

RESEARCH ABSTRACT

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Statement of the problem:

A study to evaluate the intensity of pain experienced by respondents given intramuscular (IM) injection with/without skin tapping technique in a selected hospital in Mumbai.

The purpose of this study was to describe and evaluate the effect of skin tapping technique on pain perception in respondents receiving IM injection Penidura 12 lacs IU. The effect was analysed by comparing the pain level of the respondents with and without skin tapping technique.

Specific Objectives:

- ❖ TO COMPARE THE PAIN LEVEL OF ADULT CLIENTS PRIOR TO AND IMMEDIATELY AFTER RECEIVING INTRAMUSCULAR INJECTION.
- ❖ TO EVALUATE THE PAIN LEVEL OF THE ADULT CLIENTS RECEIVING INTRAMUSCULAR INJECTION WITH AND WITHOUT SKIN TAPPING TECHNIQUE.
- ❖ TO COMPARE THE PAIN LEVEL OF THE PATIENTS WITH SELECTED VARIABLES-AGE, GENDER, BMI, EDUCATION, SOCIOECONOMIC STATUS, DURATION (IN YEARS) OF RHEUMATIC HEART DISEASE (RHD).

An evaluative approach was used to collect the data for the study and thereby conducting a study . The sample consisted of thirty respondents with Rheumatic Heart Disease who had come to

the Cardiology OPD during the data collection period. The respondents were selected on a non-probability convenience basis, as per the criteria laid down for the study.

Technique and tool:

The interview technique was used to elicit the personal and medical data of the respondents. Pain being subjective in nature, self reporting technique was used for assessing the pain intensity of the respondents before and after receiving IM injection Penidura 12 lacs IU.

Tool 1 :- Structured Interview schedule which comprised of :

- Identification data to elicit the personal information of the respondents including their medical history.

Tool 2 :- Pain assessment chart comprised of a combined numerical, descriptive, and visual pain rating scale. The numerical pain intensity assessment scale was a pain rating scale from a measurement of 0-10. Each numerical was tagged with a visual and a word description that best described the number on the pain scale.

Pain was assessed in the respondents on two occasions ie.-

- Assessment of pain before the procedure of IM injection Penidura 12 lacs IU.
- Assessment of pain within one minute of giving IM injection Penidura 12 lacs IU.

❖ **IDENTIFICATION DATA :-**

Majority of the respondents belonged to the age group of 20-40 years. They were educated upto primary level, and had a body mass index ranging from 18.5 to 24.9 (indicating normal weight) in both the control and the experimental groups. Representation of male respondents was 40% and that of female respondents was 60% in both the control and experimental groups. All the respondents suffered from Rheumatic Heart Disease as their primary problem, with a duration of 2-9 years in both the groups. Majority of the respondents were housewives, professionals and non-professionals and earned a monthly income of Rs. 10,000/- and less in both the groups. In both the groups Inj. Penidura test dose of 0.1ml was given intradermally, prior to administering the full dose.

❖ **PAIN ASSESSMENT USING PAIN SCALE:**

1. Assessment of pain before the procedure of IM injection:-

In the pre-procedure assessment of pain, all the respondents from both the groups reported '0' pain on the pain scale of 0-10.

2. Assessment of pain after the procedure of IM injection:-

After the procedure, the assessment of pain was done. The average intensity of pain recorded in both the control and experimental groups were 3.6 and 3.47 respectively on the pain rating scale.

The other findings of the study showed that :-

1. There is no significant relationship between the selected variables i.e. body mass index, gender, education, age, socio-economic status, duration of medical history and pain perception by the respondents who received IM injection Penidura 12lacs IU.
2. There is no significant difference in the pain perception by the respondents between the two techniques of giving IM injection.

CONCLUSION:-

Thus the research hypothesis is rejected and the Null hypothesis is accepted i.e there is no relationship between the skin tapping technique and the pain perception.

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We hope to continue to challenge ourselves to meet the standards of excellence that our profession expects.

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INTRODUCTION

Pain is the most common reason that people seek medical attention. But pain is actually hard to define because it's a subjective sensation. The International Association for the Study of Pain defines it as an "unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage".

Dr. Craig Freudenrich remarks, "Obviously, this definition is pretty vague". One physician has even remarked that pain is whatever the patient says it is. So let's just say that pain is a warning sensation to your brain that some type of stimulus is causing or may cause damage; and you should probably do something about it. Dr. Kumar, eminent Neuro -Surgeon, says "Pain is one of the primal reactions of living beings and it originates in the brain stem in the vertebral region. The thalamus, further up, transmits it to the cerebral cortex – (so that we know there is 'pain') - creating a pathway of transmission". Dr. Robert Heath, using electrodes and taking a biofeedback recording of neural movement first mapped the path as follows :

- Contact with stimulus-stimuli can be mechanical (pressure, punctures and cuts) or chemical (burns).
- Reception-A nerve ending senses the stimulus.
- Transmission-a nerve sends the signal to the central nervous system. The relay of information usually involves several neurons within the central nervous system.

Pain centre reception-The brain receives the information for further processing and action.

Nociception uses different neural pathways than normal perception (like light touch, pressure and temperature). With non-painful stimulation, the first group of neurons to fire are normal somatic receptors. When something causes pain, nociceptors go into action first.

There are various causes of pain. The crudest example of classification by cause, simply distinguishes "somatogenic" pain (arising from a perturbation of the body) from psychogenic pain (arising from a perturbation of the mind: when a thorough physical exam, imaging and laboratory tests fail to detect the cause of pain, it is assumed to be the product of psychic conflict or psychopathology). Somatogenic pain is divided into "Nociceptive" (caused by activation of nociceptors) and "Neuropathic" (caused by damage to or malfunction of the nervous system).

Intramuscular injection is one amongst the various procedures associated with pain. The pain is usually transitory, lasting only until the noxious stimulus is removed or the underlying damage is healed.

Understanding pain as a bio-psychosocial disorder is a recent development which has led to pain management and pain medicine. Acute pain, which signals tissue injury, is considered good pain or eudynia, while chronic pain, which is obstinate and serves no useful biological purpose is considered bad pain or maldynia; when the pain itself becomes the disease.

“There is nothing noble about living with pain”, says Dr.Vijay Sheel Kumar, an eminent neurosurgeon and pain specialist at Kumar Pain Management and Neuroscience Clinic. “All it does is it debilitates your positive energies, making you unfit to function or live to your full potential”.

The goals of any pain management are to relieve or alleviate suffering through allopathy i.e interventions and / or with complimentary alternative systems of medicine and indigenous techniques. For eg: Acupuncture, meditation; exercise treatment; biofeedback; aroma therapy, massage, pressure, and tapping treatment, etc.

Similarly pain due to IM injection can also be managed with indigenous techniques so as to alleviate the discomfort caused during the procedure.

During the clinical experience the investigators had visualized that all patients experienced pain and discomfort (in varying degrees) during IM injection. Since IM injection, has an associated, negative connotation of pain, many patients verbalized some amount of fear and muscle contractions prior to receiving the injection.

On literature review the researcher found that almost 100% of patients expected and experienced pain due to IM injection, though transitional in nature. Various researchers have reported that approximately 6-23% of patients have persistent pain, post IM injection; perhaps because of the complications, reactions, or inadequate technique of injection.

As reviewed in the literature, pain caused due to IM injection is because of :-

- Mechanical stimulation because of the sharp needle.
- Tissue reaction due to the concentration and volume of the drug injected.
- ‘Potassium’ release from inside of the damaged cells.
- Prostaglandins and histamine from immune cells that invade the area during any injury.

- Substance 'p' from nearby nerve fibres.

It is of interest that, neither the needle size nor the needle length have shown an influence on the degree of pain experienced at the time of injection.

The International Association for the Study of Pain advocates that, “the relief of pain should be recognized as a human right, thus, all invasive procedures however minor should be performed keeping the goals of pain management in mind”.

Today a wide variety of therapeutic options have been incorporated to a greater or lesser degree into the conventional medical practice. The integration of indigenous medical care system, into an expanded concept of medical care has helped in different ways in diagnosing and managing health care. While some practices have been studied in clinical trials including acupuncture, meditation, exercise therapy, biofeedback mechanism, aromatherapy, massage therapy, pressure and tapping techniques, etc; yet they have not received significant scientific attention. Further investigation into the incorporation of these indigenous systems into our modern armamentarium is warranted. It will also be of importance to study the possible adverse effects of combining these traditional remedies with the conventional remedies.

In K.E.M Hospital, the patients with Rheumatic Heart Disease follow up in the Cardiology OPD every 21 days, to receive IM injection Penidura 12 lac IU. This injection is painful because of its content and volume. Thus, the researchers thought of exploring the effect of one of the indigenous therapies; that is skin tapping therapy on the pain perception of the patients while receiving IM injection Penidura.

CONCEPTUAL FRAMEWORK

Charter (1975) has stated that the conceptual framework formalizes the thinking process, so that others may read and know the frame of reference that is basic to the research problem. It also gives directions to the relevant questions on the phenomenon under study.

The conceptual framework of the study is based on Systems Theory. This theory has three components: Input, Process and Output.

Input can be defined as any form of information, energy or material that enters into the system through its boundary. Output process is often referred to as transformation of the input in such a way that it can be readily used by the system. Output refers to the outcome of the processed data; that is any energy, information or material that is transformed to the environment.

In this study,

INPUT: Refers to the administration of IM injection Penidura 12 Lacs IU to clients with RHD with “skin tapping technique”.

PROCESS: Refers to the administration of Inj. Penidura intramuscularly to the clients with RHD in two groups that is treatment (experimental) group (skin tapping technique) and control group (no skin tapping technique).

When inj. Penidura 12 lacs IU is given with skin tapping technique the (nociception) small nerve fibres stimulation is blocked which go up the spinothalamic tract within the dorsal horn to the brain along with the large fibres (Melzack & Wall-Gate Control Theory).

When no input comes in, the inhibitory neuron prevents the projection neuron from sending signals to the brain (gate is closed) and clients do not perceive pain. Nociception (pain reception) happens when there is more small-fibre stimulation. This inactivates the inhibitory neuron, and the projection neuron sends signals to the brain informing it of pain (gate is open) and clients perceive pain.

OUTPUT: Refers to the assessment of pain level in clients receiving intramuscular injection Penidura 12 lacs IU with or without skin tapping technique and evaluating for any significant difference in pain perception between the control and treatment group.

It also refers to correlation between the selected variables of the respondents and pain perception by them.

Statement of the problem:

A study to evaluate the intensity of pain experienced by respondents given intramuscular (IM) injection with/without skin tapping technique in a selected hospital in Mumbai.

Specific Objectives:

- ❖ TO COMPARE THE PAIN LEVEL OF PATIENTS PRIOR TO AND AFTER RECEIVING IM INJECTION.
- ❖ TO EVALUATE THE PAIN LEVEL OF PATIENTS RECEIVING IM INJECTION WITH AND WITHOUT SKIN TAPPING TECHNIQUE.
- ❖ TO COMPARE THE PAIN LEVEL OF PATIENTS WITH SELECTED VARIABLES- AGE, GENDER, BMI, EDUCATION, SOCIOECONOMIC STATUS, DURATION (IN YEARS) OF RHD.

HYPOTHESIS

H0:- a) There will be no difference in the pain perception of the patients receiving IM injection with and without skin tapping technique.

b) There will be no relationship between the selected demographic variables and the pain perception by the patients given IM injection with and without skin tapping technique.

H1:- a) Patient receiving IM injection with skin tapping technique will experience less pain as compared to patients receiving IM injection without skin tapping technique.

b) There will be a relationship between the selected demographic variables and the pain perception by the patients given IM injection with & without skin tapping technique.

OPERATIONAL DEFINITION

➤ **Effect :-**

According to the Oxford dictionary, effect means result produced or outcome or consequence of an action.

In this study, effect refers to the difference in the intensity of pain perception by the respondents receiving IM injection Penidura 12 lacs IU. with and without skin tapping technique.

