



EFFECTIVENESS OF HEIFER SKIN TAP TECHNIQUE ON PAIN ASSOCIATED WITH INTRA MUSCULAR INJECTION AMONG HOSPITALIZED ADULTS IN SELECTED HOSPITAL AT COIMBATOR

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Abstract

Introduction: Hospitalized adults undergoing intramuscular injection have pain. In this context, complementary therapy like Heifer skin tap technique has its own significance, thus enhancing the scope of nursing. Objective: To evaluate the effectiveness of Heifer skin tap technique on pain associated with intramuscular injection. Design: A quantitative approach using pre experimental one group pre and post test design. Participants: 100 hospitalized adults undergoing intramuscular injection have pain using non-probability convenient sampling techniques from Nataraj hospital. Intervention: Heifer skin tap technique is administered 3 times before inserting the needle and 3 times after removing the needle. Tools: Standardized Mcaffery 0-10 numerical pain scale to assess the level of pain associated with intramuscular injection. Results: Analysis among Experimental group by using paired 't' test found significant value 54.02 at $p < 0.05$ level. Conclusion: Heifer skin tap technique is effective on pain associated with intramuscular injection among hospitalized adults.

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Key words: Heifer skin tap technique, pain, intramuscular injection, hospitalized adult.

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Introduction

Intramuscular injections are used to deliver drugs and vaccines. They are a common practice in modern medicine. Several drugs and almost all inactivated vaccines are delivered this way. This allows the medication to be absorbed into the bloodstream quickly. There are 4 main sites that can be used for IM injections. They are thigh (vastus lateralis muscle), top of upper arm (deltoid muscle), hip (ventrogluteal or

gluteus medius muscle), buttocks (dorsogluteal muscle).

Administering medication intra-muscularly can produce a variety of serious adverse effects including pain at the injection site, skin and tissue trauma, allergic reactions, abscess, hematoma, injury to the blood vessels, nodules etc. Among this, pain at the injection site or the localized muscular pain is the most common adverse effect experienced as a result of intra muscular injection. Pain is a stressful event that



can alter a person's lifestyle and affect psychological well being. Pain will make behavioral effects and influence on the activities of daily living.

Heifer Skin Tap Technique was proposed by Joanne Helfer. Heifer skin tap may not only help to relief pain due to intramuscular injection but also reduce needle anxiety, and relax the skin and for distracting the patient. The mechanism of heifer skin tap technique is gate control theory. In Heifer skin tap technique while doing tapping before intramuscular injection the nervous system will shut down the sensory gate and the pain sensation of the injection will not reach the brain. So the injection pain goes unnoticed.

Objectives of the Study

- ❖ To assess the pre and post test level of pain associated with intramuscular injection among hospitalized adults.
- ❖ To evaluate the effectiveness of Heifer skin tap technique on level of pain associated with intra-muscular injection among hospitalized adults.

❖ To determine the association between post test level of pain associated with intra muscular injection among hospitalized adults with their selected demographic variables.

Hypotheses

H1: There is a significant difference between mean pretest and post test level of Pain associated with intramuscular injection among hospitalized adults.

H2: There is a significant association between level of post test pain associated with intramuscular injection among hospitalized adults and their selected demographic Variables.

Methodology

Research Approach

The research approach used for this study was quantitative approach to evaluate the effectiveness of Heifer skin tap technique on pain associated with intramuscular injection among hospitalized adults

Research design:

A pre experimental one group pre test post test design was chosen for the study.

Table no1: The diagrammatic representation of the research design given as follows:

Group	Pre- test D ₁	Intervention D ₂	Post- test D ₂
Experimental group(E)	O ₁	X	O ₂

Setting of the Study

The study was conducted in Nataraj hospital at Coimbatore. It was situated at a distance of 4 Km from Annai Meenakshi College of Nursing. Nataraj hospital is a 100 bedded hospital with different departments like medical surgical, gynecology, orthopedics, neurology, gastrology, and urology. The hospital has separate operation theater and a well equipped laboratory. In the outpatient and inpatient department, 800 and 300 cases respectively registered monthly.

