

**A STUDY TO ASSESS THE KNOWLEDGE LEVEL REGARDING
HELPER SKIN TAP TECHNIQUE ON PAIN ASSOCIATED
WITH INTRAMUSCULAR INJECTION AMONG
NURSING STUDENTS AT SELECTED
COLLEGES, CHENNAI.**



**A PROJECT SUBMITTED TO
SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY,
CHENNAI.**

**IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE
DEGREE OF
BACHELOR OF SCIENCE IN NURSING
2019-202**



**A STUDY TO ASSESS THE KNOWLEDGE LEVEL REGARDING
HELPER SKIN TAP TECHNIQUE ON PAIN ASSOCIATED
WITH INTRAMUSCULAR INJECTION AMONG
NURSING STUDENTS AT SELECTED
COLLEGES, CHENNAI**



BY

**MS.AARTHISHA.S
Mr. ARUL.S**

**A PROJECT SUBMITTED TO
SATHYABAMA COLLEGE OF NURSING
CHENNAI.**

**IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE
DEGREE OF
BACHELOR OF SCIENCE IN NURSING
2019-2023**



**A STUDY TO ASSESS THE KNOWLEDGE LEVEL REGARDING
HELPER SKIN TAP TECHNIQUE ON PAIN ASSOCIATED
WITH INTRAMUSCULAR INJECTION AMONG
NURSING STUDENTS AT SELECTED
COLLEGES , CHENNAI.**



APPROVED BY THE DISSERTATION COMMITTEED ON:

Dr.L.LAKSHMI ,M.SC ,(N), PH.D,(N)

Dean ,

Sathyabama college of nursing,

Sathyabama Institute of Science and Technology,

Chennai.

RESEARCH GUIDE:

Mrs. BHUVANESHWARI. S M.SC (N)

Associate Professor ,,

Sathyabama College of Nursing,

Chennai.

CLINICAL GUIDE.:

Dr. .KALAILAKSHMI,T.R M.A, MBA, M.Phil, Ph.D

Professor,

Sathyabama Institute of Science and Technology,

Chennai.

BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "A Study to assess the knowledge level regarding Helfer skin tap technique on pain associated with intramuscular injection among Nursing students at selected Colleges , Chennai .our bonafide work done by Ms. Aarthisha S & Mr.Arul S ,Sathyabama College of Nursing in partial fulfillment of the university rules and regulation for award of Bachelor of Nursing Degree Course under my guidance and supervision during the academic year 2019-2023

NAME & SIGNATURE OF GUIDE :

Ms. B. S. S. S.

Head of the Department
Department of Medical Surgical Nursing
Sathyabama College of Nursing
Sathyabama Institute of Science and Technology
Rajiv Gandhi Salai, Chennai - 600 119.

NAME & SIGNATURE OF DEAN/PRINCIPAL :

SATHYABAMA
COLLEGE OF NURSING
Jeppiaar Nagar, Rajiv Gandhi Salai,
Chennai - 600 119.

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

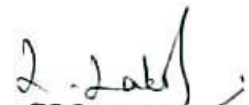
Ms. AARTHISHA S & Mr. ARUL S

**SATHYABAMA COLLEGE OF NURSING
SATHYABAMA INSTITUTE SCIENCE AND TECHNOLOGY,
(DEEMED TO BE UNIVERSITY)
CHENNAI.**

**SUBMITTED ON PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF BACHELOR OF SCIENCE IN NURSING
SATHYABAMA INSTITUTE SCIENCE AND TECHNOLOGY,
(DEEMED TO BE UNIVERSITY)
CHENNAI.
2019-2023**

COLLEGE SEAL:




SIGNATURE

**DEAN
SATHYABAMA
COLLEGE OF NURSING
Jappalur Nagar, Rev. V. Gandhi Salai,
Chennai - 600 119.**

DECLARATION

We hereby declare that the present project report entitled, “A Study to assess the knowledge level regarding Helfer skin tap technique on pain associated with intramuscular injection among Nursing students at selected Colleges, Chennai”. is the outcome of the original research work under taken and carried out by us under the guidance of Mrs. Bhuvaneshwari, S. M.sc (N), M.A (Pub – Admi) Sathyabama College of Nursing, Chennai. We also declare that the material of this project report has not formed in anywhere, the basis for the award of any degree in this university or any other university.

By

(SATHYABAMA COLLEGE OF NURSING)

S. Aarthika
S. Anu

DEDICATION

“I dedicate this book to God almighty who blessed me to finish this work successfully.”

“I dedicate this book to my lovable Parents, Those who providing me with best education”.

“ I dedicate this book for my college Dean Mam,Who made mylife purposeful and meaningful.”

“I dedicate this book to my college Professor, For her love andsupport”

“I dedicate this book to my friends, Who gave me a marvelous emotional support.”

ACKNOWLEDGEMENT

“GREAT IS THE LORD AND MOST WORTHY OF
PRAISE; HIS GREATNESS NO ONE CAN FATHOM”

First of all, we bow before god and owe our sincere thanks to almighty, who is the source strength and inspiration to every step of our life. With the blessings of our founder chancellor **col. Dr. Jeppiaar** which encouraged to complete this project, we are substantially thankful to our chancellor **dr. Maria Zeena Johnson** and express our deep gratitude and heartfelt thanks to our president **dr. Marie johnson** for their encouragement and dedication towards the academic excellence and for providing us an opportunity to finish our project successfully.

It is our privilege to express our heartfelt thanks to **dr .I. Lakshmi** , m, rm, m.sc nursing, ph.d (n), sathyabama college of nursing for the encouragement, inspiration, support as well as for providing all facilities for successful completions of this study.

We Express our Grateful Thanks To Research Guide **Mrs. Bhuvaneshwari.S**, M.sc Nursing , M. A (Pub- Admi) Guide Who Has Given Precious Advice, Valuable Suggestions, And Guidance For The Completion Of Thesis In A Stipulated Period.

We own our sincere gratitude to **Mrs. Dr. Kalailakshmi**, M.A, MBA, M.Phil. , Ph.D , Professor in Research methodology, for her excellent guidance.

We pleased to convey our profound thanks to **Ms.Nancy prescilla**,MS.C Nursing, Tutor her excellent guidance, expert suggestion, encouragement and support that made the study purposeful.

We honestly express our sincere thanks and gratefulness to OUR SAMPLES for their cooperation.

We wish to express our sincere thanks to **Mr. Kamaraj** ,Biostatistician, in carrying out the statistical analysis of the data.

We would like to acknowledge an immense help and support extended to us by **Mr. Johnson .M & Mr.Nirmal .S**, Librarian for her help in collection of literature.

Finally; we would sincerely thank all the members and colleagues who have directly or indirectly helped as in the successful completion of the study.

Our whole hearted thanks and gratitude to one and all who came on my way to success.

ABSTRACT

Nursing students using intramuscular injection had adequate knowledge. In this context, complementary therapy like Helfer skin tap technique has its own significance, thus enhancing the scope of nursing ,To evaluate the knowledge of Helfer skin tap technique on pain associated with intramuscular injection. A quantitative approach using experimental group by using descriptive design. 60 nursing students injecting intramuscular injection having knowledge using non-probabilityconvenient sampling technique from Sathyabama college of nursing. Helfer skin tap technique is tapping the injection site 3 times before inserting the needle and 3 times after removing the needle. By using Chi square test to assess the level of knowledge associated with the Helfer skintap technique. Analysis among Experimental group by using chi square test found significant value at $X^2 < 0.05$ level. Most of the nursing students had adequate knowledge about the Helfer skin tap technique is effective on pain associated with intramuscular injection.

TABLE OF CONTENTS

CHAPTER	CONTENTS	PAGENO
1	INTRODUCTION ❖ Background of the study ❖ Need for the study ❖ Statement of the problem ❖ Objectives ❖ Hypotheses ❖ Operational definition ❖ Assumptions ❖ Delimitations ❖ Projected out come	1 3 4 4 4 5 5 6
2	REVIEW OF LITERATURE	

3	❖ Studies related to Intramuscular Injection.	8
	❖ Studies related to prevalence of Intramuscular injection pain.	10
	❖ Studies related to the Helfer skin tap technique on Intramuscular injection pain	11
	CONCEPTUAL FRAME WORK	
	METHODOLOGY	
	❖ Research approach	18
	❖ Research design	18
	❖ Variables	20
	❖ Settings of the study	20
	❖ Population	20
	❖ Sample	20
	❖ Sampling technique	20
	❖ Criteria for selection of sample	21
	• Inclusion criteria	21
	• Exclusion criteria	21

	❖ Development of tool	21
	❖ Scoring procedure	22
	❖ Helfer skin tap technique intervention	22
	❖ Validity	23
	❖ Pilot study	23
	❖ Data collection procedure	23
	❖ Plan for data analysis	24
	❖ Protection of human rights	24
4	DATA ANALYSIS AND INTERPRETATION	25
5	DISCUSSION	44
6	SUMMARY , CONCLUSION AND RECOMMENDATION	
	❖ Summary	48
	❖ Major study findings	48
	❖ Conclusion	49
	❖ Implications of the study	49

	• Nursing practice • Nursing education • Nursing research • Nursing administration • Recommendation	49 50 50 50 51
	REFERENCES	
	APPENDICES	

LIST OF TABLES

TABLE NO	TITLE	PAGE NO
1	❖ Research design	18
2	❖ Data Collection procedure	23
3	❖ Plan for Data analysis	24
4	❖ Distribution of Demographic variables on knowledge assessment of Helfer skin tap technique among participants.	27
5	❖ Data on level of pain associated with intramuscular injections among nursing students	30
6	❖ Data on effectiveness of helfer skin tap technique associated with intramuscular injection among nursing students.	32

LIST OF APPENDICES

S.NO	TITLE
1	❖ Letter Seeking Permission for conducting the study.
2	❖ Letter seeking experts opinion for the content validity of the tool.
3	❖ Certificate of Validation.
4	❖ Name List of experts who Validated the Tool.
5	❖ Consent Form (English)
6	❖ Structured Questionnaire(English)
7	❖ Scoring Key
8	❖ Helfer Skin Tap Technique Procedure
9	❖ Photos

HELPER SKIN TAP TECHNIQUE



CHAPTER- I

INTRODUCTION

“Pain is an uncomfortable feeling that even a tiny amount of it is enough to ruin every enjoyment”

-Will Rogers

Pain is a major problem that causes and reduces quality of life. Pain is one of the major reasons that people seek health care. It is extremely unpleasant and a really personal sensation which will not be shared with Others. Understanding of the physiologic and psychosocial dimensions of the Pain is an important for effective assessment and management of patients with pain.

