Clinical Trial Protocol
Iranian Registry of Clinical Trials

20 Sep 2026

The effect of zusanli Point (ST36) Acupressure on Fasting blood sugar and glycosylated hemoglobin in type II diabetic patients

Protocol summary

Study aim

The effect of acupressure in the Zusanli point (ST36) on fasting blood glucose and glycosylated hemoglobin among type II diabetic patients.

Design

The sample size in this clinical trial is 102 patients. Patients are divided into parallel groups of intervention, placebo, and control using a triangular permutation block sampling method.

Settings and conduct

This study is done at Shahid Motahari Clinic affiliated to Shiraz University of Medical Sciences. In this study, among the referrals to this clinic, 102 people who have the criteria for entering the study are selected. after getting conscious written consent and completing the demographic form, blood samples will be taken from the patients for testing blood glucose and glycosylated hemoglobin. The intervention group and the placebo receive acupressure at the zusanli and false points inturn, But the control group does not receive intervention. Immediately at the end of the intervention, glycosylated hemoglobin and fasting blood glucose will be checked for three groups and the results are compared with each other.

Participants/Inclusion and exclusion criteria

Inclusion criteria: patients with type 2 diabetes based on the diagnosis of an Internist; passing at least 3 years from the onset of diabetes; Patients older than 18 years; willingness to be involved in research; One of the family members accompanies the patient. Exclusion criteria: Foot vascular disease; Skin wounds and fracture in the target area (Zusanli); Known skeletal muscle disease in the target area (Zusanli).

Intervention groups

In this study, intervention group receives acupressure in the Zusanli point and placebo group receives acupressure on sham point. The control group receives only standard treatments.

Main outcome variables

glycosylated hemoglobin and fasting blood glucose

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20111224008505N47**
Registration date: **2018-06-24, 1397/04/03**
Registration timing: **retrospective**

Last update: **2018-06-24, 1397/04/03**
Update count: **0**

Registration date

2018-06-24, 1397/04/03

Registrant information

Name
Seyed Saeed Najafi

Name of organization / entity
Shiraz University of Medical Sciences

Country
Iran (Islamic Republic of)

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+98 71 1727 7445

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najafisa@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-05-05, 1397/02/15

Expected recruitment end date

2018-06-05, 1397/03/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
The effect of zusanli Point (ST36) Acupressure on Fasting blood sugar and glycosylated hemoglobin in type II diabetic patients

Public title
The effect of acupressure on fasting blood glucose and glycosylated hemoglobin

Purpose
Prevention

Inclusion/Exclusion criteria
Inclusion criteria:
Patients with type 2 diabetes based on the diagnosis of an Internist Passing at least 3 years from the onset of diabetes Patients older than 18 years Patients tend to be involved in research One person in the family should be with the patient through the study
Exclusion criteria:
Foot vascular disease Skin wounds and fractures in the target area (Zusanli) Known skeletal muscle disease in the target area (Zusanli)

Age
From **18 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant
- Care provider

Sample size
Target sample size: **102**

Randomization (investigator's opinion)
Randomized

Randomization description
The randomization method in this study is done using the Permutation block method. The block of size 3 (A, B and C) will be used in this study. A, B and C represent the people who are placed in the experimental, placebo and control groups, respectively. Allocated to the experimental, placebo & control groups will be done using random number table.

Blinding (investigator's opinion)
Single blinded

Blinding description
In this study, participants are unaware of which group they are allocated to.

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Shiraz University of Medical Sciences
Street address
Central building of Shiraz University of Medical Sciences, Zand street
City
Shiraz
Province
Fars
Postal code
713451978

Approval date
2018-02-25, 1396/12/06

Ethics committee reference number
IR.SUMS.REC.1396.183

Health conditions studied

1

Description of health condition studied
Diabetes mellitus type 2

ICD-10 code
E11

ICD-10 code description
Type 2 diabetes mellitus

Primary outcomes

1

Description
glycosylated hemoglobin

Timepoint
Pre intervention, post intervention

Method of measurement
Blood test with Pars Azmun Kit

2

Description
Fasting blood sugar

Timepoint
Pre intervention, post intervention

Method of measurement
Blood test Pars Azmun Kit

Secondary outcomes

empty

Intervention groups

1

Description

The first intervention group: In addition to receive standard treatments, the pressure in the Zusanli point (4 fingers below the knee) will be applied at 3-5 kilograms intensity. The pressure will be applied as one pressure per second until 5 seconds and then the patient rests for 2 seconds. This process will be repeated for 3 minutes. The intervention will be performed through three 6-minute sessions (3 minutes for left foot and 3 minutes for right foot) in the week during 12 weeks.

Category

Prevention

2

Description

The second intervention group(placebo): In addition to receive standard treatments, the pressure in the sham point (6 fingers below the knee) will be applied at 3-5 kilograms intensity. The pressure will be applied as one pressure per second until 5 seconds and then the patient rests for 2 seconds. This process will be repeated for 3 minutes. The intervention will be performed through three 6-minute sessions (3 minutes for left foot and 3 minutes for right foot) in the week during 12 weeks.

Category

Prevention

3

Description

Control group: Only receive standard treatment.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Shahid Motahari Clinic

Full name of responsible person

Miss Azizi

Street address

Shahid Motahari clinic, Namazi Square, Shiraz, Iran

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Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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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

Shiraz 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

Shiraz University of Medical Sciences

Full name of responsible person

Sayed Saeed Najafi

Position

MSc in Nursing

Latest degree

Master

Other areas of specialty/work

Nursery

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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
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