Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Studying the effect of correcting refractive errors with glasses on sleep quality in employees aged 30 to 40 years visiting an eye clin

Protocol summary

Study aim

The results of this study can increase optometrists' awareness of the role of sleep quality in visual function and help improve patient assessment and prescription of optical correction.

Design

Study Design: This single-group pretest-posttest study was conducted on 33 participants using convenience sampling. Optical correction of refractive errors was applied, and study variables were assessed before and after the intervention; randomization and blinding were not performed.

Settings and conduct

Participants aged 30–40 with refractive errors and written consent are enrolled. Optometric examinations, higher-order aberrations, and the Pittsburgh Sleep Quality Index (PSQI) are assessed before spectacle correction. After 4 weeks of daily use, examinations and PSQI are repeated and data are analyzed.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age 30–40; mild to moderate uncorrected refractive error with asthenopia (myopia ≤−6 D, hyperopia ≤+4 D, astigmatism ≤2 D); no glasses use in past 6 months or inappropriate prescription; perfect near vision; written consent. **Exclusion criteria:** Active ocular disease; history of eye surgery or trauma; accommodation/vergence disorders, strabismus, amblyopia; systemic or psychiatric conditions affecting vision; medications affecting sleep or vision; recent contact lens use; routine caffeine intake; shift work or stressful jobs; work in bright/noisy environments.

Intervention groups

The intervention involves optical correction of refractive errors with appropriate lenses. Changes in visual function, sleep quality, and higher-order aberrations are assessed before and after correction to evaluate its effects in a single-group design.

Main outcome variables

Visual acuity; Higher-order aberrations (RMS); Sleep quality (Pittsburgh Sleep Quality Index); asthenopia

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20260208068791N1**
Registration date: **2026-02-17, 1404/11/28**
Registration timing: **prospective**

Last update: **2026-02-17, 1404/11/28**
Update count: **0**

Registration date

2026-02-17, 1404/11/28

Registrant information

Name

Ashkan Amirabadi

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2026-04-04, 1405/01/15

Expected recruitment end date

2026-05-20, 1405/02/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
Studying the effect of correcting refractive errors with glasses on sleep quality in employees aged 30 to 40 years visiting an eye clin

Public title
Studying the effect of correcting refractive errors with glasses on sleep quality

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Age between 30 and 40 years Presence of corrected refractive error with asthenopia in the mild to moderate range (myopia up to -6 diopters, hyperopia up to +4 diopters, astigmatism up to 2 diopters), so that the patient needs optical correction, but not complete correction. Not wearing glasses in the past 6 months or current prescription is inappropriate Written consent to participate in the study Having eyes (asthenopia) Not having presbyopic qualities and having perfect nearsightedness

Exclusion criteria:
Any active anterior and posterior segment disease of the eye History of eye surgery (including refractive surgery, cataract surgery, corneal transplantation, ring, cross-linking, etc.) History of eye trauma Accommodation and vergence disorders, strabismus, amblyopia or history of related treatments in the past Systemic diseases affecting eye refractive errors (such as systemic autoimmune diseases, thyroid diseases, diabetes, etc.) Psychiatric disorders or use of psychotropic drugs Use of drugs that affect sleep or vision such as benzodiazepines, hypnotics, ophthalmic drugs with CNS effects in order to reduce confounding factors in examining the effect of uncorrected refractive errors on sleep quality. Wearing any type of contact lenses in the last month Regular coffee and caffeinated beverages People with stressful, shift or hourly jobs Working in bright and noisy environments

Age
From **30 years** old to **40 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **33**

Randomization (investigator's opinion)
N/A

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of the Faculty of Rehabilitation Sciences, Iran University of Medical Sciences

Street address
Tehran, Mirdamad, Madar Square, Shah Nazari Street, Madakaran Street, Faculty of Rehabilitation Sciences, Iran University of Medical Sciences

City
tehran

Province
Tehran

Postal code
۱۳۴۸۷ ۱۵۴۵۹

Approval date
2026-02-14, 1404/11/25

Ethics committee reference number
IR.IUMS.REHAB.REC.1404.032

Health conditions studied

1

Description of health condition studied
Refractive errors

ICD-10 code
H52

ICD-10 code description
Disorders of refraction and accommodation

2

Description of health condition studied
sleep quality

ICD-10 code
G47

ICD-10 code description
Sleep disorders

Primary outcomes

1

Description
sleep quality

Timepoint
The primary outcome measures include baseline (before optical correction) and 4 weeks after optical correction and continued use of glasses. At these two time points, sleep quality is measured and compared.

Method of measurement
Sleep quality is measured using the Pittsburgh Sleep

Quality Questionnaire.

Secondary outcomes

1

Description
High-order optical aberration
Timepoint
The primary outcome measures include baseline (before optical correction) and 4 weeks after optical correction and continued use of glasses. At these two time points, higher-order optical aberrations are measured and compared.
Method of measurement
Higher-order optical aberrations are measured using a pentacam device based on Zernike coefficients and the root mean square value of the aberrations is recorded.

Intervention groups

1

Description
The intervention consists of optical correction of participants' refractive errors using appropriate spectacle lenses. Following a complete optometric examination, a standard and up-to-date prescription is provided for each participant. Participants are instructed to wear the prescribed spectacles for at least eight hours per day over a four-week period. Visual parameters, sleep quality, and higher-order optical aberrations are assessed before and after the intervention.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Nourngah Ophthalmology Clinic
Full name of responsible person
Ashkan Amirabadi
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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
Ashkan Amirabadi
Position
MSc student of optometry
Latest degree
Bachelor
Other areas of specialty/work
Optometry
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
"There is no further information"

Study Protocol
No - There is not a plan to make this available

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
No - There is not a plan to make this available

Analytic Code
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available