

Effect of self-help mindfulness-based stress reduction exercise therapeutics on the psychological status and sleep quality of Hubei medical staff

Submission date 04/06/2025	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
Registration date 11/06/2025	Overall study status Completed	<input type="checkbox"/> Protocol
Last Edited 10/07/2025	Condition category Mental and Behavioural Disorders	<input type="checkbox"/> Statistical analysis plan
		<input checked="" type="checkbox"/> Results
		<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Research indicates that mindfulness-based training can improve the psychological health of nurses, but there is a lack of conclusive evidence.

This study aims to explore the effect of mindfulness-based stress reduction exercise therapy (MBSRET) on the psychological status and sleep quality of medical staff and to provide evidence for its application in mental health care for medical staff in public health emergencies.

Who can participate?

Medical staff aged over 18 years who were sent to support the pandemic prevention and control in Hubei Province

What does the study involve?

The intervention group received MBSRET for 8 weeks, and the control group received routine care.

The MBSRET intervention consisted of two components: mindfulness and physical exercise. The mindfulness component was based on the MBSR programme. It includes 8 weekly meetings, each lasting for 2.5 hours, and a single-day retreat. The programme taught various mindfulness practices: body scanning, mindful breathing and movement, sitting meditation and loving-kindness meditation. The participants were instructed to practice these exercises at home or work for at least 30 minutes every day, 6 days per week, with the guidance of the MBSRET mobile application. The mobile application was developed by the research team based on the MBSR curriculum and existing mindfulness applications. It provided audio recordings, videos, texts and images to guide the participants through the exercises. The application also recorded the participants' compliance, duration of exercise and feedback.

The physical exercise component was based on the American College of Sports Medicine (ACSM) guidelines for physical activity and health. The ACSM guidelines suggest that adults should perform at least 150 minutes of moderate-intensity aerobic exercise, 75 minutes of vigorous-intensity aerobic exercise or a combination of both each week. Further recommendations

included performing muscle-strengthening activities involving all the major muscle groups at least 2 days per week. The participants were instructed to choose their types and modes of physical exercise according to their preferences, abilities and schedules. They were advised to perform physical exercise for at least 30 minutes each day, 5 days per week, at a moderate-to-vigorous intensity level with the guidance of the MBSRET mobile application. The mobile application provided various options, suggestions and tips for physical exercise; it also recorded the participants' compliance, duration and intensity of exercise and feedback.

The control group received routine care, which included the standard medical care and psychological support provided by the local health authorities and hospitals. They did not receive any specific interventions or instructions regarding mindfulness or physical exercise. They were also asked to use the MBSRET mobile application, but only to complete the outcome measures and provide basic demographic and clinical information.

What are the possible benefits and risks of participating?

Participants' mental state and sleep may improve. There are no risks.

Where is the study run from?

Beijing Chao-Yang Hospital, Capital Medical University (China)

When is the study starting and how long is it expected to run for?

December 2019 to April 2020

Who is funding the study?

Investigator initiated and funded

Who is the main contact?

Shuqin Wang, wang_shuqin06@126.com

Contact information

Type(s)

Public, Scientific, Principal investigator

Contact name

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Additional identifiers

Clinical Trials Information System (CTIS)

Nil known

ClinicalTrials.gov (NCT)

Nil known

Protocol serial number

Nil known

Study information

Scientific Title

Effect of self-help mindfulness-based stress reduction exercise therapeutics on the psychological status and sleep quality of Hubei medical staff

Acronym

DR

Study objectives

Mindfulness-based stress reduction exercise therapy (MBSRET) may effectively improve the psychological status and sleep quality of the medical staff.

Ethics approval required

Ethics approval required

Ethics approval(s)

approved 20/12/2019, Ethics Committee of Beijing Chao-Yang Hospital, Capital Medical University (GongTi Southern No. 8, Chaoyang District, Beijing, 100020, China; +86 (0)10 85231484; cyylunli2019@163.com), ref: 2024-K-869

Study design

Single-center interventional double-blind randomized controlled trial

Primary study design

Interventional

Study type(s)

Other

Health condition(s) or problem(s) studied

Psychological status and sleep quality

Interventions

The intervention group received MBSRET for 8 weeks, and the control group received routine care. The participants are randomly assigned to either the intervention group or the control group using a computer-generated random number table. Members of the research team (researchers) are responsible for recruitment, randomization, intervention, and evaluation. In order to avoid the influence of the subjective will of researchers, the researchers responsible for the evaluation work do not participate in recruitment, randomization, intervention and other work, which are completed by other researchers.

The MBSRET intervention consisted of two components: mindfulness and physical exercise. The mindfulness component was based on the MBSR programme. It includes 8 weekly meetings,

each lasting for 2.5 hours, and a single-day retreat. The programme taught various mindfulness practices: body scanning, mindful breathing and movement, sitting meditation and loving-kindness meditation. The participants were instructed to practice these exercises at home or work for at least 30 minutes every day, 6 days per week, with the guidance of the MBSRET mobile application. The mobile application was developed by the research team based on the MBSR curriculum and existing mindfulness applications. It provided audio recordings, videos, texts and images to guide the participants through the exercises. The application also recorded the participants' compliance, duration of exercise and feedback.

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Intervention Type

Behavioural

Primary outcome(s)

1. Psychological status measured using the Symptom Checklist-90 (SCL-90) at baseline and 8 weeks
2. Sleep quality measured using the Perceived Stress Scale (PSS) and the Pittsburgh Sleep Quality Index (PSQI) at baseline and 8 weeks

Key secondary outcome(s)

There are no secondary outcome measures

Completion date

30/04/2020

Eligibility

Key inclusion criteria

1. Over 18 years old
2. Able to access the internet and use the MBSRET mobile application

Participant type(s)

Health professional

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Upper age limit

65 years

Sex

All

Total final enrolment

85

Key exclusion criteria

1. Having a history of mental illness or receiving psychological treatment
2. Having a physical condition that prevents performing physical exercise
3. Being pregnant or lactating

Date of first enrolment

05/01/2020

Date of final enrolment

21/01/2020

Locations**Countries of recruitment**

China

Study participating centre

Beijing Chao-Yang Hospital

GongTi Southern No. 8

Chaoyang District

Beijing

China

100020

Sponsor information**Organisation**

Beijing Chao-Yang Hospital

ROR

<https://ror.org/01eff5662>

Funder(s)

Funder type

Other

Funder Name

Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are not expected to be made available due to personal privacy issues.

IPD sharing plan summary

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article		23/06/2025	10/07/2025	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes