Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The effect of acupressure on the thirst of hemodialysis patients

Protocol summary

Study aim
Determining the effect of acupressure on thirst in patients undergoing hemodialysis

Design
A controlled, parallel-group, single-blind, randomized, phase 3 clinical trial on 90 patients. The blockran package in R statistical software was used for randomization.

Settings and conduct
A single-blind clinical trial was conducted on 90 hemodialysis patients at Montasarieh and 17-Shahrivar Hospitals in Mashhad. Patients were assigned to intervention and control (sham) groups and received acupressure for 4 weeks. Patients and the statistician were blinded.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Age 18–65; written informed consent; on regular hemodialysis (3 sessions/week) with thirst symptoms in the past month; no prior acupressure/acupuncture; no acute/chronic conditions preventing acupressure (e.g., advanced heart failure, vascular/soft tissue or sensory disorders); no active skin lesions at pressure sites; no acupressure/acupuncture in past 3 months; not taking drugs affecting thirst (e.g., TCAs, anticholinergics, antihistamines, beta-blockers); no recent limb surgery/infection; no cognitive impairment or inability to follow instructions. Exclusion criteria: Withdrawal at any stage; irregular dialysis attendance (e.g., travel, relocation); poor cooperation with intervention or assessment; new medical conditions contraindicating continuation; loss to follow-up or death.

Intervention groups
In the intervention group, acupressure is applied to points LU-7, LI-4, KI-2, and LR-2. In the control group, sham points SI-6, HT-8, BL-63, and SP-3 are pressed.

Main outcome variables
Thirst

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20250930067439N1**
Registration date: **2025-10-17, 1404/07/25**
Registration timing: **prospective**

Last update: **2025-10-17, 1404/07/25**
Update count: **0**

Registration date
2025-10-17, 1404/07/25

Registrant information

Name
Milad Ghadimi Ali Khan Ghale

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 915 641 9082

Email address
milad.ghadimi.ac@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-10-23, 1404/08/01

Expected recruitment end date
2026-06-22, 1405/04/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of acupressure on the thirst of hemodialysis

patients

Public title
The effect of acupressure on the thirst of hemodialysis patients
Purpose
Other
Inclusion/Exclusion criteria
Inclusion criteria:
Participants aged between 18 and 65 years Written informed consent obtained prior to enrollment in the study Patients undergoing maintenance hemodialysis who have experienced symptoms of thirst during the past month Regular hemodialysis schedule, defined as three sessions per week No previous exposure to acupressure or other complementary therapies such as acupuncture Absence of any acute or chronic medical condition that may contraindicate the application of acupressure (e.g., advanced heart failure, soft tissue or vascular disorders of the limbs, or sensory–neurological impairments in the target areas) No active dermatological issues at the intended pressure sites, including wounds, inflammation, or rash No history of acupressure or acupuncture within the preceding three months Not currently taking medications known to affect salivation or thirst (e.g., tricyclic antidepressants, anticholinergics, antihistamines, or beta-blockers) No recent history of surgery or infection in the limbs Intact cognitive function, full consciousness, and the ability to understand and follow verbal instructions
Exclusion criteria:
Age
From **18 years** old to **65 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Data analyser

Sample size
Target sample size: **90**
Randomization (investigator's opinion)
Randomized
Randomization description
The present research is a single-blind randomized controlled clinical trial with a sham group. Considering a potential dropout rate of 10%, a total of 90 participants will be recruited through convenience sampling. Participants will then be randomly assigned into two groups—intervention and sham—with 45 participants in each group, using a block randomization method with a block size of four. The random allocation sequence will be generated using the “blockrand” package in the R statistical software. In this function, the number of treatments is set to two and the block size to four. The resulting random sequence will then be used to assign participants to the respective groups based on the generated four-block randomization scheme. To ensure allocation concealment, a sealed-envelope method will be applied. The random sequence will be written on small cards and placed inside sealed envelopes. Upon each participant’s enrollment in the study, one envelope will be opened, and the participant will be assigned to either the intervention or the sham group according to the code indicated on the card.
Blinding (investigator's opinion)
Single blinded
Blinding description
Participants were unaware of whether acupressure was applied to true or sham points, and the data analyst was blinded to group allocation.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Mashhad University of Medical Sciences
Street address
Nursing and Midwifery School , Martyr Dr. Kharazmi Educational Building, University Campus, East Gate of Ferdowsi University of Mashhad, Azadi Square , Mashhad, Razavi Khorasan, Iran
City
Mashhad
Province
Razavi Khorasan
Postal code
9137913199
Approval date
2025-09-30, 1404/07/08
Ethics committee reference number
IR.MUMS.NURSE.REC.1404.075

