

Effectiveness of Ice Cube Application or Prior to Intra Muscular Injection on Pain Intensity among Adult in Selected Hospital, Tamilnadu

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Abstract

Nurses as advocates for adults, are committed to minimize the emotional and physical impacts of painful procedures. Providing pain relief is considered a most basic human right and it is the obligation of the nurse to utilize best way to deal with various pain control measures such as applying pressure, taping the skin, applying heat and cold. This study was done to assess the effectiveness of ice cube application for prior to intra muscular injection on pain. The study findings shows post test level of pain intensity in experimental group revealed that 19 (63.33%) subjects had mild pain and 11 (36.67%) subjects had moderate pain level and post test level of pain intensity in control group revealed that 13 (43.33%) subjects had moderate pain and 17 (56.67%) subjects had severe pain level. The calculated unpaired 't' value of $t=8.76$ was found to be statistically significant at $p<0.001$ level.

Keywords: Pain; Ice Cube Application and Intramuscular Injection.

Introduction

Pain is a multidimensional phenomenon, it is difficult to define, it is an individual and subjective experience, and no two individuals experience pain in the very same way. Pain is stand out amongst the most widely recognized reasons for human sufferings, which is considered as a major health problem among adults. There are 16 billion Intramuscular injections (IMI) administered annually throughout the world (WHO, 2013).

Pain resulting from IM injection should not be underrated, in light of the fact that a painful injection might affect serious apprehension of injection, which may lead a patient to postpone looking medical help. Decreasing patients' pain is critical for all nurses in light of numerous reasons. Unnecessary pain can harm the nurse-patient relationship. Intramuscular injections (IMI) are regular complex procedure used to deliver medication profound into the vast muscle of the body. There are various pharmacological and non-pharmacological measures to lessen pain.

Research evidences demonstrated that non-pharmacological measures complimentary or alternative nursing interventions, which were advocated to minimize pain in patients.

Cryotherapy is most well-known techniques for cold application incorporate cold packs, cold immersion, and ice massage. Spray and stretch is an application of cryotherapy with a vapocoolant spray, which then is followed by stretching of the included muscles. Contingent on the application technique and length of time, the essential physiologic impact incorporates, diminish local metabolism, vasoconstriction, reactive hyperaemia, lessened oedema, decreased haemorrhage and reduced muscle effectiveness. In this manner, the present study will be conducted to evaluate the effect of cryotherapy on pain intensity among adult patients receiving intramuscular injections.

Objective

- Assess the pain intensity among adult receiving IM injection in experimental and control group
- Compare the pain intensity among adult receiving IM injection between experimental and control group
- Associate between pain intensity and selected demographic variable in experimental and control group

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Materials and Methods

Research Design

The research design selected for the study is quasi experimental design (post test control group method)

Research Variables

In this study dependent variable is level of pain and the independent variable is ice application. The demographic variable consists of baseline characteristics of adult such as age in yrs, sex, religion, educational status of caretaker, family income in month, and type of intramuscular injection, to be received and site of intramuscular injection.

Independent variable: Ice cube application

Dependent variable: Pain during intramuscular injection

Demographic variable: Age, sex, religion, site of IM injection, type of medication

Setting of the Study

This study was conducted in selected hospital in thiruvannamalai, Tamilnadu. The setting for the study was the medical and surgical wards, which is situated in the 2nd and 3rd floor of selected hospital. It consists of 200 beds.

Population

Both male and female who were admitted to medical surgical wards.

Sample and sample Size

A total of 60 patients (experimental group 30 and control group 30) both male and female who were admitted to medical surgical wards and who fulfilled the sampling criteria were the samples.

Sampling Technique

Patients who fulfilled inclusion criteria were included in the study. Samples were selected by using convenient sampling technique.

Criteria for Selection of Samples

Sampling criteria is a list of characteristics essential for the membership in the target population

sampling criteria inclusion and exclusion criteria.

Inclusion Criteria

- ❖ The adult age group between 20 to 35 years
- ❖ Both male and female patients.
- ❖ Who are receiving medication such as paracetamol, Diclofenac Sodium and Dicyclomine.
- ❖ Among adults who are available during the study period.
- ❖ Patients who could understand and speak Tamil and/or English.

Exclusion Criteria

- ❖ Patients with chronic pain associated with other disease condition.
- ❖ Sedated and unconscious patients.
- ❖ Adult patients who are receiving intramuscular injection for the first time.
- ❖ Patients have impaired circulation, peripheral vascular disease.
- ❖ Local infection.

Development and Description of Tool

The data will be collected using the tool consisted of

Section A: consisted of socio-demographic data

Section B: Visual analogue scale (VAS)

Subjective perception of pain during IM injection assessed by using a visual analogue scale. The scale comprised of a horizontal line with 0 -10 numbers. The score 0 indicates no pain and score 10 indicates worst possible pain. The pain scale was shown to the patient after ice cube application and asked the patient to mark the pain level.

