Clinical Trial Protocol
Iranian Registry of Clinical Trials

12 Nov 2026

Effect of Near Infrared Vein Finder Technology on Successful rate of Cannulation in Obese Diabetic Patients

Protocol summary

Study aim
To determine the effect of Near-Infrared Vein Finder Technology successful rate of cannulation in obese diabetic patients.

Design
A randomized control trail design with concurrent control group

Settings and conduct
In the intervention group, the patient lies on his back on the bed and the sleeves of his clothes are raised. The device is then turned on and the vessels of the patient's hand are examined, The time will be calculated from turning on until the catheter is inserted into the vessel successfully. If not successful, the venipuncture will be repeated. If the venipuncture fails up to 4 times, the patient will be excluded from the study. In the control group, venipuncture for the patient will be performed routinely by the same nurse in the intervention group. The duration of venous cannulation is considered from the time of tying the tourniquet.

Participants/Inclusion and exclusion criteria
Inclusion criteria: At least two months have passed since the diabetic type 2, Body mass index 30 and above, Having patients' informed consent, Age between 18-70 years, No history of vein problems, Not having vein problems such as phlebitis and extremities edema. Exclusion criteria: Reluctance to continue participating in the study, Exacerbation of the disease or occurrence of an unpleasant accident for the patient such as severe hemorrhage and hematoma, Failing insertion of cannula at more than fourth attempt .

Intervention groups
In the intervention group, an infrared vein finder will be used to find the patient's upper extremity veins.

Main outcome variables
The number of attempts and the procedural time of cannulation

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210705051797N1**
Registration date: **2021-08-05, 1400/05/14**
Registration timing: **prospective**

Last update: **2021-08-05, 1400/05/14**
Update count: **0**

Registration date
2021-08-05, 1400/05/14

Registrant information

Name
Saeb Al-Saadi

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 51 3859 1511

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alsaedis982@mums.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-08-23, 1400/06/01

Expected recruitment end date
2021-10-23, 1400/08/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

Effect of Near Infrared Vein Finder Technology on Successful rate of Cannulation in Obese Diabetic Patients

Public title
Effect of using infrared vein finder on the success rate of venipuncture in obese diabetic patients
Purpose
Health service research
Inclusion/Exclusion criteria
Inclusion criteria:
Diagnose diabetes for at least two months Body mass index 30 and above Having patients' informed consent Age between 18-70 years No history of vein problems Not having vein problems such as phlebitis and extremities edema
Exclusion criteria:
Reluctance to continue participating in the study Exacerbation of the disease or occurrence of an unpleasant accident for the patient such as severe hemorrhage and hematoma Failing insertion of cannula at more than fourth attempt
Age
From **18 years** old to **70 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **66**
Randomization (investigator's opinion)
Randomized
Randomization description
The samples are selected based on the inclusion criteria and then randomly assigned to the intervention or control group by coin lottery.
Blinding (investigator's opinion)
Not blinded
Blinding description
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
Department of Medical Surgical Nursing, Nursing and Midwifery School, Doctora Croddroad, Daneshgah Street, Mashhad, Iran
City
Mashhad
Province
Razavi Khorasan
Postal code
9137913199
Approval date
2021-07-06, 1400/04/15
Ethics committee reference number
IR.MUMS.NURSE.REC.1400.037

Health conditions studied

1

Description of health condition studied
Obese Diabetic Patients
ICD-10 code
E11.69
ICD-10 code description
Type 2 diabetes mellitus with other specified complication

Primary outcomes

1

Description
the number of attempts of cannulation
Timepoint
during the study
Method of measurement
Counting the number of times that catheter is inserted into the patient's skin.

2

Description
Duration of catheter insertion
Timepoint
duration of the study
Method of measurement
Measure the time required for catheter insertion using a watch

Secondary outcomes

1

Description
no having
Timepoint
no having
Method of measurement
no having

Intervention groups

1

Description

In the intervention group, an infrared vein finder will be used to examine the patient's veins and catheter insertion.

Category

Prevention

2

Description

In the control group, routine procedures are used for catheter insertion and no vein finder will be used.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Al-Kindy hospital

Full name of responsible person

Saeb Al-Saadi

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Al-Nahdha

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Dr. Mohsen tafaghodi

Street address

Danshgah Street/ Doctora crossroad

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Mashhad

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Grant name

Grant code / Reference number

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

No

Title of funding source

Vice Chancellor for Research, 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

Sponsor: country of origin

Country of origin

IQ

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

Professor; Hossein Karimi Moonaghi, PhD.

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

Nursing

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Person responsible for scientific inquiries

Contact

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Full name of responsible person

Professor, Hossein Karimi Moonaghi, PhD.

Position

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Other areas of specialty/work

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Person responsible for updating data

Contact

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Full name of responsible person

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

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

Yes - There is a plan to make this available

Data Dictionary

Not applicable

Title and more details about the data/document

The researcher is acknowledging the scientific community to have verifiable findings of the study. sharing plan includes making all the related data available through publishing the study report in peer-reviewed reputable journals.

When the data will become available and for how long

God willing, once finishing the process of data collection, analysis and successfully publishing the manuscript, all the related files will become available for 6 months after publications.

To whom data/document is available

All the related files will be shared with any scientific interested parties.

Under which criteria data/document could be used

It may be used after seeking the author's permission and acknowledging his contribution.

From where data/document is obtainable

The author's professional e-mail that will be available with the published manuscript can be used to contact the author. e-Mail: saebalsaadi927@gmail.com

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

N/A

Comments

Profound appreciations are due to the IRCT members for their genuine efforts in helping researchers fulfilling their academic endeavors.