



A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF ALOE VERA GEL APPLICATION ON THROMBOPHLEBITIS AMONG PATIENTS RECEIVED INTRAVENOUS THERAPY IN SELECTED HOSPITAL AT JALANDHAR CANTT.”

Nursing

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ABSTRACT

Globally 60% of patients develop intravenous complications. In developed countries approximately 1,25,000 complications reported yearly. The complication rate in India is between 78-82%. Infusion phlebitis has become one of the most common complication in patients with intravenous therapy. It requires manual dexterity and technical competence, knowledge of pharmaceutical therapy and familiarity with the anatomy & physiology of the vascular system. However, the effects of routine treatment such as external application are unsatisfactory therefore new methods to discover and implement to prevent and alleviate infusion phlebitis. For the post-experimental and post-control groups, the descriptive statistics show a noticeable difference in the mean scores of thrombophlebitis. The post-experimental group has a mean score of 6.07, indicating a lower average level of thrombophlebitis compared to the post-control group, which has a mean score of 10.90. This suggests that the intervention in the experimental group was effective in reducing thrombophlebitis.

KEYWORDS

Alovera gel application, Thrombophlebitis, Intravenous therapy

INTRODUCTION

Phlebitis: The inflammation of the vein's inner lining, the tunica intima. Clinical indications are localized redness, pain, heat, purulent drainage, and swelling that can track up the vein leading to a palpable venous cord.

Peripheral intravenous catheters (PIVCs) are widely used to maintain intravenous (IV) access in clinical practice. Up to 80% of all hospital patients receive peripheral IV fluid administration, and nurses are key to preventing complications from this procedure. The use of peripheral intravenous catheters is associated with the risk of complications such as phlebitis, infiltration, and extravasation. Phlebitis is the irritation or inflammation of a vein wall and is categorized as mechanical (related to the action of the PIVC in the vein), chemical (related to infusate or medication), or bacterial (related to contamination at the insertion site, intravenous solution, or tubing). Infiltration is the leakage of fluid out of the vein, and extravasation is the leakage of a vesicant drug out of the vein. Phlebitis, caused by irritation of blood vessels due to friction from the catheter tip, is a common complication from peripheral IV fluid administration. Medications themselves can also cause inflammation, as can blood clots formed at the IV catheter tip. Swelling from infiltration and extravasation are also common. These complications cause discomfort and pain and can lead to higher treatment costs and longer hospital stays. These complications can lead to bloodstream infections, with a mortality rate of 12% to 25%. Prevention of complications must focus on proper technique, only using IV catheters when medically necessary and ensuring their prompt removal when no longer necessary, according to recommended guidelines. However, the magnitude of this risk is unknown.

Phlebitis could be categorized as having mechanical, chemical, and bacterial causes. Mechanical phlebitis results from the PIVC gauge being larger than the diameter of the vein lumen or sudden displacement of the PIVC. Chemical phlebitis results from irritation of the vein lumen, which is produced by medication or intravenous fluid such as antibiotics or potassium chloride. Bacterial phlebitis is produced by bacterial growth resulting from poor hygiene or lack of aseptic technique during PIVC insertion.

Aloevera gel has anti-inflammatory agent gibberlin and polysaccharides which effectively decrease inflammation and promote healing. It relieves pain as it contains salicylic acid and lignin which helps to penetrate deeply into skin to deliver its therapeutic effects. Most of the nursing interventions fit comfortably within the realm of the natural therapy's illness healing paradigm shift and coverage, and role of nurses shifts can give to the healer.

Need Of The Study

Globally 60% of patients develop intravenous complications. In

developed countries approximately 1,25,000 complications reported yearly. The complication rate in India is between 78-82%. Infusion phlebitis has become one of the most common complication in patients with intravenous therapy. It requires manual dexterity and technical competence, knowledge of pharmaceutical therapy and familiarity with the anatomy & physiology of the vascular system. However, the effects of routine treatment such as external application are unsatisfactory therefore new methods to discover and implement to prevent and alleviate infusion phlebitis.

