Clinical Trial Protocol
Iranian Registry of Clinical Trials

14 Nov 2026

Evaluating perceptual learning caused by combined auditory training interventions including active listening and passive hearing in young old adults.

Protocol summary

Study aim
in this study, we will use double vowels discrimination and combined auditory training program to measuring the perceptual learning in young old adults.

Design
A multi-arm randomized clinical trial with control group, random allocation using sealed envelops and outcome assessor blind. this study will be performed in a one phase on 30 people. for random allocation, group names was written on different carts and put in an envelope and We take a card for each participant

Settings and conduct
After conducting initial assessments and ensuring that inclusion criteria are met double vowel identification test and CV in noise test was evaluated, after then participants were randomly allocated to one of the 3 groups and received auditory training program for 4-12 session, after the intervention both test were evaluated again.

Participants/Inclusion and exclusion criteria
all participant with age of 65-74 years old can participate in this study with the following entry criteria: the behavioral pure-tone audiometry threshold levels of ≤40 dBHL in octave frequencies of 250–8000 Hz,right handedness, not having a remarkable cognitive problems according to MMSE (MMSE over 28), no previous formal musical training, inclination to continue the test in any of the test steps and no difficulty to understand the task

Intervention groups
during the intervention, double vowels with different Δf0 provided, participants should identify both vowels after hearing each stimulus.and Δf0 changed adaptability. in the other hand for each correct recognition answer,Δf0 decreased in 3 level and for any wrong answer Δf0 increased in 1 level.

Main outcome variables
double vowel identification score speech perception in noise

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20151005024360N4**
Registration date: **2021-03-03, 1399/12/13**
Registration timing: **prospective**

Last update: **2021-03-03, 1399/12/13**
Update count: **0**

Registration date
2021-03-03, 1399/12/13

Registrant information

Name
Akram Pourbakht

Name of organization / entity

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-04-04, 1400/01/15

Expected recruitment end date
2021-05-05, 1400/02/15

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Evaluating perceptual learning caused by combined auditory training interventions including active listening and passive hearing in young old adults.

Public title
The effect of combined auditory training program in older adults

Purpose
Supportive

Inclusion/Exclusion criteria

Inclusion criteria:
Age between 65 and 74 years Behavioral pure-tone audiometry threshold levels of ≤40 dBHL in octave frequencies of 250–8000 Hz Right-handedness No remarkable cognitive problems (MMSE over 28)

Exclusion criteria:
History of continuous participation in music education classes and professional music practice Difficulty to understand the task or follow the instructions Disinclination to continue the test in any of the test steps

Age
From **65 years** old to **74 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple random allocation with sealed envelopes first intervention group, second intervention group and control group are written on cards. These cards are placed in the envelope, The person (responsible for carrying out the auditory training program) picks up a card from the envelope for each client and implements the relevant auditory training program accordingly.

Blinding (investigator's opinion)
Single blinded

Blinding description
in this study, outcome assessor have no information about study groups. Actually outcome assessor is responsible for implementing the auditory training program.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of Iran University of Medical Sciences

Street address
Iran University Campus, Hemmat freeway, next to Milad tower, Tehran,

City
Tehran

Province
Tehran

Postal code
۱۴۴۹۶۱۴۵۳۵

Approval date
2020-10-28, 1399/08/07

Ethics committee reference number
IR.IUMS.REC.1399.721

Health conditions studied

1

Description of health condition studied
speech perception in noise

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
double vowel identification

Timepoint
Before and after intervention

Method of measurement
double vowel identification score

Secondary outcomes

1

Description
Speech perception in noise

Timepoint
Before and after intervntion

Method of measurement
CV in noise test

Intervention groups

1

Description
Intervention group 1: They receive a auditory training program in half of the session time, (identifying 180 trials of double vowels) and in the other half the session,

participants performing a visual-spatial task (Tetris game) And during which 180 trials of double vowels will be provided via the head-phone in the background.

Category

Rehabilitation

2

Description

Intervention group 2: in this group participants performing a visual-spatial task (Tetris game) in all session time And during which 360 trials of double vowels will be provided via the head-phone in the background.

Category

Rehabilitation

3

Description

Control group: in this group listeners actually performed the routine auditory training using discrimination of 360 trail of double vowel in whole time of the session

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Health center on Hashtgerd county

Full name of responsible person

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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

Iran 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

Iran University of Medical Sciences

Full name of responsible person

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Position

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Latest degree

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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
No - There is not 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