Pain perception of the respondents receiving intramuscular injection is assessed on the validated pain scale (It has visual, numerical & descriptive components tagged together).

➤ **Pain:-**

In this study pain means an unpleasant personal experience of the respondents as verbalized by them on the pain scale, displayed by the researcher.

This experience is assessed twice by the investigators:

1. Prior to administering intramuscular injection Penidura 12 lacs IU.; to assess for any baseline physiological unpleasant personal experience of the respondents.
2. Within one minute of administering intramuscular injection Penidura 12 lacs IU. to assess the unpleasant personal experience experienced by the respondents during the procedure of intramuscular injection Penidura.

➤ **Intramuscular injection (IM):-**

According to the Oxford dictionary, injection of medicines into the selected muscle site is called as an IM injection.

In this study, IM injection refers to injecting Inj. Penidura 12 lacs IU., dissolved in 4 ml. of sterile water into the ventro- gluteal muscles of the respondents suffering from Rheumatic heart disease.

➤ **Skin tapping technique**

According to the books, 'skin tapping' means striking the skin rhythmically. It results in superficial vasodilatation, pain relief, and relaxation of the skin.

In this study, skin tapping means giving gentle strokes with the finger pads by the investigator, at the injection site of the respondents.

PROCEDURE:-

The finger pads of 3 middle fingers of the right hand were used conjointly and simultaneously by the investigator.

These finger pads were used to gently tap/strike the injection site of the ventrogluteal muscle of the respondents. This site was tapped gently and rhythmically for 15 times.

NB: The investigator located the ventrogluteal muscle by placing the heel of the hand over the greater trochanter of the respondent's hip. The researcher points the thumb towards the respondent's groin, fingers towards the respondent's head; the index finger points to the anterior superior iliac spine, extending the middle finger back along the iliac crest toward the buttocks. The index finger, the middle finger, and the iliac crest form a v- shaped triangle and the injection site is the centre of the triangle.

Assumptions:

1. All respondents who receive IM injection experience pain.
2. Skin tapping technique has therapeutic effect on pain.

Delimitations:

- The study is limited to adult patients in the age group of 20-50 years.
- The study is limited to patients who are receiving Inj. Penidura 12 lacs IU. intramuscularly.
- The study is limited to the patients coming to Cardiology OPD in K.E.M. hospital, Mumbai during the data collection period.
- The study is limited to patients who are suffering from Rheumatic Heart Disease as their primary problem.

Limitations:

1. Pain is a dynamic, unpleasant sensory experience with many physical, psychological and social implications, thus it differs from person to person. These bio-psychosocial extraneous variables are difficult to control in respondents.

2. Pain assessment is dependent on individuals communicating their pain experience to the researchers, after making accurate interpretations of that pain experience. Interpretations can vary from person to person.

SCOPE OF THE STUDY:

This study can prove to be helpful in following ways:

- The results of this study will prove whether skin tapping prior to IM injection is effective in reducing pain in patients or no.
- Nurses can implement skin tapping technique independently, to alleviate patients pain perception during IM injection.
- It will do its bit, in way of professional growth because of newer technique of practice related to IM injection.
- The results of the study will help the Nurse Educator to teach students to effectively manage pain by tapping the site prior to giving IM injection to patients.
- Certain painful injections eg. Inj. Penidura and Inj. Inferon need to be taken over prolonged period. Pain alleviation can be achieved through tapping technique prior to giving these injections to promote patient comfort.
- Results will open an avenue to use skin tapping as a technique of pain management in various other settings and perhaps various other causes of pain.

REVIEW OF LITERATURE

This chapter deals with the review of literature. According to Polit and Hungler(1978) reviewing the literature is important to gain a better understanding and insight necessary to develop a broad conceptual framework in which the problem can be examined. It helps in the formulation of a specific problem, acquaints the investigator to what is already known in relation to the problem under review, provides a basis for assessing the feasibility of a research program and gives information on the research approach.

The studies reviewed have been arranged under the following headings:-

- Discomforts caused to patients receiving Intramuscular injection.
- Pain management techniques used for Intramuscular injection.
- Therapeutic effects of skin tapping and massage therapy.

1. Discomfort caused to patients due to Intramuscular injection.

- a. An article published in July 2008, on 'a Guide to Post-Injection muscular pain' reviewed the main causes of pain due to Intramuscular injection as follows:

❖ Pain due to route of administration

- Invasiveness of injection
- Opening a new IM injection site
- Physical location of injection
- Volume of subject injected

❖ Pain due to substance being injected

- Abscess development
- Solvent concentration of substance
- Concentration of active product

- b. A study on the "Effects of positioning on discomfort from IM injection on dorso-gluteal site by Kruszewski AZ; Long SH; Jhonson JE. reveals that an IM injection into a relaxed muscle results in less discomfort than an injection into a contracted muscle. When the leg is internally rotated, the gluteal maximus muscle is relaxed. The hypothesis is that a dorsogluteal injection with the femur internally rotated will cause less discomfort than when femur is externally rotated. It was tested in 44 surgical patients who received two injections of pre-op medication. Each patient received an injection of a narcotic medication and one of diazepam. All possible combinations of the factors-positions (internal and external rotations), order of injections (first or second injection), medications (narcotic or diazepam) were determined and patients were randomly assigned to one of these conditions. Patients rated the perceived discomfort after each injection on a five point-pain scale. The hypothesis was supported by discomfort rating from injection of both types of medication, although diazepam injection caused significantly more discomfort than injections of narcotics. Older patients tended to report less discomfort from diazepam injection than younger patients. Sex, order of injection and nurse administering the injection did not significantly influence the discomfort rating.

To summarize, firstly, there are various different causes of pain related to intramuscular injection. However as outlined, with any injection, this being an invasive procedure with regards to breaking

the body's natural barriers, including the volume and nature of injection there is always a risk of pain and discomfort.

Secondly, research-based-evidence indicates (as revealed in above study) that there may or may not be a relationship between the respondents demographic variables (eg, age, gender, socioeconomic status BMI, education, past medical and surgical history) and pain perception by them.

2) Pain management technique used for Intramuscular injection.

a. Bridget, M.; conducted a review in 2008 on techniques used for intramuscular injection based on research evidence.

His review revealed that pain during Intramuscular injection depends on the site of injection, the technique used, position of patient, and the size and length of needle. He also concluded that since pain receptors are located within the subcutaneous layer and not in the tissue, the injection needles need to be long enough to reach the muscle layer

b Lehmann J.F. in 1982, described the effect of therapeutic cold in pain management. According to him a direct effect on the conductor of pain receptors and neurons, reducing the velocity and numbers of impulses is one way of alleviating pain in the skin, if the temperature was reduced. The clinical application of cold in mechanical trauma is primarily based on the vasoconstriction.

A research was undertaken by Sr.Pushpalata, Walia, I; and Kaur, S.; on prevention and reduction of pain, bruises and haematoma by moist ice pack application on the site of subcutaneous injection. The study was conducted in Feb 2006 in the coronary care unit and cardio-thoracic unit in Nehru hospital, Chandigarh. The study sample comprised of 200 injection sites of selected patients. Random method was used for collection of samples. 100 patients were selected in the experimental group and 100 patients in the control group.

Data was collected by using interview schedule and Assessment Performa .It comprised of a numerical pain rating scale from 0 to 10 measurement. The experimental group were administered moist ice pack for 5 minutes twice daily for 3 days.

The study concluded that there were less complications reported in the control group.

c. S.Shridevi has done a research work on the effect of therapeutic back massage on non-specific low back pain. The objectives of the study where to assess the intensity of pain perception before and after massage therapy and to associate the demographic variables with the pain perception.

Pre-experimental research design was chosen for the study. The tool used for data collection were modified Oswertry Disability Index scale for pain and pain perception .

The researcher concluded that the pain level of patients with non-specific low back pain was reduced significantly after massage therapy. Thus, massage therapy was found to be effective in reducing the pain of the patients with non-specific low back pain.

A similar study was done by Professor Venkatesan, L to assess the effectiveness of massage therapy on low back pain of parturient mothers during the first stage of labour. The study was conducted at Andhra Mahila Sabha, Chennai. The mother in the control group did not use any pain reduction strategies whereas in the experimental group olive oil massage therapy was provided to mothers for pain reduction. The massage therapy was given for 10-15 minutes, every one hour with 10ml of olive oil to the mothers in the experimental group. 15 minutes after the therapy the level of low back pain and foeto-maternal parameters were associated for both the groups. The level of satisfaction and level of knowledge was also assessed. The findings of the study indicated that massage therapy reduced low back pain of parturient mothers.

To conclude selected nursing interventions ie. massage, breathing exercises and positioning the patient are effective in relieving or reducing the patients pain of certain origin or that which could be caused due to certain procedures.

3)Therapeutic effects of tapping.

- a. Sr. Serena undertook a study of rhythmic skin tapping –An effective measure to reduce pain related to intramuscular injection in 2007.

The study was undertaken in St.John Medical College hospital in Banglore. The respondents comprised of 60 patients in the orthopaedic ward. Out of 60 samples, 30 samples received Inj. Tramadol and remaining received Inj. Piroxicam. The research approach was one group pretest and posttest. Data collection tools included interview schedule for baseline information collection, 0-10 numerical pain intensity scale to assess pain level after injection and tool to record the pulse rate of the participants.

The author concluded that skin tapping technique was effective to reduce procedural pain.

- b. Barnhill, et al (1996), examined the effect of manual pressure on perceptions of pain from intramuscular injection and the study was repeated and refined by Chung and Wong (2002). These studies advocated the use of manual pressure on the injection site for 10 seconds before needle insertion, to reduce pain. This correlates with the gate theory of pain control (Tortora and Derickson 2008).

- c. Chang J., Wong, N. G., conducted an experimental study on the use of manual pressure to reduce pain of intramuscular injections.

The purpose of this study was to determine if the application of pressure on an IM injection site would reduce the patients experience of pain. This study used an experimental design with intra-subject comparison. The 74 participants selected were students, who were participating in an immunization program. Each participant received the Hepatitis A and B vaccine, one in each arm. Pressure was applied to one arm for 10 seconds before the injection and was not applied to other arm. The arm that received the pressure was determined randomly. After each injection, the participant ranked their pain on a 0-10 pain scale. A pressure sensing device measured the amount of pressure exerted. Females in this study reported higher levels of pain for all injections when compared with males. However, male and female participants both reported significantly less pain when they received a pressure of about 200mm of Hg for 10 seconds before immunization.

They concluded that :-

- Applying pressure at the site of an IM injection may decrease the pain experienced by the patient based on gate control theory of physiology of pain.
- Gender difference report of pain suggests that men and women experience and report pain differently.
- They also concluded that further research is needed to support these results with other client population, medication types and injection sites.

Pain reviewed Medical Research has shown that the benefits of tapping therapy include pain relief, reduced trait anxiety and depression and temporarily reducing blood pressure and heart rate.

Theories behind what tapping technique might do includes; blocking nociceptives (Gate Control Theory), activating parasympathetic nervous system, which may stimulate the release of endorphins; preventing fibrosis or scar tissue and improving sleep. But such effects are yet to be supported by well designed studies.

RESEARCH METHODOLOGY

In this chapter, the investigators put across the description of the research setting, population, sampling technique, sample size, criteria for sample selection, research technique and tool, validity and reliability of the tool, data gathering process and plan for data analysis.

Research approach

Research approach or research design refers to the way in which the investigators plan or structure the research process. It is a set of flexible guide points designed to keep the research in right direction.

The study aims at finding out the pain perception of patients receiving intramuscular injection Penidura 12 lacs IU with and without skin tapping technique. Hence, an evaluative approach was considered to be appropriate and therefore accepted.

According to Polit and Hungler, the purpose of an evaluative research is to find out how well a program, treatment practice or a policy is working.

