

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jul 2026

Comparing the effect of vibration therapy and muscle relaxation on nurses with back pain

Protocol summary

Study aim

The effect of vibration therapy and muscle relaxation on nurses' low back pain is determined.

Design

This study is a clinical trial in intervention phase in humans. The sample size is 110 nurses who are assigned to parallel groups using the random numbers table. In this triple blind study, all samples, data collector, and data analyzers are unaware of the type of intervention.

Settings and conduct

This study was performed on 110 nurses with low back pain working in Vali-e-Asr hospital of Arak divided to two groups: first group (vibration therapy) and the second group (muscle relaxation) by convenience sampling.

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Nurses with low back pain and low back pain symptoms Exclusion criteria: Taking medication

Intervention groups

Intervention: In the first group, Vibration therapy was done in one group one time about 10 minutes daily for two weeks. In the second group, Muscle relaxation method was done one time about 20 minutes on nurses daily for two weeks. Then pain rate was measured before and after of the intervention with pain intensity scale.

Main outcome variables

Lower back pain

General information

Reason for update

Acronym

-

IRCT registration information

IRCT registration number: **IRCT20160618028511N3**

Registration date: **2019-03-05, 1397/12/14**

Registration timing: **retrospective**

Last update: **2019-03-05, 1397/12/14**

Update count: **0**

Registration date

2019-03-05, 1397/12/14

Registrant information

Name

Pouran Varvani Farahani

Name of organization / entity

Arak University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 86 3417 3506

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2015-09-23, 1394/07/01

Expected recruitment end date

2015-11-22, 1394/09/01

Actual recruitment start date

2015-09-23, 1394/07/01

Actual recruitment end date

2015-11-22, 1394/09/01

Trial completion date

2015-11-22, 1394/09/01

Scientific title

Comparing the effect of vibration therapy and muscle relaxation on nurses with back pain

Public title

vibration therapy and muscle relaxation on back pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

1. Low back pain diagnosis and low back pain symptoms
Employed in a department of Valiasr Hospital in Arak, as
a nurse or head nurse The desire to participate in the
study No Smoking and Drug Addiction

Exclusion criteria:

Taking medication Unwillingness to participate in the
research

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Investigator
- Data analyser

Sample size

Target sample size: **110**

Actual sample size reached: **110**

Randomization (investigator's opinion)

Randomized

Randomization description

All nurses as samples were allocated into two groups
based on tables of random numbers (odd and even).The
3-digit numbers were selected from the top left of the
table and continued down the row, and all the even
numbers were assigned to the intervention group and
the odd numbers to the control group. This practice
continued until the completion of samples of the two
groups.

Blinding (investigator's opinion)

Double blinded

Blinding description

The samples of each group were completely unaware of
the intervention method in the other group.In fact, only
general points about no risk interventions on control of
back pain were explained to them, and the operational
and detailed contents of the intervention methods did
not express. The data collector was also unaware of the
type of intervention in the group. Also, the data analyst
was unaware of the type of intervention in each group.

Placebo

Not used

Assignment

Parallel

Other design features

-

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of the Arak University of Medical

Sciences

Street address

Sardasht ,Basij square, Arak University of Medical
Sciences,School of Nursing

City

Arak

Province

Markazi

Postal code

3848-7-6941

Approval date

2013-05-01, 1392/02/11

Ethics committee reference number

92-151-5

Health conditions studied

1

Description of health condition studied

low back pain

ICD-10 code

M54.5

ICD-10 code description

Low back pain

Primary outcomes

1

Description

Relief of back pain

Timepoint

At beginning of study and 2 weeks after intervention

Method of measurement

pain intensity scale and pain assessment flow sheet

Secondary outcomes

empty

Intervention groups

1

Description

First intervention group: Therapeutic vibration: Vibration
therapy was performed 1 time a day and 10 minutes
each (for 2 weeks). Therapeutic vibration was performed
by a vibrating device of Japan with a frequency of 20 Hz,
which was performed by a researcher fellow in 14 days.

Category

Rehabilitation

2

Description

Second intervention group: Muscle relaxation: Muscle
relaxation was performed in the form of sound recorded
by the audio player. Then the nurses underwent muscle
relaxation at home every day (for 2 weeks). The
intervention took place within 14 days.

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Vali Asr Hospital in Arak

Full name of responsible person

Pouran Varvani Farahani

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Web page address<http://www.arakmu.ac.ir>**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Arak University of Medical Sciences

Full name of responsible person

Dr. Mohammad Arjmandzadegan

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Web page address<http://www.arakmu.ac.ir>**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

Pouran Varvani Farahani

Position

Master of Pediatrics education

Latest degree

Master

Other areas of specialty/work

Nursery

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Web page address<http://www.arakmu.ac.ir>**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Arak University of Medical Sciences

Full name of responsible person

Davood Hekmatpou

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

Nursery

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Person responsible for updating data

Contact

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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