Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Comparison of the Effects of Acupressure at Hegu and Sanyinjiao Points and Their Combination on Post-Cesarean Pain Intensity in Mothers Hospitalized in the Postpartum ward: A Randomized Four-Group Clinical Trial

Protocol summary

Study aim

To determine the effect of acupressure at the Hegu and Sanyinjiao points, and their combination, on the intensity of post-cesarean pain in mothers hospitalized in the post-cesarean ward.

Design

This four-arm parallel randomized controlled trial will enroll eligible participants via consecutive sampling and allocate them by block randomization into three intervention groups (Hegu, Sanyinjiao, combined points) and one control group (1:1:1:1). The sample size is 32 per group (128 total), accounting for 95% confidence, 90% power, and 20% attrition.

Settings and conduct

The study will enroll post-cesarean women from Al-Zahra and Kosar hospitals, assigning them via block randomization to three acupressure groups (Hegu, Sanyinjiao, combined) or a control group (1:1:1:1). Interventions start ≥2 hours post-cesarean, with acupressure applied bilaterally in 10-second pressure/2-second rest cycles for 20 minutes; controls receive touch only. All receive routine care. VAS pain is assessed before, immediately, and 1 hour after. The researcher is unblinded; participants and statistician are blinded.

Participants/Inclusion and exclusion criteria

Women who have undergone cesarean section with VAS pain score ≥4, gestational age 37–42 weeks, live-born healthy neonate, literacy and Persian comprehension, willingness to participate, no sensory or psychiatric disorders, no prior acupressure experience, and no lesions at Hegu or Sanyinjiao points.

Intervention groups

Three intervention groups (acupressure at the Hegu points, acupressure at the Sanyinjiao points, and acupressure at the combined Hegu and Sanyinjiao points).

Main outcome variables

Primary outcome: Post-cesarean pain intensity

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20170203032374N4**
Registration date: **2025-12-20, 1404/09/29**
Registration timing: **prospective**

Last update: **2025-12-20, 1404/09/29**
Update count: **0**

Registration date

2025-12-20, 1404/09/29

Registrant information

Name

Fatemeh Jafarzadeh-Kenarsari

Name of organization / entity

Guilan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

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Email address

jafarzadeh@gums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2026-01-04, 1404/10/14

Expected recruitment end date

2026-06-04, 1405/03/14

Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison of the Effects of Acupressure at Hegu and Sanyinjiao Points and Their Combination on Post-Cesarean Pain Intensity in Mothers Hospitalized in the Postpartum ward: A Randomized Four-Group Clinical Trial

Public title
The Effects of Acupressure on Post-Cesarean Pain Intensity in Mothers Hospitalized in the Postpartum ward
Purpose
Health service research
Inclusion/Exclusion criteria
Inclusion criteria:
Having a pain score of 4 or higher on the VAS, gestational age of 37–42 weeks, live-born neonate, absence of congenital anomalies and respiratory problems in the neonate born in the recent cesarean section that would require admission to the neonatal unit, literacy (ability to read and write) and comprehension of the Persian language, willingness to participate in the study, no hearing, speech, or visual impairments, no history of psychiatric illness and no use of psychotropic medications (based on self-report and medical records), no previous experience with acupressure, and no lesions at the sites of acupressure or touch (Hegu and Sanyinjiao points).
Exclusion criteria:
Unwillingness of the study participants to continue cooperation during the course of the study, the need for repeat surgery, post-cesarean hemorrhage, uterine atony, and the requirement for bimanual uterine massage will be considered as exclusion criteria.
Age
No age limit
Gender
Female

Phase
N/A
Groups that have been masked

- Participant
- Data analyser

Sample size
Target sample size: **128**
Randomization (investigator's opinion)
Randomized
Randomization description
Eligible participants will be enrolled in the study using a consecutive sampling method and will then be allocated by block randomization into three intervention groups (Hegu points, Sanyinjiao points, and a combination of Hegu and Sanyinjiao points) and one control group, in a 1:1:1:1 ratio. Block randomization will be performed using the Randomizer program with block sizes of eight.
Blinding (investigator's opinion)
Single blinded
Blinding description
The researcher will be aware of the study procedures; however, the statistician and the study participants will be blinded to the type of intervention.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research ethics committees of Guilan university of medical sciences
Street address
The ola building of the Faculty of Health, in front of 17 Shahrivar Hospital, Shahid Siadati St. Namjoo St.Rasht
City
Rasht
Province
Guilan
Postal code
4144666949
Approval date
2025-12-03, 1404/09/12
Ethics committee reference number
IR.GUMS.REC.1404.434

Health conditions studied

1

Description of health condition studied
Pain of Cesarean
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
The severity of post-Cesarean Pain based on visual analog scale (vas)
Timepoint
before intervention, immediately after intervention (within 5 minutes), and one hours after intervention.
Method of measurement
Visual analog scale (vas)

Secondary outcomes

1

Description
Analgesic type administered
Timepoint
During the first 24 hours following admission to the post-cesarean ward (after the intervention).
Method of measurement
Information extracted from the patient’s medical record and medication administration chart.

2

Description
Timing of the first analgesic request
Timepoint
During the first 24 hours following admission to the post-cesarean ward (after the intervention).
Method of measurement
Information extracted from the patient’s medical record and nursing documentation

3

Description
Total analgesic dose administered during the first 24 hours of post-cesarean hospitalization
Timepoint
During the first 24 hours following admission to the post-cesarean ward (after the intervention).
Method of measurement
Information extracted from the patient’s medical record and nursing documentation

Intervention groups

1

Description
The first Intervention group: Pressure was applied to the Hegu point (located on the dorsum of the hand between the first and second metacarpals, approximately along the radial bone) using 10-second pressure and 2-second rest cycles, until a total of 20 minutes of effective pressure was completed.
Category
Treatment - Other

2

Description
The second Intervention group: Pressure was applied to the Sanyinjiao point (5 cm or four finger-widths above the medial tibial malleolus) using 10-second pressure and 2-second rest cycles, until a total of 20 minutes of effective pressure was completed.
Category
Treatment - Other

3

Description
The third Intervention group: Combination of Hegu (LI4) and Sanyinjiao (SP6) points
Category
Treatment - Other

4

Description
Control group: Light touch without pressure was applied in cycles of 10 seconds of touch followed by 2 seconds of rest, for a total of 20 minutes, at the Hegu, Sanyinjiao, or combined points, in random order.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Al-Zahra Educational, Research, and Treatment Center
Full name of responsible person
Fatemeh Jafarzadeh Kenarsari
Street address
Namjoo Boulevard, Opposite Shahid Azodi Stadium
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azzahra@gums.ac.ir

2

Recruitment center
Name of recruitment center
Kosar Hospital, Astaneh-ye Ashrafiyeh County
Full name of responsible person
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Rasht University of Medical Sciences
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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
Rasht 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
Rasht University of Medical Sciences
Full name of responsible person
Fatemeh Jafarzadeh Kenarsari
Position
associate Professor
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Person responsible for updating data

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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
No - There is not 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