The approach was considered to be the most suitable one to conduct the study because it would help the investigators to analyse the intensity of pain experienced by the patients given intramuscular injection with and without rhythmic skin tapping. This approach would also analyze whether there will be any significant difference in the pain perception between the two groups and whether any of the selected variables influenced their pain perception.

Variables of the study

According to John Best variables are the conditions or characteristics that the investigator manipulates, controls or observes. The investigator's have identified the following variables of this study.

- Independent Variables

The independent variable is intramuscular injection ie. Injection Penidura 12 lacs IU.

- Dependent Variables

The dependent variable of the study is the pain perception by the respondents prior to receiving intramuscular injection and during receiving intramuscular Injection Penidura, which is verbalized by them over a descriptive pain scale within 1st minute of receiving the said injection.

Setting of the study

The study was conducted in the Chest and Cardiology out patient department (OPD) of K.E.M. Hospital, Parel, Mumbai. This BMC hospital is one of the largest amongst its kind with well-known educational Institutes in the fields of both medicine and nursing attached to it. It caters to all the types of the patients through its various specialized and super-specialized fields of medicine and surgery. The patients come here from all parts of India for treatment and are offered various diagnostic and therapeutic facilities. The hospital's bed strength is 1800; providing care at primary, secondary and tertiary level.

The hospital conducts research and also supports research by providing faculty and facilities for other educational Institutes in Maharashtra.

This hospital has a separate wing for Cardiothoracic speciality. This wing also conducts OPD facilities for cardiac and chest patients. The cardiology and cardio-thoracic OPDs are conducted in the mornings and afternoon. The OPD consists of one injection room, a dispensary room, two clinical cum consulting rooms, an ECG room, a case paper unit, Head-Nurses room, waiting hall and sanitary facilities for patients.

The injection room, where the investigators did the research study was divided into different sections. At the entry point was the nurses station, followed by two beds with independent curtains for privacy towards the left hand side of the room.

The investigator found the setting appropriate to conduct the study for the following reasons:

- An average of 15-20 patients comes to OPD for taking IM injection Penidura.
- The investigators were well oriented to the hospital and OPD routine as they had their clinical experience in the hospital.

Population:-

The population selected for the study consisted of patients diagnosed as Rheumatic Heart Disease (RHD) and receiving IM injection penidura 12 lacs IU.

Sample:-

In this study, the sample consisted of:-

- Thirty respondents receiving IM injections penidura 12 lacs IU during their follow up visit in the cardiology OPD

Criteria For Sample Selection:-

Respondents receiving IM injections were selected according to the following criteria:

- Respondents in the age group of twenty to fifty years and willing to participate in the study.
- Respondents who are receiving IM injection penidura 12 lacs IU.
- Respondents who can speak and read Hindi, Marathi or English.

Sampling technique:

It refers to the process of selecting a portion of the population to represent the population.

As the selection of the samples depended upon their availability, the sampling technique used was non probability convenience method of sampling. This entails the use of the most readily available respondents in the study, until the desired sample is reached. (Burns and Groove, 1987)

Thus, both male and female patients with Rheumatic Heart Disease who came to the cardiology OPD were chosen for the study, if they fulfilled the sampling criteria.

Technique and Tool:-

- Interview technique:-

To elicit the personal information of the respondents, interview technique was considered to be the best one. It also helped to identify mis-interpretations and inconsistencies, if any. The data elicited through this technique included personal information and medical data of the respondents.

- Self reporting technique:-

This technique was adopted to know the pain intensity of the respondents before and after the procedure of IM injection Penidura with and without skin tapping technique. Self reporting technique was thought to be a suitable one, because of the subjective nature of pain which can be described only by respondents adequately.

Description of the tool:

Based on the study objectives, the tools designated for the study were:-

Tool 1 – Interview Schedule

Tool 2 – Self Reporting Pain Assessment chart

Tool 1- Interview schedule:-

It consists of two parts:-

Part A:- Personal data of the respondents

Part B:- Medical data of the respondents

Tool 2- Self reporting Pain Assessment chart:-

This consisted of a record to be maintained by the investigator to assess the pain perception of the respondents before and after receiving IM injection Penidura 12 lacs IU. in both the control and the experimental groups. This is as verbalized by the respondents before and after receiving the said injection.

Development of Tool:-

The development of the tool was a step by step procedure for which the investigator adopted a practical approach.

Prior to the preparation of tools, the investigators had gone through various literature (web sites, journal, books) to find out the various variables that affect the pain perception of the patient. This helped the investigators to develop the interview schedule.

During the 1st Year Post-Basic B. Sc nursing medical-surgical nursing clinical posting the investigators had their clinical experience at Tata Hospital. The investigators had used and observed implementation of various pain assessment scales when they were posted in the pain clinic.

After reviewing various pain scales, it dawned upon the investigators to merge the 3 pain assessment scales i.e., the numerical, descriptive and visual scale into one which would be more comprehensive to accurately elicit the resulting pain expression by the patients receiving IM injection.

Thus the investigators personal observations, clinical experience, the opinion of the experts and literature review greatly helped in the formulation of the tools.

After preparation, the tools were translated into Hindi & Marathi language.

Validity:

The content validity of a tool is concerned with the extent to which a test reflects the variable it seeks to measure.

To determine the content and construct validity, the tools were prepared and given to experts from various fields. Individualized evaluations from two medical personnel and from three nursing teachers were obtained. All remarked that the tools were exhaustive. Their suggestions were incorporated in the tools, in consultation with the guide.

PILOT STUDY

A pilot study was conducted on 25/10/10 on 8 patients in K.E.M. hospital who were receiving Inj. Penidura 12 lacs IU. in the Cardiology OPD, in order to ensure the feasibility of the tools and the research methodology and to assess the practicability of the research study.

Four respondents were selected each in the control group and in the experimental group, alternatively, as per the selection criteria. The investigators approached the respondents individually but adopted to covert data collection technique, so as to avoid any bias that could result from distorted information; especially while eliciting the pain assessment data from the respondents, after receiving IM injection. Each investigator assigned a self-role to further avoid any bias.

After collecting the biographical data, the pain intensity was assessed prior to giving IM injection Penidura, to assess the baseline data. The pain intensity was again assessed after giving IM injection Penidura 12 lacs IU. The pain level as verbalized by the respondents were recorded on the pain scale immediately.

The pilot study helped the investigator to visualize some of the practical problems and gave them a better insight regarding the research methodology. Based on the practical problems experienced during the pilot study the following changes were incorporated in the tool.

- In bio-physiological data the assessment of pulse rate of the respondents was excluded because it was not possible to procure a “pulse oxymetry” machine.

The findings of the pilot study were analysed. Both the groups were comparable with respect to age, gender, education, occupation, BMI, socio-economic status and the duration of the disease condition.

There was a difference between the average pain scores of the respondents receiving IM injection Penidura 12 lacs IU., by skin tapping and without skin tapping technique. The average pain score with skin tapping technique was 7.5 & the average pain score without skin tapping was 4.5. The 'T' test was not significant though the average scores of skin tapping technique is greater than the conventional technique of giving IM injection. Thus, there is no difference of pain perception in patients receiving IM injection Penidura with and without skin tapping technique.

The pilot study findings need to be interpreted cautiously in view of the small sample size.

DATA GATHERING PROCESS:

The period of data collection commenced from 25th October 2010 to 26th October 2010. Prior to the commencement of the Pilot study formal administrative permissions were obtained.

The investigators introduced themselves to the Head nurse of the Cardiology OPD. In this OPD the investigators selected the injection room where the patients come to receive injection Penidura after consulting the Cardiologist. They got themselves reoriented to the working pattern and routines of the OPD.

Most of the patients attending the OPD are known cases of RHD, who were receiving injection Penidura 12 lacs IU. IM every 21 days. All the patients get a test dose of injection Penidura 0.1ml intradermally prior to receiving the full dose. The full dose of injection Penidura 12 lacs IU. is diluted with 4ml of sterile water and is given deep IM in the ventro - gluteal site.

The investigators remained in the Cardiology OPD from 8am to 4pm. They got themselves involved in all the routine functioning of the Cardiology OPD so as to create a familiar environment for the patients attending the OPD.

The investigator further assigned self-roles and did not interact amongst themselves to further eliminate any bias.

INVESTIGATOR 2:- Welcomed and interviewed the respondents to elicit their personal and medical data. The interview was conducted at the nurses station in the injection room. The respondents were made comfortable and assessed for any needs that needed to be fulfilled prior to conducting the interview.

INVESTIGATOR 3:- Assessed the height and weight of the respondents, in the Consultants room. After consulting the Cardiologist the respondents waited in the waiting hall.

INVESTIGATOR 5:- Gave the test dose of 0.1 ml. intradermally to the respondents on their right forearm as they were waiting in the waiting hall. After 20 minutes these respondents consulted the Cardiologist who confirmed that there was no allergic reaction to Injection Penidura and prescribed the administration of full dose.

The respondents then received the full dose in the injection room.

INVESTIGATOR 1:-Gave IM injection Penidura 12 lacs IU. to all the respondents in both the control and the experimental group. Injection Penidura was diluted in 4 ml of sterile water and was administered to all the respondents with 21 no gauge needle using a 5 ml. syringe.

INVESTIGATOR 6:- Elicited the pain level of the respondents prior to and after receiving IM injection Penidura 12 lacs IU, without being aware as to whether the respondents belonged to the control or the experimental group.

The investigator stationed himself near the bed-side where the injections were administered to the respondents. The investigator assessed the baseline pain prior to administration of the injection. The pain level as verbalized by the respondents were recorded on the pain scale immediately. After the injection was administered to the respondents, the investigator was

directed by the investigator 4 to assess the pain intensity within 1 minute of administration of the injection.

INVESTIGATOR 4:-Directed the respondents from one investigator to another and ensured the smooth functioning of the research process.

PLAN FOR DATA ANALYSIS:

The investigators planned to analyze the data in the following manner:

- Demographic data of the patient will be analysed using frequency and percentage .
- Data from the self reporting chart ie. Pain intensity of the respondents between the two groups will be analysed by using 'T' test.
- Co-relation of pain assessment with the selected variables will be done by using frequency, percentage and chi square.

CHAPTER IV

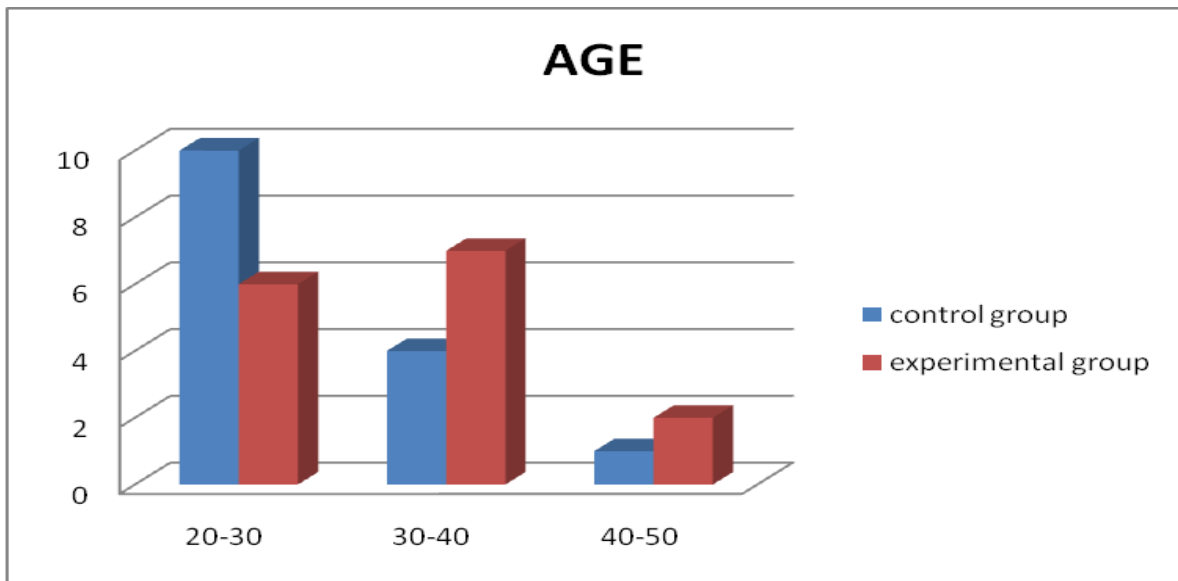
ANALYSIS AND INTERPRETATION OF DATA:

This chapter deals with the analysis and interpretation of data collected from 30 respondents.

