

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jun 2026

Evaluation Trans-cranial low-level laser therapy effect on implicit motor learning in the healthy older adults

Protocol summary

Registration timing: **registered_while_recruiting**

Study aim

Evaluation Trans-cranial low-level laser therapy effect on implicit motor learning in the older adults

Last update: **2018-09-09, 1397/06/18**

Update count: **0**

Design

Randomized (random block method), without placebo control. The sample size of this study is 60 individuals: divided into 2 groups of 30 people.

Registration date

2018-09-09, 1397/06/18

Settings and conduct

The effect of Trans-cranial low-level laser therapy on motor learning in the healthy older adults.
Neuromuscular Rehabilitation Research Center Semnan University of Medical Sciences.

Registrant information

Name

Alireza Emadi

Name of organization / entity

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Iran (Islamic Republic of)

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Participants/Inclusion and exclusion criteria

Inclusion criteria: elderly people with the age range of 60 to 80 years; The dominant hand of people is the right hand side. Exclusion criteria: free blood sugar above 400 or below 60; cardiovascular disease; mental illness; pregnancy; smoking; memory disorders with a score of less than 21 through Mini-Mental State Examination (MMSE).

Recruitment status

Recruitment complete

Funding source

Intervention groups

Control group: Only for comparison with intervention group, no treatment is performed. Intervention group: 30 elderly people will receive an infrared laser with a wavelength of 1064 nanometers in accordance with the low-power laser treatment instruction. The laser will be continuously applied at 3.4W and with a density of 60 J / cm² on the inner right forehead to the outer right forehead for 8 minutes.

Expected recruitment start date

2018-03-14, 1396/12/23

Expected recruitment end date

2018-09-13, 1397/06/22

Actual recruitment start date

empty

Actual recruitment end date

empty

Main outcome variables

Motor learning.

Trial completion date

empty

General information

Scientific title

Evaluation Trans-cranial low-level laser therapy effect on implicit motor learning in the healthy older adults

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20151228025732N36**

Registration date: **2018-09-09, 1397/06/18**

Public title

The effect of Trans-cranial low-level laser therapy on implicit motor learning in the healthy older adults

Purpose

Health service research

Inclusion/Exclusion criteria

Inclusion criteria:

Elderly people with the age range of 60 to 80 years The dominant hand of people is the right hand side.

Exclusion criteria:

Free blood sugar above 400 or below 60 Cardiovascular disease Mental illness Pregnancy Smoking Memory disorders with a score of less than 21 through Mini-Mental State Examination (MMSE)

Age

From **60 years** old to **80 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description

Block randomization; Individual; Random Number Tables. Randomized permutation blocks (block 2). Using Excel software to generate random number tables.

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 Semnan University of Medical Sciences

Street address

Semnan University of Medical Sciences, Basij Blvd, Semnan

City

Semnan

Province

Semnan

Postal code

3514799442

Approval date

2018-03-14, 1396/12/23

Ethics committee reference number

IR.SEMUMS.REC.1396.265

Health conditions studied

1

Description of health condition studied

Movement disorder

ICD-10 code

F82

ICD-10 code description

Specific developmental disorder of motor function

Primary outcomes

1

Description

Motor learning

Timepoint

Before and 48 hours after the intervention

Method of measurement

The Color Matching Test (CMT) software will record and measure the time of the homework.

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Only for comparison with intervention group, no treatment is performed.

Category

Diagnosis

2

Description

Intervention group: 30 elderly people will receive an infrared laser with a wavelength of 1064 nanometers in accordance with the low-power laser treatment instruction. The laser will be continuously applied at 3.4W and with a density of 60 J / cm² on the inner right forehead to the outer right forehead for 8 minutes.

Category

Behavior

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center

Full name of responsible person

Rozita Hedayati

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
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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
Semnan University of Medical 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
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Full name of responsible person
Rozita Hedayati
Position
Associate professor
Latest degree
Ph.D.

Other areas of specialty/work

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Person responsible for updating data

Contact

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available

Title and more details about the data/document

-

When the data will become available and for how long

-

To whom data/document is available

Only available to scholars working in academic institutions.

Under which criteria data/document could be used

In case of relevant studies.

From where data/document is obtainable

Rozita Hedayati. Neuromuscular Rehabilitation Research Center, Ghods Blvd. +98 912 331 1988

What processes are involved for a request to access data/document

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Comments