Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Comparing the effects of massage and tapping on the duration and first success rate of peripheral intravenous catheter insertion in aged patients

Protocol summary

Study aim
Determine the effects of massage and tapping on the duration and first success rate of peripheral intravenous catheter insertion in old patients admitted to Emergency department

Design
A randomized controlled clinical trial with four groups, parallel group

Settings and conduct
This study is performed in the Emergency ward of Imam Khomeini Hospital in Esfarayen. The study population are elder patients referred to this wards. After pilot sampling, samples were randomly divided into 4 groups by using Permuted block randomization.

Participants/Inclusion and exclusion criteria
Inclusion criteria: age over 65 years old, catheter insertion difficulty rate is between 2 to 5 with Difficult Intravenous Access (DIVA) instrument. Exclusion Criteria: The patient has emergency conditions Not willing to participate in the study catheter insertion Failure for first attempt

Intervention groups
In the massage group, the blood pressure cuff is wrapped around the patient's arm and inflated till 60 mm Hg. Expert nurse will rub patient hand (catheter insertion site) for one minute till change the color of the skin. The catheter N.20 will be inserted in the site of determined. In the Tapping group, the blood pressure cuff is wrapped and Nurse will tap soft kicks from 5 c.m distance of patient hand for one minute. In mixed group (massage and tapping) after closure of cuff, Expert nurse will rub patient hand. Then, soft kicks will be tapped from 5 c.m distance of patient hand for one minute. In the control group, the blood pressure cuff is wrapped around the patient's arm and inflated till 60 mm Hg. Expert nurse without any other intervention will insert the catheter.

Main outcome variables
The main outcome variables including: duration and first attempt success rate for inserting of catheter that checked by checklist.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20191218045773N3**
Registration date: **2020-05-04, 1399/02/15**
Registration timing: **registered_while_recruiting**

Last update: **2020-05-04, 1399/02/15**
Update count: **0**

Registration date
2020-05-04, 1399/02/15

Registrant information

Name
seyed javad hosseini

Name of organization / entity

Country
Iran (Islamic Republic of)

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+98 58 3723 2650

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s.j.hoseini2016@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-02-20, 1398/12/01

Expected recruitment end date
2020-10-20, 1399/07/29

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparing the effects of massage and tapping on the duration and first success rate of peripheral intravenous catheter insertion in aged patients

Public title
Comparing the effects of massage and tapping on success of catheter insertion

Purpose
Other

Inclusion/Exclusion criteria

Inclusion criteria:
Participants have age over than 65 years old catheter insertion difficulty rate is between 2 to 5 with Difficult Intravenous Access (DIVA) instrument

Exclusion criteria:
The patient has emergency conditions Not willing to participate in the study catheter insertion Failure for first attempt

Age
From **65 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **160**

Randomization (investigator's opinion)
Randomized

Randomization description
The randomization method is simple. Random units are each of elderly patients that admitted to the emergency department. Also, The randomization tool is a random number table. The researcher select one of the numbers in the random numbers table and moves to the right and down. Record the numbers and assign them to different study groups whose numbers are already specified.

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 Esfarayen faculity of Medical Sciences

Street address
Faculity of Medical Sciences, Imam Reza St, Esfarayen, North Khorasan

City
Esfarayen

Province
North Khorasan

Postal code
۷۶۹۸۱-۹۶۶۱۸

Approval date
2019-12-09, 1398/09/18

Ethics committee reference number
IR.ESFARAYENUMS.REC.1398.010

Health conditions studied

1

Description of health condition studied
Patients reffered to Emergency ward

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
First attempt success rate for inserting of peripheral venous catheter

Timepoint
Immediately after fixation of catheter on the skin

Method of measurement
Possible to injection of "water for injection" from top of the catheter without causing swelling at the top of catheter insertion

2

Description
Inserting of peripheral venous catheter duration

Timepoint
Since initiation catheter insertion until it is fixed in place

Method of measurement
Using the stopwatch

3

Description
The time spent to find a peripheral venous

Timepoint
Since the fasten of tourniquet to start inserting of peripheral venous catheter

Method of measurement
Using the stopwatch

4

Description
Patient satisfaction from each of protocols

Timepoint

After completion of catheter insertion

Method of measurement

Using the questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

In the massage group, the blood pressure cuff is wrapped around the patient's arm and inflated till 60 mm Hg. Expert nurse will rub patient hand (catheter insertion site) for 30 sec till change the color of the skin. Each hand movement (upping or downing on the skin) is performed within one second. Then, site of catheter insertion will be disinfected with alcohol 70%. The catheter N.20 will be inserted in the site of determined.

Category

Other

2

Description

In the Tapping group, the blood pressure cuff is wrapped around the patient's arm and inflated till 60 mm Hg. Nurse will tap soft kicks from 5 c.m distance of patient hand (catheter insertion site) for 30 sec. Each tapping movement will be done within 1 second. Then, site of catheter insertion will be disinfected with 70% alcohol. The catheter N.20 will be inserted in the site of determined.

Category

Other

3

Description

In mixed group (massage and tapping) the blood pressure cuff is wrapped around the patient's arm and inflated till 60 mm Hg. Expert nurse will rub patient hand (catheter insertion site) for 30 sec till change the color of the skin. Each hand movement (upping or downing on the skin) is performed within one second. Then, Nurse will tap soft kicks from 5 c.m distance of patient hand (catheter insertion site) for one minute. Each tapping movement will be done within 1 second. Then, site of catheter insertion will be disinfected with 70% alcohol. The catheter N.20 will be inserted in the site of determined.

Category

Other

4

Description

In the control group, the blood pressure cuff is wrapped around the patient's arm and inflated till 60 mm Hg for 30 sec. Expert nurse without any other intervention will determine site of catheter insertion and disinfected with 70% alcohol. The catheter N.20 will be inserted in the site of determined.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini Hospital of Esfarāyen

Full name of responsible person

Eshagh Ildarabadi

Street address

Esfarayen Faculty of medical science, Imam Reza S.t, Esfarāyen Town, North khorasan, IRAN

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Esfarayen University of Medical Sciences

Full name of responsible person

Eshagh Ildarabadi

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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

Esfarayen 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

Esfarayen University of Medical Sciences

Full name of responsible person

Seyed Javad Hosseini

Position

Member of Esfarayen faculty

Latest degree

Master

Other areas of specialty/work

Nursery

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Name of organization / entity

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Position

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Person responsible for updating data

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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

No - There is not a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Document will be registered "Pajouhan" system after completion of the study . Also, participants general information and the effectiveness of interventions will be recorded in the article.

When the data will become available and for how long

Accessibility after publish of article

To whom data/document is available

People interested in nursing scope

Under which criteria data/document could be used

People looking for ways to facilitate catheter insertion in pediatric who can access the data

From where data/document is obtainable

Esfarāyen Faculty of Medical Sciences, Imama Reza S.t, Esfarāyen, North Khorasan

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

They can access to data through below email as soon as

possible s.j.hoseini2016@gmail.com **Comments**