TABL 1.1

DEMOGRAPHIC DATA:- AGE

Sr. No.	Demographic data	Control group		Experimental group	
		Fr	%	Fr	%
1	Age				
	• 20-30	10	66.66%	6	40%
	• 30-40	4	26.67%	7	46.66%
	• 40-50	1	6.67%	2	3.34%

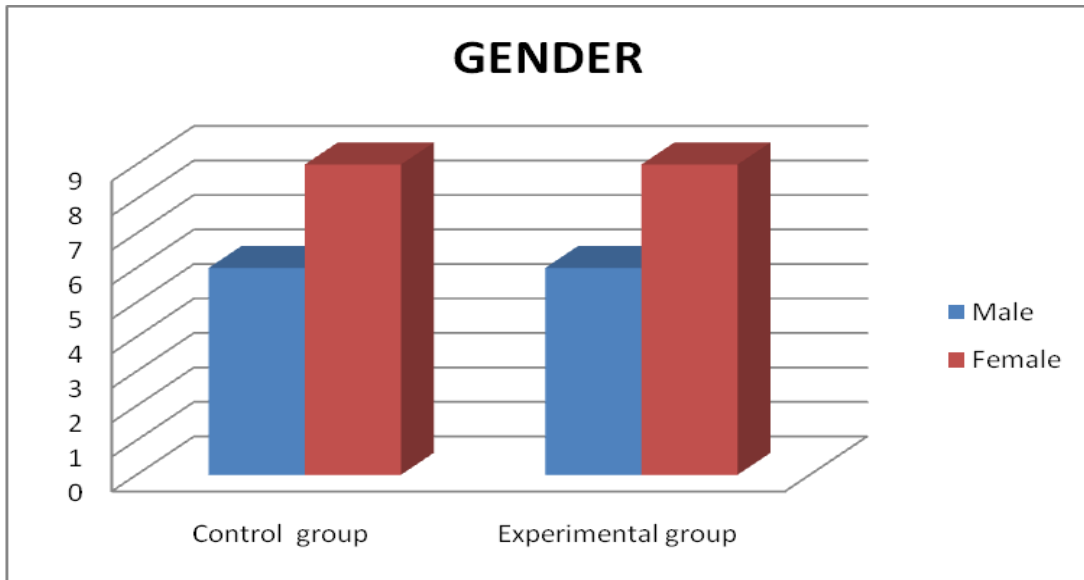


From the above tabulated data it is evident that 93% of the respondents in the control group and 86% of the respondents in the experimental group belonged to the age group 20-40 years. Thus both the groups are comparable with respect to this variable.

TABLE 1.2

DEMOGRAPHIC DATA :- GENDER

Sr. No.	Demographic data	Control group	Experimental group
1	Gender:-		
	Male	6	6
	Female	9	9

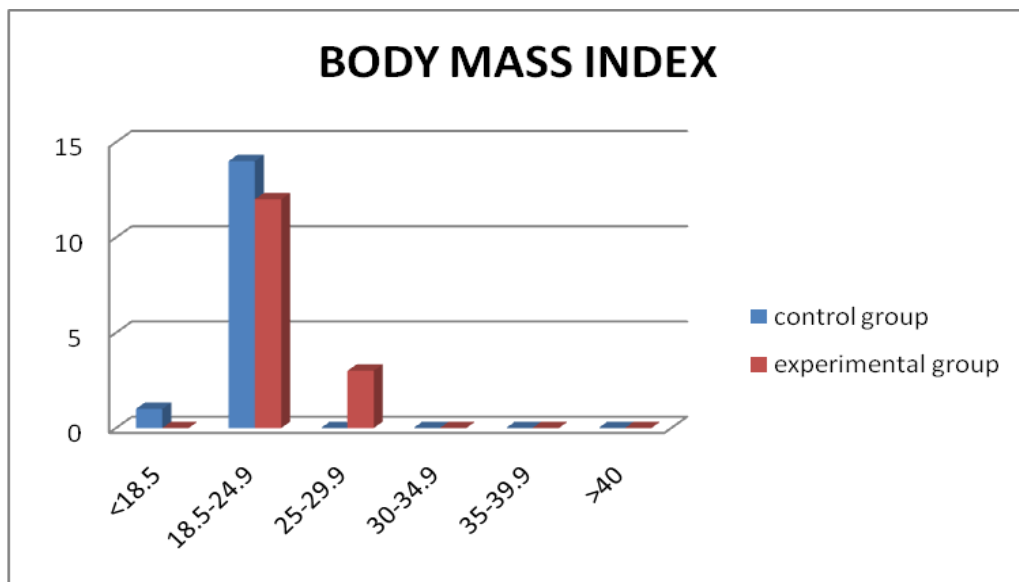


Total representation from male respondents was 40% and that of female respondents was 60%. Thus both the groups are comparable with respect to this variable.

TABLE 1.3

DEMOGRAPHIC DATA:- BODY MASS INDEX

Sr. No.	Demographic data	Control group		Experimental group	
		Fr	%	Fr	%
1	BMI				
	<18.5(underweight)	1	6.67%	0	0%
	18.5-24.9(normal)	14	93.33%	12	80.00%
	25-29.9(overweight)	0	0%	3	20.00%
	30-34.9(obesity class-1)	0	0%	0	0%
	35-39.9(obesity class-2)	0	0%	0	0%
	≥40(extreme obesity class-3)	0	0%	0	0%

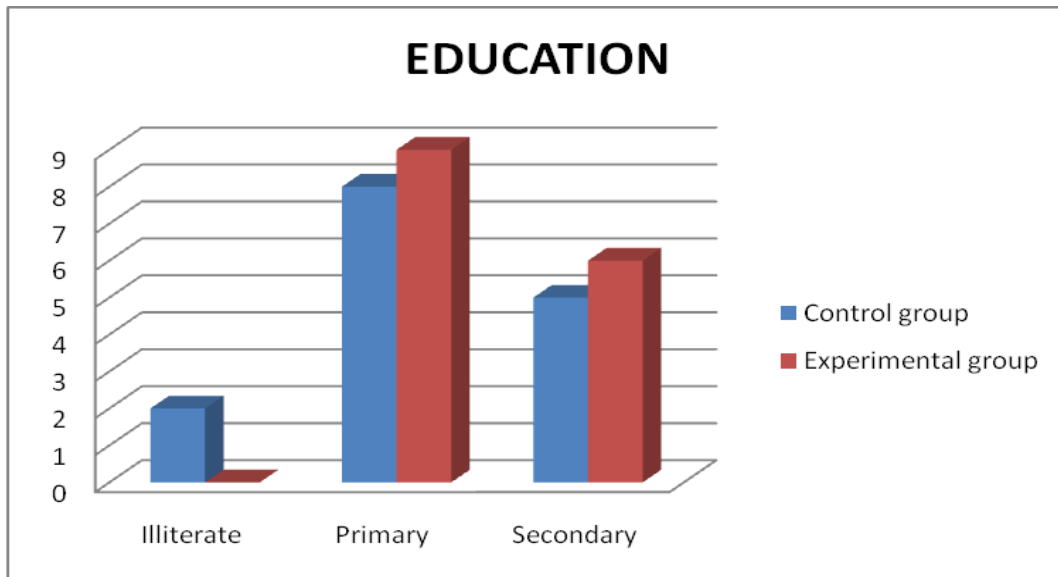


The above graph reveals that most of the respondents had a BMI ranging 18.5-24.9 which denotes that they had normal weight. There was only one respondent in the control group who was underweight and three respondents in the experimental group who were overweight. Thus, the two groups are comparable with respect to this variable.

TABLE 1.4

DEMOGRAPHIC DATA:- EDUCATION

Sr. No.	Demographic data	Control group		Experimental group	
		Fr	%	Fr	%
1	Education:-				
	Illiterate	2	13.33%	0	0%
	Primary(1-4 standard)	8	53.34%	9	60%
	Secondary (5-10 standard)	5	33.33%	6	40%

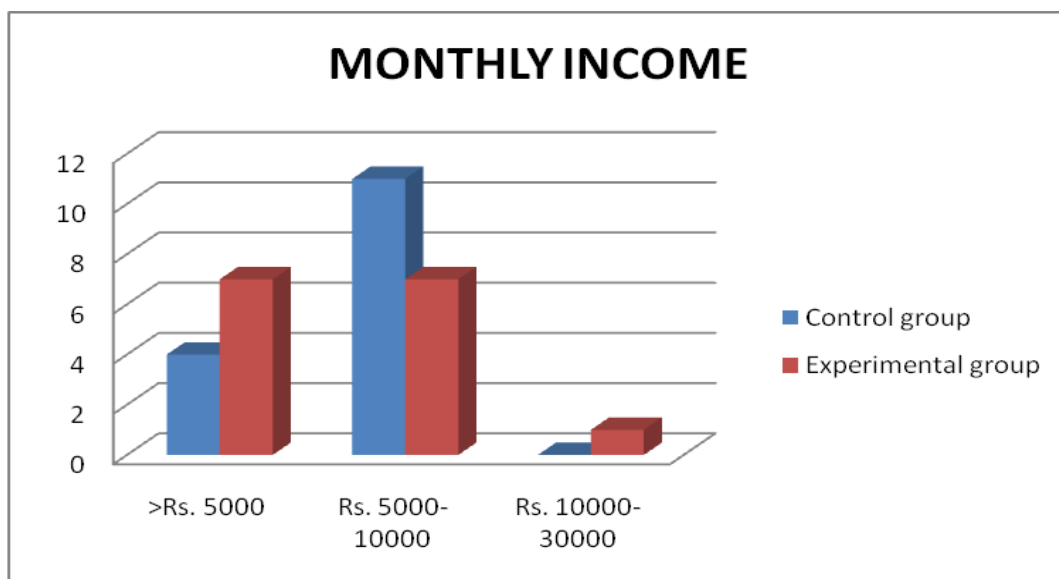


Majority of the respondents were educated up to the primary level in both groups, followed by secondary education. No respondent was illiterate in the experimental group.

