Clinical Trial Protocol
Iranian Registry of Clinical Trials

02 Nov 2026

Comparing the effect of hand reflexology with foot reflexology on chest pain and anxiety in patients after primary coronary angioplasty.

Protocol summary

Study aim
Comparing the effect of hand reflexology with foot reflexology on chest pain and anxiety in patients after primary angioplasty.

Design
The randomized trial has two intervention groups and a control group using sealed envelopes for randomization on 114 patients.

Settings and conduct
Location: CCU department of Ayatollah Mousavi Zanjan Hospital. Foot reflexology: foot massage with massage oil, then reflexology with both thumbs from the center of the foot to the outside of the foot and finally massaging the center of the ball of the foot with the thumb. Hand reflexology: hand massage with massage oil, the soft area under the ring finger and little finger will be massaged 14 times in a row in a clockwise direction. In the control group, reflexology of the right foot will be performed.

Participants/Inclusion and exclusion criteria
Inclusion criteria: People who have undergone angiography for the first time; Age between 30 and 70 years; Transfemoral angiography; Normal pulse on the leg and posterior tibial pulse; Full consciousness. Exclusion criteria: Having a history of diabetes; Having addiction; People who received thrombolytic drugs (retplase) after MI and then underwent angiography 4) Any physiological or hemodynamic instability during and after angiography, such as cardiac dysrhythmia; Active bleeding at the catheter site.

Intervention groups
In this study, the samples will be divided into 3 groups: hand reflexology, foot reflexology and control group. In the control group, reflexology will be performed on the right foot of the patients.

Main outcome variables
Chest pain; anxiety

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20230221057475N1**
Registration date: **2023-03-02, 1401/12/11**
Registration timing: **registered_while_recruiting**

Last update: **2023-03-02, 1401/12/11**
Update count: **0**

Registration date
2023-03-02, 1401/12/11

Registrant information
Name
Sahar Asali
Name of organization / entity
Country
Iran (Islamic Republic of)
Phone
+98 24 3378 6806
Email address
sasali075@gmail.com

Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2023-03-01, 1401/12/10
Expected recruitment end date
2023-09-23, 1402/07/01
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title

Comparing the effect of hand reflexology with foot reflexology on chest pain and anxiety in patients after primary coronary angioplasty.

Public title
Investigating the effect of hand and foot reflexology on chest pain and anxiety in patients after primary coronary angioplasty

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
People who have been subjected to angioplasty for the first time Trans femoral angiography Having a pulse on the leg and a normal posterior tibial pulse Age between 30 and 70 years Having healthy hands and feet Full consciousness

Exclusion criteria:
Having a history of diabetes Having an addiction Having mental problems People who have received thrombolytic drugs (retplase) after MI and then underwent angiography. 5) Any physiological or hemodynamic instability during and after angiography, such as cardiac dysrhythmia. Active bleeding at the catheter site People who have already been subjected to angiography DVT history The presence of wounds, scars on the leg Use of anti-anxiety drugs Peripheral neuropathy Tickling feeling in hands and feet The presence of coagulation problems in the patient hypertension

Age
From **30 years** old to **70 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **114**

Randomization (investigator's opinion)
Randomized

Randomization description
Allocating the samples to the study groups randomly, the random permutation block design with six blocks will be used; Then the website https://www.sealedenvelope.com will be used to determine the required random blocks and their sequence. Sealed envelopes will be used for concealment. Thus, based on the sequence of randomly determined blocks, cards with the letters A (for the hand reflexology group), B (for the foot reflexology group) and C (for the control group) will be placed inside the envelope, which shows the allocation sequence. became. Then an envelope will be opened for each participant in the study, and based on the card inside the envelope, the participant will be assigned to the control or test group.

