



Effectiveness of aloe vera, glycerin, and cold application on superficial thrombophlebitis among patients

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Abstract: A comparative study to assess the effectiveness of Aloe vera, glycerin and cold application on superficial thrombophlebitis among patients admitted in selected private hospitals of Bhopal city, Madhya Pradesh, India. The comparative descriptive design was used. Totally 90 samples were taken from the selected hospitals of Bhopal by using the demographic data collection method. The design used in research was pretest and posttest design. The comparative study was results like cold application was more effective as compared with aloe vera and glycerin. In association with demographic variables there is a significant difference found between these aloe vera, glycerin and cold application. Meanwhile the cold application was more effective while there is no difference between aloe vera & glycerin.

Key words: Phlebitis; Grading Scale; superficial thrombophlebitis patients

Introduction

“He, who has health, has hope, and he who has hope, has everything”. [An Arabian proverb].

In the modern practice, up to 80% of the hospitalized patients receive intravenous (IV) therapy at some time during their admission. The peripheral venous catheterization is a commonly done invasive procedure to administer medications, fluids and bio products. The most common complication associated with it is superficial thrombophlebitis with incidence varying according to different settings (3.7%-67.24%). Superficial thrombophlebitis is the inflammation of the vessel wall due to the formation of blood clot. Clinical signs of phlebitis are localized redness, warmth, swelling and palpable venous cord.

Kang kaew (2007) conducted a systematic review to determine the efficacy to topical Aloe vera for the treatment of thrombo-phlebitis in a Thailand hospital among 371 patient the Aloe vera gel was applied for a period of 5 days based on an analysis using duration of healing as an outcome the healing time in Aloe vera group was faster than the control group ($p = 0.006$) hence the researcher conclude that Aloe vera gel was effective intervention used superficial thrombo-phlebitis.

Hu huali *et al.*, (2006) conducted a study to assess the effectiveness of fresh Aloe vera to prevent superficial thrombo-phlebitis in malignant patient receiving chemotherapy in the department of tumor Jinghua Guagfu hospital China. 1510 cases were standardized in experimental and control group 510 patient fresh Aloe vera was placed 2 C.M. above the infusion site and fixed with plaster

every 2 hours it is replaced the incidence of superficial thrombo-phlebitis was 3.50% in experimental group and in control group 28.53% ($p0.01$) significantly higher than that of experimental group applying fresh Aloe vera was effective in prevention of superficial thrombophlebitis.

Materials and Methods

Research design

Quasi experimental Pre-test post- test control group research design

Population

Target population: The population of the study will be the clients who develop superficial thrombophlebitis with intravenous line.

Accessible population: The accessible populations were superficial thrombophlebitis patients who are in medical, surgical & other ward of Peoples Hospital & Research Centre Bhopal.

Sampling technique

Purposive Sampling

Sample size

30 subject in group 1(application of Aloe vera)
30 subject in group 2 (application of glycerin)
30 subject in group 3 (application of cold application)

Setting

Peoples Hospital & Research Centre, Bhanpur Bhopal, M.P.

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Inclusion criteria

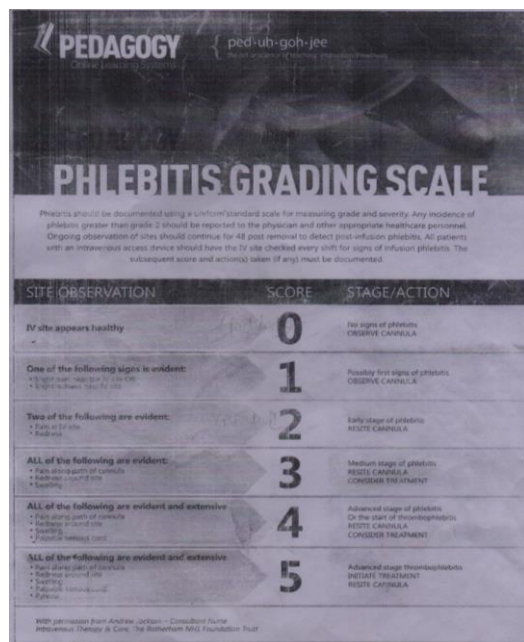
- Patient who is willing to participated in the study
- Patient who are available during the period of data collection
- Patient who are admitted in People's Hospital and Research Center

Exclusion criteria

- Patient with superficial thrombophlebitis who were having skin disorder.
- Patient having associated muscular disorder like DVT, varicose vein etc.
- Patient having hypersensitivity to intervention

Section 1: Socio-demographic variables

Consist of a structured interview schedule to collect baseline data which consist of 10 items for socio demographic data for obtaining formation about selected factors such as age, sex, education, marital status, occupation, ward, purpose of IV infusion, size of cannula, Period of hospital stay, duration of peripheral IV infusion.

