# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

09 Nov 2026

## Comparison of the effectiveness of dual tasks cognitive-motor and motor-motor on cognitive and motor function in patients with multiple sclerosis

## Protocol summary

**Study aim**
The main purpose of this study was to improve patients' cognitive and motor function using dual tasks.

**Design**
A clinical trial consisting of 3 intervention groups and a control group, with parallel, on 60 patients.

**Settings and conduct**
The participants of this study were patients of MS in Tehran province. Using G-Power software with test power of 0.8, the effect size of 0.8 and an error level of 0.05, the sample size of 60 people was determined. Out of 78 participants, 60 were selected as eligible for the study. And were divided into 4 groups by the examiner. All stages of the research were held in the training hall of Tehran MS Association.

**Participants/Inclusion and exclusion criteria**
Low to moderate disability, no replace in recent months, no physical, mental, and emotional problems, no addiction

**Intervention groups**
Group (1) dual cognitive-motor tasks; Group (2) dual motor-motor tasks; Individual groups (3) who only did walking exercises and (4) controls who went about their daily lives.

**Main outcome variables**
the balance; walking; Speed and accuracy of information processing; Quality of Life; Depressive Anxiety

## General information

**Reason for update**

**Acronym**

**IRCT registration information**
IRCT registration number: **IRCT20200812048384N1**
Registration date: **2020-08-26, 1399/06/05**
Registration timing: **retrospective**

Last update: **2020-08-26, 1399/06/05**
Update count: **0**

**Registration date**
2020-08-26, 1399/06/05

**Registrant information**

**Name**
Arash Abasnia

**Name of organization / entity**
The university of tehran

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Iran (Islamic Republic of)

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**Recruitment status**
**Recruitment complete**

**Funding source**

**Expected recruitment start date**
2019-07-23, 1398/05/01

**Expected recruitment end date**
2019-07-30, 1398/05/08

**Actual recruitment start date**
2019-07-23, 1398/05/01

**Actual recruitment end date**
2019-08-04, 1398/05/13

**Trial completion date**
2019-11-09, 1398/08/18

**Scientific title**
Comparison of the effectiveness of dual tasks cognitive-motor and motor-motor on cognitive and motor function in patients with multiple sclerosis

**Public title**
"The effect of dual-task training on cognitive and motor rehabilitation of MS patients"

**Purpose**
Supportive

**Inclusion/Exclusion criteria**

**Inclusion criteria:**
Having an Expanded Disability Status Scale (EDSS) 2-5 Age range 20-50 Do not use assistive devices for walking No dementia Ability to walk 10 meters without assistance At least a diploma 30 days have passed since the last relapse of the patient
**Exclusion criteria:**
Addiction to drugs or alcohol Having a motor defect in the limbs History of heart attack or stroke Having psychological problems Participate in another study Do not participate in sports classes such as yoga, Pilates, etc

**Age**
From **20 years** old to **50 years** old
**Gender**
Female

**Phase**
N/A
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **60**
Actual sample size reached: **60**
**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**
Ethics Committee of the Faculty of Physical Education and Sports Sciences - University of Tehran
**Street address**
Second floor., No. 180, Darvish St., Hosseini St., Qazvin St
**City**
Tehran
**Province**
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**Postal code**
۱۴۱۷۹۳۵۸۴۰
**Approval date**
2019-07-15, 1398/04/24
**Ethics committee reference number**
IR.UT.SPORT.REC.1398.049

## Health conditions studied

### 1

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

## Primary outcomes

### 1

**Description**
Balance
**Timepoint**
Measurement of balance tests before and after 8 weeks of intervention
**Method of measurement**
Special functional tests of balance

### 2

**Description**
Walking
**Timepoint**
Measurement of walking tests before and after 8 weeks of intervention
**Method of measurement**
Timed up and go

### 3

**Description**
Information processing speed
**Timepoint**
Measurement of information processing speed tests before and after 8 weeks of intervention
**Method of measurement**
Stroop online test

### 4

**Description**
Accuracy of information processing
**Timepoint**
Measurement of information processing Accuracy tests before and after 8 weeks of intervention
**Method of measurement**
Stroop online test

### 5

**Description**
Quality of Life
**Timepoint**
Measurement of information before and after 8 weeks of intervention
**Method of measurement**
MSIS-29 questionnaire

**6**

**Description**
Depressive Anxiety
**Timepoint**
Measurement of information before and after 8 weeks of intervention
**Method of measurement**
Hospital Anxiety Depression Scale

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**
Intervention group 1: Cognitive-motor group for two months, 2 days a week and 45-60 minutes. Double cognitive-motor tasks with one cognitive task (such as counting backwards) and one motor task (such as walking over an obstacle) Did.
**Category**
Rehabilitation

**2**

**Description**
Intervention group 2: The motor-motor group practiced dual motor-motor tasks (such as walking and wearing a warm-up) for two months, 2 days a week and 45-60 minutes.
**Category**
Rehabilitation

**3**

**Description**
Intervention group 3: Individual homework group practiced walking for 2 months, 2 days a week and 45-60 minutes of different exercises.
**Category**
Rehabilitation

**4**

**Description**
Control group: The control group did not have any exercise during the eight weeks of training.
**Category**
N/A

## Recruitment centers

**1**

**Recruitment center**
**Name of recruitment center**
Iran MS Society
**Full name of responsible person**
Dr. Mousavi
**Street address**
No. 35, Mohammad Shams Alley, Vesal Shirazi St., Enghelab St., Tehran
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**Fax**
+98 21 6649 9514
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info@iranms.ir
**Web page address**
http://www.iranms.ir/

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
The University of Tehran
**Full name of responsible person**
Mehdi Shahbazi
**Street address**
Faculty of Physical Education and Sport Sciences, between 15th and 16th St., North Kargar st., Tehran, Islamic Republic
**City**
Tehran
**Province**
Tehran
**Postal code**
1417935840
**Phone**
+98 21 8835 1730
**Fax**
+98 21 8802 1527
**Email**
infosport@ut.ac.ir
**Web page address**
http://sport.ut.ac.ir
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
No
**Title of funding source**
Faculty of Physical Education, University of Tehran
**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**

Academic

## Person responsible for general inquiries

**Contact**

**Name of organization / entity**
The University of Tehran
**Full name of responsible person**
Arash Abasnia
**Position**
Senior students
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Master
**Other areas of specialty/work**
Others
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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**
Yes - There is a plan to make this available
**Data Dictionary**
Yes - There is a plan to make this available
**Title and more details about the data/document**
All data of the measured variables can be shared after identifying individuals
**When the data will become available and for how long**
Start of access period from 2020
**To whom data/document is available**
Only for researchers working in academic and scientific institutions
**Under which criteria data/document could be used**
Scientific use is permitted in improvement and comparison with other research
**From where data/document is obtainable**
Email address for correspondence
**What processes are involved for a request to access data/document**
The applicant must send the reason for using the documents by e-mail
**Comments**