

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Sep 2026

Comparison of six weeks of virtual reality rehabilitation system and reflexology massage on neuropathic pain and performance of athletes with paraplegia

Protocol summary

Study aim

Comparison of the effect of six weeks of virtual reality rehabilitation system and reflexology massage on neuropathic pain intensity, pain time pattern, pain effects, fatigue rate, isometric strength and range of motion of shoulder girdle muscles in paraplegic athletes

Design

Clinical trial with control group and 2 intervention groups in a non-blind, non-random manner on 45 paraplegic athletes

Settings and conduct

After selecting the subjects, the relevant questionnaires (ISCIPDS ,FFS,demographic information) will be provided to the subjects. Both reflexology and virtual reality massage interventions will be performed for 6 weeks and 3 sessions per week. In the virtual reality group, the total training time will be 50 minutes, which will be 20 minutes for cooling and warming up, and 30 minutes for playing the desired games, and in the massage group, the massage people will receive the desired points for 30 minutes. The exercises of the virtual reality group will be performed in the desired club with the complete control of the researcher, and for the massage group, it will be performed on the spot by an expert with a degree from the Sports Medicine Federation.

Participants/Inclusion and exclusion criteria

People have paraplegia A history of exercising regularly for at least the last six months Having neuropathic pain History of more than 6 months of paraplegia Do not use painkillers to reduce neuropathic pain Not participating in any similar activity that affects pain and performance during the research project Having a psychological illness that has an obvious effect.

Intervention groups

We will have 3 intervention groups with the titles of virtual reality, reflexology massage and control.

Main outcome variables

Neuropathic pain; Performance; Fatigue; Isometric power; Range of motion

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210924052562N1**

Registration date: **2021-10-30, 1400/08/08**

Registration timing: **registered_while_recruiting**

Last update: **2021-10-30, 1400/08/08**

Update count: **0**

Registration date

2021-10-30, 1400/08/08

Registrant information

Name

behnaz pour jafari jorjafaki

Name of organization / entity

The Shahid beheshti University

Country

Iran (Islamic Republic of)

Phone

+98 34 3422 2500

Email address

b.porjafarijorjafaki@mail.sbu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-09-29, 1400/07/07

Expected recruitment end date

2021-12-31, 1400/10/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of six weeks of virtual reality rehabilitation system and reflexology massage on neuropathic pain and performance of athletes with paraplegia

Public title

The effect of massage and virtual reality system on neuropathic pain and function

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

People have paraplegia A history of exercising regularly for at least the last six months Having neuropathic pain History of more than 6 months of paraplegia

Exclusion criteria:

Taking painkillers to reduce neuropathic pain Participate in any similar activity that affects pain and performance during the research project drug use Having a psychological illness that has an obvious effect

Age

From **30 years** old to **50 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **45**

Randomization (investigator's opinion)

Not 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**

Research Ethic Committees Of Shahid Beheshti university

Street address

Velenjak, Daneshjo Blvd

City

Tehran

Province

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Postal code

1983969411

Approval date

2021-03-13, 1399/12/23

Ethics committee reference number

IR.SBU.REC.1400.072

Health conditions studied**1****Description of health condition studied**

Paraplegia

ICD-10 code

G82.2

ICD-10 code description

Paraplegia

Primary outcomes**1****Description**

Neuropathic pain

Timepoint

The effect of virtual reality exercises and massage on pain is measured before the intervention and 6 weeks after the start.

Method of measurement

The International Spinal Cord Injury Pain Basic Data Set questionnaire will be used for pain.

2**Description**

fatigue

Timepoint

The effect of virtual reality exercises and massage on fatigue is measured before the intervention and 6 weeks after the start.

Method of measurement

The Fatigue Severity Scale questionnaire for fatigue

3**Description**

isometric strength

Timepoint

The effect of virtual reality exercises and massage on isometric strength is measured before the intervention and 6 weeks after the start.

Method of measurement

The MMT device will be used to measure isometric power.

4**Description**

range of motion

Timepoint

The effect of virtual reality exercises and massage on Range of Motion is measured before the intervention and 6 weeks after the start.

Method of measurement

The Mobee Med device will be used to measure range of motion.

Secondary outcomes

empty

Intervention groups

1

Description

The first intervention group: virtual reality. The first group performs 30 minutes of virtual reality exercises for 3 sessions per week for 6 weeks.

Category

Rehabilitation

2

Description

Intervention group 2: Reflexology massage. The Reflexology group performs 30 minutes of Reflexology massage for 3 sessions per week for 6 weeks.

Category

Rehabilitation

3

Description

control group. No intervention is performed in this group.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Veterans and Disabled Sports Board of Tehran
Province

Full name of responsible person

Mansour Nam Nam

Street address

Velenjak, Daneshjo Blvd

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behnaz_jafari10@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The Shahid Beheshti University

Full name of responsible person

Fariborz Hovanloo

Street address

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Grant name

Grant code / Reference number

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

Yes

Title of funding source

The Shahid Beheshti University

Proportion provided by this source

100

Public or private sector

Public

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 Shahid Beheshti University

Full name of responsible person

Behnaz pourjafari

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Sports Injury And Corrective Movements-sports
Rehabilitation

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Person responsible for scientific inquiries

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Latest degree
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Other areas of specialty/work
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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

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

Only part of the information about the original or similar results can be shared.

When the data will become available and for how long

Access period starts 6 months after the results are published

To whom data/document is available

Accessible to researchers working in academic institutions and therapists

Under which criteria data/document could be used

It can be used to evaluate the ability to generalize the results to the disabled and patients considered by the researcher or therapist.

From where data/document is obtainable

To receive information, send an email to the following email address: behnaz_jafari10@yahoo.com

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

After sending the e-mail to the relevant e-mail address, the information will be sent to the person within 14 days after ensuring that the person is a researcher and therapist.

Comments