Population

The target population is the aggregation of cases about which the researcher would like to make generalization. An accessible population is the section of the target population to which

the researcher has reasonable access. In this study the target population

was hospitalized adult undergoing intramuscular injection. The accessible population was hospitalized adult undergoing intramuscular injection in Nataraj Hospital at Coimbatore.

Sample

The sample size for the study was 100. The subjects were selected in Nataraj hospital at Coimbatore.

Sampling Technique

The sample of the study was selected by adopting non probability convenient sampling technique. The total sample size was



100 and they were selected based on inclusion of practicing muscle exercise, form of drug, criteria.

Development of the Tool

The research tool was developed in English after an extensive review of literature and expert opinion. It was translated into Tamil by language expert. The standardized MCAFFERY 0-10 numerical pain scale was used as the instrument to measure the pain.

Description of tool

Part A

It consisted of demographic variables of hospitalized adults that includes age, gender, religion, educational status, occupation, habit

history of allergic reaction due to intramuscular injection previously, volume of substance injected, Previous exposure to intramuscular injection.

Part B

It consisted of standardized MCAFFERY 0-10 numerical pain scale.

It is a standardized numerical scale used to assess the level of pain in adults. It consists of 0 to 10 scores and four categories '0' belongs to none. '1,2,3' belongs to mild category. '4, 5, 6' belongs to moderate category. '7, 8, 9, 10' belongs to severe category. The samples given the score according to their pain perception before and after the intervention.

Scoring Procedure

Regarding pain score, the maximum score is 10 and minimum score is 0. The score is given depending upon the 'X' placed by the sample in the pain scale. The score was divided into the following categories.

0	:	No pain
1-3	:	Mild pain
4-6	:	Moderate pain
7-10	:	Severe pain



Intervention

Samples were explained regarding the sequence of procedure and the required articles were assembled at the bedside. Client was provided with side lying position and the injection site was relaxed by tapping the skin for 16 times with palmer aspect of the hand for 5 seconds. The injection site was prepared and cleaned with spirit swab using surgical asepsis and made a "V" with thumb and other four fingers of non dominant hand and then uncapped the syringe. Then tapped the injection site for 3 times with dominant hand and inserting the needle and checked if any blood is withdrawn, if not injected the medication slowly by pushing the piston. Then the needle is removed quickly and the injection site was tapped for 3 times. The pain is assessed by using standardized MCAFFERY 0-10 numerical pain scale. Patient was positioned comfortable.

Validity

Five experts in nursing and two experts in medicine evaluated the content validity of the instrument. Nursing experts were medical surgical nursing and medical experts were of cardio thoracic and diabetology department.

Reliability

In this study standardized MCAFFERY 0-10 numerical pain scale was used to assess level of pain associated with intramuscular injection, is a reliable tool.

Data Collection Procedure

The data collection procedure was done for a stipulated period of 4 weeks in Nataraj Hospital at Coimbatore. Permission to conduct the study was obtained from the chairman of the hospital. The samples were informed by the researcher about the nature and the purpose of the study. The informed written consent was obtained as per rule on the 1st day. On the

same day (Day 1) the pre assessment of pain associated with intramuscular injection was measured by using standardized MCAFFERY (0 - 10) numerical pain scale in the morning without doing Heifer skin tap technique. On day 2 Heifer skin tap technique was administered to the samples followed by post test assessment of pain associated with intramuscular injection by using standardized MCAFFERY 0-10 numerical pain scale.

Major Study Findings:

Regarding demographic variables of 100 hospitalized adults, majority of them belonged to the age group of 30-39 years, females, Hindu, had primary education, were moderate workers, had no habit of practicing muscle exercise, got aqueous form of drug, had no history of any allergic reaction due to intramuscular injection previously, had <2ml volume of substance injected, had previous exposure to intramuscular injection.

Regarding effectiveness of Heifer skin tap technique on pain associated with intramuscular injection among hospitalized adults, the mean post –test score of pain associated with intramuscular injection was less than the mean pretest score. The obtained' value 54.02 was significant at $p < 0.05$ level.

Regarding association between the levels of pain associated with intramuscular injection with their selected demographic variables, there was a significant association between age, gender, educational status, and occupation. There is no significant association between level of pain associated with their selected demographic variables such as religion, habit of practicing muscle exercise, form of drug, history of allergic reaction due to intramuscular injection previously, volume of substance injected, previous exposure to intramuscular injection.