TABLE 1.5

DEMOGRAPHIC DATA :- SOCIO-ECONOMIC STATUS

Sr. No.	Demographic data	Control group		Experimental group	
		Fr	%	Fr	%
1	Monthly income				
	> Rs.5000	4	27%	7	46.5%
	Rs.5000-10000	11	73%	7	46.5%
	Rs.10000-30000	0	0%	1	7%



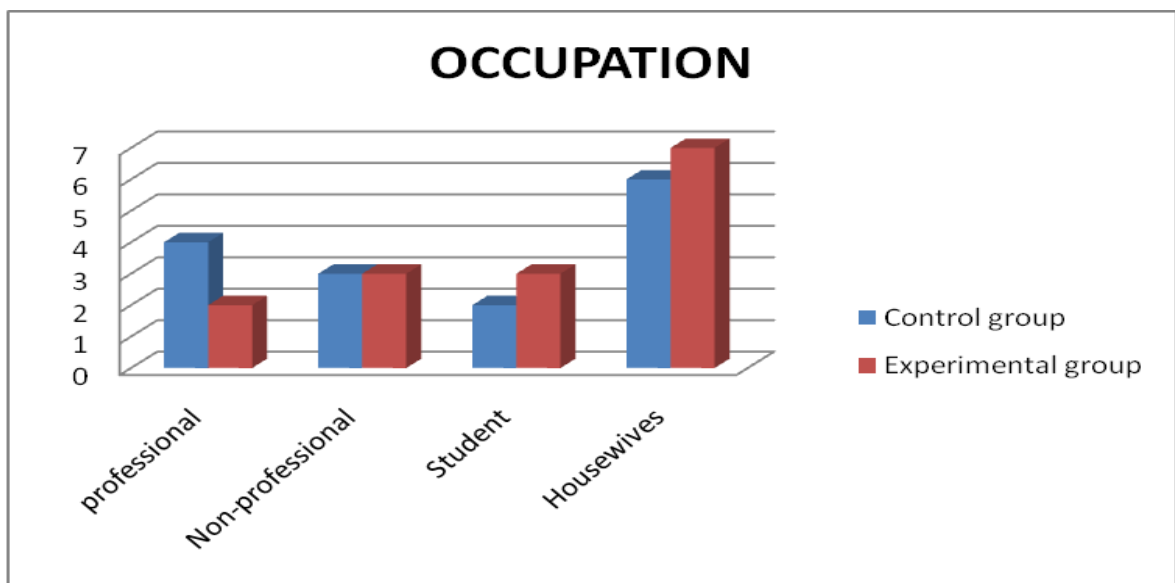
It is evident from the tabulated data that in the control group majority (73%) earned a monthly income between Rs5000-Rs10,000/-whereas in the experimental group equal number of respondent (46.5%) earned a monthly income between Rs5000-Rs10,000/-and less than Rs.5000/-

Precisely majority of the respondents earned a monthly income of Rs. 10,000 and less in both the groups. Thus the groups are comparable with respect to the variable.

TABLE 1.6

DEMOGRAPHIC DATA:-OCCUPATOIN

Sr. No.	Demographic data	Control group		Experimental group	
		Fr	%	Fr	%
1	Occupation				
	Professional	4	26.67%	2	13.33%
	Non-professional	3	20.00%	3	20.00%
	Student	2	13.33%	3	20.00%
	Housewife	6	40.00%	7	46.67%

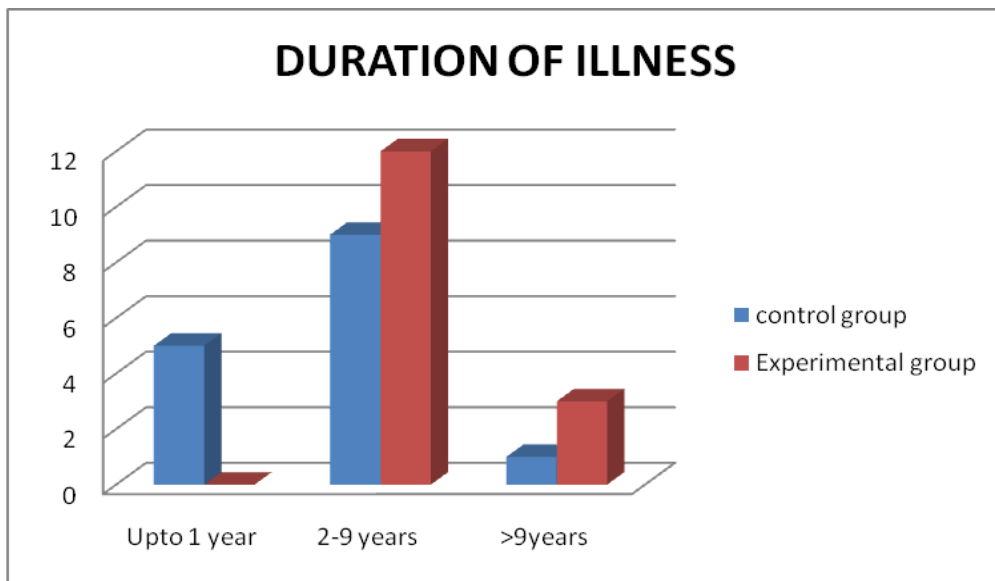


Equal number of respondents in both the groups were housewives, students and non-professionals (i.e., electrician, plumber, store-keeper, driver, etc.). Professionals were more (27%) in control group as compared to 13% in the experimental group. Thus the two groups are comparable with respect to this variable.

TABLE 1.7

DEMOGRAPHIC DATA:- DURATION OF ILLNESS

Sr. No.	Demographic data	Control group		Experimental group	
		Fr	%	Fr	%
1	Duration of illness (in years)				
	Up to 1 year	5	33.33%	0	0%
	2-9 years	9	60.00%	12	80%
	<9 years	1	6.67%	3	20%



Majority of the respondents from both the groups had medical history of RHD since 2-9 years. Thus in both the groups the respondents had almost equal exposure of receiving IM injection Penidura.

DATA ANALYSIS

OBJECTIVE ONE

- ❖ TO COMPARE THE PAIN LEVEL OF RESPONDENTS PRIOR TO AND AFTER RECEIVING IM INJECTION PENIDURA 12 LACS IU.

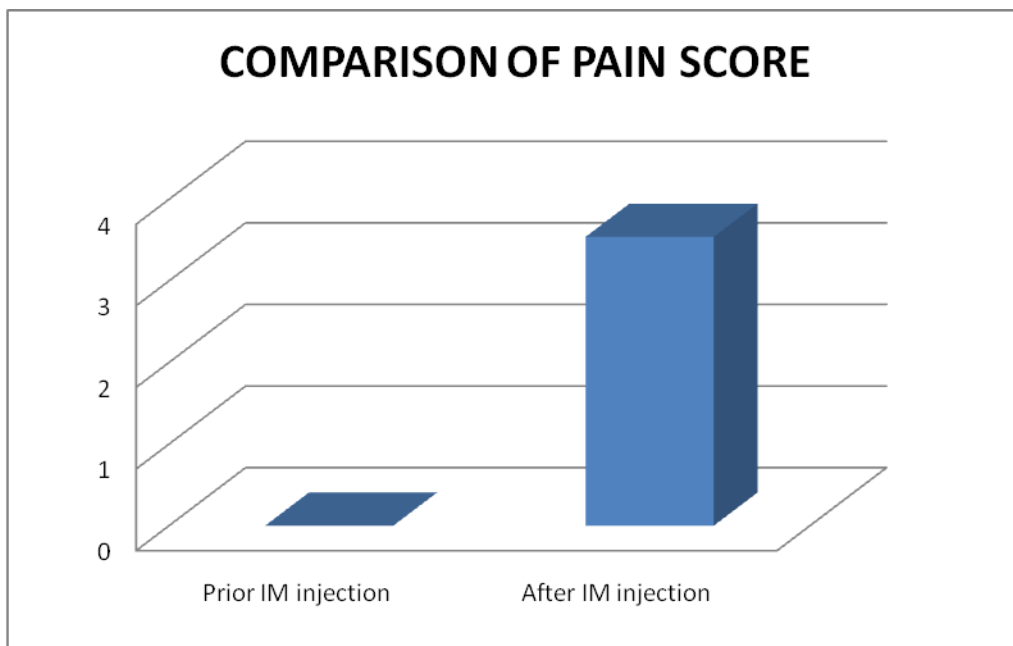
1. Assessment of pain before the procedure of IM injection:-

In the pre-procedure assessment of pain, all the respondents from both the groups reported '0' pain on the pain scale of 0-10.

2. Assessment of pain after the procedure of IM injection;

PAIN SCORE OF RESPONDENTS AFTER RECEIVING IM INJECTION PENIDURA 12 LACS IU

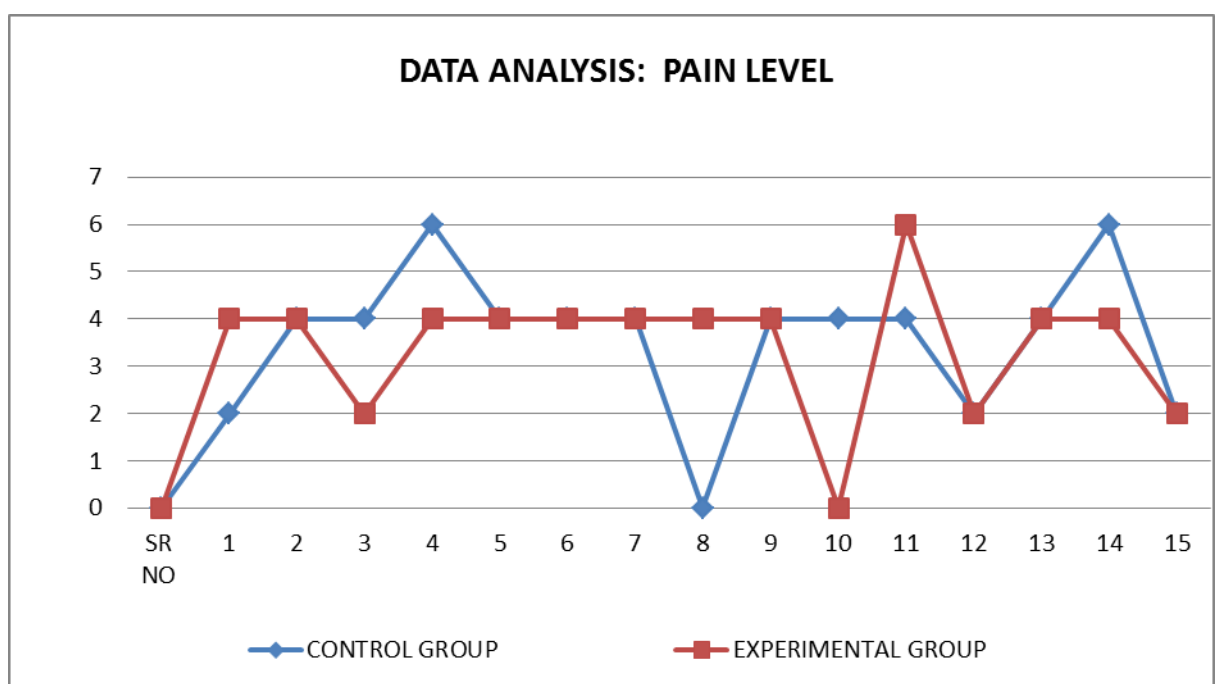
Code No.	Pain score- Control group	Pain score- Experimental group
1	2	4
2	4	4
3	4	2
4	6	4
5	4	4
6	4	4
7	4	4
8	0	4
9	4	4
10	4	0
11	4	6
12	2	2
13	4	4
14	6	4
15	2	2
Average pain score	3.6	3.47
Total average	3.54	



All the respondents in both the groups reported a pain score of 0 prior to receiving IM injection Penidura. The average pain score of the respondents after administering IM injection Penidura was 3.54. This clearly indicated that the pain experienced by the respondents in both the groups was a result of IM injection Penidura 12 lacs IU. It stands in line with the researches reviewed, that all patients experienced pain when given IM injection.

OBJECTIVE TWO

- ❖ TO COMPARE THE PAIN LEVEL OF THE RESPONDENTS RECEIVING IM INJECTION PENIDURA 12 Lacs IU WITH AND WITHOUT SKIN TAPPING TECHNIQUE.



In the experimental group the average pain score was 3.47 as against a pain score of 3.6 in the control group.

The pain reported by the respondents is of mild to moderate nature. Inj. Penidura is a broad spectrum anti-infective drug, used as prophylaxis in Rheumatic heart disease. It is in powder form and needs to be dissolved in 4ml of sterile water. After dissolving, this injection remains in particulate form in the sterile water, thus it is concentrated and should be given immediately after taken in the syringe. It needs to be given deep intramuscularly with a large bore needle, which has probably contributed to the reported intensity of pain in the respondents.

