Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Comparative Study of the Effect of Acupressure and Deep Breathing on Anxiety, Fatigue and Sleep Quality of Operating Room Personnel

Protocol summary

Study aim
1 - Comparison of anxiety, fatigue and sleep quality before and after acupressure in operating room personnel of teaching and non-teaching hospitals of Alborz University of Medical Sciences 2- Comparison of anxiety, fatigue and sleep quality before and after deep breathing exercise in operating room personnel of teaching and non-teaching hospitals of Alborz University of Medical Sciences 3- Comparison of anxiety, fatigue and sleep quality before and after touch acupuncture points in operating room personnel of teaching and non-teaching hospitals of Alborz University of Medical Sciences 4- Comparison of the effect of acupressure and deep breathing on anxiety, fatigue and sleep quality of operating room personnel in teaching and non-teaching hospitals of Alborz University of Medical Sciences

Design
Clinical Trial With control group, randomized

Settings and conduct
After determining the level of anxiety, fatigue and sleep quality of the operating room staff, the intervention will be performed on eligible individuals and two weeks and four weeks after the intervention, the questionnaires will again be completed by individuals in the three groups.

Participants/Inclusion and exclusion criteria
Inclusion criteria: staff working in the operating room of teaching and non-teaching hospitals of Alborz University of Medical Sciences, who have at least two problems. Exclusion criteria: 1. Any scars, abrasions, or deformities at points of interest for acupressure groups and touch acupuncture points 2. Pulmonary problem for deep breathing group 3. History of acupuncture and acupuncture recently used 4. Membership in yoga classes 5. Being smoker 6. Taking sedation and nerve medications 7. Having systemic illness 8. Being pregnant 9. Not wanting to participate in the study

Intervention groups
Operating room personnel who have at least two problems.

Main outcome variables
Anxiety, fatigue, quality of sleep

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20200305046701N1**
Registration date: **2020-03-24, 1399/01/05**
Registration timing: **prospective**

Last update: **2020-03-24, 1399/01/05**
Update count: **0**

Registration date
2020-03-24, 1399/01/05

Registrant information

Name
Rana Abjar

Name of organization / entity
Mazandaran University of Medical Sciences

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-04-03, 1399/01/15

Expected recruitment end date
2020-05-04, 1399/02/15

Actual recruitment start date
empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparative Study of the Effect of Acupressure and Deep Breathing on Anxiety, Fatigue and Sleep Quality of Operating Room Personnel

Public title

The Effect of Acupressure and Deep Breathing on Anxiety, Fatigue and Sleep Quality

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

All Operating Room Technologists and Anesthesia Technicians Working in the Operating Room of educational and non-teaching Hospitals of Alborz University of Medical Sciences Have At least Two Dependent Variables Including Moderate to Severe Fatigue, Mild to Severe Anxiety Score, and Five or More Sleep Quality Scores

Exclusion criteria:

The presence of any ulcers, scratches and deformities in the target points for the acupressure group (intervention group) and the touch group for acupressure points (control group) Having pulmonary problem for deep breathing group (intervention group) Having a history of acupuncture and acupuncture in the last month Be a member of yoga classes and do yoga Being a smoker Use of sedatives and nerve medications in the last month Having systemic disease Being pregnant Not willing to participate in the study

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **105**

More than 1 sample in each individual

Number of samples in each individual: **3**

Sample 1: Before intervention, Second sample: Two weeks after intervention, Third sample: Four weeks after intervention

Randomization (investigator's opinion)

Randomized

Randomization description

After statistical analysis of the severity of fatigue, job anxiety and sleep quality of personnel in educational and non-teaching hospitals will be determined. Then, based on the number of qualified staff and activity volume similarities, the hospitals are categorized into two categories of high and medium activity, and finally randomly blocked, medium to high activity hospitals, into three groups (Acupuncture is divided into acupressure, deep breathing. Then, the acupuncture group, the deep breathing group, and the control group in each of the hospitals were randomly selected using a random execution table

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Mazandaran University of Medical Sciences

Street address

Unit 12, Third Floor, No. 18, Sorna Building, Shabnam 4 (Alley of Martyrs Sami), Shabnam Boulevard, Valiasr Square, West Baghestan Street

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Approval date

2020-01-01, 1398/10/11

Ethics committee reference number

IR.MAZUMS.REC.1398.1242

Health conditions studied

1

Description of health condition studied

Anxiety

ICD-10 code

F06.4

ICD-10 code description

Anxiety disorder due to known physiological condition

2

Description of health condition studied

Fatigue

ICD-10 code

ICD-10 code description

3

Description of health condition studied

Poor sleep quality

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
Anxiety score on the Beck Anxiety Inventory
Timepoint
Anxiety score before intervention, two weeks after intervention, four weeks after intervention
Method of measurement
Beck Anxiety Inventory

2

Description
Fatigue severity in Multidimensional Fatigue Inventory
Timepoint
Measurement of fatigue severity before intervention, two weeks after intervention, four weeks after intervention
Method of measurement
Multidimensional Fatigue Inventory

