Research Article **ISSN: 2394 – 7403**

International Journal of Medicine and Health Profession Research

Journal home page: www.ijmhpr.com

https://doi.org/10.36673/IJMHPR.2021.v08.i02.A20

A STUDY TO ASSESS THE EFFECTIVENESS OF DRY COLD APPLICATION ON PAIN PERCEPTION AT THE INJECTION SITE OF LOW MOLECULAR WEIGHT HEPARIN AMONG CARDIAC PATIENTS ADMITTED AT SELECTED HOSPITAL, COIMBATORE

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ABSTRACT

Introduction: The cardiac patients came across with the incidence of pain at Low Molecular Weight Heparin site (LMWH). In this context, Dry cold application appears to be a cheaper and easily available therapy to reduce pain. **Objective:** To assess the effectiveness of dry cold application on pain perception among patients receiving low molecular weight heparin. **Design:** A qualitative approach using quasi experimental post test only control group design. **Participants:** 60 patients receiving low molecular weight heparin. Samples were selected using non-probability purposive sampling in Sree Abirami Hospital at Coimbatore. **Intervention:** Dry cold application for 20 minutes prior to administration of injection LMWH to reduce level of pain perception. **Tools:** Standardized Numerical rating scale was used to assess the level of pain perception. **Results:** Descriptive and inferential statistical techniques were to analyze collected data. Using Unpaired 't' effect of dry cold application on pain perception was analyzed immediately after withdrawing needle, after 2 hours and after 4 hours (t=31.4, 24.8 and 14.07 respectively <0.05). **Conclusion:** Application of dry cold was effective in reducing the level of pain perception among patients receiving LMWH.

KEYWORDS

Cardiac patients, Reduce pain and Pain perception.

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INTRODUCTION

Cardiovascular diseases are the leading cause of death globally. In 2015, about 15.9 million people diagnosed in India with myocardial infarction (MI). LMWH heparin as part of the patient's anticoagulation therapy, to prevent the formation of thrombi (clots) MI. A simple and inexpensive therapy. Many reviews suggest that the use of non-

pharmacological measures along with pharmacological treatment is considered as effective for pain management.

Dry cold application appears to be a cheaper and easily available therapy to reduce pain. Hence the researcher wanted to evaluate the effectiveness of dry cold application on pain perception among patients receiving LMWH.

Problem statement

A study to assess the effectiveness of dry cold application on pain perception at the injection site of Low molecular weight heparin among cardiac patients admitted at selected hospital, Coimbatore.

Objectives of the study

To assess the pain perception at the subcutaneous injection site among the interventional and control groups.

To determine the effectiveness of dry cold application on pain perception at the subcutaneous injection site in the interventional group.

To find out the association between the pain perception at the injection site among the interventional and the control group with their selected demographic variables.

Assumption

Patients receiving subcutaneous LMWH injection may perceive pain perception at the injection site.

Pain perception will be reduced by dry cold application.

MATERIAL AND METHODS

A quantitative approach was used. A quasi experimental post-test only control group design was used to assess the effectiveness of dry cold application on pain perception receiving LMWH among cardiac patients. The study was conducted at Sree Abirami Hospital (SAH) Coimbatore. 60 samples were selected for the study, among them 30 were allotted for interventional group and the remaining 30 for control group who fulfils the inclusion criteria. The sample was selected for this study by adopting non probability purposive sampling technique. In the interventional group before administration of LMWH injection dry cold was applied for 20 minutes to the selected injection site for 3 consecutive days. The choice of drug is cleaxane 60mg. The recommended sites are the outer quadrant of the upper arm and thigh. During the administration of injection standard protocol was followed by the researcher. The site was cleaned with an alcohol swab and left to dry the site before the injection. Then, the skin was pinched, and the full length of the needle (27 gauge syringe) was inserted into the subcutaneous at a 90-degree angle and the solution was slowly injected, keeping the skin fold pinched throughout this time. Then, the needle was withdrawn and dry cold was applied gently on the spot with no pressure, where the injection was given. The area was not rubbed or massage. Then the Post test was done to assess the pain perception by using standardized numerical pain rating scale at immediately after withdrawing, 2nd hour and 4th hour. Whereas in control group, the same method was carried out but without dry cold application.

Tools used for the study

This standardized numerical pain rating scale was administered through structured interview schedule to assess the level of pain perception among patients receiving LMWH, it includes demographic variables age, gender, educational status, occupational status, family monthly income and marital status. Numerical pain rating scale, assessing subjective experiences of pain perception has been graded on 0-10. The total score is 10. The pain was assessed three time intervals at immediately after withdrawing needle, after 2ndhour and after 4thhour at the injection site.

LMWH injection given to the interventional group dry cold was applied for 20 minutes of the selected injection site. Dry cold was applied once in a day for 3 consecutive days. Injection of LMWH was administered subcutaneously by the researcher in the same method as used for the interventional group. Dry cold application was not done before administration of injection. Post-test level of pain perception was assessed by using standardized numerical pain rating scale at immediately after withdrawing needle, after 2nd hour and after 4th hour for both the group.