Statistically it is analysed as follows :

$$\begin{aligned} \text{Step 1} \quad \text{SD} &= \sqrt{\left\{ \frac{\sum x_1^2 + \sum x_2^2}{(n_1-1) + (n_2-1)} \right\}} \\ &= \sqrt{\left\{ \frac{(33.6 + 27.734)}{(14+14)} \right\}} \\ &= \sqrt{2.297678} \\ &= 1.5158 \end{aligned}$$

$$\begin{aligned} \text{Step 2} \quad \text{SDS} &= \text{SDR} \sqrt{\left\{ \frac{(N_1 + N_2)}{(N_1 \times N_2)} \right\}} \\ &= 0.553 \end{aligned}$$

The above statistical data proves that there is no statistical difference in the pain perception by the respondents with the two procedures of administering IM injection, that is, with and without the skin tapping technique. Thus, both the techniques of administering IM injection are comparable with each other. Yet, this data needs to be interpreted cautiously in light of the small sample size. It also needs to be noted that the average pain scores in the group receiving IM injection Penidura with skin tapping is high as compared to those who have received without the skin tapping technique.

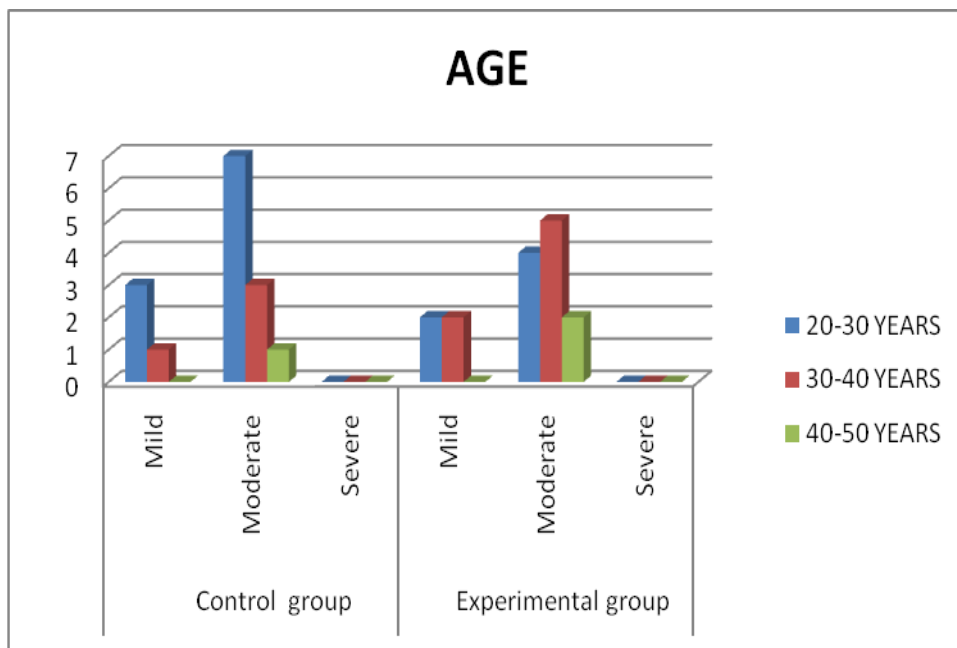
OBJECTIVE THREE

- ❖ TO COMPARE THE PAIN LEVEL OF THE RESPONDENTS WITH SELECTED VARIABLES-AGE, GENDER, BMI, EDUCATION, SOCIOECONOMIC STATUS, OCCUPATION, DURATION (IN YEARS) OF RHD.

TABLE 4.1

BASIC DEMOGRAPHIC DATA ANALYSIS:- AGE

Sr. No.	Age	Control group						Experimental group					
		Mild Pain		Moderate pain		Severe pain		Mild Pain		Moderate pain		Severe pain	
		Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
1	20-30	3	20%	7	46.66%	0	0%	2	13.33%	4	26.6%	0	0%
2	30-40	1	6.66%	3	20%	0	0%	2	13.33%	5	33.33%	0	0%
3	40-50	0	0%	1	6.66%	0	0%	0	0%	2	13.33%	0	0%



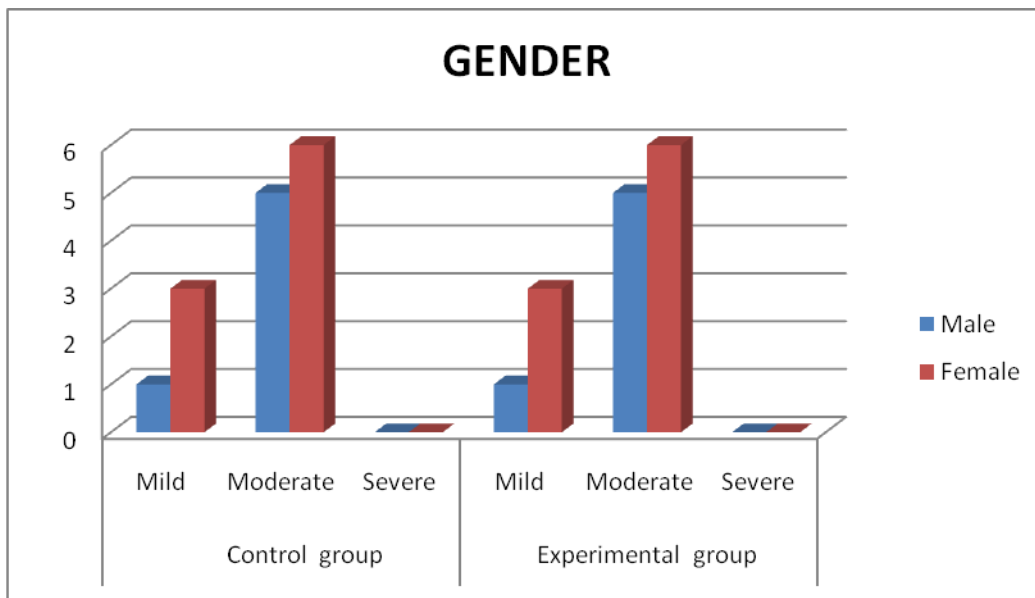
Since majority of the respondents in all the age group experienced mild to moderate pain while receiving IM injection Penidura 12 lacs IU; thus the analysis proves that age has no relation with respect to pain perception by the respondents in both the control and experimental group.

Statistical multivariate correlation were withheld due to small sample size.

TABLE 4.2

BASIC DEMOGRAPHIC DATA ANALYSIS:- GENDER

Sr. No.	Gender	Control group						Experimental group					
		Mild pain		Moderate pain		Severe pain		Mild pain		Moderate pain		Severe pain	
		Fr	%	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%
1	Male	1	6.66%	5	33.33%	0	0%	1	6.66%	5	33.33%	0	0%
2	Female	3	20%	6	40%	0	0%	3	20%	6	40%	0	0%

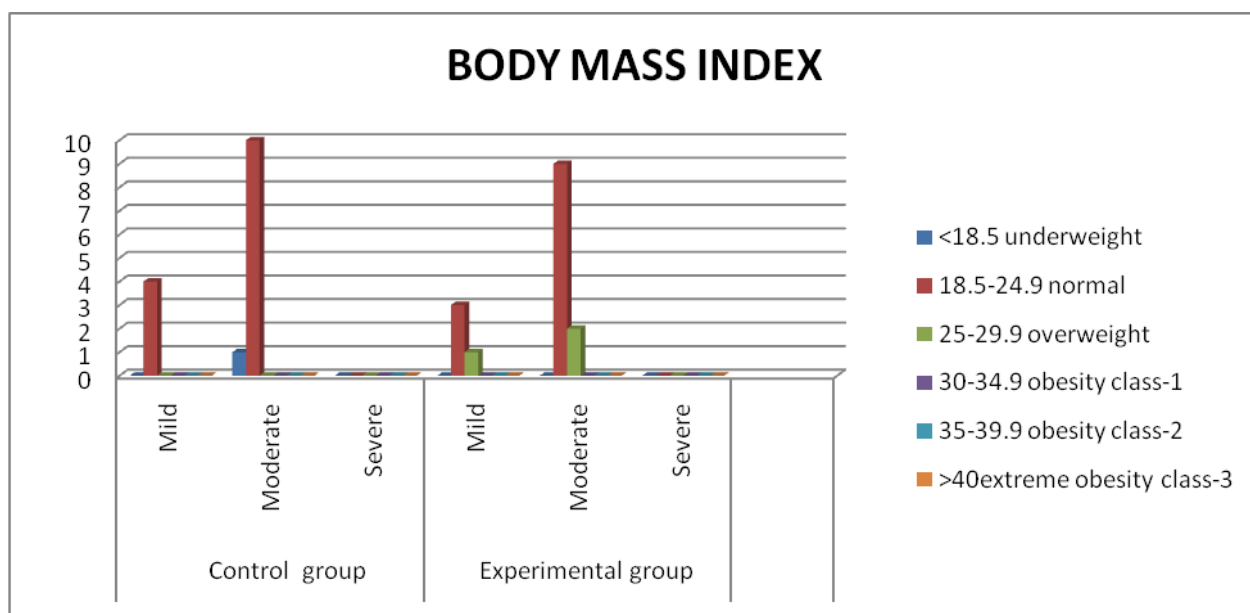


Most of the respondents from both the gender experienced mild to moderate pain, thus gender has no relation with pain perception in both the control and the experimental groups.

TABLE 4.3

BASIC DEMOGRAPHIC DATA ANALYSIS:- BODY MASS INDEX

Sr. No.	Body Mass Index	Control group						Experimental group					
		Mild Pain		Moderate pain		Severe Pain		Mild Pain		Moderate pain		Severe pain	
		Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
1	<18.5(underweight)	0	0%	1	6.66%	0	0%	0	0%	0	0%	0	0%
2	18.5- 24.9(normal)	4	26.6%	10	66.6%	0	0%	3	20%	9	60%	0	0%
3	25-29.9(overweight)	0	0%	0	0%	0	0%	1	6.66	2	13.33	0	0%
4	30-34.9(obesity class-1)	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
5	35-39.9(obesity class-2)	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
6	≥40(extremeobesityclass-3)	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%



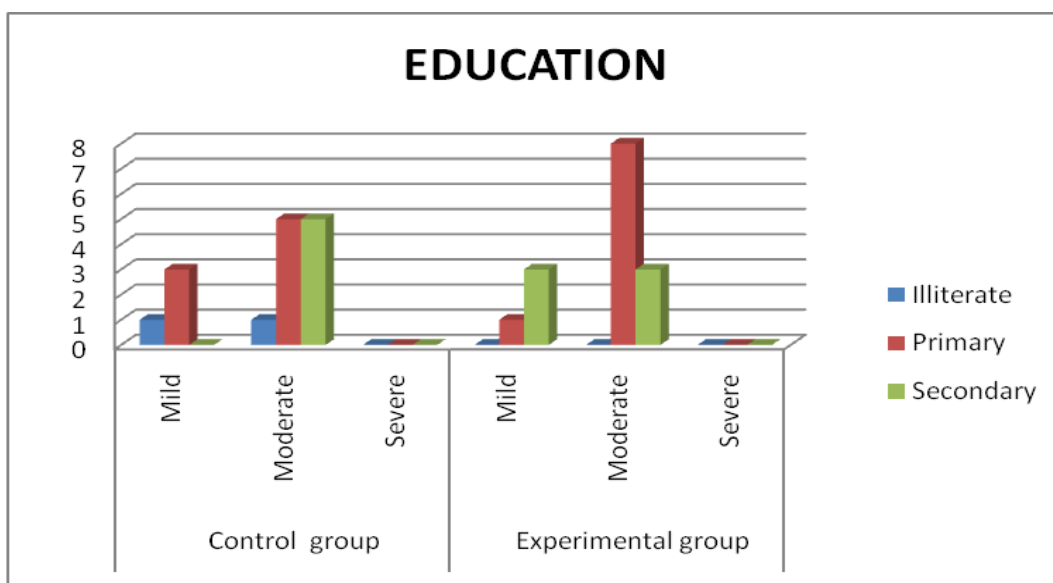
Most of the respondents from all the above stated categories of BMI classes experienced moderate pain , so Body Mass Index has no relation with the pain perception in both the control and the experimental group.

Precisely, weight of the patients does not influence the pain perception by them.

