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A STUDY TO ASSESS THE EFFECTIVENESS OF COLD APPLICATION PRIOR TO INTRAMUSCULAR INJECTION ON REDUCING THE INTENSITY OF PAIN AMONG PATIENTS ADMITTED IN MAMATA HOSPITAL, KHAMMAM, TELANGANA

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ABSTRACT

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. The intramuscular injection of medication is a procedure commonly performed by nurses and it is associated with discomfort, pain and trauma to the injected tissue. The study was undertaken to assess the effectiveness of cold application prior to intramuscular injection on reducing the intensity of pain among patients admitted in Mamata Hospital, Khammam, Telangana. The Objectives were to assess the intensity of pain scores after intramuscular injection and to assess the effectiveness of cold application prior to intramuscular injection on reducing the intensity of pain scores among patients in experimental group. Research approach for the present study was Quantitative evaluative true- experimental study. Sampling technique used for study was lottery method. The data was collected from 80 samples (40 Experimental group and 40 control group) by using structured interview technique. The study results shows that mean value of intensity of pain scores of experimental groups 1.85, control group 7.68 and obtained independent "t" test calculated value of intensity of pain score is 11.99 significance at p<0.001 level. There was a significant difference in the intensity of pain scores between experimental group and control group. The study concluded that the cold application is effective prior to intramuscular injection on reducing the intensity of pain among patients.

Keywords: *Intramuscular injection, cold application, Pain.*

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INTRODUCTION

Health status of individuals may be positively influenced by the wellbeing and experience of comfort. Individuals get hospitalized for a wide range of acute illness and injuries. Drugs are delivered via many routes, such as orally, topically, and parenterally. One of the techniques for parenteral drug delivery is intramuscular (IM) injection, and one of the sites for this is the large muscle masses. Intramuscular injection is a technique, which causes the patient pain and discomfort. In the administration of IM injections, the choice of a reliable injection site and injection technique are important factors in the reduction of pain arising from IM injection. Pain associated with pin-prick remains an unsolved problem of the contemporary medical practice. It plays a major role in generating the fear of injection among adults and children.

Pain management is a challenge that every nurse must face, regardless of the practice setting. Every patient has the right to be free from pain. It is the responsibility of the nurses to do everything possible to alleviate the patient's pain. Pain can damage a mutual nurse patient relationship, whereas knowledge of alternative techniques to reduce pain can improve patients' satisfaction.

Intramuscular injection is a fairly uncomfortable invasive procedure requiring numerous decisions regarding the injection site, volume of drug to be injected, position of the client during injection and methods to keep the site relaxed to reduce pain. Cold application is a simple procedure to reduce pain due to intramuscular injection. Ice is a therapeutic agent, used in the medical field as an integral part of injury treatment and rehabilitation. The use of ice pack is widespread because of their effectiveness, convenience, low cost, and ease of transportation.

NEED FOR THE STUDY

Cold application has been accepted for decades as an effective nonpharmacologic intervention for pain management. A direct effect on the conduction of pain receptor and neurons, reducing the velocity and number of impulses is one way of alleviating the pain. US census bureau (2011) estimated that injections are among the most frequently used medical procedures with an estimated 12 billion intramuscular injections administered throughout the world on an annual basis. In developing countries alone, some sixteen thousand million injections are administered annually, over 90%, are administered for therapeutic aims whereas 5 to 10% are administered for disease prevention. Department of Health and Human Service, India (2010) stated that the prevalence of intramuscular injection range is between 1.7-11.3 injections per person per year. Though Intramuscular injection is most frequently used injection but it causes painful experience for many individuals. According to Indian journal of surgical nursing one of the article shows among 80 adults (40 experimental group and 40 control group) the comparison of intensity of pain in the experimental group & control group reveal that the mean difference score of the experimental group was 4.93 & the control group was 7.40. The calculated 't' value at 4.048 at ($p<0.05$) level of significance. The pain was less in experimental group as compared to control group, that should cold application was very effective.

Investigator's clinical experience it is observed that many patients who are admitted in the hospital are prescribed intramuscular injection and they had experienced severe intensity of pain after intramuscular injection, so the nurse investigator is interested to do a evaluative study to verify the effectiveness of cold application prior to intramuscular injection on reducing the intensity of pain among patients admitted in Mamata General and Super Specialty Hospital Khammam, Telangana

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of cold application prior to intramuscular injection on reducing the intensity of pain among patients admitted in Mamata General and Super Specialty Hospital, Khammam, Telangana

OBJECTIVE OF THE STUDY

- To assess the intensity of pain scores after intramuscular injection among patients in control group.
- To assess the effectiveness of cold application prior to intramuscular injection on reducing the intensity of pain scores among patients in experimental group.