The International associations for the study of pain (1998) define pain as an Unpleasant sensory and emotional experience associated with actual or potential tissue Damage. Pain is classified as acute pain, chronicpain .

The American Pain Society (2003) said that pain is referred to as “the fifth vital sign” to emphasize its Significance and to increase the awareness among health care professionals of the Importance of effectivepain management. Pain relieving measures is a most fundamental ofHuman right; it is responsibility of the nurse to use best approach to pain management.

According to WHO (2006), Intramuscular Injection is an administration of Medication administered through a skin puncture by a syringe inserted deep into a large Muscle of the body for therapeutic purposes. This route provides faster absorption of the drug because the muscles have greater vascularity. Several factors which influence a person’s experience of pain during intramuscular Injection such as age, gender, culture, anxiety and relieving of factors. These factors increase ordecrease the experience of pain at the time of intra muscular injection.

There are four sites used for intra muscular injections. They are dorsogluteal muscle, ventrogluteal muscle, vastuslateralis and deltoid muscle. Intra muscular injection produces some side effects such as pain, allergic reaction, blood vessels injury, abscess, trauma, phlebitis ,nerve damage and muscular atrophy. Among this, pain is the most common sideeffect of intra muscular injection.

A pain producing stimulus sends an impulse across a peripheral nerve fiber. The Pain fiber enters the spinal cord and travels one of several routes until ending within the Grey matter of the spinal cord. The pain message interacts with inhibitory nerve cells and Preventing the pain stimulus from reaching the brain to cerebral cortex. Once a pain Stimulus reaches the cerebral cortex the brain interprets the quality of pain and processes Information about past experience, knowledge and cultural associations in perception of Pain.

The proper administration of intramuscular injection is essential for minimizing discomfort and pain. This procedure is performed routinely by nurses, it is a complex procedure regarding the Injection site, position of client during injection, volume of drug to be injected, and methods to keep the site relaxed to reduce pain. Nurses play an important role in Minimizing pain and discomfort during an injection procedure.

Nurses have legal and ethical responsibilities for managing pain . or drugs are administered into the body by several routes. They may be given by injection into intramuscularly, into the Muscles delivered through the skin by a patch for a Systemic effect.

George 2007- The nurse should use different methods during the intra muscular injection such as tapping the skin, hot and cold application, Z-track method , applying pressure, Tapping the skin is technique to keep the muscles relaxed and reduced pain while administered intramuscular injection in to a relaxed muscle.

Mein hart that “the failure to treat pain is inhumane and constitutes professional negligence”. It is an accepted fact that there is reduced pain while giving injection into a relaxed muscle .There are various techniques to keep the muscle relaxed, while giving intramuscular injections such as rotation of the injection site, pinching the area surrounding the needle insertion, applying pressure and so on.

(Serena 2010) - In 1998, Ms. Joanne Helfer conducted a study on painless injection techniques ,the investigator tapped that injection site muscle before inserting needle while removing needle. This study concluded that by following helper skin tap technique, it experience less pain while receiving intramuscular Injection. Helfer reported that the perception of of pain intensity is lessen when intramuscular injection is administered using helper technique As well as, Helfer skin tapping technique is one of the mechanical stimulations over the skin that can alter the small diameter fibers which carry pain to the large diameter fibers which do not carry the pain.

(Malkin 2008) - Helfer skin tap technique is the a painless injection technique. It provides a mechanical stimulation and distraction during intra muscular Injection and thus helps to decrease pain as described in gate control theory. In Helfer skin Tap technique rhythmic tapping before injection over the skin at the site of injection keeps The muscle relaxed and stimulates large diameter fibers. This technique is allowed while Administering intra muscular injection.

Two main causative groups which injection pain can be categorized.

- Pain due to route of administration
- Pain due to the substance being injected Mechanisms of Helfer skin tap technique
- This technique used for mechanical stimulation of the large diameter muscle fibers diminishes the influence of small pain carrying fibers.
- Gives muscle relaxation.
- Physically decreases the resistance to needle entry and diversion by simultaneous tap of the skin while the needle inserted and removal.

NEED FOR THE STUDY

There are 16 billions intra muscular injections administered every year. Around sixteen thousand million injections are administered annually in developing countries. Around 5% of Injections are administered for immunizing children and adults, Around 5% of injections are administered for blood transfusions. Remaining 90% of injections are administered into intra muscular route.

WHO 2006 - world estimated that 16 billion injections are given per worldwide. Each person in developing countries received 1.2 billion Intramuscular injections per year .

National Center for Health Statistics, U.S.A. report (2008)- Indicates that In due to Intramuscular injection in Worldwide 1.5 billion people suffer from severe pain and approximately 3-4.5% of the global people suffer from mild to moderate pain.

In India, 96% prevalence of Intramuscular injection range between 7.1 - 11.3 injection per person per year.

National institute of health (2007) – In Chennai there are approximately 0.79% or 7852 Million people suffering pain associated with intramuscular injection.

WHO (2009)- a conservative estimate of average number of intra muscular injections ranged from 0.9 to 8.5 injections per person per year, with a median of 1.5 intramuscular injections

per person per year.

During the clinical visit the investigator identified that patients receiving intramuscular injections have more pain perception. So the investigator had the interest to assess the knowledge regarding Helfer skintap technique among nursing students to reduce the pain perception during intra muscular Injection. This study aims in establishing the effectiveness of Helfer skin tap Technique and assess the knowledge regarding Helferskin tap technique among nursing students.

STATEMENT OF THE PROBLEM

A study to assess the knowledge level regarding Helfer skin tap technique on pain associated with intramuscular injections among nursing students in selected colleges, Chennai.

OBJECTIVES

- To determine the nursing students level of knowledge regarding Helfer skin tap technique on pain associated with intramuscular injections.
- To evaluate the effectiveness of Helfer skin tap technique on level of pain associated with intramuscular injection among nursing students
- To associate the knowledge of helper skin tap technique with selected demographic variables.

HYPOTHESES

- Ho- There will be a significant effect of helper skin tap technique and pain reduction of Intramuscular injection
- H2- There will be a significant association with intramuscular injection with their selected demographic variables

OPERATIONAL DEFINITION

- To study the facts and then form a opinion about something
- In this study evaluate refers to the study of the facts and then forma opinion about helper skin tap technique associated with administration of intramuscular injections.

EFFECTIVENESS

- It is the ability to produce a desired output.
- In this study effectiveness refers to the outcome of helper skin tap technique in terms of pain associated with intramuscular injection.

HELPER SKIN TAP TECHNIQUE

- Skin tap is an effective technique for reduction of pain response during injection .
- In this study it refers to administration of intramuscular injection by tapping the injection site by using that on relaxing muscle for 16 times and tapping with palmer aspects of hand about 3 times and inserting the needle without feeling of pain and removing needle by tapping that area again 3 times.

PAIN

- An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.
- In this study it refers to the feeling of pain or discomfort of patients during intramuscular injection as measured by MCCAFFERY 0- 10 numerical pain scale.

INTRAMUSCULAR INJECTION

- Intra muscular injections delivers the medication through the skin and subcutaneous Tissues into certain muscles
- In this study it refers to the introduction of needle or syringe into the certain muscles to administer medication.

ASSUMPTIONS

- Intramuscular injections is caused a pain at the time of administration
- Helper skin tap technique will decrease the pain while administering the intramuscular injection.
- Helper skin tap technique has no side effects and not harmful to the patient.

DELIMITATION

- The study is delimited to a selected nursing colleges in Chennai
- The study was delimited to the nursing students giving intramuscular injection Only.
- The study was delimited to the sample size 50.
- The data collection period was delimited to a period of 4 weeks

PROJECTED OUTCOME

- The study will help the nursing students to assess the level of knowledge associated with Intramuscular injection among Nursing students.
- The findings of the study will motivate the nursing students to apply the Helfer skin tap Technique to reduce the pain of the patients during administration of intra muscular injection.
- The study will help the nursing students to identify the effectiveness of Heifer skin tap Technique on pain associated with intramuscular injection.
- The findings of the study will help the nursing students to practice Helfer skin tap technique to reduce pain associated with intramuscular injection.

CHAPTER -II

REVIEW OF LITERATURE

Review of literature is one of the most important steps in research process. A review of literature is a description and analysis of the literature relevant to a particular field or topic.

A literature review is an evaluative report of information found in the literature related to selected area of study. The review describes, summarizes, evaluates and clarifies this literature. It gives a theoretical base for the research and helps to determine the nature of research. (Queensland University, 1999)

The review of literature presented in this chapter is organized systematically in the following manner.

Review of literature as follows:

- Section A Studies related to intra muscular injection.
- Section B related to prevalence of intra muscular injection pain.
- Section C Studies related to Helfer skin tap technique on intramuscular injection Pain.

STUDIES RELATED TO INTRAMUSCULAR INJECTION

Naham. Etal., (2012) conducted a study to evaluate the influence of patients on the characteristics of pain perception due to intra muscular injection vaccine injection in Healthy adult volunteers. The total sample is 160 patients in 65 males and 95 females were in the study. The injection of hepatitis B vaccine using 24mm; 24G needle was performed as a uniform stimulus in all the patients. The pain was measured by using a 100mm visual Analogue score. The statistical average score was 20.4 ± 17.1 in males and 34.4 ± 19.7 in Females in the level of significance ($p \leq 0.001$). The study concluded that there is no Correlations between age, body mass index or maximal pain score from previous Experience.

Leyla Ozdemir. Et al., (2010) conducted a study to assess the effectiveness of the Methylprednisolone injection speed on the perception of intra muscular injection pain. The Study conducted in university hospital in a major city in Turkey. The total sample size was 25 patients and quasi experimental design was used for one group. The first dose of Inj.Methyl prednisolone is administered to all study participants in 10 seconds, 24 hours after The first injection the second dose is administered in 30 seconds. The data were collected Using the patient's characteristics form and the visual analogue scale. The data were analyzed using the SPSS 11.5. The mean pain level 10 second speed of injection administration is 1.9 and 30 second speed of injection administration is

1.3. The study concluded that slow intra muscular injections of steroids reduce the injection pain.

Dilek Kara et al., (2013) conducted a comparative study to evaluate the Effectiveness of dorsogluteal or ventrogluteal site which is more painful in intra muscular Injection among the adults in state hospital at Turkey. The total sample size contained 70 Adult patients. The one group received Inj.Diclofenac sodium in ventro gluteal site and Other group is received Inj.Diclofenac sodium in Dorso gluteal site. The pain was assessed Using visual analogue scale. The study revealed that the average pain score of patient after Injections to the ventro gluteal site was less than the pain comparing to dorso gluteal site. The study concluded that intra muscular injection of diclofenac administered to the ventro Gluteal site has less pain.