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 Zanjan University of Medical Sciences

Street address
No.1154, West second Eshragh Ave., Shahryar Town

City
Zanjan

Province
Zanjan

Postal code
4515917897

Approval date
2023-02-14, 1401/11/25

Ethics committee reference number
IR.ZUMS.REC.1401.348

Health conditions studied

1

Description of health condition studied
acute myocardial infraction

ICD-10 code
I21

ICD-10 code description
ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction

Primary outcomes

1

Description
chest pain

Timepoint
Before the start of the intervention, 15 minutes, 3 hours and 6 hours after the end of the intervention

Method of measurement
Visual Analogue Scale

2

Description
Anxiety

Timepoint
Before the start of the intervention, 15 minutes, 3 hours and 6 hours after the end of the intervention

Method of measurement
Visual Analogue Scale

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group:The patient lies on the bed in a quiet environment. We place a pillow under the patient's feet, after removing the ornaments and washing the hands, the masseur begins to perform the intervention. Foot reflexology is performed on the patient's left foot for 15 minutes. Massage oil, which has no therapeutic value, is used to perform reflexology. Pressure will be applied for 30 seconds with the tip of the thumb to the center of the sole of the foot at the point of the solar plexus at the junction of the ball of the foot and the arch of the foot. Reflexology will be done with a circular movement with both thumbs from the center of the foot to the outside of the foot. Finally, the heart area (the center of the ball of the foot) will be massaged with the thumb in one movement.

Category

Treatment - Other

2

Description

Intervention group: The patient lies on the bed in a quiet environment. After removing the jewelry and washing the hands, the masseuse starts to perform the intervention. Hand reflexology is performed on the patient's left hand for 15 minutes. To perform reflexology, massage oil is used, which has no therapeutic value. To perform hand reflexology, the researcher will start massaging the hand from the sides of the hand and move towards the palm, the back of the hand, and finally the fingers. This process will be repeated eight to ten times until the hand is completely relaxed and ready for reflexology. The reflex point for the cardiovascular system includes: the heart point located on the palm, under the soft area at the bottom of the ring and little fingers, the massager will press the reflexology point with his thumb. Reflexology points will be massaged 14 times in a row clockwise and with circular movements.

Category

Treatment - Other

3

Description

Control group: The patient lies on the bed in a quiet environment, we place a pillow under the patient's feet, after removing the ornaments and washing the hands, the masseuse begins to perform the intervention. Foot reflexology is performed on the patient's right foot for 15 minutes. Massage oil, which has no therapeutic value, is used to perform reflexology. Pressure will be applied for 30 seconds with the tip of the thumb to the center of the sole of the foot at the point of the solar plexus at the junction of the ball of the foot and the arch of the foot. Reflexology will be done with a circular movement with both thumbs from the center of the foot to the outside of the foot. Finally, the heart area (the center of the ball of the foot) will be massaged with the thumb in one movement.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Ayatollah Mousavi Zanjan Hospital

Full name of responsible person
Sahar Asali

Street address
Gavazang Street., Zanjan

City
Zanjan

Province
Zanjan

Postal code
4513956183

Phone
+98 24 3313 0000

Fax
+98 24 3313 1203

Email
Mousavihospital@zums.ac.ir

Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Zanjan University of Medical Sciences

Full name of responsible person
Dr. Hossein Mostafavi

Street address
Mahdavi Blvd, Zanjan University of Medical Sciences

City
Zanjan

Province
Zanjan

Postal code
4515613191

Phone
+98 24 3315 6394

Fax
+98 24 3342 4770

Email
vakili@zums.ac.ir

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source
Zanjan 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
Zanjan University of Medical Sciences
Full name of responsible person
Sahar Asali
Position
Master student of emergency nursing
Latest degree
Bachelor
Other areas of specialty/work
Nursery
Street address
School of Nursing and Midwifer Zanjan, Mahdavi Blvd., Karmandan Town,Zanjan
City
Zanjan
Province
Zanjan
Postal code
4513956113
Phone
+98 24 3314 8318
Email
sasali075@gmail.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
Zanjan University of Medical Sciences
Full name of responsible person
Sahar Asali
Position
Master student of emergency nursing
Latest degree
Bachelor
Other areas of specialty/work
Nursery
Street address
School of Nursing and Midwifery,Mahdavi Blvd, Karmandan Town
City
Zanjan
Province
Zanjan
Postal code
4513956113
Phone
+98 24 3314 8318
Email
sasali075@gmail.com

Person responsible for updating data

Contact
Name of organization / entity
Zanjan University of Medical Sciences
Full name of responsible person
Sahar Asali
Position
Master student of emergency nursing
Latest degree
Bachelor
Other areas of specialty/work
Nursery
Street address
School of Nursing and Midwifer Zanjan, Mahdavi Blvd., Karmandan Town,Zanjan
City
Zanjan
Province
Zanjan
Postal code
4513956113
Phone
+98 24 3314 8318
Email
sasali075@gmail.com

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