RESULTS AND CONCLUSION

Table No.1 this table shows the level of pain perception after dry cold application patients receiving LMWH, majority of 28(93.3%) had only mild pain immediately after withdrawing the needle, at 2nd hour about 10(33.3%) subjects reported no pain and at 4th hours almost 29(96.7%) had no pain in the interventional group.

Table No.2 reveals that with regard to assessed in immediately after withdrawing needle the mean score and standard deviation of interventional group was 1.6 and 0.75, in control group 6.8 and 0.47 with the mean difference 5.2 respectively.

After 2 hours the mean score and standard deviation of interventional group was 0.8 and 0.63, in control group 4.2 and 0.41 with the mean difference 3.4 respectively. After 4 hours the mean score and standard deviation of interventional group was 0.2 and 0.31, in control group 1.4 and 0.33 with the mean difference 1.2 respectively. Calculated 't' value immediately after withdrawing needle, after 2 hours and after 4 hours were 31.4,24.8 and 14.07 which was greater than table value (tv=2.07) at 0.05 level of significance.

Table No.1: Data on assessment of level of pain perception after dry cold application among patients receiving LMWH in the interventional group N = 30

S.No	Pain Perception	Interventional group					
		Immediately after withdrawing needle		After 2 hours		After 4 hours	
		N	%	N	%	N	%
1	No pain	0	0	10	33.3	29	96.7
2	Mild Pain	28	93.3	20	66.7	1	3.3
3	Moderate Pain	2	6.7	0	0	0	0
4	Severe pain	0	0.0	0	0	0	0
5	Unbearable pain	0	0.00	0	0	0	0

Table No.2: Data on effect of dry cold application on pain perception among patients receiving LMWH in interventional group and control group N=60

S.No	Pain perception	Group	Mean	Standard deviation	Mean difference	Unpaired 't' test
1	Immediately withdrawing the needle	Interventional group	1.6	0.75	5.2	31.4
		Control group	6.8	0.47		
2	After 2 hours	Interventional group	0.8	0.63	3.4	24.8
		Control group	4.2	0.41		
3	After 4 hours	Interventional group	0.2	0.31	1.2	14.07
		Control group	1.4	0.33		

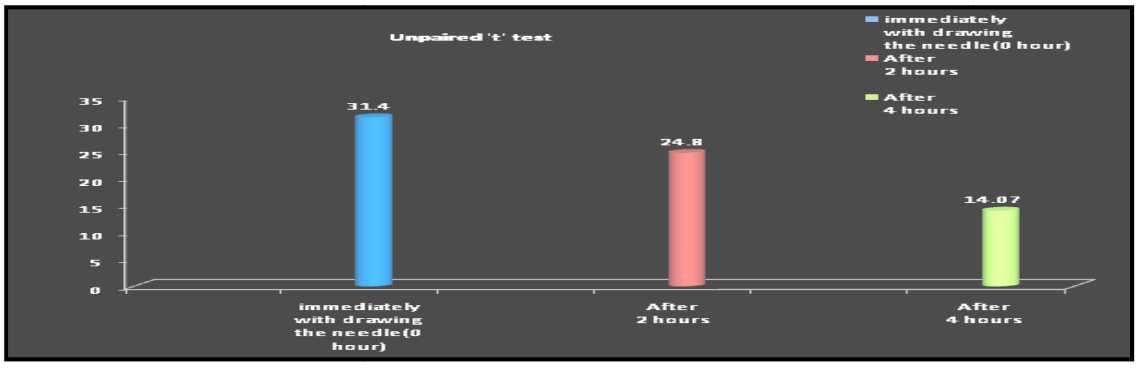

Figure No.1: Bar diagram show in effect of dry cold application on pain perception among patients receiving LMWH

CONCLUSION

The main conclusion drawn from this present study was that most of the clients receiving low molecular weight heparin among cardiac patients had significant level of pain perception. After dry cold application, it was found that there had been a significant level of reduction in pain perception. It is concluded that, dry cold application is an effective, simple, easy and in expensive method to reduce pain.

RECOMMENDATION

Educate about the importance of dry cold application and its effect on minimizing the pain level should be conducted for nursing staff and students

Application of dry cold application has to be part of the routine care of all patients receiving low molecular weight heparin.

ACKNOWLEDGEMENT

The authors wish to express their sincere gratitude to Department of Medical Surgical Nursing, Sree Abirami College of Nursing, Coimbatore, Tamil Nadu, India for providing necessary facilities to carry out this research work.

CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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Please cite this article in press as: Anandapriya J and Shyla Kamalakumari. A study to assess the effectiveness of dry cold application on pain perception at the injection site of low molecular weight heparin among cardiac patients admitted at selected Hospital, Coimbatore *International Journal of Medicine and Health Profession Research,* 8(2), 2021, 101-104.