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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

Registration date
11/06/2025

Overall study status
Completed

Last Edited
10/07/2025

Condition category
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] 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

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Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
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

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Other

Participant information sheet
Not applicable

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.

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.

Intervention Type
Behavioural

Primary outcome measure
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

Secondary outcome measures
There are no secondary outcome measures

Overall study start date

20/12/2019

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

Age group
Adult

Lower age limit
18 Years

Upper age limit
65 Years

Sex
Both

Target number of participants
85

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
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Sponsor information

Organisation
Beijing Chao-Yang Hospital

Sponsor details
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Sponsor type
Hospital/treatment centre

Website
https://www.bjcyh.com.cn/Html/Index.html

ROR
https://ror.org/01eff5662

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

Publication and dissemination plan

Intention to publish date

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