



PREVELANCE AND RISK FACTORS OF PHLEBITIS AMONG ADULT PATIENTS

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Abstract-

Most of the hospitalized patients had peripheral vein catheter (PVC) for intravenous treatment like administration of I.V fluid and medicine.¹ If I.V medication or fluid infused to patient for long duration, it can irritate the vein and may be responsible for vein injury.² **Statement:** An exploratory study on prevalence and risk factors of phlebitis among adult patient admitted in selected hospital, Dehradun, Uttarakhand. **Objectives:** To assess the prevalence rate and risk factors of phlebitis among adult patient. **Methodology:** A descriptive research design was used to find the prevalence and risk factors of phlebitis among adult patient. Total 200 (dropout 4, total sample 196) sample were selected by consecutive sampling technique. Data was collected by administering following tools: socio-demographic profile, clinical profile of patient, VIP Score for prevalence of phlebitis & risk assessment tool. **Results:** The findings of study show that the prevalence rate of phlebitis was 51% and most of the participants (44%) develops 2nd grade of phlebitis. The risk factors of phlebitis were found are size of cannula, insertion in cephalic vein, infusion of antibiotics, analgesic and KCL. **Conclusion:** it can be concluded that in the present study prevalence rate of phlebitis was 51% and most common risk factors were site and size of cannula, and medicine such as antibiotic, analgesic and KCL. As phlebitis is a preventable condition so it can be done through proper vigilance and proper handling.

Key Words: Phlebitis, Prevalence, Risk factors, Adult patients.

INTRODUCTION

Around 80% admitted patients has peripheral vein catheter (PVC) for intravenous treatment such as administration of I.V fluid, medicine etc. Evidences show that if IV catheter is used for long period, it may cause infiltration of the veins known as phlebitis. Phlebitis is defined as an inflammation of cannulised veins, represented by redness, tenderness, pain and swelling at the insertion site of cannula.³

Australian Journal of Advanced Nursing (2015) revealed that global incidence of phlebitis was 41%. Overall incidence rate of phlebitis ranges from 61% to 1.3%.¹ There are many factors which may be responsible for phlebitis such as techniques, size and site of cannula insertion, pH and osmolality of some drugs or fluid irritates the vein. In India the prevalence rate of phlebitis among cannulised patients is

56.5%. Phlebitis can be categorise in to four grades: Grade 1 (Redness around the insertion sites of cannula), Grade 2 (Redness with pain at the insertion site or swelling and tenderness), Grade 3 (pain at the insertion site, redness, tenderness and palpable venous cord) and Grade 4 (pain at the insertion site, redness, tenderness and palpable venous cord more than 1 cm with discharge).

According to the Infusion Nurses Society, the sustainable rate of infiltration in patients is 5% or less. In the hospital most patients suffers from phlebitis, but very less incidents has been reported, may be due to improper observation skills of health care workers.

It is necessary to identify the correlation between incidence and risk factors of phlebitis for quality care of patient. This condition can be avoided by adequate and timely supervision of patient's IV site by health care workers. The goal of this study was to find prevalence rate and risk factors of phlebitis, so that result may be helpful in identifying and reduce the potential cause of phlebitis.

MATERIAL & METHODS

Quantitative approach with descriptive exploratory research design was selected for the present study. Total 200 participants were selected by consecutive sampling technique who fulfilled the selection criteria of the study. Four participants has been dropped out so total sample consist of 196. Data was collected by administering following tools such as: socio-demographic performa, clinical profile of patients and Jackson phlebitis scale and risk assessment tool.

RESULT

Sample characteristics

More than half (55%) of the participants were between the age group of 46-80 years followed by 18-45 (45%), regarding gender more than half were male (51%) followed by female (49%). Regarding occupation, most of the participants were labour (45%), followed by housewife (09%), private job (17%), government job (28%) and students (01%). Majority 89% were non-alcoholic and non-smoker (92%).

Clinical Profile

More than half 54% participants were admitted in surgery ward followed by medicine ward (46%). Majority of participants 73% were admitted for at least five days or less. Most of the participants (97%) were orally allowed. Regarding water intake, most of them (37%) consumed 500 ml to 1 litre of water daily. Only one participant had history of skin disease. Regarding co-morbidities, only 22% participants had other co-morbidities such as diabetes and hypertension.

Risk factors of phlebitis

Size of Intravenous Cannula

Figure 1 shows that 78% of the participants had 20 Gauzes IV cannula followed by 20% (22 Gauze) and 2% (18 Gauze).

