Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

COMPARISON OF LOCAL INFECTION, DWELL TIME AND PAIN IN PERIPHERAL VENOUS CANNULATION PASSED BY EXPERTS VERSUS GENERAL INSERTERS IN A TERTIARY CARE HOSPITAL

Protocol summary

Study aim

The objective of this study is to compare the incidence of local infection, dwell time and pain associated with peripheral venous cannulation (PVC) when performed by experts versus general inserters in a tertiary care hospital

Design

It was a single-center study conducted at a tertiary care hospital in Punjab, Pakistan over period of 6 months from April, 2023 to October, 2023. The sample size was 350 individuals. individuals were randomly divided into two groups i.e. expert group and general inserter group using a computer-generated table of random numbers. The study was double blind

Settings and conduct

The study was carried out at Departments of Medicine, Anesthesiology and Intensive Care, Pak Emirates Military Hospital Rwp from Apr 2023-Sept 2023. Participants, care providers, and investigators were blinded

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Patients above the age of 18 years admitted to the medical wards requiring peripheral intravenous access for more than 24 hours were included. Exclusion Criteria: Patients with peripheral vascular disease, infection of the upper limbs hindering or contraindicating peripheral venous line insertion, patients with a current bloodstream infection, and patients unwilling for the study

Intervention groups

The Expert Group (intervention group)consisted of 175 patients who received intravenous cannulation by experts i.e. trained medical professionals. The General Inserters (Comparison Group) group consisted of 175 patients who had intravenous cannulation by general inserters

Main outcome variables

Infection, dwell time, phlebitis, extravasation, cannulation failure, and pain were studied

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230925059510N1**
Registration date: **2024-02-21, 1402/12/02**
Registration timing: **retrospective**

Last update: **2024-02-21, 1402/12/02**
Update count: **0**

Registration date

2024-02-21, 1402/12/02

Registrant information

Name
Elleyyeen Avais
Name of organization / entity
Pak Emirates Military Hospital
Country
Pakistan
Phone
+92 51 9273927
Email address
elleyyeen@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-04-03, 1402/01/14

Expected recruitment end date

2023-10-03, 1402/07/11

Actual recruitment start date

2023-04-03, 1402/01/14

Actual recruitment end date

2023-10-03, 1402/07/11

Trial completion date

2023-10-03, 1402/07/11

Scientific title

COMPARISON OF LOCAL INFECTION, DWELL TIME AND PAIN IN PERIPHERAL VENOUS CANNULATION PASSED BY EXPERTS VERSUS GENERAL INSERTERS IN A TERTIARY CARE HOSPITAL

Public title

Comparison of cannulas inserted by experts versus general inserters

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

patients above the age of 18 years admitted to the medical wards requiring peripheral intravenous access for more than 24 hours

Exclusion criteria:

Patients with peripheral vascular disease, infection of the upper limbs hindering or contraindicating peripheral venous line insertion, patients with a current bloodstream infection and patients unwilling to be included in the study

Age

From **18 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Investigator

Sample size

Target sample size: **400**

Actual sample size reached: **350**

Randomization (investigator's opinion)

Randomized

Randomization description

A simple randomization technique was used. Individuals were allotted one of the 2 groups: Group X (Expert Inserter Group) and Group Y (General Inserter Group). The randomization was done using a list generated by online software. A consecutive sampling technique was used to fill the list. Allocation concealment was carried out

Blinding (investigator's opinion)

Double blinded

Blinding description

Participants, Care providers, and investigators were blinded by giving unique numbers to participants not pointing toward the identity of either group

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Pak Emirates Military Hospital

Street address

Abid Majeed Road

City

Rawalpindi

Postal code

46000

Approval date

2023-04-03, 1402/01/14

Ethics committee reference number

A/28/ER/592/23

Health conditions studied

1

Description of health condition studied

Peripheral venous cannulation associated phelebitis, infection and pain

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Local infection

Timepoint

Before intervention and at 24, 48, and 72 hours

Method of measurement

Likert Scale

2

Description

Pain

Timepoint

Before intervention and at 24, 48, and 72 hours

Method of measurement

Visual Analogue Scale

3

Description

Dwell Time

Timepoint

Before intervention and at 24, 48, and 72 hours

Method of measurement

By noting time of insertion of cannula and it's removal

Secondary outcomes

1

Description
Multiple Insertion attempt
Timepoint
At 2, 4 and 6 minutes
Method of measurement
Number of attempts were noted while inserting cannula

Intervention groups

1

Description
Group E was handled by Experts. In this group, a peripheral venous cannula of 20G was inserted by experts in any of the upper limbs.
Category
Prevention

2

Description
Intervention group: Group G was handled by General Inserters. In this group, a peripheral venous cannula of 20G was inserted by general inserters in any of the upper limbs.
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Pak Emirates Military Hospital
Full name of responsible person
Elleyyeen Avais
Street address
Abid Majeed Road
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Email
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Pak Emirates Military Hospital
Full name of responsible person
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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
Pak Emirates Military Hospital
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
Pak Emirates Military Hospital
Full name of responsible person
Elleyyeen Avais
Position
Resident Medicine
Latest degree
Medical doctor
Other areas of specialty/work
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Person responsible for updating data

Contact

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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
Undecided - It is not yet known if there will be 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
No - There is not a plan to make this available

Title and more details about the data/document
Primary Outcomes data will shared.

When the data will become available and for how long
It will be made available after publication of trial for 2 years

To whom data/document is available
To healthcare professionals in Pakistan

Under which criteria data/document could be used
For reviewing purposes only

From where data/document is obtainable
Elleyyeen Avais Resident Medicine Pak Emirates Military Hospital Rawalpindi Pakistan elleyyeen@gmail.com 00923165110954

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

Comments