Kusumadevi. Et al., (2010) conducted a comparative study to assess the perception Of intra muscular injection pain in men and women. The study conducted at Victoria Hospital, Bangalore. The total sample size 300 it assigned 140 men and 160 women. All The patients received multivitamin intra muscular injection in the gluteal region using 23G Needle. Pain was assessed by visual analogue scale. The statistical analysis with higher Pain score was observed in women (2.24 ± 1.19) with compared to men (1.7 ± 1.06). The Study concluded that women had an increased sensitivity to pain during intra muscular Injection.

Praya Pathak et al (2012). Conducted a study to investigate the effect of needle Gauge on perception of pain intensity among the patients receiving hepatitis vaccination in India. The total sample size was 320 adult patients. The Group I contained 160 patients Receiving Hepatitis vaccination in 23 G needle and Group II had 160 patients receiving Hepatitis vaccination in 25 G needle. The pain was assessed using numerical pain scale. The study revealed that there is a significance difference in the two groups. The study Concluded that 23 G needle causes

STUDIES RELATED TO THE PREVALENCE OF THE INTRAMUSCULAR INJECTION PAIN .

Inman SL, Faut.Callahan M, Swanson BA, Fillingim RB., (2012) conducted an Experimental study on sex differences in pain responses to intramuscular injection for Low back pain among 57 patients(37 women 20 men) in American pain clinic of Regional medical center by using standardized Nordic questionnaire. The study Revealed that no sex difference in the magnitude of treatment responses emerged However specific dimensions of pain coping were associated with treatment response In sex dependent manner. The study concluded that the pain coping was differently Associated with outcomes after intramuscular injection in women and men.

Chullee, Hwa Young Shin, Chul Joong Lee.,(2012) conducted across sectional Study on pain from intramuscular vaccine injection among 160 adults Korea by using A 100 mm visual analogue scale. The study revealed that there were no correlation Between VAS and age, body mass index, or maximum pain score from previous Painful experience, a history of child birth in female or religion. The study concluded That the gender appears to be the only major factor that influences the pain of Intramuscular vaccine injection. Pain reducing methods will be needed when Performing injection procedure particularly in women.

Malin Eranberg., Thomas Lundeberg., Sigvard Koop.,(2011) conducted an Experimental study on pain and hyperalgesia induced by intramuscular injection of Serotonin in patients with fibromyalgia and healthy individuals among 24 females in Sweden by using visual analogue scale. The study revealed that serotonin level tends To be lower in the fibromyalgia group than in the healthy individuals and the difference Was not statistically significant. The study concluded that serotonin injected to the Masseter muscle of healthy female subjects elicits pain and hyperalgesia, while no Such response occurs in patients with fibromyalgia.

Tray K Rubin., Simon C Gandevis., Luke.A.Henderson(2011) conducted an Experimental study on effect of intramuscular anesthesia on the expression of primary And referred pain induced by intramuscular injection of hypertonic saline among 30 Subjects in England by using visual analogue scale. The study revealed that in the all Subjects .the area and intensity of primary pain rapidly disappeared within 7-5 Minutes of intramuscular injection, in whom the referred pain continue in the absence Of primary pain. The study concluded that the maintenance of referred muscle pain Usually depends on ongoing noxious inputs from the site of primary muscle pain.

Dilek Kara, Suerari., (2013) conducted a comparative study on dorso gluteal or Ventro gluteal site is more painful in intramuscular injection among 70 adults in state Hospital in Turkey by using visual analogue scale pain score of patients after injections to the ventro gluteal site was less than Comparing to dorso gluteal site. The study concluded that intramuscular injection of Diclofenac sodium administered to the ventro gluteal site would feel less painful than Administered to the dorso gluteal site administered to the dorso gluteal site.

STUDIES RELATED TO THE HELFER SKIN TAP TECHNIQUE ON INTRAMUSCULAR INJECTION PAIN

Saleena Shah. Et al., (2011). conducted a study to assess the effectiveness of Helfer Skin tapping technique on pain among the patients receiving intra muscular injection, on Orthopedic wards of Govt. Medical College Kozhikode, Kerala. The purposive sampling technique used sample size was 82 patients. Quasi experimental cross over design was Used. 82 patients were assigned for two groups. The group I received Inj. Voveran using Helfer skin tapping technique and group II received Inj. Voveran using following the routine method. The structured interview schedule, numerical pain intensity scale and Visual analogue scale were used. The result showed that 91.5% of patients had moderate And 6.1% had severe pain during intra muscular injection using routine method, while 78.5% of patient had mild pain, 21.5% of patient had moderate pain during intra muscular Injection using Helfer skin tapping technique. The study concluded that Helfer skin tapping technique is more effective in reducing level of pain during intra muscular injection.

Hassnein soliman.et al., (2016) conducted an experimental study to evaluate the effectiveness of Helfer skin tapping technique on reducing pain intensity associated with intra muscular injection in medical and surgical units at main Mansoura University Hospital. The sample was chosen by purposive sampling technique and total sample size was 100 patients. 50 patients from study group received intra muscular injection with Helfer skin tapping technique and control group 50 patients received intra muscular injection using routine technique. Quasi experimental research design and assessment of pain level with universal pain assessment tool were used. The results show that 17% report no pain, 6% have worst pain on application of routine technique, while 40% report no pain, 2% report worst pain with applying Helfer skin tapping technique. The study concluded that helper skin tap technique was more effective in reducing intramuscular injection pain.

Dhanalakshmi., (2015) conducted a study to assess the effectiveness of Helfer skin Tap technique on pain perception of pain during intra muscular injection among the post Operative adult orthopedic patients in selected hospital at Madurai. The total sample size Was 60, in which 30 patients were assigned group I Inj. Tramadol was administered using Helfer skin tap technique and next dose was administered standard technique. In other 30 Patients were assigned group II Inj. Tramadol using standard technique and next dose was Administered using Helfer skin tap technique. The pain was assessed using numerical pain Scale. The study reported that patient 86% in the study group I and 90% in the study group II perceived moderate pain using standard technique. 90% in the study group I and 83% in group II perceived only mild pain with Helfer skin tap technique. The study Concluded that Helfer skin tap technique is more effective to reduce intra muscular Injection pain.

Roopa Z, Vassilopoulos A, Sotriopoulou P, Makrinika E, Noulam, Faros E, Marvzki C., (2013) conducted an experimental study on effect of Heifer skin tap Technique on pain perception after intramuscular injection among 60 adults patients in India by using visual analogue scale and verbal rating scale. The study revealed that The pain perception of patient in terms of pain scores without Heifer skin tap was Found to be significantly higher than pain perception of patients with skin tap. Thus Heifer skin tap can be used as an intervention to reduce pain after administration of Intramuscular injection.

Vathani., (2017) conducted a study to evaluate the effectiveness of Helfer skin tap Technique on pain reduction among the patients receiving intra muscular injection in JIPMER, Puducherry. The sample was chosen by simple random sampling technique, in Which 67 patients in study group received intra muscular injection using Helfer skin tap Technique and 67 patients in control group received intra muscular injection using routine Technique. The tool was structured interview questionnaires and numerical pain rating Scale. The findings of the study among the post test pain score in study group and control Group (0.67 ± 1.17 vs. 4.95 ± 1.77) were found to be statistically highly significant at $P \leq 0.001$ level. The results indicated that Helfer skin tap technique is more effective in Reducing intra muscular injection pain

Maria Theresa., (2012) conducted a study to evaluate the effectiveness of Helfer Skin tap technique and routine technique on pain reduction among the patients receiving Intra muscular injection in Government General Hospital Puducherry. The simple random Sample technique used with 50 patients are selected. In 25 subjects were for intra muscular Injection using Helfer skin tap technique followed by routine technique for the next dose of injection. Other 25 patients were first assigned intra muscular injection using routine technique followed by Helfer skin tap technique for

the next dose of injection. The subjects were examined with 4

variables viz pain, systolic and diastolic blood pressure and pulse rate. The intervention was implemented for four continuous days for both the groups. The study concluded that the perception of pain intensity is reduced during the patient receiving Intramuscular injection using Helfer skin tap technique.

Jose Rose Mary, Sulochana, Shetty Sheela.,(2012) conducted an experimental Study on effectiveness of skin tap technique in reducing pain response associated with Intramuscular injection among 60 adults in Bangalore by using 0-10 numerical pain Scale. The study revealed that there is an association between the pain scores and Selected demographic variables like gender and body mass index. The study Concluded that skin tap technique is effective in reducing pain response associated With intramuscular injection.

CONCEPTUAL FRAME WORK

WIEDENBACH'S HELPING ART CLINICAL NURSING THEORY (1964)

A conceptual framework is the precursor of the theory, conceptual framework play several interrelated roles in progress of sciences. Their overall purpose is to make scientific studies meaningful and generalizable.

Polit and Hungler (1995) states that a conceptual framework is the interrelated concepts or abstractions that are assembled together in their relevance to the common theme. It is a device that helps to stimulate research and extension of knowledge by providing both directions and impetus.

The present study aims to evaluate the effectiveness of Heifer skin tap technique on pain associated with intramuscular injection among hospitalized adults. The conceptual framework of the study was based on Widenbach's Helping Art Clinical Nursing Theory (1964).

Wiedenbach (1964) proposed the theory as a prescriptive theory of nursing. Prescriptive theory directs action towards an explicit goal. The theory includes 3 factors: central purpose, prescription and realities. A nurse develops a prescription based on a central purpose and implements it according to the realities of the situation.

CENTRAL PURPOSE

Central purpose in the theory refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives; it transcends the immediate intent of the assignment or task by specifically directing activities towards the patient's Benefits.

In this study, the central purpose refers to reduce the level of pain associated With intramuscular injection among hospitalized adults.

PRESCRIPTION

Prescription refers to the plan of care for a patient. It specifies the nature of the Action that will fulfill the nurse's central purpose and rationale for the action.