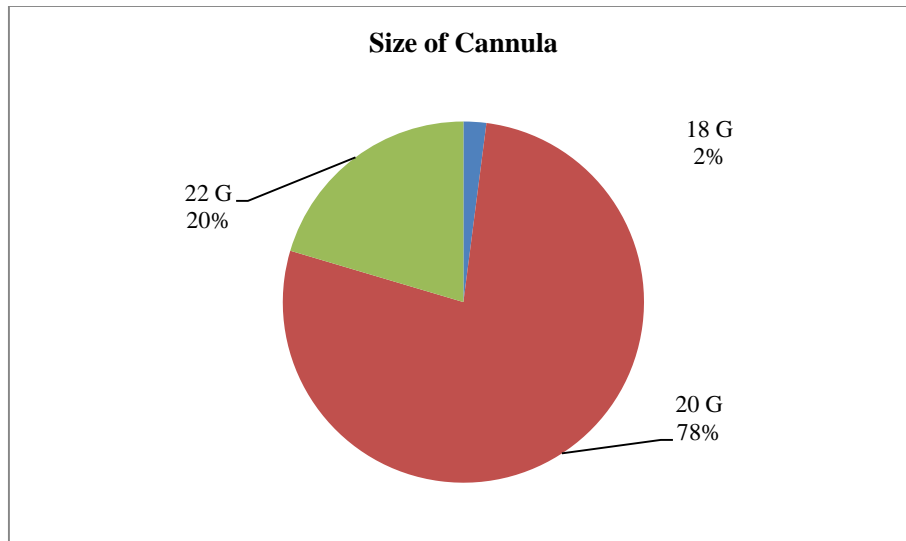


Figure 1: Size of Cannula (N=196)

Prescribed Medication

Figure 2 show medications prescribed to participants during this study. Most of patients received antacid that is 96% followed by 79% antibiotic, 77% analgesic, 41% KCL with IV fluid, 15% antiemetic and 02% vitamin B12.

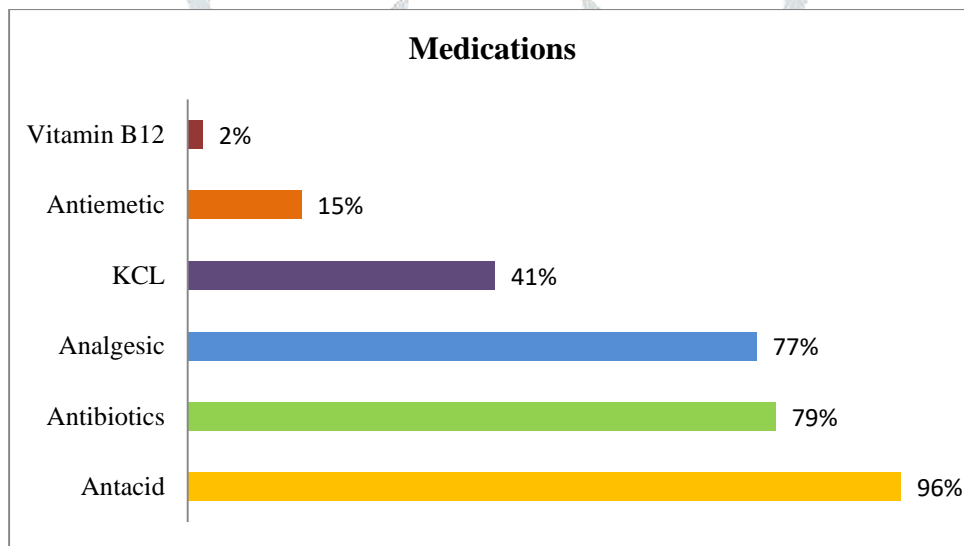


Figure 2: Size of Cannula (N=196)

Site of IV Cannula Insertion

Figure 3 depicts the information about insertion site of IV cannula, most of patients had cannula 72% in cephalic vein followed by 19% cubital vein, 07% median vein ,02% basilic and metacarpal vein.

