Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

EFFECT OF CORE STABILIZATION EXERCISES IN IMPROVING TRUNK MOBILITY, FUNCTION, AMBULATION AND QUALITY OF LIFE IN STROKE PATIENTS

Protocol summary

Study aim
To determine effectiveness of core stabilization exercises versus conventional therapy on trunk mobility, function, ambulation and quality of life of stroke patients

Design
Randomized control trial

Settings and conduct
To take readings at pre-treatment and post-treatment levels, outcome assessors were recruited, who were blinded to the treatment group.

Participants/Inclusion and exclusion criteria
45-65 years of age, sitting achieved by patient for at least 10 seconds were included. Exclusion criteria: severe cognitive and communication disorders that can effect interaction with patient.

Intervention groups
In conventional group patients were given range of motion exercises, mobility exercises like transfers and gait training, stretching, tone reduction, task oriented training and compensatory approach. Task oriented training emphasized on hemiplegic side. For upper limb, different objects were placed on table and patient was asked to use them. For ADL training combing, brushing, eating activities were performed. Reaching and grasping activities were taught in sitting position. Mat activities were performed with special emphasis in sitting positing. Group B: In experimental group core stability training was done by increasing frequency of repetition from 10 to 20 repetitions according to patient condition .Core stability consisted of abdominal drawing in maneuver for contraction of transverses abdominis. After training of ADIM movements of pelvis with and without ADIM were performed. Pelvic control exercises comprise of anterior-posterior tilt, lateral shift and transverse rotation. Bed exercises were bridging exercises. Curl up was done with progression from straight reaching, with diagonal reaching and with arms crossed. Multifidus exercises were performed.

Main outcome variables
Trunk function: trunk impairment scale; functional ambulation categories; stroke specific quality of life scale

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210614051578N1**
Registration date: **2021-08-22, 1400/05/31**
Registration timing: **retrospective**

Last update: **2021-08-22, 1400/05/31**
Update count: **0**

Registration date
2021-08-22, 1400/05/31

Registrant information

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-03-17, 1396/12/26

Expected recruitment end date
2018-09-17, 1397/06/26

Actual recruitment start date
2018-03-17, 1396/12/26
Actual recruitment end date
2018-09-17, 1397/06/26
Trial completion date
2018-09-17, 1397/06/26

Scientific title
EFFECT OF CORE STABILIZATION EXERCISES IN IMPROVING TRUNK MOBILITY, FUNCTION, AMBULATION AND QUALITY OF LIFE IN STROKE PATIENTS

Public title
EFFECT OF CORE STABILIZATION EXERCISES IN IMPROVING TRUNK MOBILITY, FUNCTION, AMBULATION AND QUALITY OF LIFE IN STROKE PATIENTS
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Sitting achieved by patient for at least 10 seconds Chronic ischemic stroke patients(more than 6 months),not more than 1 year History of first time stroke Definite diagnosis of stroke confirmed through CT or MRI 45-65 years of age Both genders
Exclusion criteria:
Severe cognitive and communication disorders that can effect interaction with patient. Any neurological and sensory disorders other than stroke that can affect postural control Any visual, sensory and hearing impairment that was not corrected through aids. Any metabolic and malignant disorder which can lead to emergency condition
Age
From **45 years** old to **65 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **40**
Actual sample size reached: **40**
Randomization (investigator's opinion)
Randomized
Randomization description
Participants fulfilling the inclusion criteria were selected consecutively and were then allocated randomly to conventional group and experiment groups. The process of allocation was concealed from the participants and the researcher. It was performed by a research assistant who was not involved in any further step of research. Patients were randomly divided through random number table
Blinding (investigator's opinion)
Double blinded
Blinding description
To take readings at pre-treatment and post-treatment levels, outcome assessors were recruited, who were blinded to the treatment group
Placebo
Not used
Assignment
Other
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Riphah International University
Street address
13,14 c, civic center, Township, Lahore, Pakistan
City
Lahore
Postal code
40050
Approval date
2018-03-08, 1396/12/17
Ethics committee reference number
Ref. No. RCRS-RE-MS-NMPT/Spring 2018/001

Health conditions studied

1

Description of health condition studied
Stroke
ICD-10 code
Z82.3
ICD-10 code description
Family history of stroke

Primary outcomes

1

Description
Trunk function
Timepoint
6 weeks
Method of measurement
trunk impairment scale

Secondary outcomes

1

Description
Functional ambulation
Timepoint
6 weeks
Method of measurement
Functional ambulation categories

2

Description
Quality of life
Timepoint
6 weeks
Method of measurement
Stroke specific quality of life scale

3

Description
Trunk range of motion
Timepoint
6 weeks
Method of measurement
Goniometry

Intervention groups

1

Description
Intervention group: in experimental group core stability training was done with progression in training by increasing frequency of repetition from 10 to 20 repetitions according to patient condition .Core stability consisted of abdominal drawing in maneuver (ADIM) for contraction of transverses abdominis. After training of ADIM movements of pelvis with and without ADIM were performed. Pelvic control exercises comprise of anterior-posterior tilt, lateral shift and transverse rotation. Exercises are performed in upright posture. Bed exercises were bridging exercises. Progression were made from bridging with both legs to one leg and then side bridging. Curl up was done with progression from straight reaching, with diagonal reaching and with arms crossed. After one week multifidus exercises were performed.To activate multifidus patient was placed in quadruped position and was asked to raise his arms alternatively. Then he extended his legs alternatively. Side bridging was performed to activate internal, external obliques and quadratus lumborum. Patients performed curl ups for 15 degrees in crook lying position and maintained this position for 10 seconds. These activities were performed for 6 weeks, 5 times a week once in day
Category
Rehabilitation

2

Description
Control group: in conventional group patients were given conventional physical therapy including basic activity like range of motion exercises, mobility exercises like transfers and gait training, stretching, tone reduction, task oriented training and compensatory approach. Task oriented training emphasized on hemiplegic side. Goals were set to enhance mobility. For upper limb, different objects were placed on table and patient was asked to use them. These activities were performed for ADL training. For example combing, brushing, eating activities were performed. Reaching and grasping activities were taught in sitting position. Mat activities were performed with special emphasis in sitting positing. These activities were performed for 6 weeks, 5 times a week once in day
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Chaudhry Muhammad Akram teaching & research hospital
Full name of responsible person
Dr. Hafiz Sheraz Arshad
Street address
17 km raiwind road, Lahore
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Chaudhry Muhammad Akram Teaching & Research Hospital
Full name of responsible person
Dr Hafiz Sheraz Arshad
Street address
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Phone
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Email
higheraimz@hotmail.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Chaudhry Muhammad Akram Teaching & Research Hospital
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

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Chaudhry Muhammad Akram Teaching & Research Hospital

Full name of responsible person

Dr Hafiz Sheraz Arshad

Position

Consultant physiotherapist

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Full name of responsible person

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Position

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Latest degree

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Other areas of specialty/work

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Person responsible for updating data

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Full name of responsible person

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Position

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

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When the data will become available and for how long

6 months after publication

To whom data/document is available

People in academic and clinical settings

Under which criteria data/document could be used

Physiotherapy related persons can review

From where data/document is obtainable

higheraimz@hotmail.com is the email address where any one can contactThey can acess through email address

What processes are involved for a request to access data/document

Through email

Comments