In this study, Heifer skin tap technique is administered 3 times before inserting The needle and 3 times after removing the needle as an intervention to reduce the level Of pain associated with intramuscular injection among hospitalized adults.

REALITIES

Realities refer to the physiological, physical, emotional and spiritual factors That come into play in a situation involving nursing actions. In this study, age and gender, history of allergic reaction due to intramuscular Injection of the patient were physiological factors, habit of practicing muscle exercise, Previously and previous exposure to intramuscular injection were physical factors and religion was a spiritual factor

According to Wiedenbach nursing practice consists:

- Identifying the need for help.
- Ministering the needed help.
- Validating whether the need was met.
- Co-ordination.

IDENTIFYING THE NEED FOR HELP

It involves viewing the patient as an individual with unique experience and Understanding the patient's perception of condition. Determining a patient's need for Help based on the existence of a need whether the patient realize the need which Prevents the patient from meeting the need whether the patient could meet the need Alone.

In this study, it involves identification of the need for reduction in level of Pain associated with intramuscular injection among hospitalized adult, by using Standardized MCAFFERY 0 -10 numerical pain scale.

MINISTERING THE NEEDED HELP

It refers to the provision of needed help. It requires an identified need and a Patient who wants help.

In this study, Heifer skin tap technique is administered 3 times before inserting The needle and 3 times after removing the needle as an intervention to reduce the level Of pain associated with intramuscular injection among hospitalized adults Validating whether the Need was met . It refers to a collection of evidence that shows whether a patient's needshave Been met and his functional ability has been restored due to direct result of the nurse's Actions. It based on patient oriented evidence.

In this study, it evaluates the effectiveness of Heifer skin tap technique by Using Standardized MCAFFERY 0-10 Numerical Pain Scale. A positive outcome Represents satisfaction of hospitalized adults with decreased pain perception by Heifer Skin tap technique and the intervention is reinforced and the negative outcome Represents dissatisfaction of hospitalized adults with increased pain perception.

CO-ORDINATION

- Co-ordination is by reporting, consulting and conferring to the client.
- In this study it refers to reporting, consulting and conferring with the Physician, nurses, patient and family members regarding the effectiveness of Heifer skin tap technique

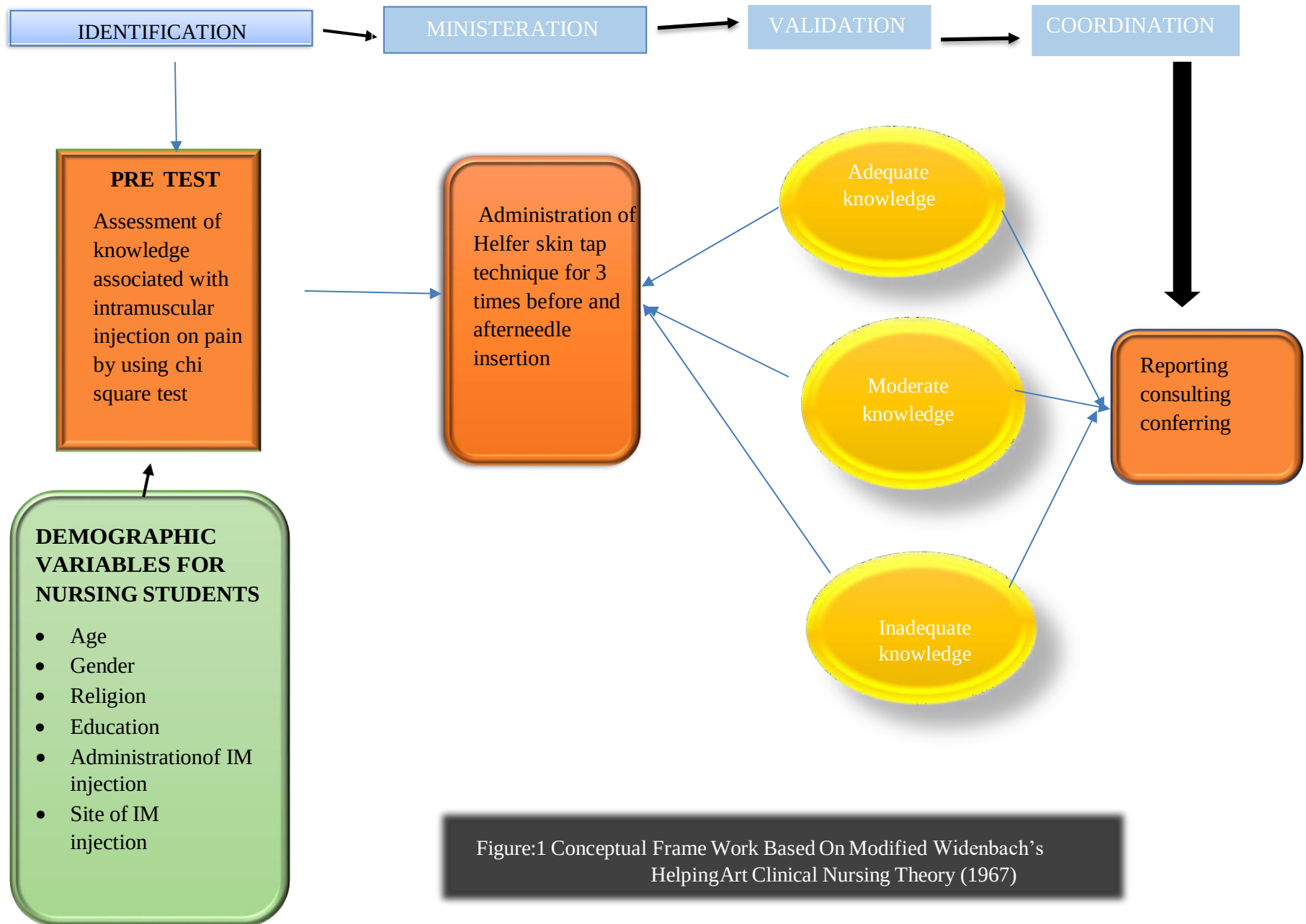


Figure:1 Conceptual Frame Work Based On Modified Widenbach's Helping Art Clinical Nursing Theory (1967)

CHAPTER -III

RESEARCH METHODOLOGY

Methodology deals with the research approach, research design, setting of the study, population, criteria for selection of sample, sample size, sampling technique, description of tool, scoring procedure, pilot study, data collection procedure, plan for data analysis and protection of human rights.

RESEARCH APPROACH

Polit and Hungler, (2004) defined the research approach as “a general set of orderly discipline procedure used to acquire information”.

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 nursing students .

RESEARCH DESIGN

Polit and Hungler, (2004) defined research design as “overall plan for addressing a research questions, including specification for enhancing the study integrity.

In this research the research design was “Descriptive Design “

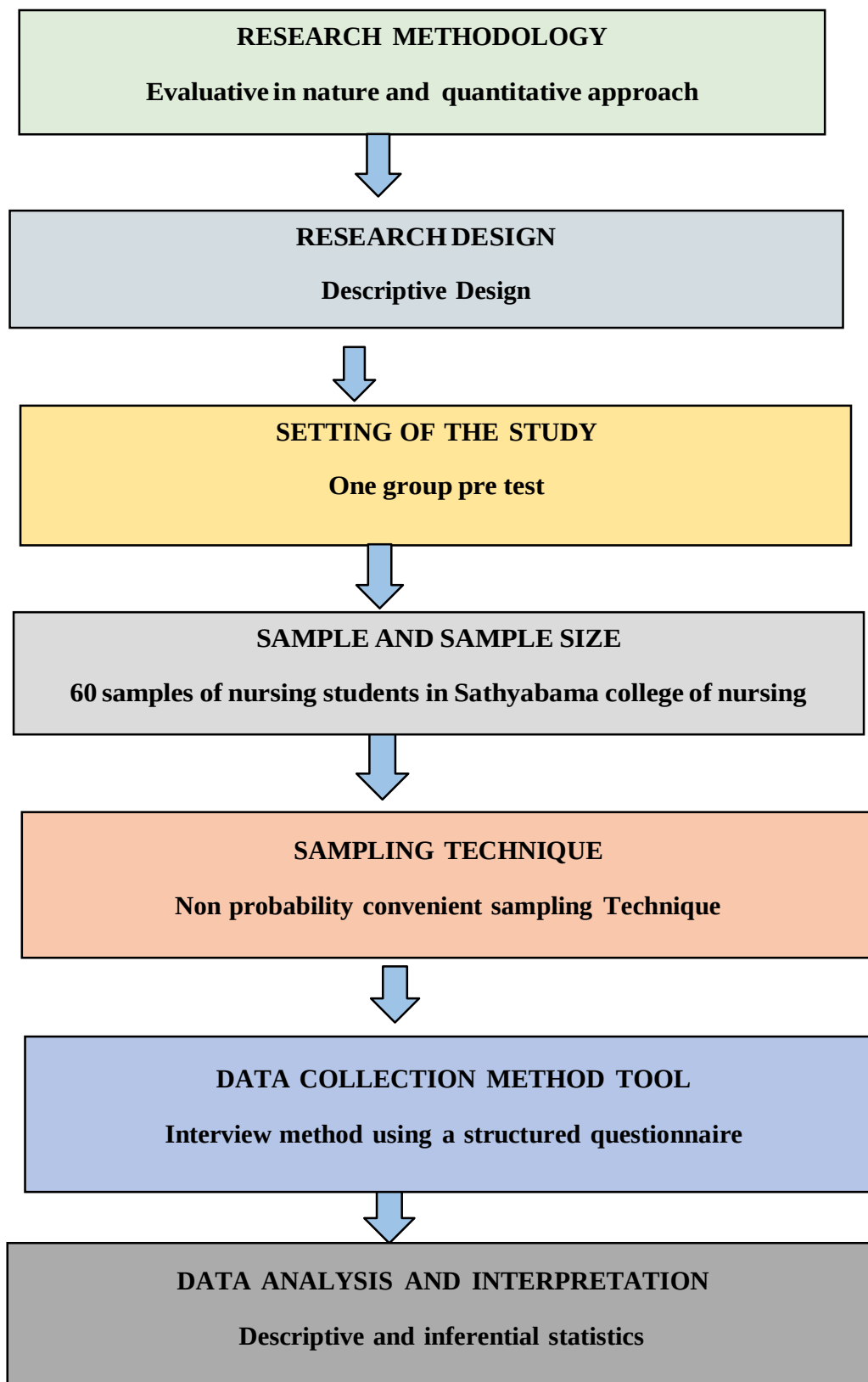


Figure 2. Schematic representation of research methodology

VARIABLES

A variable is an attribute of a person or object that varies, that is, takes on different values. Variables are measurable characteristics of a concept and consist of logical group of attributes.