REVIEW OF LITERATURE

The reviews were collected from various sources like books, journal, and periodicals and also electronic sources such as PubMed / Medline, CINHAL, Science direct, Research gate, EMBASE, PoLOS, Cochrane data base and Google scholar.

Tuba Karabey, Serife Karagozoglu, 2021 conducted a study on non-pharmacological methods are used for pain relief in intramuscular (IM) injection applications in Turkey. A total of 26 publications that met the inclusion criteria were included in the study. The results shows that injection administration dorsogluteal site with 69.23%, ventrogluteal site with 15.38 % and deltoid site with 11.53%. While a single non-pharmacological method was used in 84.62% of the studies, multiple non-pharmacological methods were employed together in 15.38%. The non-pharmacological methods used in these studies were determined to include manual pressure application 23.33%, local ice application 6.66%, injection rate technique 6.66% and techniques such as locally cooled steam, buzzy, music, Z-track technique, massage, internal rotation, needle tip replacement, cold spray and muscle relaxation 3%. The analysis of the results of the studies indicated that 88.47% of the non-pharmacological methods employed were effective in relieving injection pain. The study concluded that Non-pharmacological methods in IM injection applications were found to significantly relieve the injection pain.

Pravin Pande conducted a study to assess the effectiveness of cold application prior to intramuscular injection on the intensity of pain among adults admitted in a tertiary care hospital at Medical college, Kerala, in India. True experimental posttest only control design was used for the study. Sample chosen for the study was 60 adults (30 experimental group and 30 control group), by using probability simple random sampling technique. The data was collected by using interview scheduled &Visual Analogue Scale. The comparison of intensity of pain in the experimental group & control group reveal that the mean difference score of experimental group was 3.93 and control group was 6.40. The calculated 't' value at 2.048 at 5% level of significance. Hence the research hypothesis H1 is accepted, thus mean that pain was less in experimental group as compared to control group, means cold application was very effective.

OBJECTIVE 1: TO ASSESS THE INTENSITY OF PAIN SCORES AFTER INTRAMUSCULAR INJECTION AMONG PATIENTS

Table. No 1: Intensity of the pain scores after intramuscular injection among Experimental and control group patients. (N= 40)

S.NO	Levels of pain intensity	Experimental group(n=40)		Control group (n=40)	
		Frequency (f)	Percentage (%)	Frequency(f)	Percentage (%)
1	**No pain**	08	20	-	-
2	**Mild pain**	24	60	4	10
3	**Moderate pain**	06	15	14	35
4	**Severe pain**	02	5	22	55
Total		**40**	**100**	**40**	**100**

The above table shows that distribution of Patients according to the intensity of pain scores after intramuscular injection, in experimental group, majority of them 24 (60.0%) had mild pain, 08 (20.0%) had no pain , 06(15.0%) had moderate pain and 02 (05.0%) had severe pain. In control group, majority of them 22 (55.0%) had severe pain, 14 (35.0%) had moderate pain, 04(10.0%) had mild pain.

OBJECTIVE 2: TO ASSESS THE EFFECTIVENESS OF COLD APPLICATION PRIOR TO INTRAMUSCULAR INJECTION ON REDUCING THE INTENSITY OF PAIN SCORES AMONG PATIENTS IN EXPERIMENTAL GROUP

Table – 2: Effectiveness of cold application prior to intramuscular injection on reducing the intensity of pain scores. (N= 40)

S. No	Group	Mean	SD	Independent 't' test value
1	Experimental group	1.85	1.78	11.99*
2	Control group	7.68	2.51	df=78

S*=Significant at Level of P<0.001

The above table shows that the mean value of intensity of pain scores of experimental group 1.85 and SD 1.78 was less than the control group mean 7.68 SD 2.51 and obtained independent "t" test calculated value of intensity of pain score is 11.99 at p<0.001 level of significance.

CONCLUSION

Hence the study concluded that giving cold application prior to the intramuscular injection the intensity of pain scores was reduced in experimental group where as compared with control group. There was a significant difference in the intensity of pain scores among experimental and control group patients. This result gives a clear indication about effectiveness cold application prior to intramuscular injection to reduce in the intensity of pain scores.

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