Table no 2: Frequency and Percentage Distribution on Pre-test Level of Pain associated with intramuscular Injection among Hospitalized Adults.

Sl. No.	Level of Pain	Frequency (f)	Percentage (%)
1	No Pain	0	0
2	Mild Pain	0	0
3	Moderate Pain	63	63



4	Severe Pain	37	37
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The above table shows that among 100 hospitalized adults, 63 (63%) had moderate pain and 37(37%) had severe pain during pretest.

Table no 3: Frequency and Percentage Distribution on Post-test Level of Pain associated with intramuscular Injection among Hospitalized Adults.

Sl. No.	Level of Pain	Frequency (f)	Percentage (%)
1	No Pain	25	25
2	Mild Pain	75	75
3	Moderate Pain	0	0
4	Severe Pain	0	0

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The above table shows that among 100 hospitalized adults, 75(75%) experienced mild pain and 25(25%) experienced no pain during post test.

Table no 4: Mean, Standard Deviation, Mean Difference and 't' Value on Pre test & Post test Level of Pain Associated with Intramuscular Injection among Hospitalized Adults.

Sl. No.	Level of Pain	Mean	Standard Deviation	Mean Difference	't' Value
1	Pre Test	6.13	6.13	4.8	54.02*
2	Post-Test	1.35	1.35		

* Significant at p<0.05 level

Table 4 reveals that among hospitalized adults, the mean pre-test score was 6.13 with the standard deviation 1.08 and the mean post test score was 1.35 with the standard deviation 1.01. The calculated mean difference was 4.8 and the obtained 't' value 54.02 was significant at p<0.05 level. Hence the stated hypothesis (H_1) was accepted. It was inferred that there is a significant difference between mean pretest and post test level of pain associated with intramuscular injection among hospitalized adults.

DISCUSSION

The basic aim of this study was to evaluate the effectiveness of Heifer skin tap technique on pain associated with intramuscular injection among hospitalized adults in selected hospital at Coimbatore. The first objective was to assess the level of pain associated with intramuscular injection among hospitalized adults. The study revealed that during pre test 63 hospitalized adults had moderate pain (63%) and 37 hospitalized adults had severe pain (37%) and none of them had no pain and mild pain.

During post test 25(25%) hospitalized adults had no pain and 75 (75%) hospitalized adults had mild pain.

The second objective of the study was to evaluate the effectiveness of Heifer skin tap technique on pain associated with intramuscular injection among hospitalized adults. The pre test mean was 6.13 and standard deviation 1.08. During post test the mean was 1.35 and the standard deviation 1.01. The mean difference was 4.8. The obtained t value 54.02 was significant at p < 0.05 level. Thus the stated hypothesis is accepted. The study revealed that Heifer skin tap technique is effective on pain associated with intramuscular injection among hospitalized adults.

The third objective of the study was to determine the association between pain associated with intra muscular injection among hospitalized adults with their selected demographic variables. The study revealed that there is significant association between the levels of pain associated intramuscular injection



among hospitalized adults with their selected demographic variables such as age, gender, educational status, occupation. There is no significant association between level of pain associated with intramuscular injection among hospitalized adults with their selected demographic variables such as religion, habit of practicing muscle exercise, form of drug, history of allergic reaction due to intramuscular injection previously, volume of substance injected, previous exposure to intramuscular injection.

Recommendations

1. Similar kind of study can be conducted on a large group.
 - 1.A comparative study can be done between the effectiveness of various non pharmacological measures for pain associated with intramuscular injection. .
 - 2.The same study can be conducted in pediatrics and old age people.
 3. The same study can be conducted in different settings such as nursing homes, old age h o m e s, an d c o m m u n i t y centers.
 4. A descriptive study can be conducted on knowledge and attitude regarding heifer skin tap technique.
 5. The same study can be replicated in larger sample size.
 6. The study can be conducted with true experimental design. The study can be conducted with experimental and control group

Conclusion

The main conclusion drawn from the present study most of the hospitalized adults had moderate and severe pain in pre test and mild and no pain in post test. This shows that the Heifer skin tap technique was effective on reducing pain associated with intramuscular injection among hospitalized adults

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