DEPENDENT VARIABLE

Dependent variable is that which is hypothesized to depend on (or) been caused by another variable. In this study the dependent variable is the level of knowledge in Helfer skin tap technique associated with intramuscular injection among nursing students .

INDEPENDENT VARIABLE

Independent variable is manipulated and it intends to cause a change in the dependent variables. In this study the independent variable is Heiferskin tap technique.

SETTING OF THE STUDY

Polit and Hungler (2004) stated that “the physical location and conditions in which data collection has taken place in a study is the setting of the study”.

The study was conducted in Sathyabama nursing college students . Sathyabama college is 60 student with nursing department at Bsc-Nursing.

POPULATION

According to Polit and Hungler, (2005) “A population is the entire aggregation of cases in which a researcher is interested”. 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 nursing students intramuscular injection.

The accessible population was Sathyabama nursing college students those who are injected the intramuscular Injection.

SAMPLE

According to Basavanthappa B.T, (2005) “sampling is a process of selecting representative units of a population for study in a research. It is the process of selecting a subset of a population in order to obtain information regarding a phenomenon in a way that represents the entire population”.

The sample size for the study was 60. The subjects were selected in Sathyabama college nursing students.

SAMPLING TECHNIQUE

According to Burns and Groove, (2005) “sampling technique is the process of selecting a portion of the population to represent the entire population”.

The sample of the study was selected by adopting non probability convenient sampling technique. The total sample size was 60 and they were selected based on inclusion criteria.

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA

The study includes Nursing students :

- Both male and female between the age group of 18-25
- Who are willing to participate in the study.
- Who knows only English.

EXCLUSION CRITERIA:

The study excludes the nursing students

- Who are critically ill.
- Who are having neurological disorders such as seizure, cerebrovascular Accident
- Who are deaf and dumb.
- Acute diseased patients.

DEVELOPMENT OF THE TOOL

Treece (1986) emphasized that the instrument selected in research should as far as possible be the vehicle that could best obtain data for drawing conclusion pertinent to the study.

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 chi square test was used as the instrument to measure the knowledge of the Helfer skin tap technique.

DESCRIPTION OF TOOL PART A

It consists of variables of nursing students demographic data and knowledge related questionnaire.

SECTION A

It consists demographic variables such as Age, Gender, Marital status, education and year of study

SECTION B: SELF STRUCTURED QUESTIONNAIRE

It consists self structured questionnaire such as application of Helfer skin tap technique while administering IM injection on the patients, If this technique is not used what will be the effect on the patients, advantages of Helfer skin tap technique and time taken to reduce the pain while administering IM injections.

SCORING PROCEDURE

Regarding the scoring of knowledge, the adequate knowledge score is 80-100, moderate knowledge score is 60-80 and inadequate knowledge score is >60.. The score is given depending upon the 'X' placed by the sample in the chi square test. The score was divided into the following categories.

- Adequate Knowledge : 80-100
- Moderate Knowledge: 60-80
- Inadequate Knowledge : >60

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 palmar 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 nondominant 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 and the knowledge of this technique was analysed by given the questionnaire to the students and then analysed by the chi square test.

VALIDITY

According to Burns and Groove., (2005) “ the validity of an instrument is the determination of the extent to which the instrument reflect the abstract construct that is being examined”.

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 diabetologydepartment.

RELIABILITY

According to De Vos., (1998) reliability refers to “the accuracy and consistency of a measuring instrument”. An instrument can be considered reliable if it yields similar results on separate occasions.

In this study chi square test was used to assess level of knowledge of Helfer skin tap technique associated with intramuscular injection, is a reliable tool.

PILOT STUDY

Polit and Beck., (2004) denote that “pilot study is a small scale version or trial run done in preparation of major study

The researcher conducted pilot study among 10 students in Sathyabama college nursing Chennai after obtaining the written permission. The purpose was to find out the feasibility of the study. It was found to be feasible.

DATA COLLECTION PROCEDURE

The data collection procedure was done for a stipulated period of 4 weeks in sathyabama nursing college chennai . Permission to conduct the study was obtained from the dean of the college . 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 day 1 the questionnaire was given to the nursing students to assess the knowledge about helper skin tap technique.

PLAN FOR DATA ANALYSIS

The demographic variables were analyzed by using descriptive measures (frequency and percentage) .The pain was analyzed by using descriptive statistics and inferential statistics

The knowledge of Heifer skin tap technique on pain associated with intramuscular injection was analyzed by using chi square test. Association between pain associated with intramuscular injection and the selected demographic variables were analyzed by using chi square test.

PROTECTION ON HUMAN RIGHTS

The study was conducted after the approval of ethical committee in Sathyabama nursing college and research committee of the college of nursing. The nature and purpose of the study was explained to the care personnel involved. The informed written consent was obtained from the study participant. The anonymity of the sample was maintained throughout the study.

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data collected among nursing students giving intra muscular injection to the patients. This chapter also represents the findings of the Study. The purpose of analysis was to reduce the data to a tangible and interpretable form, so that the relation of the research problem can be studied and tested. The data collected from the samples were tabulated, analyzed and preserved in the table and interpreted under the following sections based on the objectives and hypotheses of this study.

Data analysis is the practice of working with data to glean useful information, which can then be used to make informed decisions. “It is a capital mistake to theorize before one has data. It is divided into four parts;

- Distribution of demographic variables among nursing students giving the intra muscular Injection
- Level of pain perception among patients receiving intra muscular injection.
- Data on effectiveness of Helfer skin tap technique on pain associated with intramuscular injection .
- Data on association between pain associated with intramuscular Injection giving nursing students with their selected demographic variables.

SECTION I : DATA ON DEMOGRAPHIC VARIABLE OF NURSING STUDENTS

Table: 1
Frequency and Percentage Distribution of Demographic Variables among
Nursing students

N = 60

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY(f)	PERCENTAGE(%)
1	Age		
	➤ >18	5	8.3%
	➤ 18-25	50	90%
	➤ 25-35	1	1.7%
2	Gender		
	➤ Male	16	26.7%
	➤ Female	44	73.3%
3	Marital status		
	➤ Married	2	3.3%
	➤ Unmarried	58	96%

4	Education		
	☐ Diploma nursing	0	0
	☐ Post Bsc nursing	1	1.7%
	☐ B.SC nursing	59	98.3%
	☐ ANM	0	0
5	So far approximately how many IM injection have you administer on the patient?*		
	☐ 50	41	68.3%
	☐ 50-100	16	26.7%
	☐ 100-150	2	3.3%
	☐ 150-200	0	0
	☐ <200	1	1.7%
6	what are the sites of IM injection?		
	☐ Deltoid muscle	31	52.5%
	☐ Dorso gluteal muscle	0	0
	☐ Ventro gluteal muscle	0	0
	☐ Vastuslateralis muscle	0	0
	☐ All the above	26	44.1%

Table 1 reveals that regarding age, majority of the nursing students 5 (8.3%) belong the age group of below 18 years, 50 (90%) belongs 18-25 years, 1 (1.7%) belong to age 25-35 years. Regarding gender 44 (73.3) nursing students were females and 16 (26.7%) were males .Regarding marital status 2 (3.3%) of nursing students were married , 58(96%) Were unmarried.

Regarding educational status 0(0%) of nursing students had completed diploma nursing, 1(1.7%) had completed post B.sc nursing , 59(98.3%) had completed B.sc nursing , 0(0%) at completed ANM.

Regarding so far nursing students administered intra muscular injection on patient 41(68.3%) had administered 50 patients, 16 (26.7%) had administered 50-100 patients , 2 (3.3%) had administered 100- 150 patients , 0(0%) had administered 150-200 patients, 1 (1.7%) had administered < 200 patients.

It reveals that among nursing students having knowledge associated with intramuscular injection majority of them belongs to the age group of 18-25 years , were females, had primary education, were moderate workers, had no habit of practicing muscle exercise, get aqueous form of drug, no history of any allergic reaction due to intramuscular injection previously, <2ml volume of substance injected, had previous exposure to intramuscular injection.

SECTION II: DATA ON LEVEL OF PAIN ASSOCIATED WITH INTRAMUSCULAR INJECTION AMONG NURSING STUDENTS.

