Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

A comparative study of the effects Hand Reflexology and Pranayama on TestAnxiety in nursing Students

Protocol summary

Study aim
The present study focuses on comparing the effectiveness of two non-pharmacological interventions, yogic breathing and hand reflexology, in reducing test anxiety among medical sciences students.

Design
This study is a randomized, controlled clinical trial with two parallel intervention groups and no blinding, conducted on 93 nursing students. Randomization will be performed using the Sealedenvelope system.

Settings and conduct
This study will be conducted at Arak University of Medical Sciences among undergraduate nursing students. Participants will be randomly assigned to one of three groups: hand reflexology, yogic breathing, or a placebo control. Reflexology will be delivered individually by trained researchers, while yogic breathing will be conducted in groups using a structured three-stage protocol (abdominal, thoracic, and clavicular breathing). The Sealedenvelope system will be used for randomization. The control group will experience similar environmental conditions and gentle hand contact without receiving active interventions. Anxiety will be measured pre- and post-intervention, and no blinding will be implemented.

Participants/Inclusion and exclusion criteria
Eligible participants included nursing students at Arak University of Medical Sciences who reported test-related anxiety and had no severe psychiatric or medical conditions, no recent experience of bereavement or crisis, no prior exposure to yogic breathing or reflexology, and no use of anxiolytic or psychotropic medications in the past three months. Individuals with active respiratory diseases, hand-related dermatologic or inflammatory conditions, or among female participants pregnancy were excluded.

Intervention groups
Participants in this study will be randomly assigned to three groups: a hand reflexology intervention group, a yogic breathing intervention group, and a control group.

Main outcome variables
Test anxiety

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20220703055351N4**
Registration date: **2025-11-27, 1404/09/06**
Registration timing: **prospective**

Last update: **2025-11-27, 1404/09/06**
Update count: **0**

Registration date
2025-11-27, 1404/09/06

Registrant information

Name
Mahsa Hosseini

Name of organization / entity

Country
Iran (Islamic Republic of)

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+98 86 1221 9498

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-12-21, 1404/09/30

Expected recruitment end date
2026-02-19, 1404/11/30

Actual recruitment start date
empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A comparative study of the effects Hand Reflexology and Pranayama on TestAnxiety in nursing Students

Public title

A comparative study of the effects Hand Reflexology and Pranayama on TestAnxiety in nursing Students

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Undergraduate nursing students currently enrolled at Arak University of Medical Sciences Self-reported test anxiety prior to written examinations or intrusive, future-oriented mental imagery concerning upcoming exams Absence of any psychiatric disorder or severe physical illness (e.g., depression, anxiety, cardiovascular disease, and other conditions) during the study ChatGPT said:No experience of bereavement or major crisis within the past month ChatGPT said:No prior experience with yogic breathing practices or reflexology Absence of coagulation disorders and immunodeficiency conditions No use of anxiolytic or psychoactive medications during the past three months Not being pregnant (for female participants) Absence of any history of abdominal or pulmonary (lung) surgery Absence of active respiratory disease and absence of dermatological or inflammatory conditions affecting the hands

Exclusion criteria:

Participants' refusal to continue participation in the study at any stage ChatGPT said:Presence of skin rashes, active inflammation, or infection on the hands, as well as any skin lesions Presence of active respiratory disease with symptoms of cough and dyspnea during the intervention Students who have previously graduated from any field of medical sciences

Age

From **18 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **93**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, all individuals who respond to the recruitment announcement and meet the inclusion criteria are first recorded in an initial list based on the order of their enrolment. The following steps are then undertaken: Initial stratification by gender The initial list of eligible participants is divided into two separate strata (female/male). Determination of quota for each stratum Based on the gender distribution of eligible participants and the total required sample size, the number of participants to be selected from each stratum is determined. Randomization procedure Randomization is performed using the SealedEnvelope website. After entering the total sample size, number of study groups, and preferred block sizes, the platform generates a randomized allocation list. Participants are then assigned to the study groups according to this randomized list and in correspondence with their order in the initial enrolment lis

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

Arak University of Medical Sciences

Street address

Arak University of Medical Sciences

City

Arak

Province

Markazi

Postal code

3813944438

Approval date

2025-11-16, 1404/08/25

Ethics committee reference number

IR.ARAKMU.REC.1404.298

Health conditions studied

1

Description of health condition studied

Test anxiety

ICD-10 code

F41

ICD-10 code description

Other anxiety disorders

Primary outcomes

1

Description

Test anxiety

Timepoint

A total of two assessments will be conducted: once before the intervention (one hour prior to the exam) and

once immediately after the intervention.

Method of measurement

In this study, test anxiety as the outcome variable is measured using the Multidimensional Test Anxiety Scale.

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Hand reflexology :In this study, hand reflexology is defined as a relaxation technique performed with the aim of reducing test anxiety. The intervention involves applying pressure to the HT7 point by a trained individual. The reflexology session is delivered individually and lasts approximately 10 to 15 minutes.

Category

Treatment - Other

2

Description

Intervention group: Yogic breathing :In this study, yogic breathing is defined as a relaxation-based respiratory intervention that involves structured practice of slow, deep, and mindful breathing exercises aimed at reducing test anxiety. The yogic breathing session is delivered in a group format and lasts approximately 10 to 15 minutes.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Arak University of Medical Sciences

Full name of responsible person

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Sponsors / Funding sources

1

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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

Arak 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

Arak University of Medical Sciences

Full name of responsible person

Mahsa Hosseini

Position

Faculty member

Latest degree

Master

Other areas of specialty/work

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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
Not applicable
Informed Consent Form
Undecided - It is not yet known if there will be a plan to make this available
Clinical Study Report
Not applicable
Analytic Code
Not applicable
Data Dictionary
Not applicable