

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Jun 2026

The Comparison of the effect of sensory motor rhythm and beta and theta wave training neurofeedback on postural control and attention in youth

Protocol summary

Study aim

The Comparison of the effect of sensory motor rhythm and beta and theta wave training neurofeedback on postural control and attention in youth

Design

In this study, 24 students of rehabilitation fields in rehabilitation faculty of Shahid Beheshti University of Medical Sciences according to study criteria are selected by simple sampling method. They are then randomly assigned to either SMR or beta-theta neurofeedback group, each with a code is assigned.

Settings and conduct

Neurofeedback training sessions will be held in a special room, which is a quiet and non-stimulating environment, and will be conducted at the Faculty of Rehabilitation, Shahid Beheshti University of Medical Sciences, between 9am and 12pm. People will not know which protocol they will receive and all tests will be performed by an experienced trained examiner who is blind to the study and the groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: aged 18 to 30 years; being healthy and without any complications that impair the balance.

Exclusion criteria: not having a history of using neurofeedback and taking confusion drugs.

Intervention groups

In this study, for a group, the SMR amplification neurofeedback protocol (12-15 Hz) is used, and for the other group the Hammond defined protocol called the equilibrium protocol is used with the reduction of the frequency of 4-7 Hz (theta) and the amplification of the frequency of 18-15 Hz

Main outcome variables

postural control, risk of falling and attention

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20171128037665N1**

Registration date: **2018-01-29, 1396/11/09**

Registration timing: **retrospective**

Last update: **2018-01-29, 1396/11/09**

Update count: **0**

Registration date

2018-01-29, 1396/11/09

Registrant information

Name

Fariba Keshavarzi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 71 5807 2238

Email address

keshavarzi.ot@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2017-12-11, 1396/09/20

Expected recruitment end date

2018-01-20, 1396/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The Comparison of the effect of sensory motor rhythm and beta and theta wave training neurofeedback on postural control and attention in youth

Public title
effect of neurofeedback training on postural control and attention

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Students of Rehabilitation School of Shahid Beheshti University of Medical Sciences

Exclusion criteria:

Having cognitive, vision and hearing problems Having history of any neuromuscular and systemic disease (diabetes and rheumatism), limb length discrepancy (more than 1 cm), spastic cerebral palsy, Drug addiction or alcohol, and any complications that impair balance. Having history of using neurofeedback before this study or using confusing drugs Taking medications that make you confused

Age

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

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Investigator

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Simple randomization

Blinding (investigator's opinion)

Double blinded

Blinding description

Participants will not be informed which interventions they receive. All tests will perform by an experienced trained examiner who is blind to the study and the groups.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Shahid Beheshti University of Medical Science

Street address

Yaman st, Shahid Chamran Highway

City

Tehran

Province

Tehran

Postal code

1985717443

Approval date

2018-01-02, 1396/10/12

Ethics committee reference number

IR.SBMU.RETECH.REC.1396.787

Health conditions studied

1

Description of health condition studied

Balance and attention performance

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

The percentage of overall balance index in the Biodex balance meter

Timepoint

Immediately before and after intervention

Method of measurement

Biodex balance meter

2

Description

Percentage of correct responses in the Vinenna test

Timepoint

Immediately before and after intervention

Method of measurement

Vienna test

Secondary outcomes

empty

Intervention groups

1

Description

intervention group: Beta and theta wave neurofeedback training. In this group, the protocol defined by Hammond is referred to as the equilibrium protocol, the reduction of the frequency of 7-4 Hz (theta) and the amplification of the 18-15 Hz frequency (beta wave) is used.

Neurofeedback exercises will be performed three days a week for 10 sessions of 30 minutes.

Category

Rehabilitation

2

Description

Control group: Sensory motor neurofeedback training. In this group, the sensory motor amplification protocol (12-15 Hz) is used, which is an active electrode for recording brain waves on a CZ point. Neurofeedback exercises will be performed through 10 30-minute sessions three days a week

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Occupational Therapy Clinic, the Faculty of Rehabilitation, Shahid Beheshti University of Medical Sc

Full name of responsible person

Fariba Keshavarzi

Street address

Damavand Ave, Imam Hossein Square

City

Tehran

Province

Tehran

Postal code

1616913111

Phone

+98 21 7756 1721

Fax

+98 21 7759 1807

Email

keshavarzi_ot@sbmu.ac.ir

Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Alireza Akbarzadeh Baghban

Street address

Damavand St, Imam Hossein Square

City

Tehran

Province

Tehran

Postal code

1616913111

Phone

+98 21 7754 8496

Email

akbarzad@sbmu.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Shahid beheshti 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

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Fariba Keshavarzi

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Occupational Therapy

Street address

Alley 6 , East Shahid Mahmood Keshavarzi Ave, Eemam Hosein Ave, East Nasr Blvd

City

Shiraz

Province

Fars

Postal code

7148136795

Phone

00897158072238

Email

keshavarzi.fariba70@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Fariba Keshavarzi

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Occupational Therapy

Street address

Alley 6 , East Shahid Mahmood Keshavarzi Ave, Eemam Hosein Ave, East Nasr Blvd

City

Shiraz

Province

Fars

Postal code
7148136795
Phone
+98 71 5807 2238
Email
keshavarzi.fariba70@gmail.com

7148136795
Phone
+98 71 5807 2238
Email
keshavarzi.fariba70@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Fariba Keshavarzi
Position
Student
Latest degree
Bachelor
Other areas of specialty/work
Occupational Therapy
Street address
Alley 6 , East Shahid Mahmood Keshavarzi Ave,
Eemam Hosein Ave, East Nasr Blvd
City
Shiraz
Province
Fars
Postal code

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

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

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