https://doi.org/10.48047/AFJBS.6.14.2024.6961-6971

African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

Research Paper Open Access

"A STUDY TO EVALUATE THE EFFECTIVENESS OF TOPICAL ETHYL CHLORIDE SPRAY ON PAIN PERCEPTION AMONG THE PATIENTS RECEIVING INTRA-MUSCULAR INJECTION IN SELECTED PHC, BELAGAVI."

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Volume 6, Issue 14, Aug 2024

Received: 15 June 2024

Accepted: 25 July 2024

Published: 23 Aug 2024

doi: 10.48047/AFJBS.6.14.2024.6961-6971

Abstract
The quantitative research approach, experimental study design was done, Purposive sampling technique is used to select the patients of Primary Health Care Centre (PHC) with objective to assess the effectiveness of topical ethyl chloride spray on pain perception who are receiving IM injection. Ludwing Von Bertalanffys open system theory was implemented as conceptual frame work. 10 point numerical pain scale was applied to assess the level of pain . Post test was conducted among both experimental and non-experimental group on patients receiving IM injection. For experimental group Ethyl Chloride Spray was given and the post-test was conducted. The level of pain result in experimental group has decreased to 17% after using stress management intervention for critical care nurses in experimental group whereas there was only 0.94% stress has reduced in control group without intervention.
Keywords: Intra muscular injection, Ethyl chloride spray, Pain perception.

Introduction

Pain is a complex phenomenon that creates unpleasant sensory and emotional experiences in the person, occurs with or without tissue damage, and is influenced by past experiences, and is the most common reason for admission to the emergency department. Prevention of pain is also one of the basic requirements of human and patient rights.

The importance of treating and preventing pain has many benefits, from improving patient and family satisfaction to reducing patient suffering to improving patient care. Recently, many

pharmacological and non-pharmacological methods have been investigated along with advances in pain treatment. One of these nonpharmacological methods is the use of vapocoolant spray.

OBJECTIVES

1. To assess the level of pain during IM injection among experimental and control group.

2. To evaluate the effectiveness of Ethyl chloride spray during IM injection in experimental group.

3. To associate the level of pain with selected demographic variables.

HYPOTHESIS

H1: There would be a marked statistical variation in the mean post test score of pain perception between two groups.

H2: There is significant relation between the pain and selected demographic variables in experimental and control group.

ASSUMPTION

Applying Ethyl chloride spray may have effect in reducing pain related to IM injection.

DELIMITATION

The study is delimited to patients who are receiving Intra muscular injection.

MATERIAL AND METHOD:

The quantitative research approach was used with experimental study design for the study. Ethical clearance and formal written permission were obtained from concerned authority of KLES Dr. Prabhakar Kore hospital and MRC Belagavi to collect the data for main study. The tool was validated by seven experts of medical

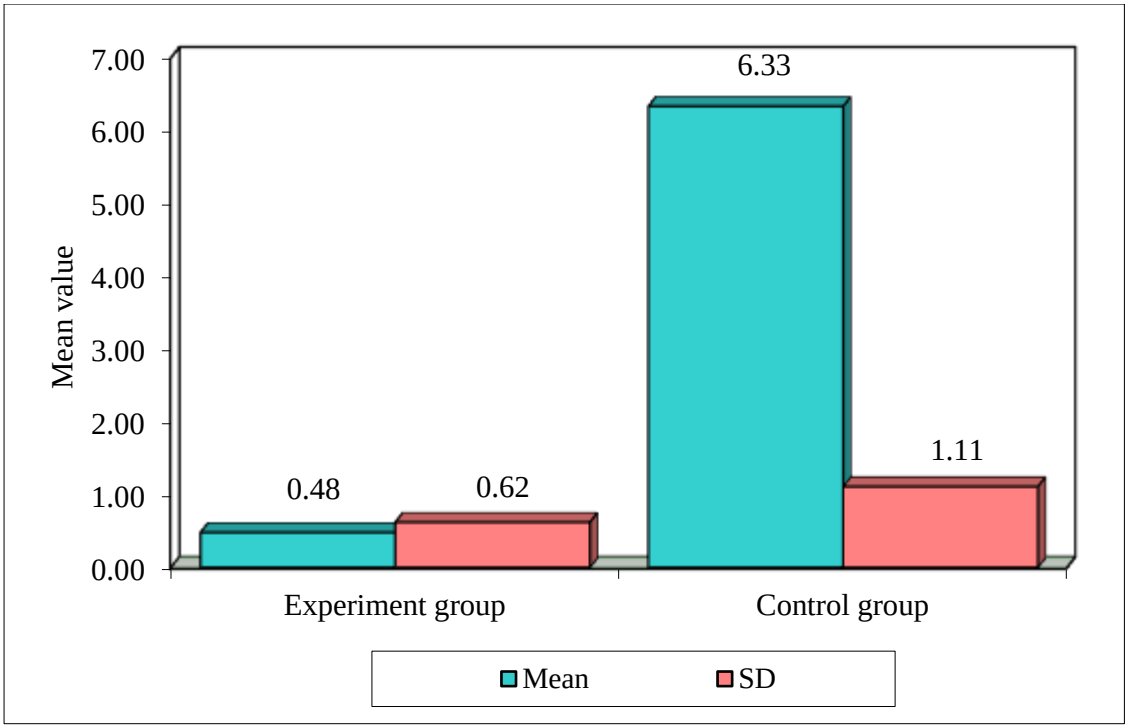
surgical nursing department. Soon after the tool got validated the reliability of tool was checked and pilot study was conducted in PHC on ten samples.

