

Clinical Trial Protocol

Iranian Registry of Clinical Trials

07 Jun 2026

Comparison of the effect of 8 weeks of selected TRX and aerophytic exercises on central stability function, balance and depth of sensation in patients with MS

Protocol summary

Study aim

Comparison of the effect of 8 weeks of selected exercises with TRX and Irofitance on central stability function, balance and depth of sensation in patients with MS

Design

Clinical trials have two experimental groups with parallel groups, one-way blind, non-random, phase 2 on 40 patients. Data analysis using SPSS software and analysis of variance with repeated measurement schemes.

Settings and conduct

Two experimental groups, pre-test and post-test, exercise in the gym of Isfahan MS Association. Blindness has occurred in relation to data analyzers

Participants/Inclusion and exclusion criteria

1- Having a person with MS according to the diagnosis of a neurologist 2- EDSS between 1 and 4 3- Female gender and not being pregnant 4- Age range between 20 and 50 5 - Not being infected with other acute or chronic disabling diseases contrary to exercise 6- Non-prohibition of a specialist doctor to perform sports exercises 7- The desire to participate and complete the form of conscious consent to participate in the study

Intervention groups

Intervention Group 1: TRX Group, Intervention Group 2: Aerophytic Group. In the intervention group, 1 exercise was performed using TRX band for 8 weeks and about 2 and a half months. In the intervention group, 2 exercises were performed using Traband, Dumbbell, Wood and Ball for 8 weeks and about 2 and a half months.

Main outcome variables

Improved central stability function; improved balance; improved sense of depth in patients with MS with EDSS less than 5; See better results of TRX Group.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200501047256N1**

Registration date: **2020-06-20, 1399/03/31**

Registration timing: **retrospective**

Last update: **2020-06-20, 1399/03/31**

Update count: **0**

Registration date

2020-06-20, 1399/03/31

Registrant information

Name

Fatemeh Marjani

Name of organization / entity

Isfahan University of Sports Sciences

Country

Iran (Islamic Republic of)

Phone

+98 31 5745 3630

Email address

fmarjani2913@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-07-23, 1397/05/01

Expected recruitment end date

2018-08-23, 1397/06/01

Actual recruitment start date

2018-09-09, 1397/06/18

Actual recruitment end date

2018-09-16, 1397/06/25

Trial completion date

2018-11-26, 1397/09/05

Scientific title

Comparison of the effect of 8 weeks of selected TRX and aerobically exercises on central stability function, balance and depth of sensation in patients with MS

Public title

Comparison of the effect of TRX and aerobically exercises on MS patients

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

A person with MS has been diagnosed by a neurologist
EDSS between 1 and 4
Feminine sex and not being pregnant
Age range between 20 and 50
The willingness to participate and complete the form of conscious consent to participate in the study

Exclusion criteria:

Lack of exercise in other acute or chronic debilitating diseases
Non-prohibition of a specialist to perform exercises
Failure to complete pre-test research tests

Age

From **20 years** old to **50 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Data analyster

Sample size

Target sample size: **40**

Actual sample size reached: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, using the randomization method, the block of individuals assigned to each group is almost equal and blocks are formed based on the considered variables. How to build blocks: Subjects were divided into two equal groups by choosing their favorite sport based on their ability and interest. In this research, the subjects were first given a written consent form to participate in the research. Randomization tool: Random number table was used. And by the third person in different groups, including TRX training group (person 20) and Aerofitness training group (person 20), they were placed according to the entry and exit criteria of the research and received the intervention related to the same group. There was no quasi-random and hidden method.

Blinding (investigator's opinion)

Single blinded

Blinding description

According to your explanation, we did not have blindness in the subjects, and only to make our statistical analysis correct, without personal comment, statistical analysis was performed and blinding was done only in relation to statistical analysis.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Isfahan University of Sports Sciences

Street address

Hezar Jarib St., University of Isfahan, Central Library

City

Esfahan

Province

Isfahan

Postal code

8771656574

Approval date

2019-09-04, 1398/06/13

Ethics committee reference number

IR.UI.REC.1398.042

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

Measurement of central stability performance

Timepoint

Before training and 2 months after training

Method of measurement

Measurement of central stability function by lateral trunk tests, Sorenson and trunk flexors

Secondary outcomes

empty

Intervention groups

1

Description

Intervention Group 1: TRX Group. In the intervention

group, 1 exercise was performed using the TRX band for 8 weeks, 3 sessions per week, each session 1 hour for about 2 and a half months. Exercises started with stability and continued with more advanced exercises over time and during subsequent sessions. In both groups, the balance, strength and endurance of the central muscles of individuals were practiced, and finally these two intervention groups were compared with each other and the performance of individuals in both groups was examined.

Category

Rehabilitation

2**Description**

Intervention Group 2: Aerofitness Group. In Intervention Group 2, the exercises were performed using Traband, dumbbells, sticks and balls for 8 weeks, 3 sessions per week, each session 1 hour for about 2 and a half months. The exercises started from beginner and stable and continued with advanced exercises. In both groups, the balance, strength and endurance of the central muscles of individuals were practiced and finally these two intervention groups were compared with each other and the performance of individuals in both groups was examined.

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Isfahan Province MS Association

Full name of responsible person

Massoud Etemadifar

Street address

Bahonar Street

City

Esfahan

Province

Isfahan

Postal code

8154645731

Phone

+98 31 3273 1001

Fax

+98 31 3273 1080

Email

isfahan.salamat@gmail.com

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Isfahan School of Sports Sciences

Full name of responsible person

Nader Rahnama

Street address

Hezar Jarib Street

City

Esfahan

Province

Isfahan

Postal code

81174673441

Phone

+98 31 3793 2288

Fax**Email**

moavenat-amouzeschi@dean.ui.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Isfahan School of Sports Sciences

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**

University of Esfahan

Full name of responsible person

Fatemeh Marjani

Position

coach

Latest degree

Master

Other areas of specialty/work

Rehabilitation management

Street address

Shahid Gharani street

City

Golpayegan

Province

Isfahan

Postal code

8771656574

Phone

+98 31 5745 3630

Email

f.marjani2913@gmail.com

Person responsible for scientific

inquiries

Contact

Name of organization / entity

University of Esfahan

Full name of responsible person

Fatemeh Marjani

Position

coach

Latest degree

Master

Other areas of specialty/work

Rehabilitation management

Street address

Shahid Qarni Street

City

Golpayegan

Province

Isfahan

Postal code

8771656574

Phone

+98 31 5745 3630

Email

f.marjani2913@gmail.com

Person responsible for updating data

Contact

Name of organization / entity

University of Esfahan

Full name of responsible person

Fatemeh Marjani

Position

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Street address

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+98 31 5745 3630

Email

f.marjani2913@gmail.com

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

No - There is not 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

Not applicable

Data Dictionary

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