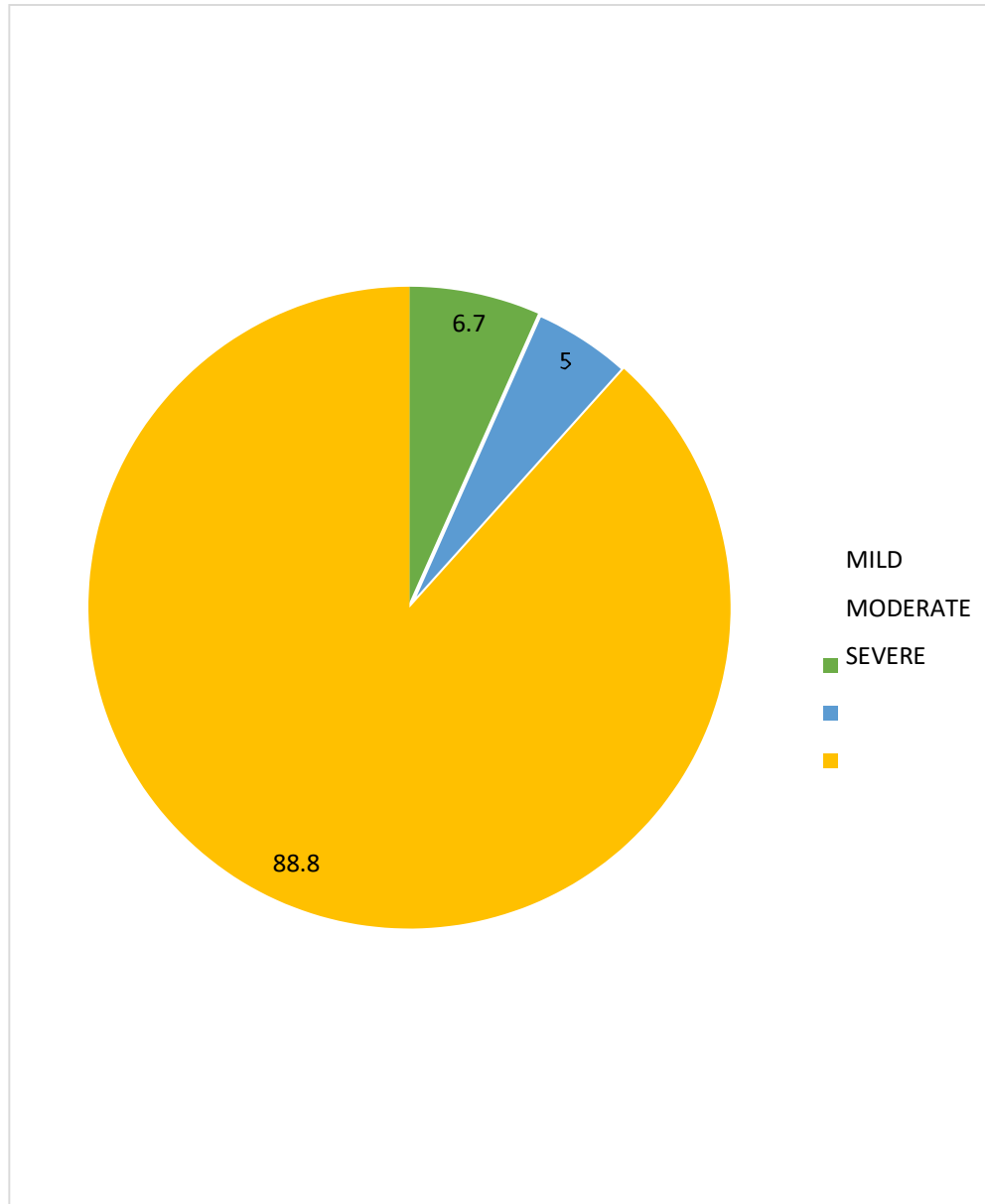
Table: 2

Frequency and Percentage Distribution Level of Pain Perception among patients
associated with intramuscular Injection .

s.no	Level of pain	Frequency (f)	Percentage(%)
1	Mild pain	4	6.7
2	Moderate pain	3	5
3	Severe pain	53	88.3

The above table shows that among patients received intramuscular injections, 4 (6.7%) had mild pain , 3(5%) had moderate pain and 53(88.3) had severe pain.

PERCENTAGE



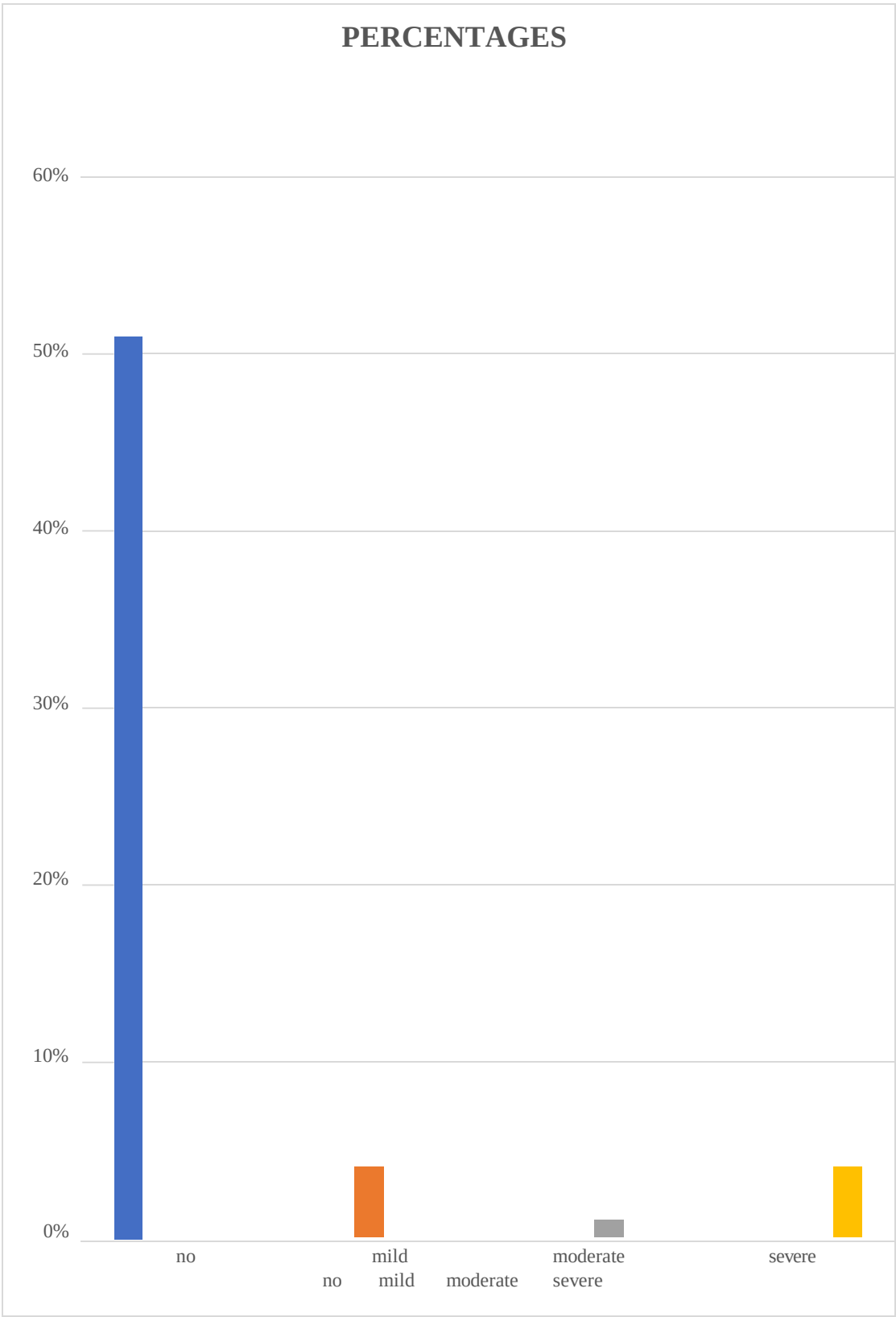
SECTION III : DATA ON EFFECTIVENESS OF HELPER SKIN TAP TECHNIQUE ASSOCIATED WITHINTRAMUSCULAR INJECTION AMONG NURSING STUDENTS

Table: 3

Effectiveness of helper skin tap technique with level of pain and frequency and percentages.

s.no	Level of pain	Frequency	percentages
1	No pain	51	51
2	Mild pain	4	4
3	Moderate pain	1	1
4	Severe pain	4	4

The above table shows that effectiveness of helper skin tap technique 51(85%) had no pain, 4 (6.6) had mild pain, 1(1.6) had moderate pain, 4(6.6) had severe pain



**SECTION 1V: DATA ON ASSOCIATION BETWEEN LEVEL OF
KNOWLEDGE ASSOCIATED WITH INTRAMUSCULAR
INJECTION NURSING STUDENTS WITH THEIR
SELECTED DEMOGRAPHIC VARIABLES.**

Table: 4

Frequency, Percentage and χ^2 Distribution on Level of knowledge
Associated with intramuscular injection among nursing students With Their Selected
Demographic Variable

S. N O	DEMOGRAPHIC VARIABLES	GROUP						CHI SQUA RE TEST
		KNOWLEDGE LEVEL						
		ADEQUAT E	MODERATE		IN ADEQUATE			
		F	%	f	%	f	%	
1	Age							
	>18	15	25	10	16.6	5	8.3	X ² =2.380 DF = 4 TABLE VALUE =9.49 (NS)
	18-25	20	33.3	5	8.3	5	8.3	
	25-35	0	0	0	0	0	0	
2	Gender							
	Male	12	2.0	4	6.6	5	8.3	X ² =8.78 9 DF=2 TABLE VALUE =5.9 (S)
	Female	35	58.3	4	6.6	0	0	
3	Marital status							
	Married	2	3.3	0	0	0	0	X ² =0.17 11 DF=2 TABLE VALUE =5.99 (NS)
	Unmarried	50	83.3	3	5	5	8.3	

4	Education							
	• Diploma nursing	0	0	0	0	0	0	$\chi^2=0.03$ 11 DF=6 TABLE VALUE =12.59 (NS)
	• Post Bscnursing	1	1.7	0	0	0	0	
	• Bsc nursing	50	83.3	4	6.7	5	8.3	
	• ANM	0	0	0	0	0	0	
5	According to you , what are the techniques is very effective for reducing pain during IM injection ?							
	• Routine procedure	0	0	0	0	0	0	$\chi^2=0$ DF=6 TABLE VALUE =12.59 (NS)
	• Helfer skin tap technique	30	50	15	25	15	25	
	• Lidocaine cream technique	0	0	0	0	0	0	
	• Other	0	0	50	83.3	0	0	

6	So far approximately how many IM injection have you administer on the patient?							
	• 50	35	58.3	5	8.3	5	8.3	$\chi^2=9.166$ DF=8 TABLE VALUE =15.51 (NS)
	• 50-100	5	8.3	5	8.3	5	8.3	
	• 100-150	0	0	0	0	0	0	
	• 150-200	0	0	0	0	0	0	
	• <200	0	0	0	0	0	0	
7	what are the sites of IM injection?							
	• Deltoid muscle	5	8.3	5	8.3	0	0	$\chi^2=4.339$ DF=8 TABLE VALUE =15.51 (NS)
	• Dorso gluteal muscle	0	0	0	0	0	0	
	• Ventro gluteal muscle	0	0	0	0	0	0	
	• Vastuslateralis muscle	0	0	0	0	0	0	

8	All the above	35	58.3	10	16.6	5	8.3	$\chi^2=27.7$ DF=8 TABLE VALUE =15.51 (S)
	Do you apply Helfer skin tap technique while administering IM injections on your patients ?							
	Always	45	75	5	8.3	0	0	
	Often	0	0	0	0	0	0	
	Sometimes	5	8.3	0	0	0	0	
	Rarely	0	0	5	8.3	0	0	
9	Never	0	0	0	0	0	0	
	What are the complication of IM injection?							
	Chronic pain	0	0	0	0	0	0	
	Edema	0	0	0	0	0	0	

