Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effect of single balance task versus dual balance-cognitive task training on balance performance in patients with multiple sclerosis

Protocol summary

Summary

The purpose of this double-blinded, randomized controlled trial study is to compare the effect of single task versus dual task balance training in patients with multiple sclerosis. Fifty patients with MS will be included in this study, if they have following criteria: relapsing-remitting type of MS, ability to stand and walk without assistive devices, maximum score of 53 on Berg Balance Scale, Expanded Disability Status Scale between 2 and 4/5 and Mini-Mental State Examination more than 24. Persons are ineligible for the study if they have an exacerbation of symptoms due to relapse within 2 months of the baseline measurement, steroid treatment within 3 months of the baseline measurement, any musculoskeletal or neurological conditions except MS limiting balance or gait and vertigo. Patients randomly assign in dual task balance training or single task balance training(control) group. Participants receive 45 minutes training session, 3 times a week for 4 weeks. The participants in the single-task training group receive balance activities under single-task conditions while participants in dual-task training group practice balance activities and performing cognitive tasks simultaneously. Outcome measures for assessing Various aspects of balance are force plate, Functional reach test, Timed Up and Go, 10 meter Walk gait speed, 2 Minute Walk, Berg Balance Scale, Activities Specific Balance Confidence and Functional Gait Assessment. All measures will be collected at baseline and at the end of training.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014051917752N1**
Registration date: **2014-06-16, 1393/03/26**
Registration timing: **registered_while_recruiting**
Last update:
Update count: **0**

Registration date

2014-06-16, 1393/03/26

Registrant information

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Recruitment status

Recruitment complete

Funding source

Ahvaz,Jundishapur University of Medical Sciences

Expected recruitment start date

2014-05-22, 1393/03/01

Expected recruitment end date

2015-06-22, 1394/04/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of single balance task versus dual balance-cognitive task training on balance performance in patients with multiple sclerosis

Public title

Effect of two types of exercises on balance performance in patients with multiple sclerosis

Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: A definite diagnosis of MS, relapsing-remitting type, as diagnosed by a neurologist; Ability to stand without assistive devices; Ability to walking without assistive devices; Maximum score of 53 on the Berg Balance Scale; EDSS between 2 and 4/5; MMSE more than 24. Exclusion criteria: Experiencing an exacerbation of symptoms due to relapse within 2 months of the baseline measurement; Steroid treatment within 3 months of the baseline measurement; Any musculoskeletal or neurological conditions except MS limiting balance or gait; Uncorrected Auditory or visual impairment; Vertigo; Pregnancy; Involving in the other planned treatment; Using drugs which affecting balance or gait.
Age
No age limit
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **50**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Double blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ahvaz Jundishapur University of Medical Science
Street address
Ground floor, Vice Chancellor for Research and Technology, Ahvaz Jundishapur University of Medical Science
City
Ahvaz
Postal code
6135715794
Approval date
2014-02-08, 1392/11/19
Ethics committee reference number
ajums.REC.1392.302

Health conditions studied

1

Description of health condition studied
multiple sclerosis
ICD-10 code
G35
ICD-10 code description
Multiple sclerosis

Primary outcomes

1

Description
Static Balance
Timepoint
Baseline - After intervention (4th week)
Method of measurement
Force plate - Functional Reach test

2

Description
Dynamic Balance
Timepoint
Baseline - After intervention (4th week)
Method of measurement
Functional Gait Assessment- Timed Up and Go test (with and without Cognitive task) - 10 meter walk self selected gait speed (with and without Cognitive task) - 2 minute walk (with and without Cognitive task)

3

Description
Balance Confidence
Timepoint
Baseline - After intervention (4th week)
Method of measurement
Activities Specific Balance Confidence

4

Description
Functional Balance
Timepoint
Baseline - After intervention (4th week)
Method of measurement
Berg Balance Scale

Secondary outcomes

empty

Intervention groups

1

Description
Control group: Perform Balance exercises (Single task

training); Participants received 45-minute individualized (1 trainer to 1 participant) training sessions, 3 times a week for 4 weeks.

Category

Rehabilitation

2

Description

Intervention group: Perform Balance exercises and cognitive task simultaneously(Dual task training); Participants received 45-minute individualized (1 trainer to 1 participant) training sessions, 3 times a week for 4 weeks.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Musculoskeletal Rehabilitation Research Center

Full name of responsible person

Zahra Najarzade

Street address

Musculoskeletal Rehabilitation Research Center, School of Rehabilitation Sciences, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

City

Ahvaz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ahvaz Jundishapur University of Medical Science

Full name of responsible person

Dr. Nader Saki

Street address

Ground floor, Vice Chancellor for Research and Technology, Ahvaz Jundishapur University of Medical Science

City

Ahvaz

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Ahvaz Jundishapur University of Medical Science

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

Musculoskeletal Rehabilitation Research Center, Ahvaz Jundishapur University of Medical Sciences, Ah

Full name of responsible person

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Position

MSc Student of Physical Therapy

Other areas of specialty/work

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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