Although the Infusion Nurses Society standards recommend that the vascular access site should be monitored for 48 hours following removal of catheter to identify complication little is known about the incidence of post infusion phlebitis. It is essential for nurses able to identify patients who are at risk of developing phlebitis. In turn early recognition will enable prompt intervention, minimizing disruption to treatment.]

Aloe Vera is gel from the leaves of aloe plants. Aloe vera contains 75 potentially active constituents some of which have several pharmacological actions. These include the carboxyl peptidase that inactive bradykinin, salicylates and substances that inhibit local vasoconstriction.

During the work experience as a staff nurse in the ward the investigator has come across with many patients in whom Thrombophlebitis developed.

So, the researcher felt the need to find an alternative which is both cost effective and accessible for the patients in order to resolve the problem of thrombophlebitis during hospital stay. Therefore, the researcher decided to conduct the research study to assess the effectiveness of Aloe vera Gel application on Thrombophlebitis among patients received Intravenous therapy

Problem Statement:

“A quasi experimental study to assess the effectiveness of Aloe vera Gel application on Thrombophlebitis among patients received Intravenous therapy in Selected Hospital at Jalandhar Cantt.”.

Objectives

1. To assess the pre- interventional level of thrombophlebitis among patients received intravenous therapy in experimental and control group.
2. To plan and implement Alovera gel application on thrombophlebitis among patients received intravenous therapy in experimental group.
3. To assess the post- interventional level of thrombophlebitis among patients received intravenous therapy in experimental and

control group.

4. To compare the pre interventional and post- interventional level of thrombophlebitis among patients received intravenous therapy in experimental and control group.
5. To find the association between the post test level of thrombophlebitis among patients received intravenous therapy with their selected demographic variables.

Hypothesis:

H1: There is a significant reduction in thrombophlebitis among patients received intravenous therapy after Aloeveragel application.

H2: There is a significant association between the post-test level of thrombophlebitis among patients received intravenous therapy and their selected demographic variables

Table I : Frequency Distribution Of Socio Demographic Variables

SECTION-I SOCIO DEMOGRAPHIC PROFORMA		Experimental f(%)	Control f(%)	Experimental (N=30)	Control (N=30)
Age	21-30 years	30.0%	33.3%	9	10
	31-40 years	36.7%	26.7%	11	8
	41-50 years	23.3%	23.3%	7	7
	51-60 years	10.0%	16.7%	3	5
Gender	Male	50.0%	53.3%	15	16
	Female	50.0%	46.7%	15	14
Habits	Smoking	33.3%	16.7%	10	5
	Alcohol	16.7%	0.0%	5	0
	Tobacco	0.0%	0.0%	0	0
	None	50.0%	83.3%	15	25
BMI	Under weight	0.0%	0.0%	0	0
	Normal	43.3%	53.3%	13	16
	Overweight	36.7%	30.0%	11	9
	Obese	20.0%	16.7%	6	5
Vein cannulated	Basilic vein	33.3%	20.0%	10	6
	Cephalic vein	56.7%	60.0%	17	18
	Median vein forearm	10.0%	20.0%	3	6
Size of the cannula	16G	0.0%	0.0%	0	0
	18G	10.0%	13.3%	3	4
	20G	56.7%	60.0%	17	18
	22G	33.3%	26.7%	10	8
Iv cannulation done by	Registered nurse	100.0%	100.0%	30	30
	Student nurse	0.0%	0.0%	0	0
	Doctors	0.0%	0.0%	0	0
Frequency of medication	OD	0.0%	0.0%	0	0
	BD	13.3%	0.0%	4	0
	TDS	86.7%	100.0%	26	30
	QDS	0.0%	0.0%	0	0
History of chronic vascular disease	Yes	0.0%	0.0%	0	0
	No	100.0%	100.0%	30	30
Duration of cannula in situ	<2 days	10.0%	13.3%	3	4
	2-3 days	26.7%	33.3%	8	10
	3-5 days	63.3%	53.3%	19	16
	>5 day	0.0%	0.0%	0	0

Table-II: Showing Frequency & Percentage Distribution Of Pre-Experimental And Pre-Control Group Of Thrombophlebitis Scores.