Health conditions studied

1

Description of health condition studied
Chronic kidney disease
ICD-10 code
GB61 Chron
ICD-10 code description
Glomerular Filtration Rate (GFR) < 60 ml/min/1.73m² or presence of kidney damage that is present for more than 3 months. Evidence of kidney damage can include structural abnormalities (imaging or histology), albuminuria above normal limits, urinary sedime

Primary outcomes

1

Description
Thirst
Timepoint
Before the start of the intervention, the participants' level of thirst will be assessed using two instruments: the Visual Analog Scale (VAS) and the Dialysis Thirst Inventory (DTI).In this study, acupressure will be applied in both the intervention and sham groups once daily (either in the morning or in the evening) for a duration of 2.5 minutes per point, over a period of four consecutive weeks.The researcher will evaluate the participants' thirst level at the end of each dialysis session using the VAS, and at the end of each week using the DTI, in both the intervention and sham groups.
Method of measurement
using two instruments: the Visual Analog Scale and the Dialysis Thirst Inventory

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: participants who have acupressure applied to the LU-7, LI-4, KI-2, LR-2 points.
Category
Other

2

Description
Control group: Participants in the sham group will have acupressure applied to SI-6, HT-7, BL-62, and GB-34 points.
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Montaserieh hospital
Full name of responsible person
Maryam Bghaeri
Street address
Khorasan Razavi - Mashhad - Imam Khomeini Street - 25 Imam Khomeini Street - Golestan Street - in front of the Broadcast Conference Hall
City
Mashhad
Province
Razavi Khorasan
Postal code
9137776788
Phone
+98 51 3229 1963
Email
mh.manager@mums.ac.ir

2

Recruitment center
Name of recruitment center
17 Shahrivar Hospital
Full name of responsible person
Maryam Bagheri
Street address
Razavi Khorasan Province, Mashhad, Kouhsangi Ave, No. 14
City
Mashhad
Province
Razavi Khorasan
Postal code
914563337
Phone
+98 51 3840 3015
Email
17shahrivar_razavi.hos@tamin.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Mashhad University of Medical Sciences
Full name of responsible person
Mohsen Tafaghodi
Street address
Razavi Khorasan, Mashhad, Daneshgah Street, next to Hoveizeh Cinema, Mashhad University of Medical Sciences, 3rd Floor, Vice-Chancellor for Research and Technology.
City
Mashhad
Province
Razavi Khorasan
Postal code
9138813944
Phone
+98 51 3841 1538
Email
vcresearch@mums.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Mashhad 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

Mashhad University of Medical Sciences

Full name of responsible person

Maryam Bagheri

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Nursery

Street address

Nursing and Midwifery School , Martyr Dr. Kharazmi Educational Building, University Campus, East Gate of Ferdowsi University of Mashhad, Azadi Square , Mashhad, Razavi Khorasan, Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

9177949025

Phone

+98 51 3884 6730

Email

BagheriM@mums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Maryam Bagheri

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Nursery

Street address

Nursing and Midwifery School , Martyr Dr. Kharazmi Educational Building, University Campus, East Gate of Ferdowsi University of Mashhad, Azadi Square , Mashhad, Razavi Khorasan, Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

9177949025

Phone

+98 51 3884 6730

Email

BagheriM@mums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Maryam Bagheri

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Nursery

Street address

Nursing and Midwifery School , Martyr Dr. Kharazmi Educational Building, University Campus, East Gate of Ferdowsi University of Mashhad, Azadi Square , Mashhad, Razavi Khorasan, Iran

City

Mashhad

Province

Razavi Khorasan

Postal code

9177949025

Phone

+98 51 3884 6730

Email

BagheriM@mums.ac.ir

Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further information.

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

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

Title and more details about the data/document

The study protocol and its findings will be shared as an article in a congress and journal.

When the data will become available and for how long

Access period starts 6 months after results are published.

To whom data/document is available

All researchers in the field of medical sciences and patients undergoing hemodialysis

Under which criteria data/document could be used

The data is generally available in article format for all people.

From where data/document is obtainable

To receive the documents, they can contact BagheriM@mums.ac.ir via email.

What processes are involved for a request to access data/document

The applicant can request the overall results of the study via email and the documentation will be provided to them within a week.

Comments