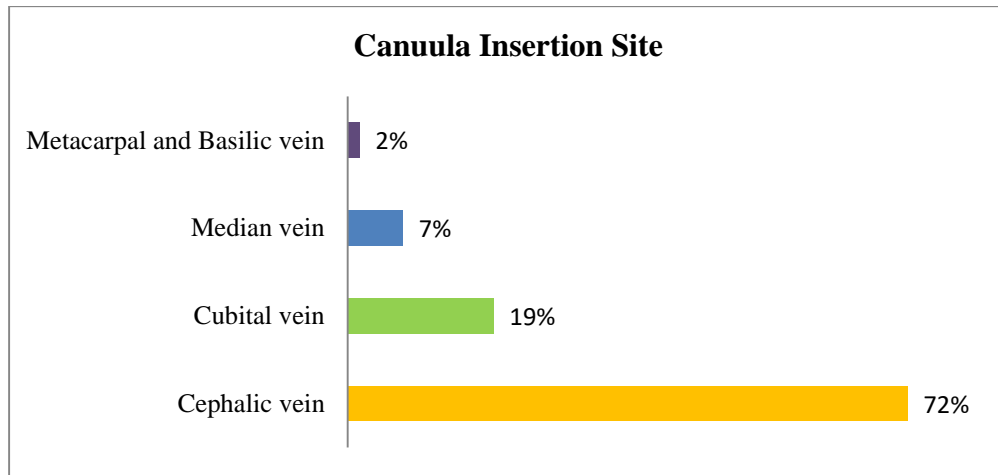


Figure 3: Size of Cannula (N=196)

Type of IV Fluids

Figure 4 show type of IV fluid transfused to participants. Out of 196 participants IV fluid was prescribed to 175 participants. Among 48% participants DNS was transfused followed by 43% NS and 09% RL.

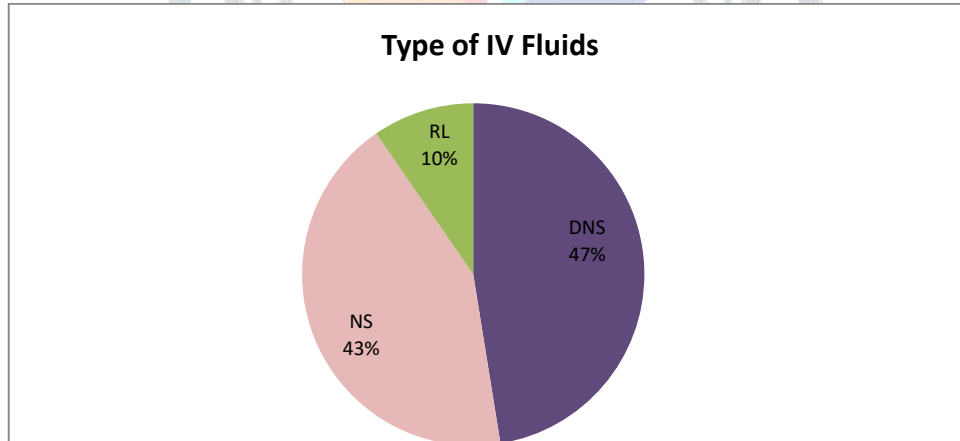


Figure 4: Size of Cannula (N=175)

Prevalence of phlebitis

Prevalence of phlebitis in the present study was 51% as these participants develops sign and symptoms of phlebitis. Participants were assessed for features of phlebitis through Visual Infusion Phlebitis Score (VIP Score). (figure 5)

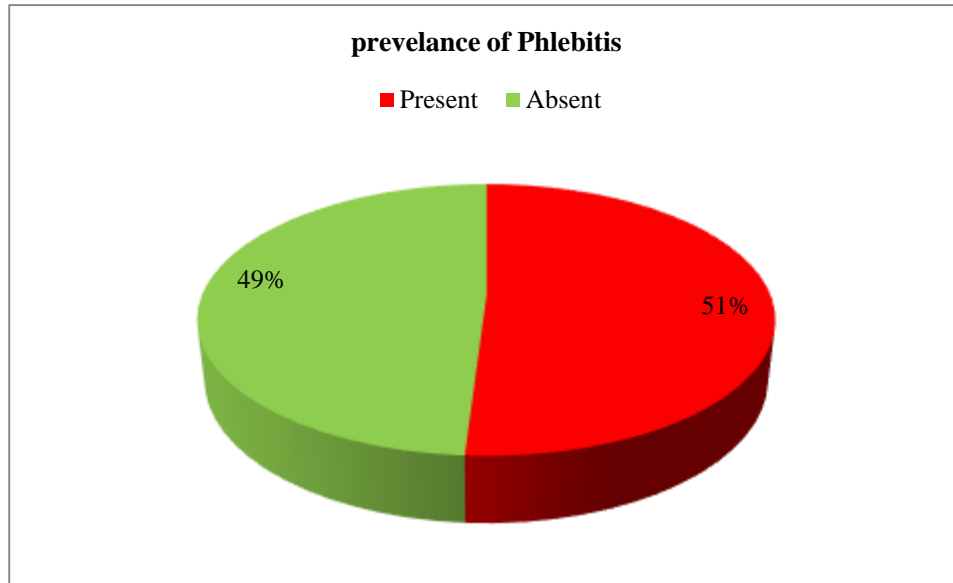


Figure 5: Prevalence of Phlebitis (N=175)

Considering the prevalence of phlebitis with regard to the classification, the maximum participants 44% had grade 2 of phlebitis followed by grade 1 (29%), grade 3 (14%) and grade 4 (12%). (Figure 6).