Numerical pain scale and demographic variables were used as tool for data collection. Total 66 samples were selected for study. Later pain assessment was conducted among both experimental and non-experimental group on patients of PHC. among them experimental group was given ethyl chloride spray as a treatment later the post-test was conducted. While in control group direct post test was obtained without treatment. Descriptive statistics was used along with coefficient of correlation for obtaining the result. Descriptive statistics was used for obtaining the result.

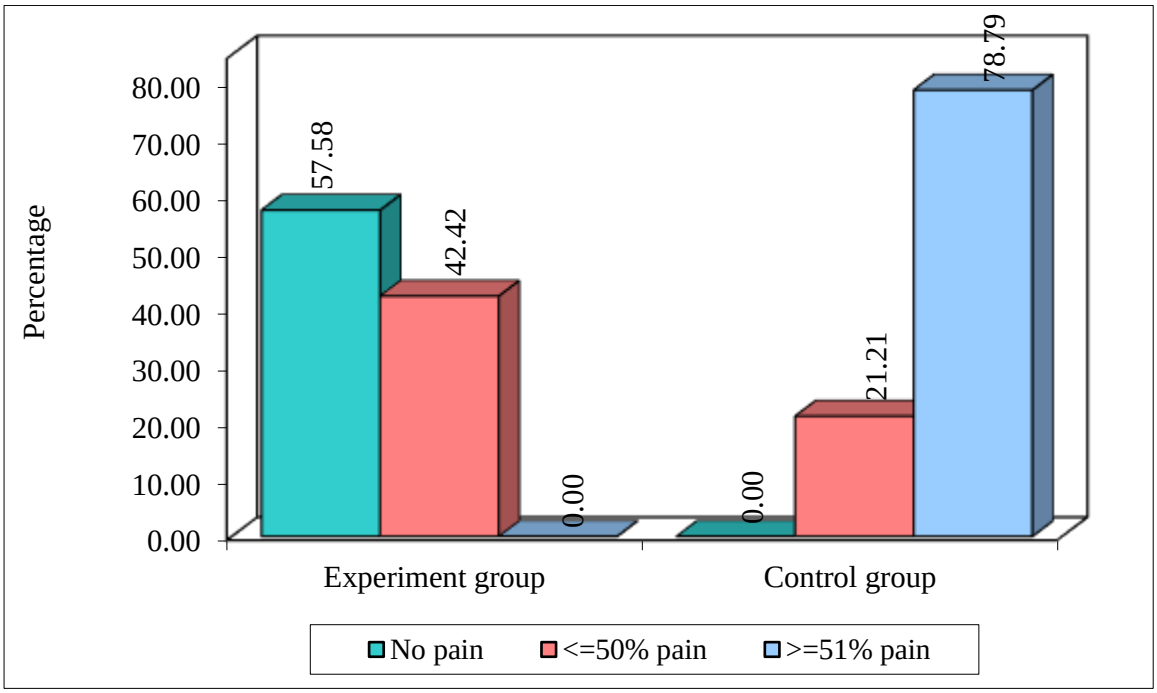
RESULTS:

- The mean and standard deviation in experimental group and control group is 0.48 and 0.62 , 6.33 and 1.11 respectively with p value of 0.0001 which is highly significant hence **hypothesis I** is accepted. Whereas there was no significant relationship between demographic variable with level of pain in post-test score in experimental group, hence **hypothesis II** is rejected.

Comparison of experiment group and control group with pain scores.



