

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 Jun 2026

Short Term Effects of Transcranial Light Therapy on Motor Performance in Healthy People

Protocol summary

Study aim

The short term effects of transcranial light therapy on motor performance in healthy people will be assessed.

Design

In this research, 68 healthy student will be chosen from the Faculty of Rehabilitation, Tabriz University of Medical Sciences and randomly divided into two groups of sham and two groups of intervention.

Settings and conduct

The study will be done in the Faculty of Rehabilitation, Tabriz University of Medical Sciences. Participants in the intervention groups will receive 5min transcranial LASER on C3 and C4 of brodman regions. In sham groups, we will use filter to prevent LASER absorption. Motor performance of the participants will be assessed by finger tapping test immediately before and after transcranial light therapy. Participants won't know which groups they will assign. That is randomly.

Participants/Inclusion and exclusion criteria

Right handedness healthy people within age 18-30, without history of orthopedic or neurologic disorders in upper extremities

Intervention groups

We have 4 groups. Two intervention groups and two sham groups. Participants in intervention groups will receive 5min transcranial LASER on C3 and C4 of brodman region. In sham groups, we will use filter to prevent LASER absorption. Motor performance of the participants will be assessed by finger tapping test immediately before and after the transcranial light therapy.

Main outcome variables

Number of taps in motor task

General information

Reason for update

Acronym

TLT

IRCT registration information

IRCT registration number: **IRCT20180110038293N1**

Registration date: **2018-01-25, 1396/11/05**

Registration timing: **prospective**

Last update: **2018-01-25, 1396/11/05**

Update count: **0**

Registration date

2018-01-25, 1396/11/05

Registrant information

Name

Atefeh Fekri Sustani

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 13 4222 3421

Email address

atefehfekri@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-02-20, 1396/12/01

Expected recruitment end date

2018-03-21, 1397/01/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Short Term Effects of Transcranial Light Therapy on Motor Performance in Healthy People

Public title

Effects of Transcranial Light Therapy on Motor Performance

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Right-handedness 18-30 years old

Exclusion criteria:

Uncorrected visual impairment Upper extremity neurologic or orthopedic disorders Sleep disorder Left handedness pregnancy History of epilepsy Having a regular manual activity involving high dexterity (such as playing the piano) Taking medication affecting the neural system History of neurological or psychological disorders

Age

From **18 years** old to **30 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **68**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple random allocation will use to assign the participants into the two real and two sham groups, using a sealing envelope.

Blinding (investigator's opinion)

Single blinded

Blinding description

At the beginning of the session, we will explain to the participants that they voluntarily enter to this study and randomly may assign in the real or sham groups. We emphasize that they won't know about which group they are.

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Tabriz University of Medical Sciences

Street address

Valieasr, North Tavanir, Before Golpark Square

City

Tabriz

Province

East Azarbaijan

Postal code

5157635411

Approval date

2017-11-14, 1396/08/23

Ethics committee reference number

IR.TBZMED.REC.1396.706

Health conditions studied

1

Description of health condition studied

Healthy people

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Number of taps in Finger tapping test

Timepoint

Measurement the number of taps in Finger tapping test immediately before and after transcranial light therapy

Method of measurement

Computer Software

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: We will use LASER Lumix3 instrument with 808nm wavelength, continuous waves, circle cross section (3.14cm²), PD=250mw/cm², ED=60J/cm². LASER applicator will contact with participants skull skin in C3 point connected to primary motor cortex and It will be radiated for 5 min.

Category

Treatment - Devices

2

Description

Intervention group 2: We will use LASER Lumix3 instrument with 808nm wavelength, continuous waves, circle cross section (3.14cm²), PD=250mw/cm², ED=60J/cm². LASER applicator will contact with participants skull skin in C4 point connected to primary motor cortex and It will be radiated for 5 min.

Category

Treatment - Devices

3

Description

Control group 1: The usage protocol and LASER instrument is similar to first intervention group. Main difference is placing a LASER filter between applicator and participants' skin that prevent from LASER absorption.

Category

Treatment - Devices

4

Description

Control group 2: The usage protocol and LASER instrument is similar to first intervention group. Main difference is placing a LASER filter between applicator and participants' skin that prevent from LASER absorption.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Faculty of Rehabilitation, Tabriz University of Medical Science

Full name of responsible person

Mir Ali Eteraf Oskouei

Street address

Valieasr, North Tavanir, Before Golpark Square

City

Tabriz

Province

East Azarbaijan

Postal code

5157635411

Phone

+98 41 3331 1293

Fax

+98 41 3333 4647

Email

eterafoskouei@tbzmed.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

معاونت پژوهشی دانشگاه علوم پزشکی تبریز

Full name of responsible person

Mir Ali Eteraf Oskouei

Street address

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City

Tabriz

Province

East Azarbaijan

Postal code

5157635411

Phone

+98 41 3333 4647

Email

eterafoskouei@tbzmed.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

معاونت پژوهشی دانشگاه علوم پزشکی تبریز

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

Tabriz University of Medical Sciences

Full name of responsible person

Atefeh Fekri Sustani

Position

Physiotherapist, MSc Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

43. Yas 11, Kuye Sustan, Shaghayegh Street

City

Lahijan

Province

Guilan

Postal code

4414876771

Phone

+98 13 4222 3421

Fax

Email

atefehfekri@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Tabriz University of Medical Sciences

Full name of responsible person

Mir Ali Eteraf Oskouei

Position

Full Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Valieasr, North Tavanir, Before Golpark Square

City

Tabriz

Province

East Azarbaijan

Postal code

5157635411

Phone

+98 41 3331 1392

Email

eterafoskouei@tbzmed.ac.ir

Lahijan

Province

Guilan

Postal code

4414876771

Phone

+98 13 4222 3421

Fax**Email**

atefehfekri@yahoo.com

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

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

No information is available.

Study Protocol

Undecided - It is not yet known if there will be 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

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

Data Dictionary

Not applicable

Person responsible for updating data**Contact****Name of organization / entity**

Tabriz University of Medical Sciences

Full name of responsible person

Atefeh Fekri Sustani

Position

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