# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

16 Sep 2026

## The effects of swing training on functional ability and quality of life in multiple sclerosis women

### Protocol summary

**Study aim**

The general aim of this research is to investigate the effect of eight weeks of swing exercises on the functional ability and quality of life of women with multiple sclerosis, emphasizing the disability index, which are divided into three groups.

**Design**

The statistical sample of this research includes 57 female patients with multiple sclerosis who were examined based on the EDSS physical disability index according to the neurologist's diagnosis, then randomly selected from the statistical population of multiple sclerosis patients in the range of 2-6.5 And in the control groups with 2-6.5 and experimental groups with mild disability and moderate disability.

**Settings and conduct**

the participants took part in a meeting to familiarize themselves with the test and explanations related to the sport of swing, Then the experimental and control groups participated in the pre-test and completed the quality of life questionnaire. The tests were conducted under the same conditions in the sports club and at the same time of the day by the researcher of each participant, and the subjects were unaware of the design process and possible results.

**Participants/Inclusion and exclusion criteria**

- Age range of 30 to 46 years - Not having a nervous attack in the last year - Not taking drugs other than disease control drugs

**Intervention groups**

a familiarization session with swing was held for the experimental groups, and then the training period lasted for eight weeks, three days a week for one hour, and then the main exercise protocol focused on specific spine stabilization exercises, exercises to improve proprioception in the upper and lower limbs, exercises in unstable conditions to improve balance, and central stabilization exercises. , retraining of motor units was done.

**Main outcome variables**

Improve upper limb function Improve lower limb function Improve cognitive function Improving the quality of life

### General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20220526054997N1**
Registration date: **2023-03-31, 1402/01/11**
Registration timing: **retrospective**

Last update: **2023-03-31, 1402/01/11**
Update count: **0**

**Registration date**

2023-03-31, 1402/01/11

**Registrant information**

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**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2021-01-09, 1399/10/20

**Expected recruitment end date**

2021-01-29, 1399/11/10

**Actual recruitment start date**

2021-01-09, 1399/10/20

**Actual recruitment end date**

2021-01-19, 1399/10/30

**Trial completion date**

2021-01-19, 1399/10/30

**Scientific title**

The effects of swing training on functional ability and quality of life in multiple sclerosis women

**Public title**

The effects of eight weeks swing exercises on functional ability and quality of life in multiple sclerosis women with emphasis on Expanded disability Status Scale

**Purpose**

Supportive

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

at least a year should passed from patients diagnosis of MS no other acute or chronic infection in body like mental, cardiovascular, respiratory, skin disease, high or low blood pressure, high or low eye pressure ability to attend meetings regularly not having a regular sports history having disability in a specific range 4≥EDSS≥2 , 6.5≥EDSS≥4.5 absence of pregnancy at least patients must be 30 years old

**Exclusion criteria:**

Inability to walk or need assistance in walking MS relapse at least two months before the intervention

**Age**

From **30 years** old to **46 years** old

**Gender**

Female

**Phase**

N/A

**Groups that have been masked**

- Participant

**Sample size**

Target sample size: **57**

Actual sample size reached: **47**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

A stratified randomization method was used, first, 80 eligible patients in the disability range of 2 to 6.5 were selected to participate in the protocol in cooperation with the MS Association. Then the people were numbered and in order to hide the random allocation, all the numbers were placed inside a sealed envelope. after mixing the numbers, the numbers were randomly selected and classified into three groups. The basis is that if the patient did not meet the conditions of the group with mild disability, he would be put back into the envelope.

**Blinding (investigator's opinion)**

Single blinded

**Blinding description**

One-way blind: The participants did not know about the grouping of the research, according to which category of disability was classified. In addition, they did not know about the possible effects of the protocol and exercise on the functional factors of the upper and lower limbs and mental performance, but the patients were told that the exercises are effective on your physical factors, but in order not to mislead that this The pre-test measures the performance of the upper limbs and exercises are provided to check these changes. No information was given so as not to affect the tests.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**

**Name of ethics committee**

National Ethics committee of Shahid Bahonar University of Medical Sciences

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**Province**

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**Approval date**

2020-03-30, 1399/01/11

**Ethics committee reference number**

IR.UK.VETMED.REC.1399.002

## Health conditions studied

### 1

**Description of health condition studied**

multiple sclerosis

**ICD-10 code**

**ICD-10 code description**

## Primary outcomes

### 1

**Description**

Functional Ability of Upper Limb

**Timepoint**

Pre Test- 4th week of intervention - 6th week of intervention and post test

**Method of measurement**

9hole peg test

### 2

**Description**

fuctional ability of lower extremity

**Timepoint**

pre-test, fourth week, sixth week and eighth week(post-

test)

**Method of measurement**

25foot walk test

**3**

**Description**

processing speed of memory

**Timepoint**

pre-test, fourth week, sixth week and eighth week(post-test)

**Method of measurement**

paced audiotory serial addition test

**4**

**Description**

The effect of swing exercises on the quality of life of women patients with multiple sclerosis

**Timepoint**

Pre-test and post-test

**Method of measurement**

short form 36 question

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**

The first intervention group: They performed suspended and semi-suspended swing exercises for eight weeks. Training protocol: First, ten minutes of warm-up, which included stretching and kinetic movements with a medium and low level, were performed, and then the swing exercises began. The protocol consists of eight weeks of suspended and unstable exercises, which were performed using a swing tool, and the intensity of the exercise was changed by increasing the repetitions and changing the grips and leveling of the movements.

**Category**

Rehabilitation

**2**

**Description**

The second intervention group: They performed suspended and semi-suspended swing exercises for eight weeks. Training protocol: First, ten minutes of warm-up, which included stretching and kinetic movements with a medium and low level, were performed, and then the swing exercises began. The protocol consists of eight weeks of suspended and unstable exercises, which were performed using a swing tool, and the intensity of the exercise was changed by increasing the repetitions and changing the grips and leveling of the movements.

**Category**

Rehabilitation

**3**

**Description**

Control group: The patients in this group did their normal daily activities and the things that the relevant doctor had announced and no restrictions were imposed by the researcher.

**Category**

N/A

## Recruitment centers

**1**

**Recruitment center**

**Name of recruitment center**

Multiple Sclerosis Association of Kerman

**Full name of responsible person**

Hosein Ali Ebrahimi

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## Sponsors / Funding sources

**1**

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**Grant name**

**Grant code / Reference number**

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

No

**Title of funding source**

Sara sepehri

**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**
Persons

## Person responsible for general inquiries

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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**
Yes - There is a plan to make this available
**Analytic Code**
Not applicable
**Data Dictionary**
Not applicable
**Title and more details about the data/document**
All statistical information, statistical results,EDSS, quality of life results are accessible
**When the data will become available and for how long**
Access starts one month after the results are published
**To whom data/document is available**
Researchers and Health centers
**Under which criteria data/document could be used**
In order to use the results to raise and improve the conditions of multiple sclerosis patients
**From where data/document is obtainable**
sara sepehrifar sepehri.sara73@gmail.com
**What processes are involved for a request to access data/document**
after a week they will receive it
**Comments**