Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Effects of Eight Weeks Dynamic Neuromuscular Stabilization (DNS) Training on Posture Stabilization and Walk Time in Patients with Multiple Sclerosis

Protocol summary

Study aim
Eight weeks of DNS training has an effect on the stability of posture and walking time of multiple sclerosis patients

Design
In this study, 40 patients with multiple sclerosis who meet the conditions for entering the study are selected. Participants are randomly divided into intervention and control groups.

Settings and conduct
The pre-test and post-test are conducted in the sports science laboratory of Shahid Beheshti University. Location of Tehran

Participants/Inclusion and exclusion criteria
Relapsing-remitting type of MS in the participants of the present study, The duration of the disease is 10 to 15 years, Age range 40 to 55, The degree of disability is 4 to 5.5 on the EDSS scale, Criteria for non-entry: Older and younger ages Unwillingness to participate in research

Intervention groups
8 weeks of DNS exercises

Main outcome variables
Dynamic balance, postural stability, walking time

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20240306061185N3**
Registration date: **2024-03-19, 1402/12/29**
Registration timing: **prospective**

Last update: **2024-03-19, 1402/12/29**
Update count: **0**

Registration date
2024-03-19, 1402/12/29

Registrant information

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Hossein Rezaei

Name of organization / entity
The University of Shahid Beheshti

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2024-03-24, 1403/01/05

Expected recruitment end date
2024-03-29, 1403/01/10

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effects of Eight Weeks Dynamic Neuromuscular Stabilization (DNS) Training on Posture Stabilization and Walk Time in Patients with Multiple Sclerosis

Public title
Dynamic Neuromuscular Stabilization (DNS) Training

Purpose
Supportive

Inclusion/Exclusion criteria

Inclusion criteria:
The type of MS in the participants of the present study is relapsing-remitting The duration of the disease is 10 to

15 years Age range from 40 to 55 years The degree of disability is 4 to 5.5 on the EDSS scale

Exclusion criteria:

Age

From **40 years** old to **55 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple randomization method, unit: individually, randomization tool: to determine the grouping of people in the research by simple randomization method, first a list of people's names is prepared in Excel software. Then we select a random number for each person using the RAND function and finally group the people using the MOD ROW function.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Sport Sciences Research Institute

Street address

Mir Emad Ave., Tehran

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Tehran

Province

Tehran

Postal code

141173116

Approval date

2023-08-22, 1402/05/31

Ethics committee reference number

IR.SSRC.REC.1402.099

Health conditions studied

1

Description of health condition studied

Multiple sclerosis

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Walking time in multiple sclerosis patients

Timepoint

Before the intervention and eight weeks later

Method of measurement

Berg Balance Test (BBT) and 10-meter walk test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The DNS protocol will be performed on the intervention group in eight weeks, 3 times a week under the supervision of the examiner .Berg's 14-step test is used to measure balance. Berg's balance Scale or BBS is a clinical test to check static and dynamic balance, especially in neurological patients. This test takes about 15 to 20 minutes. The minimum score of each test is 0 and the maximum score is 4. Finally, the sum of all steps is considered as the total score. If the sum of acquired points of the patient is less than or equal to 20, the patient will need a wheelchair. If the sum of the patient's points is greater than 20 and less than or equal to 40, the patient will need help in walking. Patients whose score is more than 40 can walk independently. The maximum score of the paper test is 56

Category

Rehabilitation

2

Description

Control group: We ask the control group not to do any activities that affect the research process, including sports

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Sports Science Laboratory of Shahid Beheshti

University

Full name of responsible person
Sirus Shaikhi

Street address
Shahid Beheshti University, Shahriari square, Volanjek Town, Tehran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
The University of Shahid Beheshti

Full name of responsible person
Seyed Mohammad Hosseini

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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 University of Shahid Beheshti

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 University of Shahid Beheshti

Full name of responsible person
Hossein Rezaei

Position
Masters student

Latest degree
Bachelor

Other areas of specialty/work
Sports Injury and corrective exercises

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
Undecided - It is not yet known if there will be a plan to make this available
Informed Consent Form
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Undecided - It is not yet known if there will be 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