CRITERIA MEASURE OF THROMBOPHLEBITIS SCORE		
CATEGORY SCORE	PRE EXPERIMENTAL	PRE CONTROL
SEVERE THROMBOPHLEBITIS(16-20)	3(10%)	0(0%)
MODERATE THROMBOPHLEBITIS(11-15)	9(30%)	18(60%)
MILD THROMBOPHLEBITIS(6-10)	17(56.7%)	8(26.7%)
NO THROMBOPHLEBITIS(0-5)	1(3.3%)	4(13.3%)
Maximum=20 Minimum =0		

Table-III Showing Frequency & Percentage Distribution Of post-Experimental and Post-Control Group Of Thrombophlebitis scores.

CRITERIA MEASURE OF THROMBOPHLEBITIS SCORE		
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CATEGORY SCORE	POST EXPERIMENTAL	POST CONTROL
SEVERE THROMBOPHLEBITIS(16-20)	0(0%)	0(0%)
MODERATE THROMBOPHLEBITIS(11-15)	3(10%)	18(60%)
MILD THROMBOPHLEBITIS(6-10)	7(23.3%)	9(30%)
NO THROMBOPHLEBITIS(0-5)	20(66.7%)	3(10%)
Maximum = 20 Minimum = 0		

Table 7 : Comparison Of Frequency & Percentage Distribution Of Pre-test And Post-test Of Both Groups Of Thrombophlebitis

CRITERIA MEASURE OF THROMBOPHLEBITIS SCORE				
SCORE LEVEL	PRE EXPERIMENTAL	PRE CONTROL	POST EXPERIMENTAL	POST CONTROL
SEVERE THROMBOPHLEBITIS(16-20)	3(10%)	0(0%)	0(0%)	0(0%)
MODERATE THROMBOPHLEBITIS(11-15)	9(30%)	18(60%)	3(10%)	18(60%)
MILD THROMBOPHLEBITIS(6-10)	17(56.7%)	8(26.7%)	7(23.3%)	9(30%)
NO THROMBOPHLEBITIS(0-5)	1(3.3%)	4(13.3%)	20(66.7%)	3(10%)
Maximum=20 Minimum =0				

Case Study

Before the experiment, the distribution of thrombophlebitis severity is notable between the experimental and control groups. In the experimental group, a small percentage (10%) exhibit severe thrombophlebitis, whereas none of the participants in the control group have severe thrombophlebitis. Moderate thrombophlebitis is more prevalent in the control group (60%) compared to the experimental group (30%). Mild thrombophlebitis is most common in the experimental group (56.7%), while it is less frequent in the control group (26.7%). Lastly, a minority of participants in both groups show no signs of thrombophlebitis, with 3.3% in the experimental group and 13.3% in the control group. After the experiment, the severity of thrombophlebitis showed a notable difference between the experimental and control groups. In the experimental group, there were no cases of severe thrombophlebitis (16-20), whereas the control group also had no severe cases. Moderate thrombophlebitis (11-15) was observed in only 10% of the experimental group, in stark contrast to 60% in the control group. Mild thrombophlebitis (6-10) was seen in 23.3% of the experimental group compared to 30% in the control group. Most notably, 66.7% of the experimental group showed no signs of thrombophlebitis (0-5), whereas only 10% of the control group fell into this category.

CONCLUSION

The purpose of this study was to assess the effectiveness of Alovera gel Application on reducing thrombophlebitis among patient received intravenous therapy from the above finding, it is evident that alovera gel application is effective in reducing thrombophlebitis among patients received intravenous therapy

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