10	• Inflammation	0	0	0	0	0	0	X ² =0 DF=8 TABLE VALUE =15.51 (NS)
	• Phlebitis	0	0	0	0	0	0	
	• All the above	50	83.3	5	8.3	5	8.3	
	According to you what will be effect if Helfer skin tap technique is not used while administering IM injections to your patient?							X ² =0 DF=4 TABLE VALUE =9.49 (NS)
	• Patient will feel mild pain	0	0	0	0	0	0	
	• Patient will feel moderate pain	0	0	0	0	0	0	
	• Patient will feel severe pain	40	66.6	10	16.6	10	16.6	

11	What will be the advantage of Helfer skin tap technique during IM injections? • It will be reduce the pain • It will be reduce inflammation • It will be prevent phlebitis • All the above	0	0	3	5	0	0	$\chi^2=60$ DF=6 TABLE VALUE =12.59 (S)
		0	0	0	0	0	0	
		0	0	0	0	0	0	
		55	91.6	0	0	2	3.3	
12	Maximum volume of IM drug administration? • 2-5 ml • 8 ml • 10 ml	56	93.3	0	0	0	0	$\chi^2=133.04$ DF=4 TABLE VALUE =9.49 (S)
		0	0	2	3.3	0	0	
		0	0	0	0	2	3.3	

13	What is the Helfer skin tap technique? - Tapping the injection site 3 time before inserting needle - A routine techniques - Hot and Cold application	58	96.6	0	0	0	0	$X^2=199.95$ DF=4 TABLE VALUE =9.49 (S)
		0	0	1	1.7	0	0	
		0	0	0	0	1	1.7	
14	How much time it will be take to reduce pain while administering IM injections if Helfer skin tap technique is applied? 1 minute 1-2 minutes	58	96.6	0	0	0	0	$X^2=116.39$ DF=6 TABLE VALUE =12.59 (S)
		0	0	0	0	1	1.7	

15	• 2-5 minutes	0	0	1	1.7	0	0	$\chi^2=199.51$ DF=4 TABLE VALUE =9.49 (S)
	• < 5 minutes	0	0	0	0	0	0	
	Did you agree this							
	Helper skin tap							
	technique is very							
	effective as we compare							
	than other techniques to							
	reducing pain while							
	giving IM injections?							
	• Agree	58	96.6	0	0	0	0	
16	• Disagree	0	0	1	1.7	0	0	$\chi^2=0$ DF=6 TABLE VALUE =12.59 (NS)
	• Neutral	0	0	0	0	1	1.7	
	In which degree we							
	have to providing IM							
	injection?							
	• 90 Degree	60	100	0	0	0	0	
	• 45 Degree	0	0	0	0	0	0	

	□ 15 Degree	0	0	0	0	0	0	
	□ 25 Degree	0	0	0	0	0	0	

Table : It represents that in group the calculated value of the selected demographic variables such as age, educational status , marital status, very effective technique for reducing pain , site of intramuscular injection , complication of intramuscular injection , maximum volume of intramuscular injection is lesser than the table value which indicates there was not significant association with level of knowledge and the demographic variables.

CHAPTER - V

DISCUSSION

The basic aim of this study was to evaluate the effectiveness of Helfer skin tap technique on knowledge associated with intramuscular injection among nursing students in selected college in Chennai.

The study was conducted by using pre experimental one with experimental group. Samples were selected from Sathyabama college of nursing for conducting the study. The sample size was 60.

The structured self administered questionnaire was used to assess the demographic variables among nursing students with intramuscular injection. The chi square test was used to assess the level of knowledge associated with intramuscular injection. The responses were analyzed by using inferential statistics (chi square test). Discussions on the findings were arranged based on objectives of the study.

The first objective was to assess the level of knowledge associated with intramuscular injection among nursing students. The study revealed that students had adequate knowledge (85%), moderate knowledge (10%) and inadequate knowledge (5%) about Helfer skin tap technique.

The study findings were similar to the findings of Mitchell. T., (2011) conducted a cross sectional study on patients perception of knowledge with intramuscular injection among 100 patients in Australian hospital by using VAS. The study revealed that after the procedure 96% said that intramuscular injection is painful. The study concluded that there is high prevalence of perception of pain associated with intramuscular injection procedure.

The second objective of the study was to evaluate the effectiveness of Helfer skin tap technique on knowledge associated with intramuscular injection among nursing students. The study revealed that Helfer skin tap technique is effective on pain associated with intramuscular injection among nursing students.

The study findings were similar to the findings of Viki contle., (2012), conducted an experimental study on Helfer skin tap technique to reduce procedural pain among 228 adult patients in Japan, by adopting Visual Analogue scale. The study revealed that the overall mean pain intensity by using Helfer skin tap technique was much lower than the pain level by the usual technique. The study concluded that Helfer skin tap technique is an effective method to reduce procedural pain.

The third objective of the study was to determine the association between knowledge associated with intra muscular injection among nursing students with their selected demographic variables. The study revealed that there is significant association between the levels of knowledge associated intramuscular injection among nursing students with their selected demographic variables such as age, gender, educational status, occupation. There is no significant association between level of knowledge associated with intramuscular injection among nursing students 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.

The study findings were similar to the findings of Francis Sachnyun Nahm, Pyung Bok Lee, Soo Young Park, Young Chul Kim, Sang Chul Lee, Hwa Young Shin, Chul Joong Lee.,(2012) conducted a cross sectional study on pain from intramuscular vaccine injection among 160 adults Korea by using a 100 mm visual analogue scale. The study revealed that there were no correlation between VAS and age, body mass index, or maximum pain score from previous painful experience, a history of child birth in female or religion. The study concluded that the gender appears to be the only major factor that influences the pain of intramuscular vaccine injection. Pain reducing methods will be needed when performing injection procedure particularly in women .

CHAPTER - VI

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter deals with the summary of the study, findings and. It clarifies nursing implications for nursing practice, nursing education, nursing administration, limitations and recommendations for further research in the field.

SUMMARY

The aim of the study was to assess the knowledge regarding of Helfer skin tap technique on level of pain perception among nursing students giving intra muscular injection. A review of related literature enabled the researcher to develop the conceptual frame work and Methodology for the study. Quantitative research approach was used. Descriptive design was adopted to Evaluate the effectiveness of Helfer skin tap technique on level of pain perception among nursing students using intra muscular injection. The study was conducted in the Sathyabama college of nursing, Chennai. The non probability convenient sampling technique was used to select 60 samples.

Data collection was done by using the demographic variables . The data gathered were analyzed by descriptive and inferential statistics method and interpretation were done on the basis of The objectives of the study.

MAJOR STUDY FINDINGS

Major study findings include

- Regarding demographic variables of nursing students giving intramuscular injection majority of them belonged to the age group of 18- 35 male & females, students were first nursing students, injected 100-150 injections to the patient.
- Regarding association between the level of pain associated with intramuscular Injection with their selected demographic variables, there was a significant Association between age, gender, educational status.. 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.

CONCLUSIONS

The study was done to evaluate the effectiveness of Helfer skin tap technique on Pain perception among nursing students giving intra muscular injection in Sathyabama college of nursing. It shows that students had knowledge about Helfer skin tap technique was effective in reducing the level of pain perception. From the Result of the study, it was concluded that providing Helfer skin tap technique was very effective in reducing pain perception. Therefore the investigator felt that more importance Should be given for Helfer skin tap technique to reduced pain perception among nursing students using intra muscular injection.

The main conclusion drawn from the present study most of the nursing students had knowledge about Helfer skin tap technique. This shows that the Heifer skin tap technique was effective on reducing pain associated with intramuscular injection using nursing students.

NURSING IMPLICATIONS

The findings of the study enables us to conclude that the nursing students had knowledge about Helfer skin tap technique was effective to reduced the pain perception among patients receiving intra muscular injection which is a vital concern in the field of nursing profession including nursing practice, Nursing administration, nursing education and nursing research.

NURSING PRACTICE

- Can learn the techniques of Helfer skin tap technique.
- Nurses should develop their knowledge regarding the benefits of Helfer Skin tap technique among patients receiving intra muscular injection.
- Understand the importance of Helfer skin tap technique as an adjuvant to the conventional medicine.
- Nurses should develop skills in implementing Helfer skin tap technique.
- Nurses should create awareness on benefits of Helfer skin tap technique, promote and encourage practicing Helfer skin tap technique among patients receiving intra muscular injection.
- Motivate the student nurses to use Helfer skin tap technique to reduce pain associated with intramuscular injection among patients
- Nurses working in hospitals and nursing home settings can implement Helfer skin tap

technique as a significant means of reducing intra muscular injection pain.

- Suggest this simple technique for preventing further complications by intramuscular injection.

NURSING EDUCATION

- Learn the effectiveness of heifer skin tap technique on reducing pain associated with intramuscular injection, as an independent nursing intervention
- Nursing students should receive adequate training regarding Helfer skin tap technique.
- Workshops or conferences for students should be conducted regarding the Use of Helfer skin tap technique.
- Nurse educators should ensure that Helfer skin tap technique is included in the curriculum from the basic level of nursing education.
- Nurse educator should provide the students with adequate exposure to intra Muscular injection and Helfer skin tap technique.

NURSING ADMINISTRATION

- Make staff nurses to focus on the important aspect of Heifer skin tap Technique to reduce pain associated with intramuscular injection.
- Nurse administrator can assist in implementing Helfer skin tap technique on Public health awareness in hospitals.
- Nursing administrator can organize conferences, seminars, and workshop For nurses working in community to encourage a positive attitude on Helfer Skin tap technique.
- Organize in service education programme for the nurses on this technique.

NURSING RESEARCH

- Researcher can work on various methods to reduce the intra muscular Injection pain.
- Conduct further research in different setting using the above findings as a baseline data.
- Nurses can conduct research for further clarifications on the benefits of Helfer skin tap technique among patient receiving intramuscular injection.
- Nurses should be encouraged to conduct more research on the effect of Helfer skin tap technique.

LIMITATIONS

- This study did not give the effectiveness of the all injection sites only applicable for intramuscular injections.

