Clinical Trial Protocol
Iranian Registry of Clinical Trials

24 Sep 2026

Effectiveness of Cognitive Computerized Training in Working Memory and Language Skills of Children With Cochlear implant

Protocol summary

Summary

The present research investigates the effectiveness of Computerized Cognitive Training on the Performance Working Memory of children with cochlear implant. A quasi-experimental pretest-posttest design was applied in this research, in which 60 cochlear implement children selected through convenience sampling were randomly divided into control and experimental groups (each containing 30 individuals). The experimental group attended a computerized cognitive training interventional program. Working Memory Test Battery for Children (Pickering & Gathercole, 2001, translated by Arjmandnia, 2009) was used in pretest and posttest in order to evaluate their working memory. Also scale of Categorization of Auditory Performance (CAP) and scale of Speech Intelligibility Rating (SIR) used for assessment of auditory perception and speech intelligibility. The achieved data was analyzed using univariate and multivariate covariance test.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015121325467N1**
Registration date: **2017-07-20, 1396/04/29**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2017-07-20, 1396/04/29

Registrant information

Name

Ali Sharifi

Name of organization / entity

Allameh Tabataba'i University, Tehran, Iran

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

New Hearing Technology Research Center of Baghiatallah University of Medical Sciences

Expected recruitment start date

2017-02-08, 1395/11/20

Expected recruitment end date

2017-08-22, 1396/05/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of Cognitive Computerized Training in Working Memory and Language Skills of Children With Cochlear implant

Public title

Effectiveness of Cognitive Computerized Training in Working Memory and Language Skills of Children With Cochlear implant

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: Congenital hearing impairment; Age between 6 to 15 years old; Normal intelligence; Cochlear implanted between 1 to 5 years old; Absence of the other disabilities such as: CP, MR, genetically syndromes, blindness Exclusion criteria: Acquired hearing impairment; Abnormal intelligence; Cochlear implanted

above 5 years old

Age
From **6 years** old to **15 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

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
Baghiatallah University of Medical Science

Street address
Baghiatallah University of Medical Science , Vanak Sq, Molasadra St, Tehran. Iran

City
Tehran

Postal code
1435916471

Approval date
2016-08-01, 1395/05/11

Ethics committee reference number
IR.BMSUREC.1395.62

Health conditions studied

1

Description of health condition studied
Children with Haring Impairment

ICD-10 code
H90.5

ICD-10 code description
Sensorineural hearing loss, unspecified

Primary outcomes

1

Description
Working Memory

Timepoint
After and before intervention

Method of measurement
Working Memory Test Battery for Children (WMBT-C)

2

Description
Auditory performance

Timepoint
before and after intervantion

Method of measurement
scale of Categorization of Auditory Performance (CAP)

3

Description
speech intelligibility

Timepoint
before and after intervantion

Method of measurement
scale of Speech Intelligibility Rating (SIR)

4

Description
Added at 2017-11-05: language skills

Timepoint
Added at 2017-11-05: Before and after intervention

Method of measurement
Added at 2017-11-05: Test of Language Development

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Computerized cognitive training will be executed on the experimental group in 20 sessions for 3-4 months. Trainer will educate children by computerized cognitive program focusing on cognitive abilities and some of items and parts will be rehearsed by mother at home.

Category
Rehabilitation

2

Description
Control group: No intervention will be made for control group in this study.

Category
N/A

Recruitment centers

1

Recruitment center

Name of recruitment center
Hearing Cochlear Implant Center of Baqyatallah Hospital

Full name of responsible person
Amir Hosein Maghari

Street address

City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
New Hearing Technology Research Center of Baghyatallah University of Medical Sciences

Full name of responsible person
Susan Amirsalari

Street address
Hearing Cochlear Implantation Center, Sheikhbahaei St, Molasadra St, Vanak Sq, Tehran, Iran

City
Tehran

Grant name

Grant code / Reference number

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

Title of funding source
New Hearing Technology Research Center of Baghyatallah University of Medical Sciences

Proportion provided by this source
100

Public or private sector
empty

Domestic or foreign origin
empty

Category of foreign source of funding
empty

Country of origin

Type of organization providing the funding
empty

Person responsible for general inquiries

Contact

Name of organization / entity
Baqyatallah University

Full name of responsible person
Ali Sharifi

Position
PhD Student of Psychology and Education of Exceptional Children-

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

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Faculty Member of Baqyatallah University

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty

Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty