

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Study the effect of online visual games on balance, visual perception, and oculomotor skills of children with developmental dyslexia during Covid -19 pandemic

Protocol summary

Study aim

Study the effect of online visual games on balance, visual perception, and oculomotor skills of children with developmental dyslexia during Covid -19 pandemic

Design

The interventions will be designed and made by Niloufar Chamani (Master of Sciences student in Occupational Therapy) as computer games and, will be provided to the intervention group online.

Settings and conduct

All assessments will be performed at Tehran University of Medical Sciences, Faculty of Rehabilitation, and as much as possible in the same conditions and environment for all participants. Interventions will be provided to the intervention group as web-based online computer games at home and, no intervention will be done in the control group. Blinding will be done only for the people who are in charge of evaluation and these people are not informed about the grouping of participants.

Participants/Inclusion and exclusion criteria

Inclusion criteria: developmental dyslexia diagnosis, NEMA scores below average, having normal IQ (equal to or above 85), age between 7 to 11 years (first-grade child should be at least in the second quarter of the academic year), and being fluent in Persian. Exclusion criteria: any neurological disorders, attention deficit hyperactivity disorder, or sensory visual impairment

Intervention groups

This study includes two groups: intervention and control. Online computer games will provide to the intervention group for one month and, the control group will not receive any intervention in this study.

Main outcome variables

Creating a product to improve visual skills, may easily be available to these children as an effective treatment, would be applicable as an available method to help treat these children as quickly and easily as possible, The

findings of this study can be used for other related studies in the future.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210925052568N1**

Registration date: **2021-11-16, 1400/08/25**

Registration timing: **registered_while_recruiting**

Last update: **2021-11-16, 1400/08/25**

Update count: **0**

Registration date

2021-11-16, 1400/08/25

Registrant information

Name

Niloufar Chamani

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 81 3822 4030

Email address

nchamani@razi.tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-11-01, 1400/08/10

Expected recruitment end date

2021-12-01, 1400/09/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Study the effect of online visual games on balance, visual perception, and oculomotor skills of children with developmental dyslexia during Covid -19 pandemic

Public title
Study the effect of online visual games on balance, visual perception and, oculomotor skills of children with developmental dyslexia

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
The diagnosis of Developmental dyslexia NEMA scores are lower than average Have a normal IQ (equal to or above 85) Age between 7 and 11 years (first grader must be at least in the second quarter of the school year) Fluency in Persian
Exclusion criteria:
Existence of any neurological disorder, attention deficit hyperactivity disorder or visual sensory impairment

Age
From **7 years** old to **11 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **50**

Randomization (investigator's opinion)
Randomized

Randomization description
The randomization method is the random allocation rule. This method represents a large block for the total sample size, which is 50 people, which randomly assigns 25 children with developmental dyslexia (DD) in the intervention group and the rest of the children with DD are in the control group. The number is assigned and the numbers are written on paper and packaged in exactly the same way. These numbers are placed in a container and then the numbers are randomly removed from the container without replacement and the created sequence is recorded. The first 25 children are in the intervention group and the rest are in the control group.

Blinding (investigator's opinion)
Single blinded

Blinding description
Evaluators including a psychologist, an occupational therapist, and an audiologist. They perform all assessments, including TVPS-R, PBS, VNG, Wechsler Child Scale (WISC-IV), and reading and dyslexia (NMA) tests. Evaluators will not be aware of whether individuals are in the control or intervention group.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research Ethics committees of school of Nursing and Midwifery & Rehabilitation - Tehran University o

Street address

Unit 2, no 3, Haghghat alley, Aram st, Hamedan

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Hamadan

Postal code

6515759966

Approval date

2021-11-04, 1400/08/13

Ethics committee reference number

IR.TUMS.FNM.REC.1400.142

Health conditions studied

1

Description of health condition studied

developmental dyslexia

ICD-10 code

R48.0

ICD-10 code description

Dyslexia and alexia

Primary outcomes

1

Description

visual perception skills

Timepoint

At the beginning of the study and at the end of the study

Method of measurement

Test of Visual Perception Skills-Revised

2

Description

oculomotor skills

Timepoint

At the beginning of the study and at the end of the study

Method of measurement

Videonystagmography

3

Description

postural balance skills

Timepoint

At the beginning of the study and at the end of the study

Method of measurement

Pediatric Balance Scale

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The interventions will be performed in 15 sessions on a daily basis for a month and for 30 minutes a day. The interventions will be designed and made by Niloufar Chamani (Master student of Occupational Therapy) in the form of computer games and will be provided to the intervention group in the form of online computer games for one month. Computer games will be designed and made using visual perception training cards and eye movement exercises.

Category

Rehabilitation

2

Description

Control group: Does not receive any intervention in this study.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Rehabilitation Faculty, Tehran University of Medical Sciences

Full name of responsible person

Niloufar Chamani

Street address

Corner of Safalishah, pich -e- Shemiran, Enghelab AV.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Ahmadreza Khatoonabadi

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Corner of Safalishah, pich -e- Shemiran, Enghelab AV.

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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

Tehran 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

Tehran University of Medical Sciences

Full name of responsible person

Niloufar Chamani

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Occupational Therapy

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

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Latest degree

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Person responsible for updating data

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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

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