TABLE 4.4

BASIC DEMOGRAPHIC DATA ANALYSIS :- EDUCATION

Sr. No.	Education	Control group						Experimental group					
		Mild Pain		Moderate pain		Severe pain		Mild Pain		Moderate pain		Severe pain	
		Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
1	Illiterate	1	6.66%	1	6.66%	0	0%	0	0%	0	0%	0	0%
2	Primary Education	3	20%	5	33.33%	0	0%	1	6.66%	8	53.33%	0	0%
3	Secondary Education	0	0%	5	33.33%	0	0%	3	20%	3	20%	0	0%

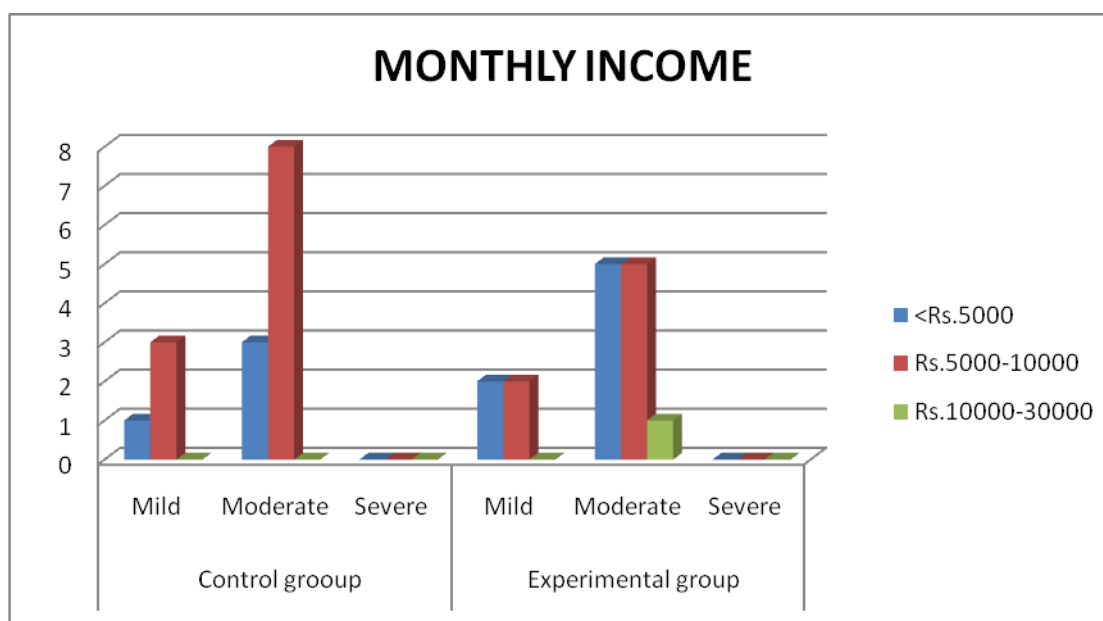


Most of the respondents from the above stated educational classes experienced moderate pain, so education has no relation with pain perception in both the control and the experimental group.

TABLE 4.5

BASIC DEMOGRAPHIC DATA ANALYSIS:-SOCIO-ECONOMIC STATUS

Sr. No.	Socioeconomic status	Control group						Experimental group					
		Mild Pain		Moderate pain		Severe pain		Mild Pain		Moderate pain		Severe pain	
		Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%	Fr.	%
1	<Rs.5000	1	6.66%	3	20%	0	0%	2	13.33%	5	33.33%	0	0%
2	Rs.5000-10000	3	20%	8	53.33%	0	0%	2	13.33%	5	33.33%	0	0%
3	Rs.10000-30000	0	0%	0	0%	0	0%	0	0%	1	6.66%	0	0%

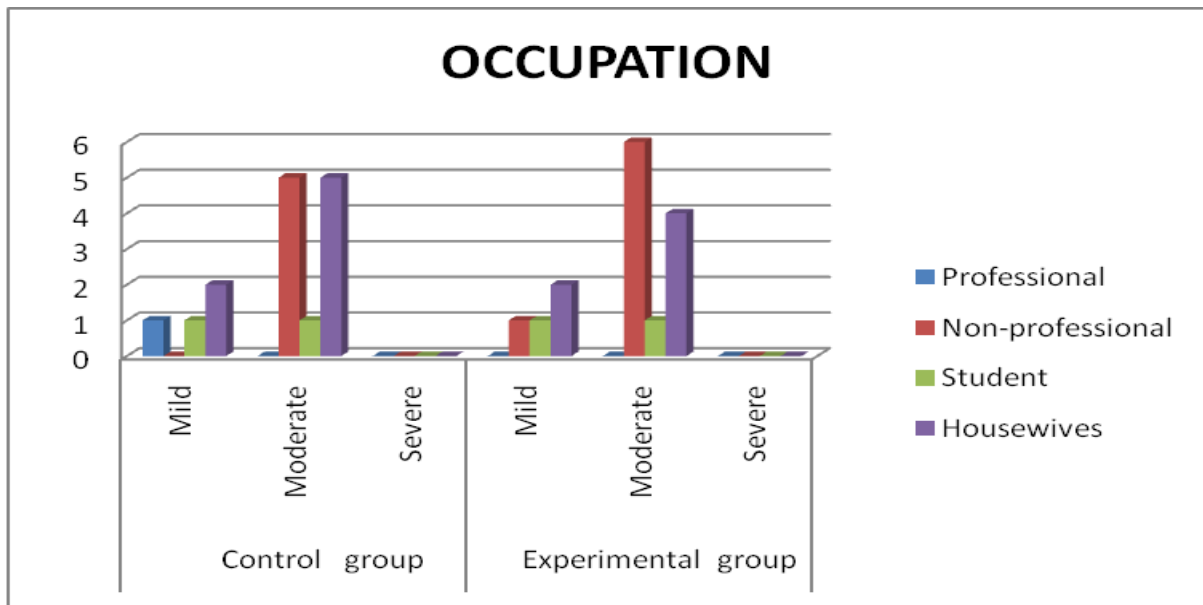


Since most of the respondents from all the three socioeconomic classes experienced mild to moderate pain, thus socioeconomic status has no relation with pain perception by the respondents in both the control and the experimental group.

TABLE 4.6

BASIC DEMOGRAPHIC DATA ANALYSIS:-OCCUPATION

Sr. No.	Occupation	Control group						Experimental group					
		Mild pain		Moderate pain		Severe pain		Mild pain		Moderate pain		Severe pain	
		Fr	%	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%
1	Professional	1	6.60%	0	0%	0	0%	0	0%	0	0%	0	0%
2	Non-professional	0	0%	5	33.30%	0	0%	1	6.60%	6	40%	0	0%
3	Student	1	6.60%	1	6.60%	0	0%	1	6.60%	1	6.60%	0	0%
4	Housewives	2	13.30%	5	33.30%	0	0%	2	13.30%	4	26.60%	0	0%

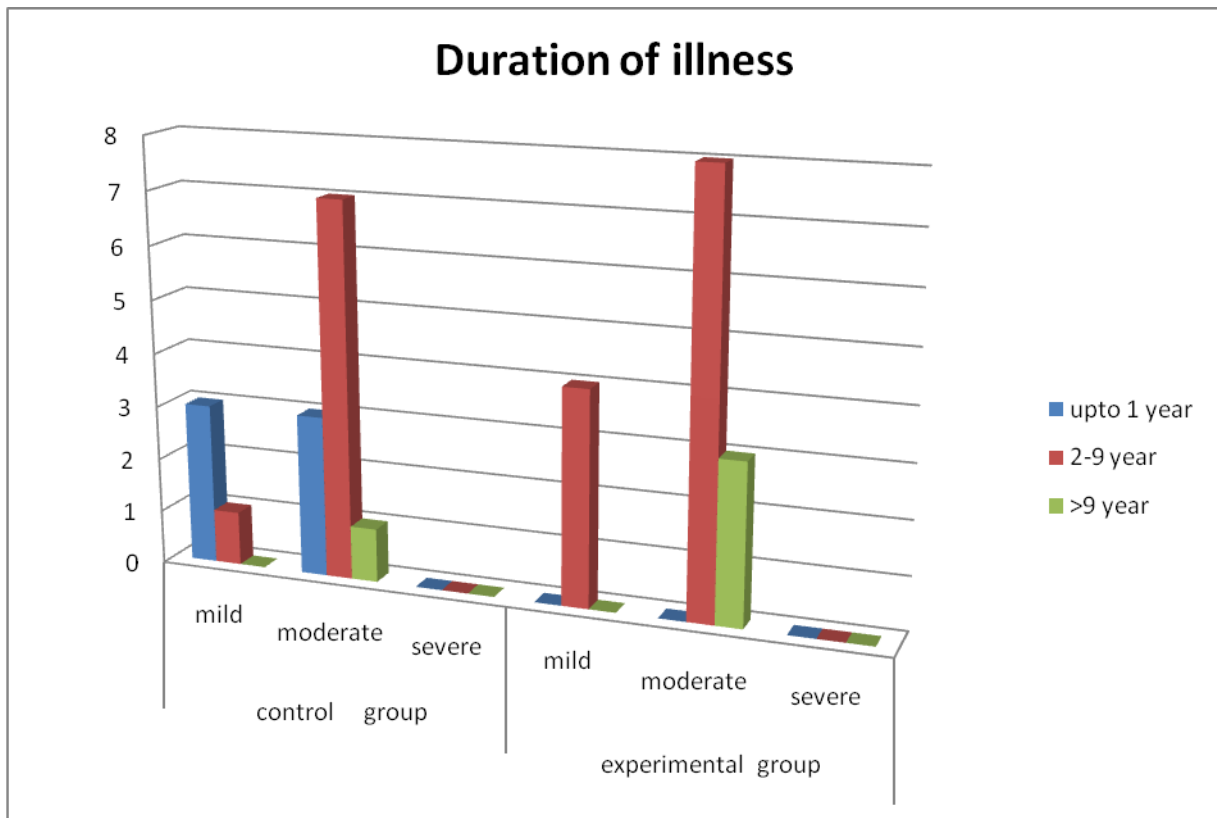


Since most of the respondents from all the occupations experienced mild to moderate pain, thus occupation has no relation with pain perception by the respondents in both the control and the experimental group.

TABLE 4.7

BASIC DEMOGRAPHIC DATA ANALYSIS:- DURATION OF ILLNESS

Duration in years	Control group						Experimental group					
	Mild pain		Moderate pain		Severe pain		Mild pain		Moderate pain		Severe pain	
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%
Up to 1 year	3	20%	3	20%	0	0%	0	0%	0	0%	0	0%
2-9 Years	1	6.60%	7	46.6%	0	0%	4	26.6%	8	53.3%	0	0%
<9 Years	0	0%	1	6.60%	0	0%	0	0%	3	20%	0	0%



Equal number of respondents in both the groups experienced mild to moderate pain, thus the duration of illness of RHD has no influence on pain perception by them. It needs to be noted that in spite of having exposure to receiving IM injection Penidura every 21 days by them, yet the intensity of pain reported by them is quite significant.

CONCLUSION:-

Thus, the various findings of the study reveal that:-

There is no significant difference in the pain perception by the respondents between the two techniques of giving IM injection.

1. There is no significant relationship between the selected variables i.e. body mass index, gender, education, age, socio-economic status, medical history and pain perception by the respondents who receive IM injection Penidura 12lacs IU.

Thus the research hypothesis is rejected. The Null hypothesis is accepted i.e. there is no relationship between the skin tapping technique and pain perception by the respondents.

CHAPTER-5

SUMMARY, FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

This chapter deals with a brief summary of the study & its significant findings. The chapter is perhaps a means to an end, but not an end in itself as it offers avenues that can be taken up for further and more intensive research studies.

The purpose of the study was to evaluate the intensity of pain experienced by patients given intramuscular (IM) injection with/without skin tapping technique. The effect was analysed by comparing the pain level of the respondents with and without skin tapping technique before and after giving IM injection Penidura 12 lac IU.

