Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparative effects of Carlo Perfetti Method and Proprioceptive Neuromuscular Facilitation technique on upper limb motor function in patients with subacute stroke

Protocol summary

Study aim
To evaluate the effect of Carlo Perfetti Method on improving the upper extremity motor function in subacute stroke patients.

Design
The study design will be the Randomized clinical trial design

Settings and conduct
Allied Hospital Faisalabad, District Head Quarter Hospital Faisalabad and Faisal Hospital Faisalabad.

Participants/Inclusion and exclusion criteria
The inclusion criteria will be the patient age range from 40 to 80 years, will include both genders: male and female, Patients with Modified Ashworth scale value is 2, patients having Mini-mental scale score >24, the Motricity index score should be < 99 and MCA Stroke confirmed with MRI. The exclusion criteria will be the patients who are already seeking any physiotherapy treatment, Having any wound or inflammation on upper extremity, Unstable medical condition, Any peripheral nerve injury before stroke and Before stroke any upper limb musculoskeletal functional impairments.

Intervention groups
Group A will be treated by the Carlo Perfetti Method and Group B will be treated by the Proprioceptive Neuromuscular Facilitation technique (PNF).

Main outcome variables
Motor function of upper limb, Spasticity

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20230530058341N1**
Registration date: **2023-09-27, 1402/07/05**
Registration timing: **prospective**
Last update: **2023-09-27, 1402/07/05**
Update count: **0**

Registration date
2023-09-27, 1402/07/05

Registrant information

Name
Hafsa Naz

Name of organization / entity
The University of Faisalabad

Country
Pakistan

Phone
+92 41 8868326

Email address
clinical.trainer.339@tuf.edu.pk

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-09-28, 1402/07/06

Expected recruitment end date
2023-12-10, 1402/09/19

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparative effects of Carlo Perfetti Method and Proprioceptive Neuromuscular Facilitation technique on upper limb motor function in patients with subacute stroke

Public title
Comparative effects of Carlo Perfetti Method and

Proprioceptive Neuromuscular Facilitation technique on upper limb motor function in patients with subacute stroke

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Age range from 40 to 80 years Both genders: male and female Modified Ashworth scale 2 Mini-mental scale > 24 Motricity index scale < 99 MCA Stroke confirmed with MRI

Exclusion criteria:
Already seeking any physiotherapy treatment Having any wound or inflammation on upper extremity Unstable medical condition Any peripheral nerve injury Before stroke any upper limb musculoskeletal functional impairments

Age
From **40 years** old to **80 years** old

Gender
Both

Phase
3

Groups that have been masked

- Participant

Sample size
Target sample size: **32**

Randomization (investigator's opinion)
Randomized

Randomization description
Randomization will be done with Lottery method and by the help of computerized generator, allocations will done to randomly allocate the participants in two groups.

Blinding (investigator's opinion)
Single blinded

Blinding description
Participants will not know if they will be allocated in Carlo Perfetti Method group or in Proprioceptive Neuromuscular Facilitation Technique group for the Treatment.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of The University of Faisalabad

Street address
West Canal Road, Faisalabad

City
Faisalabad

Postal code
37610

Approval date
2023-03-24, 1402/01/04

Ethics committee reference number
TUF/DR/SA/MSPP/2023/242

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
Spasticity

Timepoint
At baseline, after second week of treatment, after fourth week of treatment, after sixth week of treatment, after eighth week of treatment and after tenth week of treatment

Method of measurement
Modified Ashworth Scale

Secondary outcomes

1

Description
Motor function of upper extremity

Timepoint
At baseline, after second week of treatment, after fourth week of treatment, after sixth week of treatment, after eighth week of treatment and after tenth week of treatment

Method of measurement
Motricity Index Scale

2

Description
Arm motor performance and movement quality

Timepoint
At baseline, after second week of treatment, after fourth week of treatment, after sixth week of treatment, after eighth week of treatment and after tenth week of treatment

Method of measurement
Motor Evaluation Scale for Upper Extremity

Intervention groups

1

Description

Intervention group: Carlo Perfetti Method; As part of the treatment process, the patient will be blindfolded and the physical therapist will began to passively move the patient’s involved limb. The therapist will then ask the patient to sense and guess the movement of the limb that will be performed by the therapist. To further enhance the rehabilitation process, the therapist will use a pattern of lines drawn on a page and will ask the patient to trace those lines with their hand, either actively or passively. This exercise will help to improve the patient's proprioception, which is their sense of body position and movement. By tracing the lines with their hand, the patient will be able to get a better sense of their limb's position and movement, which can be helpful in improving their coordination and motor function.