3

Description
Sleep Quality Score in Pittsburgh Sleep Quality Index
Timepoint
Assessment of sleep quality status before intervention, two weeks after intervention, four weeks after intervention
Method of measurement
Pittsburgh Sleep Quality Index

Secondary outcomes

empty

Intervention groups

1

Description
First intervention group: In acupuncture group, for people with mild to severe anxiety and moderate to severe fatigue, apply pressure points on Liver3, Du20, Kidney3, Gallbladder20, Ying Tang (extra), Sanjiao 5, and for people with mild to severe anxiety and sleep quality. This pressure is bad at points Du20, Du24, Gallbladder 20, Sanjiao5, Ren17 and for people with moderate to severe fatigue and poor sleep quality, pressure will be at Kidney3, Stomach36, Spleen6, Liver3, DU20, DU24, Gallbladder 20 points. For those with all three problems of mild to moderate anxiety, moderate to severe fatigue, and poor sleep quality, Liver3, Kidney3, Bladder60, Stomach36, DU20, DU24, Gallbladder20, Ren17 points are prescribed to apply pressure. People are instructed to perform the techniques two to three times a day and massage each one of these points for 1-2 minutes each with a pressure massage. In addition, people in the acupuncture group are reminded that the accuracy of the points is confirmed when the client feels a little happy and the massage should never be painful and that the pressure is to the extent that they can tolerate.
Category
Treatment - Other

2

Description
The second intervention group: Intervention group 2: For those in the deep breathing group, the first will be explained about breathing skills, deep breathing and its effects on physical and mental health, then abdominal breathing exercises (27) and full breathing (three-part breathing) with the help of film Training manuals and booklets are taught and exercises are conducted with the help of researcher guidance to verify the accuracy and correctness of the exercises. Abdominal breathing is taught to place the left hand on the chest and the right hand on the abdomen. Have a slow, deep tail through the nose. As the muscles expand gently up and down, then exhale slowly through the nose while releasing the abdominal muscles toward the ground. This should be done 12 times in the first day and 12 in the evening before dinner. Do the same on the second day 13 times in the morning and 13 times in the evening, so repeat the exercise twice a day for one week and add one breath (including one breath and one exhalation) daily. . Exercise Exercise your abdominal breathing for a week in a supine position. To make the abdominal muscles ready. They can then perform abdominal breathing exercises for the second week in a sitting position. In the third and fourth week, complete or three-part breathing exercise will be performed. For this exercise, people are required to stand on the floor, then bend their knees very slowly to lower the body so as to get into the so-called "squat" position while having a deep exhalation through the nose while lowering the body. .2. Then slowly lift the body up and open arms to the sides while starting the deep tail (abdomen extends forward). 3. Continue deep breathing and allow the chest to open. Raise your hands and let them touch each other on the head. Raise your toes simultaneously. In the final case count to 5.4. Then start deep exhale and slowly lower your hands and bend your knees and return to the initial position (squat position). Move 5 times without interruption and Pause, do in the morning and evening.
Category
Treatment - Other

3

Description
Control group: In acupuncture touch group for people with mild to severe anxiety and moderate to severe fatigue touch on Liver3, Du20, Kidney3, Gallbladder20, Ying Tang (extra), Sanjiao 5 points and for people with mild to severe anxiety and sleep quality Bad touch at Du20, Du24, Gallbladder 20, Sanjiao5, Ren17 points and for people with moderate to severe fatigue and poor sleep quality, touch at Kidney3, Stomach36, Spleen6, Liver3, DU20, DU24, Gallbladder 20 points. People who have mild to moderate anxiety, moderate to severe fatigue, and poor sleep quality are prescribed Liver3, Kidney3, Bladder60, Stomach36, DU20, DU24, Gallbladder20, Ren17 points for acupuncture points.

People are instructed to touch each spot two or three times a day.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Ali Hospital of Karaj

Full name of responsible person

Rana Abjar

Street address

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Name of recruitment center

Shahid Madani Hospital of Karaj

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Recruitment center

Name of recruitment center

Karaj Kamali Hospital

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Name of recruitment center

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Name of recruitment center

Kosar Karaj Hospital

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Recruitment center

Name of recruitment center

Karaj Shariati Hospital

Full name of responsible person

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Recruitment center

Name of recruitment center
Sarallah Hospital of Karaj

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Name of recruitment center
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Full name of responsible person
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Sponsors / Funding sources

1

Sponsor
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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
Mazandaran 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
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Full name of responsible person
Rana Abjar
Position
Masters student
Latest degree
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Other areas of specialty/work
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Not applicable
Data Dictionary
Not applicable
Title and more details about the data/document
Information on anxiety status, fatigue and sleep quality of operating room personnel, as well as information on the effects of interventions on anxiety, fatigue, and sleep quality of operating room personnel will be published.
When the data will become available and for how long
Six months after the results were published
To whom data/document is available
Research participants and hospitals
Under which criteria data/document could be used
To the participants if they remain in the research until the last stage
From where data/document is obtainable
Send request to ranaabjar@gmail.com
What processes are involved for a request to access data/document
Applicants can send their request to the above email address to receive their research results.
Comments