Specific Objectives:

- ❖ TO COMPARE THE PAIN LEVEL OF RESPONDENTS PRIOR TO AND AFTER RECEIVING IM INJECTION PENIDURA 12 LACS IU.
- ❖ TO EVALUATE THE PAIN LEVEL OF THE RESPONDENT RECEIVING IM INJECTION PENIDURA 12 LACS IU WITH AND WITHOUT SKIN TAPPING TECHNIQUE.
- ❖ TO COMPARE THE PAIN LEVEL OF THE RESPONDENTS WITH SELECTED VARIABLES-AGE, GENDER, BMI, EDUCATION, SOCIOECONOMIC STATUS, DURATION (IN YEARS) OF RHD.

An evaluative approach was used to collect the data for the study. The respondents consisted of thirty respondents with Rheumatic Heart Disease who had come to the Cardiology OPD during the data collection period. The respondents were selected on a non-probability convenience basis, as per the criteria laid down for the study.

Technique and Tool:-

The techniques used for the study were:

- Interview Technique:-

To elicit the personal information of the respondents, interview technique was considered to be the best one. It also helps to identify misinterpretations and inconsistencies, if any. The data elicited through this technique included personal information and medical data of the respondents.

- Self reporting technique:-

This technique was adopted to know the pain level of the respondents before and after the procedure of IM injection penidura, with/ without skin tapping technique. Self reporting technique was thought to be a suitable one, because of the subjective nature of pain which can be described only by respondents adequately.

Description of the tool:

Based on the study objectives, the tools designated for the study were:-

Tool 1 – Interview Schedule

Tool 2 – Self Reporting pain assessment chart

Tool 1- Interview schedule:-

It consists of two parts:-

Part A:-Personal data of the respondents

Part B:- Medical data of the respondents

Tool 2-Self reporting pain assessment chart:-

This consisted of a record to be maintained by the investigator regarding the pain perception of the respondents before and after receiving IM injection penidura 12 lac IU in both the control and the experimental group.

DATA GATHERING PROCESS:

The period of data collection commenced from 25th October 2010 to 26th October 2010. Prior to the commencement of the Pilot study, formal administrative permissions were obtained.

The investigators introduced themselves to the Head nurse of the Cardiology OPD. They got themselves reoriented to the working pattern and routines of the OPD where the patients came to receive injection after consulting the Cardiologist.

The investigators remained in the Cardiology OPD from 8am to 4pm. They involved themselves in all the routine functioning of the Cardiology OPD so as to create a familiar environment for the patients.

The investigator assigned self-roles and did not interact amongst themselves to further eliminate any bias.

INVESTIGATOR 2:- Welcomed and interviewed the respondents to elicit their personal and medical data. The interview was conducted at the nurse's station in the injection room. The respondents were made comfortable and assessed for any needs that needed to be fulfilled prior to conducting the interview.

INVESTIGATOR 3:- Assessed the height and weight of the respondents, in the Consultants room. After consulting the Cardiologist the respondents waited in the waiting hall.

INVESTIGATOR 5:- Gave the test dose of 0.1 ml. intradermally to the respondents on their right forearm as they were waiting in the waiting hall. After 20 minutes these respondents consulted the Cardiologist who confirmed that there was no allergic reaction to Injection Penidura and prescribed the administration of full dose.

The respondents then received the full dose in the injection room.

INVESTIGATOR 1:-Gave IM injection Penidura 12 lacs IU. to all the respondents in both the control and the experimental group. Injection Penidura was diluted in 4 ml of sterile water and was administered to all the respondents with 21 no gauge needle using a 5 ml. syringe.

INVESTIGATOR 6:- Elicited the pain level of the respondents prior to and after receiving IM injection Penidura 12 lacs IU., without being aware as to whether the respondents belonged to the control or the experimental group.

The investigator stationed himself near the bed-side where the injections were administered to the respondents. The investigator assessed the baseline pain prior to administration of the injection. The pain level as verbalized by the respondents were recorded on the pain scale immediately. After the injection was administered to the respondents, the investigator was directed by investigator 4 to assess the pain intensity within 1 minute of administration of the injection.

INVESTIGATOR 4:-Directed the respondents from one investigator to another and ensured the smooth functioning of the research process

FINDINGS OF THE STUDY

1-A) DEMOGRAPHIC PROFILE OF THE CLIENTS:-

a) Age:- 93% of the respondents in the control group and 86% of the respondents in the experimental group belonged to the age group 20-40 years.

b) Gender:- Total representation from male respondents was 40% and from female respondents was 60% in both the groups.

c) Body mass index:- Majority of the respondents from both the groups had average body mass index, indicating normal weight in them.

d) Education:- Majority of the respondents were educated upto the primary level in both groups followed by secondary education. Only one respondent was illiterate in the control group.

e) Socio-economic status:- Majority of the respondents earned a monthly income of Rs. 10,000 and less in both the groups.

f) Occupation:- Equal number of respondents in both the groups were housewives, students and non-professionals (i.e. electrician, plumber, store-keeper, driver, etc.). Professionals were more (27%) in control group as compared to 13% in the experimental group

h) Duration of illness:- Majority of the respondents from both the groups had the medical history of RHD since 2-9 years.

B) THE PAIN LEVEL OF RESPONDENTS PRIOR TO AND AFTER RECEIVING IM INJECTION:-

All the respondents in both the groups reported a pain score of 0 prior to receiving IM injection Penidura. The average pain score of the respondents after administering IM injection Penidura was 3.54. This clearly indicates that the pain experienced by the respondents in both the groups was a result of IM injection Penidura.

C) TO COMPARE THE PAIN LEVEL OF THE RESPONDENTS RECEIVING IM INJECTION PENIDURA 12 Lacs IU WITH AND WITHOUT SKIN TAPPING TECHNIQUE.

In the experimental group the average pain score was 3.6 as against a pain score of 3.47 in the control group.

The pain reported by the respondents is of mild to moderate in nature. Inj. Penidura is a broad spectrum anti-infective drug, used as prophylaxis in Rheumatic heart disease. It is in

powder form and needs to be dissolved in 4ml of sterile water. After dissolving, this injection remains in particulate form in the sterile water, thus it is concentrated and should be given immediately after taken in the syringe. It needs to be given deep intramuscularly with a large bore needle, which has probably contributed to the reported intensity of pain in the respondents.

Statistical analysis proved that there is no statistical difference in the pain perception by the respondents with the two procedures of administering IM injection, that is, with and without the skin tapping technique. Thus, both the techniques of administering IM injection are comparable with each other. Yet, this data needs to be interpreted cautiously in light of the small sample size. It also needs to be noted that the average pain scores in the group receiving IM injection Penidura with skin tapping is high as compared to those who have received without the skin tapping technique.

D) THE PAIN LEVEL OF THE PATIENT WITH SELECTED VARIABLES-AGE, SEX, SOCIOECONOMIC STATUS, BMI, EDUCATION, DISEASE CONDITION

1)Age:- Since majority of the respondents in all the age group experienced mild to moderate pain while receiving IM injection Penidura 12 lacs IU; thus the analysis proves that age has no relation with respect to pain perception by the respondents in both the control and experimental group. Statistical multivariate correlation were withheld due to small sample size.

2)Gender: Most of the respondents from both the gender experienced mild to moderate pain, thus gender has no relation with pain perception in both the control and the experimental groups.

3)Body Mass Index:

Most of the respondents from all the above stated categories of BMI classes experienced mild to moderate pain , so Body Mass Index has no relation with the pain perception in both the control and the experimental group.

Precisely, weight of the patients does not influence the pain perception by them.

4)Education:

Most of the respondents from all the educational classes experienced mild to moderate pain , so education has no relation to pain perception by the respondents in both the control and experimental group

5)Socio Economic Status:- Since most of the respondents from all the three socioeconomic classes experienced mild to moderate pain , thus socioeconomic status has no relation with pain perception by the respondents in both the control and the experimental group.

6)Duration of illness:- Equal number of respondents in both the groups experienced mild to moderate pain, thus the duration of illness of RHD has no influence on pain perception by them. It needs to be noted that inspite of having exposure to receiving IM injection Penidura every 21 days by them, yet the intensity of pain reported by them is quite significant

CONCLUSION

The various findings of the study showed that:-

- 1) There is no significant relationship between the selected variables i.e. body mass index, gender, education, age, socio-economic status, medical history and pain perception by the respondents who receive IM injection Penidura 12lacs IU.
- 2) There is no significant difference in the pain perception by the respondents between the two techniques of giving IM injection.

Thus the research hypothesis is rejected. The Null hypothesis is accepted . i.e there is no relationship between the skin tapping technique and the pain perception by the respondents.

GROUP EXPERIENCE

1) The investigators found that the respondents appeared anxious by not seeing the familiar nurses for administration of intramuscular injection. (It needs to be noted here that patients receive IM injection Penidura every 21 days and since it is associated with pain a familiar nurse's hand will be preferred by any one.

2) The investigators found that when skin tapping was done the patients were anxious which could have contributed to pain perception by them.

- 3) The investigator received great support and clarification whenever required regarding the respondents from the on duty staff nurses.

IMPLICATION FOR THE STUDY:-

- a. For Nursing service:- The study brings to light that
 - 1) All patients who receive IM injection perceive pain
 - 2) The selected demographic variables have no relationship to the pain perception by the patients.
 - 3) Though certain past researches have proved that rhythmic skin tapping is effective in reducing pain of IM injection, yet this study proves otherwise.
Thus, the nurses in the clinical area can try these indigenous techniques on individual patients while administering IM injection and choose to practice it or not.

For Nursing Education:- Nurse educators can discuss the findings of the study while teaching the topic of IM injection and its pain management. Indigenous therapy should also form a part of the nursing curriculum to be taken by the experts.

Nursing Administration:- The findings of the study could be used as basis of in-service education for nurses so as to make them more competent in self-evaluating the effectiveness of administering IM injection with indigenous techniques on the patients. Further researches can be planned as per the recommendations stated below.

SUGGESTIONS FOR IMPROVEMENT OF THE PRESENT STUDY

- 1) To aid generalization the present study could have been done on a larger sample for a longer period of time.
- 2) The study could have been more better, if pulse oxymeter was available for checking the heart rate during & after the procedure.
- 3)Respondents informed consent to be a participant of the research process could have eliminated the anxiety that was exhibited by them during the rhythmic skin tapping technique of administering the IM injection.

RECOMMENDATIONS FOR FURTHER STUDIES

1. The study could have been more accurate if the two techniques “with and without skin tapping technique” was done on the same patient.
2. An experimental comparative study could be done with four groups design where rhythmic skin tapping could be done with varying frequencies in each group, to evaluate the effective range of frequency in minimizing pain.
3. The study could be replicated on a large sample.
4. A multi-group study can be done comparing other indigenous techniques like application of cold, massage therapy, music therapy etc. to evaluate the effectiveness of these techniques on pain perception by the patients while receiving IM injection.

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APPENDIX -1

Interview Questionnaire

[A] Identification Data

1. Code no:

2. Age

[a]20-30[], [b] 30-40 [] [c] 40-50 []

3. Sex

[a] female [], [b] male []

4. Ipd no /opd no:

5. Diagnosis:

6. Height:

7. Weight:

8. B M I:

[B] History

1. Duration of illness:

2. Monthly income from all resources

[a] less than 5000 [], [b]5000-10000 []

[c] 10,000- 30,000[], [d] >30,000 []

4. Occupation:

Assessment of pain.

1. With skin tapping technique

Before procedure	After procedure

2. Without skin tapping technique

Before procedure	After procedure



	dkghp	fdaphr	FkksMa	FkksMa tkLra	[kwi	lgu d:
	ukgh		nq[kys	nq[kys	nq[kys	'kdr
ukgh						
	dqN	gYdklk	FkksMk	FkksMk T;knk cgksr		T;knk
ldrs	lgsu ugha	ugha	nnZ nnZ	nnZ nnZ	nnZ	dj