Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

A Comparative Study of the Effects of Mindfulness-Based Stress Reduction (MBSR) and Cognitive Behavioral Therapy (CBT) on Work-Related Rumination, Mental Fatigue, Experiential Avoidance and Psychological Symptoms among Nurses

Protocol summary

Study aim
To compare the effects of Mindfulness-Based Stress Reduction (MBSR) and Cognitive Behavioral Therapy (CBT) on work-related rumination, mental fatigue, experiential avoidance, and psychological symptoms (anxiety and depression) among nurses

Design
A phase III, randomized, controlled, parallel-group clinical trial involving 60 nurses. Randomization will be performed using the Sealed Envelope randomization website.

Settings and conduct
This study will be conducted among 60 nurses working in healthcare centers in Kashan in 2026. After screening and baseline assessment, participants will be randomly allocated to the MBSR, CBT, or control group. Following the interventions and post-intervention assessment, changes in work-related rumination, mental fatigue, experiential avoidance, and psychological symptoms will be compared across the three groups.

Participants/Inclusion and exclusion criteria
Holding at least a bachelor's degree in Nursing; Being between 22 and 50 years of age; Being employed at a hospital; Absence of acute or chronic physical disorders; Not participating in any other educational program concurrently; Scoring above 8 on the anxiety subscale or above 13 on the depression subscale of the DASS-21 questionnaire.

Intervention groups
1. Mindfulness-Based Stress Reduction (MBSR) group: Eight weekly 120-minute group sessions involving mindfulness exercises, meditation, acceptance of thoughts and emotions, and home practice. 2. Cognitive Behavioral Therapy (CBT) group: Weekly group sessions involving identification and modification of dysfunctional thoughts, coping skills training, problem-solving, and occupational stress management. 3. Control group: No structured psychological intervention during the study; participants will complete the research assessments.

Main outcome variables
Work-related rumination; mental fatigue; experiential avoidance; psychological symptoms.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20261004071288N1**
Registration date: **2026-10-28, 1405/08/06**
Registration timing: **registered_while_recruiting**

Last update: **2026-10-28, 1405/08/06**
Update count: **0**

Registration date
2026-10-28, 1405/08/06

Registrant information

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Recruitment status
recruiting

Funding source

Expected recruitment start date

2026-10-23, 1405/08/01

Expected recruitment end date

2027-01-20, 1405/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

A Comparative Study of the Effects of Mindfulness-Based Stress Reduction (MBSR) and Cognitive Behavioral Therapy (CBT) on Work-Related Rumination, Mental Fatigue, Experiential Avoidance and Psychological Symptoms among Nurses

Public title

Comparison of the effects of mindfulness training and cognitive behavioral therapy on work-related rumination, mental fatigue, avoidance of unpleasant experiences, and psychological symptoms in nurses

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Holding at least a bachelor's degree in Nursing. Being between 22 and 50 years of age. Being employed at a hospital. Scoring above 8 on the anxiety subscale or above 13 on the depression subscale of the DASS-21 questionnaire.

Exclusion criteria:

Having acute or chronic physical disorders, including cancer and multiple sclerosis (MS) Having any hearing, speech, or visual impairment Concurrent participation in another educational program

Age

From **22 years** old to **50 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description

First, the first intervention group will be coded as A, the second intervention group as B, and the control group as C. Then, a randomization list will be generated using the website www.sealedenvelope.com/simple-randomiser/v1/lists, with a total sample size of 60 participants (three groups of 20 participants each) and a balanced block randomization method with a block size of six. Subsequently, the participants enrolled in the study will be assigned to one of the three groups according to the generated randomization list. For example, suppose the allocation sequence for the first block of six participants is CCABBA. Accordingly, the first and second participants will be assigned to group C, the third and sixth participants to group A, and the fourth and fifth participants to group B. This procedure will continue in the same manner until the final participant (the 60th participant) has been assigned to a group.

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 Islamic Azad University- Arak Branch

Street address

Amirkabir University Campus, 3rd km of Khomein Road, Imam Khomeini Blvd., Imam Khomeini Sq., Arak, Iran

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Approval date

2026-09-27, 1405/07/05

Ethics committee reference number

IR.IAU.ARAK.REC.1405.224

Health conditions studied

1

Description of health condition studied

Work-related rumination

ICD-10 code

F00–F99

ICD-10 code description

Mental and behavioural disorders

2

Description of health condition studied

mental fatigue

ICD-10 code

F00–F99

ICD-10 code description

Mental and behavioural disorders

3

Description of health condition studied
experiential avoidance
ICD-10 code
F00–F99
ICD-10 code description
Mental and behavioural disorders

4

Description of health condition studied
psychological symptoms
ICD-10 code
F00–F99
ICD-10 code description
Mental and behavioural disorders

Primary outcomes

1

Description
Work-related rumination
Timepoint
Before the start of the study and immediately after the final intervention session
Method of measurement
15-item Work-Related Rumination Questionnaire (WRRQ)

2

Description
mental fatigue
Timepoint
Before the start of the study and immediately after the final intervention session
Method of measurement
20-item Multidimensional Fatigue Inventory (MFI)

3

Description
experiential avoidance
Timepoint
Before the start of the study and immediately after the final intervention session
Method of measurement
10-item Acceptance and Action Questionnaire–II (AAQ-II)

4

Description
psychological symptoms
Timepoint
Before the start of the study and immediately after the final intervention session
Method of measurement
21-item Depression, Anxiety and Stress Scale (DASS-21)

Secondary outcomes

empty

Intervention groups

1

Description
Mindfulness-Based Stress Reduction (MBSR): This intervention is based on the Kabat-Zinn (2013) protocol and consists of eight weekly group sessions, each lasting 90 minutes. Sessions include mindfulness education, practical exercises, group discussions, and home assignments. The content covers body scanning, sitting meditation, breathing awareness, mindful yoga, mindful eating and daily activities, observation and acceptance of thoughts and emotions, stress and anger management, interpersonal relationship improvement, and emotion regulation. At the end of the program, strategies for maintaining regular practice and setting short-term and long-term goals are introduced.
Category
Behavior

2

Description
Cognitive Behavioral Therapy (CBT): This intervention is based on the therapeutic framework of Wildermuth (2008) and consists of nine weekly group sessions, each lasting 60–90 minutes. The sessions cover group orientation, relaxation and stress management, identification and recording of automatic thoughts, identification and modification of dysfunctional thoughts and beliefs, cognitive restructuring, problem-solving and assertiveness training, activity scheduling, review of learned skills, and relapse prevention.
Category
Behavior

3

Description
Control group: They will not receive any structured psychological intervention as part of the study and will only participate in the research assessments.
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahid Beheshti hospital
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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
Islamic Azad University, Arak Branch
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

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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