Results and Discussion:

Finding reveals that demographic variables in experimental group, with regard to age 12 (40%) were above the age of 32 years, 5 (16%) respondents to age group (20-24 years) and (29-32 years). with regard to Sex 16 (53.33%) respondents were male and 14 (46.66%) respondents were female, with regard to religion 20 (66.66%) belonged to the religion for Hindu 3 (10%) respondents to the religion for Muslim with regard to educational status 13

(43.33%) had no formal education and 8(26.66%) had secondary level and 6 (20%) had primary level and 3 (10%) respondents had graduate level of education. with regard to family monthly income 17 (56.66%) of the family income of below 5000, 11 (36.66%) of the respondents income of (5001-10000), to 2 (6.66%) of the respondents is the above 10000 of family income. with regard to type of IM injection 17 (56.66%) were given Diclofenac sodium 9 (30.0) were given paracetamol and 4 (13.3) Dicyclomine injection were given with regard to site of IM injection 30 (100.00%) injection were administered Gluteal muscles site. No injection was administered in Deltoid muscle site.

In control group, with regard to Age 14 (46.66%) belonged to the age group of above 32 years, 5 (16%) respondents to age group (20-24 years) and (25-28 years). with regard to sex 18 (60%) respondents well female and 12 (40%) respondents were male. with regard to religion 27 (90%) belonged to the religion for Hindu 1 (3.33%) respondents to the religion for Muslim. with regard to educational status 16 (53.33%) had primary level and 6 (20%) had no formal education and 5 (16.66%) had secondary level and 3 (10%) respondents had graduate level of education. with regard to family monthly income 20 (66.66%) of the family income of below 5000, 6 (20%) of the respondents income of (5001-10000), to 4 (13.33%) of the respondents is the above 10000 of family income. with regard to type of IM injection 14 (46.66%) were given Diclofenac sodium 9 (30.0) were given paracetamol and 7 (23.33) Dicyclomine injection were given with regard to site of IM

injection 30 (100.00%) injection were administered Gluteal muscles site. No injection was administered in Deltoid muscle site.

The first objective was to assess the pain intensity among adult receiving IM injection in experimental and control group. A result shows that the analysis on post test level of pain intensity in experimental group revealed that 19 (63.33%) subjects had mild pain and 11 (36.67%) subjects had moderate pain level. The analysis on post test level of pain intensity in control group revealed that 13 (43.33%) subjects had moderate pain and 17 (56.67%) subjects had severe pain level.

The second objectives was to compare the pain intensity among adult receiving IM injection between experimental and control group. A result shows that the post test means score of Pain intensity in the experimental group was 11.01 with standard deviation 0.95 and the post test mean score of Pain intensity in the control group was 9.25 with the standard deviation was 0.56. The calculated unpaired 't' value of $t=8.76$ was found to be statistically significant at $p<0.001$ which indicates that there was difference in the post test level of Pain intensity between the groups, this clearly shows that the ice cube application prior to intra muscular injection reduces the level of Pain intensity in the experimental group.

Third objective was to associate between pain intensity and selected demographic variable in experimental and control group. The result shows that there is significant association between the

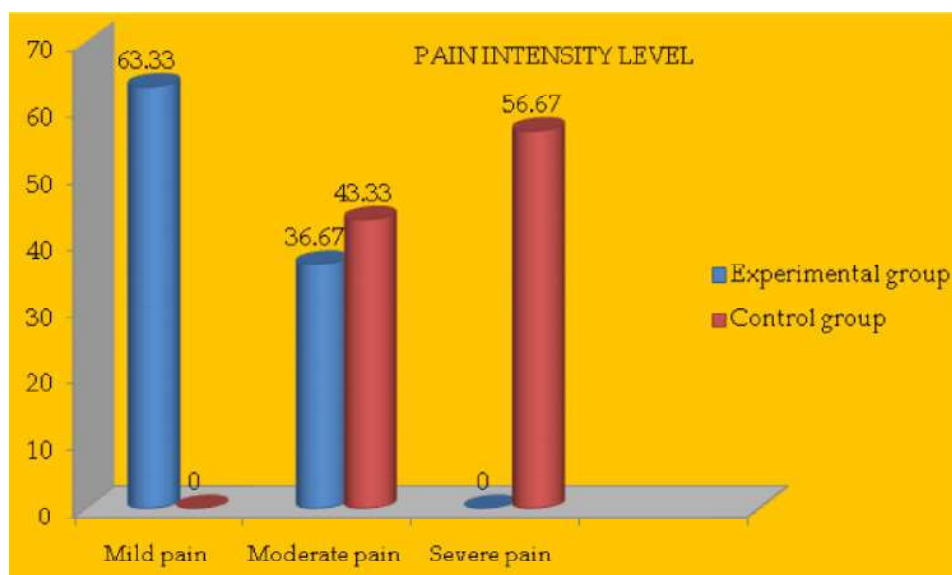


Fig. 1: Percentage distributions of adult according to the level of pain after receiving IM injection in both the experimental and group.

control group pain level and demographic variable like age, gender, religion, educational status, family income, types of IM injection. There was age significant between pain intensity and IM injection prior to ice cube application in experimental group. There is relation between gender, religion, educational status of the respondents and control group pain level on ice application prior to intra muscular injection on the intensity of pain among adult people experimental and control group.

Conclusion

Ice cube Application prior to IM injection on pain intensity in experimental group had significant improvement in their post test degree of pain intensity than the clients in the control group who had received routine hospital treatment. Hence, ice cube application can be used as a safe and effective alternative therapy for prior to IM injection to reducing pain intensity level.

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