Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Effectiveness of Response to intervention Model in Reading performance and Executive functions of students with dyslexia

Protocol summary

Study aim
Examining the Effectiveness of the Response to Intervention (RTI) Model in Enhancing Executive Functions (Inhibition, Attention Shifting, Emotional Control, Initiation, Working Memory, Planning, Organization of Materials, and Monitoring) in Students with Reading Disorders

Design
Participants were selected using purposive convenience sampling, and random assignment to the experimental and control groups was performed using a lottery method.

Settings and conduct
The study was conducted at the Varamin Learning Disabilities Center. The intervention was delivered to the experimental group in 12 sessions across three phases. Due to the nature of the intervention, blinding of students and intervention providers was not feasible.

Participants/Inclusion and exclusion criteria
Inclusion Criteria: Elementary school students with a confirmed learning disorder, able to attend sessions regularly, not participating in other interventions, without severe uncorrected sensory or psychological impairments, and whose parents/legal guardians provided informed consent.

Intervention groups
From the target population, a total of 30 students were selected as the study sample using purposive convenience sampling. This sample size was determined in accordance with the average number of participants in previous intervention studies. The selected students were then randomly assigned to the experimental group (n=15) and the control group (n=15) using a lottery method, and subsequently participated in the study.

Main outcome variables
1Improvement in reading performance among students with reading disorders 2Enhancement of executive functions

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20251230068502N1**
Registration date: **2026-01-03, 1404/10/13**
Registration timing: **prospective**

Last update: **2026-01-03, 1404/10/13**
Update count: **0**

Registration date
2026-01-03, 1404/10/13

Registrant information

Name
Samaneh Tajik Khaveh

Name of organization / entity
Shahid Beheshti University

Country
Iran (Islamic Republic of)

Phone
+98 21 3626 4944

Email address
tajik1031@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2026-02-09, 1404/11/20

Expected recruitment end date
2026-04-21, 1405/02/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effectiveness of Response to intervention Model in Reading performance and Executive functions of students with dyslexia

Public title
Effectiveness of Response to intervention Model in Reading performance and Executive functions of students with dyslexia

Purpose
Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:
Enrollment of the student at the elementary school level No concurrent participation in other intervention programs Student’s readiness and ability to attend the intervention sessions regularly Absence of serious uncorrected hearing or visual impairments, or severe psychological disorders that may affect reading performance Absence of serious uncorrected hearing or visual impairments, or severe psychological disorders that may affect reading performance Confirmation of the student’s learning disorder by a specialist from a learning disabilities center

Exclusion criteria:

Age
From **7 years** old to **12 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **30**

Randomization (investigator's opinion)
Randomized

Randomization description
Eligible students were randomly assigned to the intervention (Response to Intervention model) or control group using a simple lottery-based randomization method after obtaining written parental consent. Sequentially numbered, opaque, sealed envelopes containing group assignments were prepared in advance by an independent person. One envelope was opened sequentially for each participant only after enrollment, ensuring adequate allocation concealment and minimizing selection bias. The unit of randomization was the individual student, and no stratified randomization was applied.

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
Research Ethics Committees of Shahid Beheshti University

Street address
No. 10, Alley 606, Fajr 6th Street, Fajr Street

City
Varamin

Province
Tehran

Postal code
3371738393

Approval date
2024-07-06, 1403/04/16

Ethics committee reference number
IR.SBU.REC.1403.079

Health conditions studied

1

Description of health condition studied
The variables studied were executive functions and reading performance in students with reading disorders.

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
The study variables included reading performance and executive functions in students with reading disorders. Reading performance encompassed word and nonword reading, reading comprehension, phonological awareness (e.g., phoneme deletion and rhyming), picture naming, word chains, and letter and category identification. Executive functions included inhibition, attention shifting, working memory, planning, emotional control, initiation, organization of materials, and monitoring.

Timepoint
The variables were measured using a pretest–posttest design, with assessments conducted before and after the intervention.

Method of measurement
The study employed the NEMA test and the Behavior Rating Inventory of Executive Function (BRIEF) to assess reading performance and executive functions, respectively.

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Regarding grade level, in the experimental group, the largest number of participants were in the second grade (5 students; 33.3%). The first, third, and fourth grades each included 3 students (20%), while the fifth grade had the fewest participants (1 student; 6.7%).
Category
Behavior

2

Description
Control group: The control group consisted of 15 students who did not receive any intervention. The largest number of participants were 8-year-olds (5 students, 33.3%). This was followed by 7-year-olds (4 students, 26.7%), 9-year-olds (3 students, 20%), 11-year-olds (2 students, 13.3%), and 10-year-olds (only 1 student, 6.7%).
Category
Behavior

Recruitment centers

1

Recruitment center
Name of recruitment center
Varamin County Learning Disabilities Center
Full name of responsible person
Masume Shirazi
Street address
Rajabali Eslami Street
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Varamin
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3371777887
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tajik1031@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahid Beheshti University
Full name of responsible person
Elham Hakimi Rad
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1983969411
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Email
pr-office@sbu.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
-
Proportion provided by this source
1
Public or private sector
Private
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
Full name of responsible person
Samaneh Tajik Khaveh
Position
Student
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Other areas of specialty/work
Psychology
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is 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
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
No - There is not a plan to make this available
Analytic Code
Not applicable
Data Dictionary
Yes - There is a plan to make this available
Title and more details about the data/document
The data are shareable.
When the data will become available and for how long
Access will begin six months after publication.
To whom data/document is available
The data will be available to researchers and academic institutions.
Under which criteria data/document could be used
The data will be available for future research purposes.
From where data/document is obtainable
Researcher: Samaneh Tajik Khave Email: tajik1031@gmail.com
What processes are involved for a request to access data/document
The data will be provided upon email request along with a description of the study.
Comments