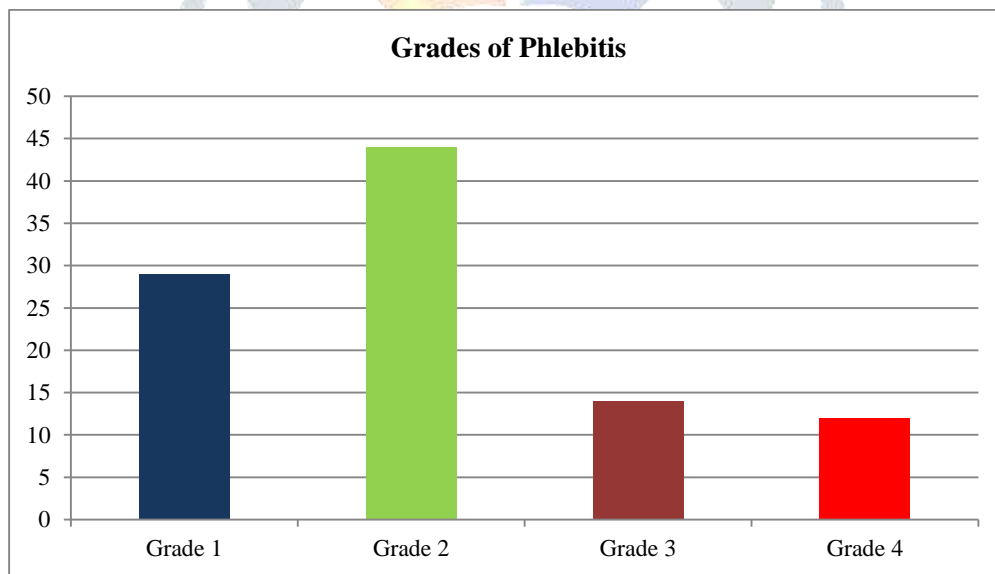


Figure 6: Degree of phlebitis (N=99)

Association between prevalence of phlebitis with selected socio-demographic variables, clinical profile and risk factors

With selected socio-demographic variables: Statistically significant association was found between prevalence of phlebitis and admitted area of patient and other variables such as gender, age, consumption of alcohol and smoking were found not significant.

With clinical variables: There was no significant association found between prevalence of phlebitis and clinical variables of participants such as duration of hospitalization, oral intake of food and water and co-morbidities.

With risk factors: There was significant association found between prevalence of phlebitis and risk factors such as size of cannula, site of cannula insertion, antibiotic and KCL.

DISCUSSION

Present study findings show that among participants who develop phlebitis they had 20 G of IV cannula (90%) inserted in cephalic vein (82%). Regarding medication most of the patients were receiving antibiotics (73%), analgesic (71%) and KCL (51%). The study finding supported by **Oliviera S A, Veiga P, Parreira P** conducted a study to recognize the occurrence of phlebitis and the risk factors which impart to progress in patients with IV cannula. Finding revealed that most significant risk factors of phlebitis were infusion of KCL (15.9%), antibiotic (35.3%) and cannula inserted on forearm (93.9%).

In the present study prevalence of phlebitis was 51%.and most of the sample (44%) had second grade of phlebitis. This finding supported by **Kaur P, Thakur R, Kaur S, Bhalla A** conducted study to assess the risk factors of phlebitis among patients. Result shows that prevalence of phlebitis was 56%.

On the basis of finding, it can be concluded that prevalence rate of phlebitis was 51% and the risk factors were site and size of cannula, and infusion of some medicine such as antibiotic, analgesic and KCL. Phlebitis is a preventable condition. Prevention starts from the selection of IV cannula till care full handling. Recurrent observation of the insertion site and careful infusion of some medication by health care personnel can also be helpful in prevention or early assessment of phlebitis so that its complications can be avoided.

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