Rehabilitation, Shahid Beheshti School of Rehabilitation, Shahid Beheshti University of Me

Full name of responsible person
Khosro Khademi Kalantari

Position
Professor

Other areas of specialty/work

Street address
School of Rehabilitation, Opposite to Bou Ali Hospital, Damavand Road

City
Tehran

Postal code

Phone
+98 217756140700

Fax

Email
khosro_khademi@yahoo.co.ukk_khademi@sbmu.ac.ir

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity
school of rehabilitation, Shahid Behshti University of Medical sciences

Full name of responsible person
khosro klhademi kalantari

Position
professor

Other areas of specialty/work

Street address
Opposit to Bou Ali Hospital, Dmavand Road

City
Tehran

Postal code

Phone
+98 217756140700

Fax

Email
khosro_khademi@yahoo.co.ukk_khademi@sbmu.ac.ir

Web page address

Person responsible for updating data

Contact

Name of organization / entity
Shahid Beheshti university of medical sciences, Faculty of Rehabilitation

Full name of responsible person
Khosro Khademi Kalantari

Position
professor

Other areas of specialty/work

Street address
Opposit to Bou Ali Hospital, Damavand Road

City
Tehran

Postal code

Phone
+98 217756140700

Fax
+98 21 7756 1406

Email
k_khademi@sbmu.ac.ir

Web page address

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