Category

Rehabilitation

2

Description

Intervention group: Proprioceptive Neuromuscular Facilitation Technique; In this group, the participants will be given the Rhythmic Initiation technique of Proprioceptive Neuromuscular Facilitation (PNF) technique. This technique will involve progressively transitioning from passive range of motion to active resisted movements of the limb. During the rehabilitation process, a series of movements will be performed, starting with voluntary relaxation and progressing to passive movements, active assisted and active resisted movements before finally transitioning to active movements. Verbal commands will be used to set the pace and rhythm of the movements, and light tracking will be incorporated during the resistive phase to facilitate movement. These exercises are design to improve motor function and range of motion and are customize to meet the specific needs of the patient. Rhythmic initiation helps in the initiation of the motion and improve the coordination and sense of the motion.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Allied Hospital Faisalabad

Full name of responsible person

Hafsa Naz

Street address

Jail Road adjacent to Faisalabad Medical University, Near Sargodha Road, Faisalabad.

City

Faisalabad

Postal code

38800

Phone

+92 41 9210082

Fax

+92 41 9210079

Email

vcfmuf@gmail.com

Web page address

https://pmc.edu.pk/S-Result.aspx

2

Recruitment center

Name of recruitment center

District Headquarter Hospital

Full name of responsible person

Hafsa Naz

Street address

Mall road Faisalabad

City

Faisalabad

Postal code

38800

Phone

+92 41 9200140

Fax

+92 41 9200141

Email

vcfmuf@gmail.com

Web page address

https://www.businesslist.pk/company/189531/dhq-hospital-civil-hospital

3

Recruitment center

Name of recruitment center

Faisal Hospital

Full name of responsible person

Hafsa Naz

Street address

673-A Lower Canal Rd E, Block A People's Colony No 1, Faisalabad

City

Faisalabad

Postal code

03822

Phone

+92 41 8719677

Email

info@faisalhospital.com

Web page address

https://www.faisalhospital.com/

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Faisalabad

Full name of responsible person
Hafsa Naz
Street address
P-526, St no 2, Aslam market, Hajveri town, millat road, Faisalabad
City
Faisalabad
Postal code
38500
Phone
+92 304 1633066
Email
hafsanaz020@gmail.com

Grant name

Grant code / Reference number

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

Title of funding source
The University of Faisalabad

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
The University of Faisalabad
Full name of responsible person
Hafsa Naz
Position
Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
P-526, St no 2, Aslam market, Hajveri town, millat road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38500
Phone
+92 41 8848211
Email
hafsanaz020@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
The University of Faisalabad
Full name of responsible person
Hafsa Naz
Position
Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
P-526, St no 2, Aslam market, Hajveri town, millat road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38500
Phone
+92 41 8848211
Email
clinical.trainer.339@tuf.edu.pk

Person responsible for updating data

Contact

Name of organization / entity
The University of Faisalabad
Full name of responsible person
Hafsa Naz
Position
Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
P-526, St no 2, Aslam market, Hajveri town, millat road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38500
Phone
+92 41 8848211
Email
clinical.trainer.339@tuf.edu.pk

Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
There is no further information

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

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

Data Dictionary

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

Title and more details about the data/document

The Study Protocol will be followed, The Statistical Analysis Plan will be used, Informed Consent Form will be taken from participants, it will be a Clinical Study Report.

When the data will become available and for how long

The data will be available after six months.

To whom data/document is available

The data will be available for all the researchers and the Institutes.

Under which criteria data/document could be used

Data will be shared for more clinical research.

From where data/document is obtainable

The Data will be shared via Email addresses.

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

After the Research is being published.

Comments