**Section 2: Standardized visual infusion phlebitis scale**

Review of literature provides adequate content for the tool preparation. Personal experience of the investigator was on added benefit in the tool contraction. Prior to development of the tool

the investigator consulted the expert of this field. Based on valuable suggestion of the experts & Review of literature the investigator prepared & organized the item of tool under the respective area.

Result and Discussion**Section 1: Socio-demographic variables****Table 1:** Frequency and percentage distribution of subject according of Demographic variable.

Demographic Variable	Frequency	Percentage
Age		
21-35 year	38	42.2%
36-50year	40	44.4%
51-65year	12	13.3%
Sex		
Male	50	55.5%
Female	40	44.4
Education		
Illiterate	12	13.3%
Primary	31	34.4%
Secondary	32	35.5%
Graduate	15	17.0%
Post graduate	0	0%
Marital status		
Married	81	90%
Unmarried	8	9%
Widow	1	1.1%
Occupation		
Government	25	28%
Private	32	35.5%
Unemployed/ Housewife	33	37%

Ward		
Medical	25	28%
Surgical	11	12.2%
Gynecology	9	10
Orthopedic	13	14.4
SICU	21	23.3
MICU	11	12.2
Purpose of iv infusion		
Blood transfusion	16	18
Drug administration	71	79
Unconscious or nil / oral	0	0
Fluid electrolyte	3	3.3

Size of Cannula		
Size of IV cannula	Frequency	%
14Gauge orange color 300ml/minute	0	0
16Gauge grey color 200ml/minute	0	0
18Gauge green color 90ml/minute	8	9
20gauge pink color 61ml/minute	62	69
22Gauge blue color 31ml/minute	20	22.2
Period of hospital stay		
<1week	21	23.3
1-2week	50	55.5
3-4week	20	21.1
>4week	0	0

Table 2: Pre-test assessment of superficial thrombo-phlebitis

	Group			Total	Chi sq	P value
	Alovera	Glycerine	Cold			
Possibly First Signs of Phlebitis	3 10.0%	3 10.0%	4 13.3%	10 11.1%		
Early stage of Phlebitis	8 26.7%	6 20.0%	13 43.3%	27 30.0%		
Pre Test	11 36.7%	11 36.7%	9 30.0%	31 34.4%		
Medium stage of Phlebitis	7 23.3%	9 30.0%	3 10.0%	19 21.1%	6.294	0.614
Advanced stage of Phlebitis	1 3.3%	1 3.3%	1 3.3%	3 3.3%		
Advanced stage of thrombophlebitis	30 100.0%	30 100.0%	30 100.0%	90 100.0%		
Total						

Table 14: Post-test assessment of superficial thrombo-phlebitis

	Alovera	Glycerine	Cold	Total	Chi sq	P value
Post Test	4 13.3%	4 13.3%	4 13.3%	12 13.3%	0.000	1.000
Possibly First Signs of Phlebitis						
Total	30 100.0%	30 100.0%	30 100.0%	90 100.0%		

Conclusion

The findings of the present study were analyzed and discussed with the findings of the similar studies. This helped the investigator to prove that which one of the intervention was truly affective for the patient of superficial thrombo-phlebitis. It includes statement, objective, Hypothesis, Tool used for the study and findings. A study to assess the effectiveness of interventions on superficial thrombo-phlebitis at People's hospital & Research Centre of Bhopal. The study made us approach with one group pre- test and post-test design. The population of the study consisted of superficial thrombo-phlebitis patient at selected people's hospital Bhopal. Purposive sampling technique was utilized to selected 90 superficial thrombo-phlebitis patients based on the certain pre-determine criteria.

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