RECOMMENDATIONS

- A study can be conducted among large sample.
- A study can be conducted for the intra muscle

REFERENCES

REFERENCES

BOOK REFERENCES

- Kozier and Erb's , Fundamental of Nursing (2011), (8th Edi.):Pearson education publication, South Asia.
- Lippincott Manual of Nursing Practice (2001), (7th Edi.):Lippincott publisher Philadelphia.
- Lewis Medical Surgical Nursing (2006), (4th Edi): Mosbypublication, Newdelhi.
- Nisha, clement Principles and practice of Nursing procedure(2015) , (5th Edi.): EMMESS Medical publishers Bangalore.
- Omayal Achi, Manual of Nursing procedure and practice (2017) (2nd Edi): Wolters Kluwer publisher, Newdelhi.
- Parker M.E, Nursing theories and nursing practice, (2001), (4thEdi.): F.A. Davis Company Philadelphia.
- Polit F. Beck , Nursing Research (2008) ,(3rd Edi.): LippincottWilliam and Wilkins publication, New Delhi.
- Potter Perry AG ,Fundamental of Nursing (2006) , (6th Edi.):St.Louis Elsevier Mosby publications, New Delhi.
- Sandhya Ghai ,Clinical Nursing Procedure (2017) , (1st Edi.):CBS Publication, New Delhi.
- Stevenson ,Oxford English Dictionary (2009) ,(11th Edi.):Manzar Khan publisher, New Delhi.
- Ann Mariner Tomey,Nursing Theories And Their Work. (2006)., (6th ed.) Missouri: Mosby Publication.
- Basavanthappa, B.T, NURSING RESEARCH. (2005), 1stedition. New Delhi: Jaypee brothers medical publishers (Pvt) Ltd.

JOURNAL REFERENCE

- Baxter. J A. (2007). Heifer skin tap technique and intramuscular injection. Indian Journal Of Holistic Nursing: 10(1). 67-70.
- Carlos. P.et.al. (2010). Heifer skin tap - A Nursing Practice. Journal Of Alternative And Complementary Medicine: 6(1). 16 -20.
- Elsevier Science. (1999). Rhythmic skin tap technique. The Journal Of Alternative And Complimentary Medicine: 11(1). 1-6.
- Horton. M. (2002). Effects of Heifer skin tap technique on pain during Intramuscular injection. Nightingale Nursing Times:10(2). 57-62.
- Jhamb. L. (2006). A survey on pain associated with intramuscular injection. Sri Ramachandra Journal Of Medicine.
- Issac Austin. (2014). Effectiveness of Helfer skin tap technique upon pain during administration of intra muscular injection. Nursing clinical Research.
- Omima Said M.H. Shehata. (2016) Effect of Helfer skin tapping and Z – Track techniques on pain intensity among hospitalized adult patients who receiving intra injection. International Journal of Novel Research in Health care in Nursing.
- Maria Thersa. (2014). Effectiveness of Helfer skin tap technique and routine technique on pain reduction among patients receiving intramuscular Injection .International Journal of Science and Research .

APPENDICES

APPENDIX -1



LETTER SEEKING PERMISSION TO CONDUCT THE RESEARCH PROJECT

From

Mr. Arul . S & Ms. Aarthisha .S
III-year B.Sc. Nursing,
Sathyabama College of Nursing,
Chennai 600119.

To

Dr. Lakshmi,
The Dean,
Sathyabama College of Nursing,
Chennai 600119

Respected Sir / Madam,

I am Mr.Arul S & Ms. Aarthisha S III-year B.Sc. Nursing students, studying in Sathyabama College of Nursing, Jeppiar Nagar, Chennai.

As a part of the requirement in B.Sc. Nursing programme as per Sathyabama University specification, we have to complete a research project. The topic I have selected is “A STUDY TO ASSESS THE KNOWLEDGE ON HELPER SKIN TAP TECHNIQUE ON PAIN ASSOCIATED WITH IM INJECTIONS AMONG NURSING STUDENTS AT SELECTED NURSING COLLEGES” CHENNAI , We are interested in conducting the study in your esteemed institution.

The period of data collection is from 10/08/2022 to 20/09/2022. I assure you that my study will not interfere with the routine functioning of the institution.

Thanking you,

Date:

Yours faithfully

Place : Chennai.

(Ms. Aarthisha S & Mr. Arul S)

APPENDIX - II

CONTENT VALIDITY CERTIFICATE

I here by certify that we have validated the tool of Reg no. Ms. AARTHISHA.S & Mr. ARUL.S ,Third Year B.sc nursing student who is undertaking ,”A Study To Assess The Knowledge Regarding Helfer Skin Tap Technique On Pain Associated With Intramuscular Injections Among Nursing Students At Selected Colleges, Chennai.”

Signature and seal of the Expert:

Name:

Designation:

APPENDIX -III

SATHYABAMA COLLEGE OF NURSING CERTIFICATE FOR ETHICAL CLEARANCE

This is to certify that Ms. AARTHISHA .S and Mr. ARUL .S B.sc nursing III year students, Submitted the protocol on study as , “A Study To Assess The Knowledge Regarding Helfer Skin Tap Technique On Pain Associated With Intramuscular Injections Among Nursing Students At Selected Colleges, Chennai.” The above protocol was received by ethical committee approved and mentioned that the study is feasible to carry out under the guidance of an eligible guide.

Signature of The Dean

APPENDIX - IV

CONSENT FORM

Respected Sir / Madam,

We are Ms. AARTHISHA .S & Mr. ARUL .S , We are doing our Third year B.Sc., (N) in Sathyabama College of Nursing. We are conducting a Research on “A Study To Assess The Knowledge Regarding Helfer Skin Tap Technique On Pain Associated With Intramuscular Injections Among Nursing Students At Selected Colleges, Chennai. We request your co-operation to complete our research. We assure you that you won't get any harm due to this intervention.

We are Mr. & Mswas explained about the effectiveness of Heifer skin tap on pain associated intramuscular injection among nursing students by Ms. Aarthisha .S & Mr. Arul.S . we are explained the benefits of this intervention. We agree with this intervention of Heifer skin tap technique and this study project whole heartedly.

Yours faithfully,

Date :

Time:

APPENDIX- V

DEMOGRAPHIC VARIABLES AMONG NURSING STUDENTS

- Name _____
- E-Mail _____
- Mobile Number _____
- Age
 - Gender
 - Male
 - Female
- Marital status
 - Married
 - Unmarried
- Education
 - Diploma nursing
 - Post Bsc nursing
 - Bsc nursing
 - ANM

- Institution
- year of study
- According to you , what are the techniques is very effective for reducing pain during IM injection ?
 - Routine procedure
 - Helfer skin tap technique
 - Lidocaine cream technique
 - Others
- So far approximately how many IM injection have you administer on the patient?
 - 50
 - 50-100
 - 100-150
 - 150-200
 - <200
- what are the sites of IM injection?
 - Deltoid muscle
 - Dorso gluteal muscle
 - Ventro gluteal muscle
 - Vastus lateralis muscle
 - All the above
- Do you apply Helfer skin tap technique while administering IM injection on your patients?
 - Always
 - Often
 - Sometimes
 - Rarely
 - Never

- What are the complication of IM injection?
 - Chronic pain
 - Edema
 - Inflammation
 - Phlebitis
 - All the above

- According to you what will be effect if Helfer skin tap technique is not used while administering IM injections to your patient?
 - Patient will feel mild pain
 - Patient will feel moderate pain
 - Patient will feel severe pain

- What will be the advantage of Helfer skin tap technique during IM injections?
 - It will be reduce the pain
 - It will be reduce inflammation
 - It will be prevent phlebitis
 - All the above

- Maximum volume of IM drug administration?
 - 2-5 ml
 - 8 ml
 - 10 ml

- What is the Helfer skin tap technique?
 - Tapping the injection site 3 time before inserting needle
 - A routine techniques
 - Hot and Cold application

- How much time it will be take to reduce pain while administering IMinjections if Helfer skin tap technique is applied?
 - 1 minute
 - 1-2 minutes
 - 2-5 minutes
 - < 5 minutes

- Did you agree this Helfer skin tap technique is very effective as we compare than other techniques to reducing pain while giving IM injections?
 - Agree
 - Disagree
 - Neutral

- In which degree we have to providing IM injection?
 - 90 Degree
 - 45 Degree
 - 15 Degree
 - 25 Degree

APPENDIX -VI

HELPER SKIN TAP TECHNIQUE

DEFINITION

Helper skin tap technique is the technique of intramuscular injection by tapping the intramuscular injection site of buttock by using palmer aspect of the hand about three times and inserting the needle without the feeling of pain and removing the needle by tapping the area again three times.

PURPOSE:

- To alleviate the pain
- To improve superficial vasodilatation
- To bring about relaxation of muscle
- To reduce needle anxiety
- To give anesthetic effect

MECHANISM OF HELPER SKIN TAP TECHNIQUE

The mechanism of heifer skin tap technique is gate control theory. In helper 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.

A Ronald Melzack and Patrick wall (1965) the nerve fibers with smaller diameter carry pain stimuli through the gate mechanism present in spinal cord. But, the nerve fibers with larger diameter, which carry other stimuli such as touch, pass through the same gate. The larger nerves inhibit the transmission of pain signals by smaller nerves through the gate

when the pain sensation is produced in any part of the body, along with pain fibers, the other afferents particularly the touch fibers reaching the posterior column of spinal cord are activated. The posterior column fibers send collaterals to the cells of substantia gelatinosa in the posterior gray horn. Thus, some of the impulses ascending via dorsal column fibers pass through the collaterals and reach substantia gelatinosa. Here, touch impulses inhibit the release of substance by the pain fibers ending on substantia gelatinosa, so the pain sensation is suppressed.

PROCEDURE

- Patients should be identified as per inclusion and exclusion criteria.
- Check the client's identification and condition.
- Explain to the client about the purpose and the procedure. To obtain oral consent from the patient.
- Collected all the articles required near to the patient side.
- Wash hands.
- Provided privacy to the patient.
- Loaded the medication from an ampule.
- Placing the patient in proper position.
- Located correct site by using landmarks.(Dorso gluteal site)
- Cleaned the injection site with spirit swab to remove the surface bacteria.
- After preparing the skin with spirit swab, the uncapped syringe to be held in the dominant hand and the non dominant hand tap the muscle which intended to use the palmar aspect of the fingers 16 times before the insertion.
- Immediately after skin tapping insert the needle at a 90 degree angle into the muscle.

AFTER CARE

- Make the patient comfortable.
- Remove screen and equipment.
- Inspect the area for bleeding.
- Watch the signs and symptoms of allergic reaction.
- Clean articles with soap and water keep ready for next use.

APPENDIX – VII

PHOTO GALLERY



PRE TEST ASSESSMENT ON KNOWLEDGE



PRE TEST ASSESSMENT ON KNOWLEDGE

THANK YOU