Comparison of experiment group and control group with levels of pain



Relation between levels of pain with demographic characteristics in treatment group

Profile	No pain	%	<=50%	%	Total	%	Chi-square	p-value
Age groups								
21-30	0	0.00	1	100.00	1	3.03	7.9850	0.0460*
31 - 40	3	37.50	5	62.50	8	24.24		
41 - 50	9	52.94	8	47.06	17	51.52		
> 50	7	100.00	0	0.00	7	21.21		
Gender								
Male	8	47.06	9	52.94	17	51.52	1.5880	0.2080
Female	11	68.75	5	31.25	16	48.48		
Religion								
Hindu	6	42.86	8	57.14	14	42.42	2.3550	0.3080
Muslim	8	72.73	3	27.27	11	33.33		
Christian	5	62.50	3	37.50	8	24.24		
Education								
Illiterates	7	46.67	8	53.33	15	45.45	1.4660	0.4810
Primary	9	69.23	4	30.77	13	39.39		
Secondary	3	60.00	2	40.00	5	15.15		
Occupation								
Business	1	100.00	0	0.00	1	3.03	2.2950	0.5130
Private employee	0	0.00	0	0.00	0	0.00		
Government employee	6	75.00	2	25.00	8	24.24		
Labourer	9	50.00	9	50.00	18	54.55		
Retired	3	50.00	3	50.00	6	18.18		
Marital status								
Married	13	61.90	8	38.10	21	63.64	0.4430	0.5060
Unmarried	0	0.00	0	0.00	0	0.00		
Widow/Widower	6	50.00	6	50.00	12	36.36		
BMI								
Normal	8	53.33	7	46.67	15	45.45	1.3400	0.7200

Underweight	3	50.00	3	50.00	6	18.18		
Overweight	6	75.00	2	25.00	8	24.24		
Obese	2	50.00	2	50.00	4	12.12		
Site of injection								
Deltoid muscle	1	14.29	6	85.71	7	21.21	6.8160	0.0090*
Gluteal muscle	18	69.23	8	30.77	26	78.79		
Total	19	57.58	14	42.42	33	100.00		

*p<0.05

Only age has significant relation with level of pain in experimental group at 0.05 significance.

Connection between levels of pain with demographic variables in control group

Profile	<=50%	%	>=50%	%	Total	%	Chi-square	p-value
Age groups								
21-30 yrs	1	20.00	4	80.00	5	15.15	2.1300	0.5460
31 - 40yrs	3	25.00	9	75.00	12	36.36		
41 - 50yrs	1	9.09	10	90.91	11	33.33		
> 50yrs	2	40.00	3	60.00	5	15.15		
Gender								
Male	4	23.53	13	76.47	17	51.52	0.1130	0.7370
Female	3	18.75	13	81.25	16	48.48		
Religion								
Hindu	3	16.67	15	83.33	18	54.55	2.2660	0.3220
Muslim	2	18.18	9	81.82	11	33.33		
Christian	2	50.00	2	50.00	4	12.12		
Education								
Illiterates	3	21.43	11	78.57	14	42.42	1.5440	0.4620
Primary	1	10.00	9	90.00	10	30.30		
Secondary	3	33.33	6	66.67	9	27.27		
Occupation								
Business	0	0.00	2	100.00	2	6.06	2.8830	0.5780
Private employee	1	50.00	1	50.00	2	6.06		
Government employee	2	33.33	4	66.67	6	18.18		
Labourer	4	20.00	16	80.00	20	60.61		
Retired	0	0.00	3	100.00	3	9.09		
Marital status								
Married	5	22.73	17	77.27	22	66.67	0.3080	0.8570
Unmarried	0	0.00	1	100.00	1	3.03		

Widow/Widower	2	20.00	8	80.00	10	30.30		
BMI								
Normal	4	40.00	6	60.00	10	30.30	5.9030	0.1160
Underweight	2	40.00	3	60.00	5	15.15		
Overweight	1	7.14	13	92.86	14	42.42		
Obese	0	0.00	4	100.00	4	12.12		
Site of inj.								
Deltoid muscle	1	10.00	9	90.00	10	30.30	1.0790	0.2990
Gluteal	6	26.09	17	73.91	23	69.70		
Pain	7	21.21	26	78.79	33	100.00		

No co-relation of demo variables with pain score of control group.

CONCLUSION

There was significant difference between post intervention of pain among experimental group and control group. As depending on survey of study, the following outcome gathered helped in inferences drawn, there was reduction of pain among clients. Thus, ethyl chloride spray was found to be effective remedy for reduction in pain during IM injection. Therefore, this remedy can be used as a regular treatment modality for all IPD and OPD patients in all settings.

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