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# "A STUDY TO EVALUATE THE EFFECTIVENESS OF HELFER SKIN TAP TECHNIQUE ON PAIN ASSOCIATED WITH INTRAMUSCULAR INJECTION AMONG PATIENTS RECEIVING INJECTION IN BHAGYODAY TIRTH CHARITABLE TRUST HOSPITAL, SAGAR (M.P.)"

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## ABSTRACT

**Introduction:** A patient's demand for comfort and assurance is paramount. A primary nursing duty is to ensure comfort; health care interventions may be performed based on traditions and routines that practitioners no longer critically examine. A broad lens through which to evaluate pain and pain treatment options is the context of comfort. Patients in hospitals frequently experience procedural pain, which they all naturally attempt to avoid. Any intramuscular injection will undoubtedly hurt where it is injected. Individual experiences of pain after intramuscular injection can be influenced by a number of factors, including anxiety, culture, age, gender, and expectations of pain treatment.

**Aim and Objectives:** The purpose of this research is to assess the Helfer Skin Tap Technique's effectiveness in treating intramuscular pain in patients receiving injections at the Bhagyoday Thrift Charity Hospital in Sagar (M.P.). The objectives of this study was to gauge the degree of discomfort before to using the Helfer skin tap procedure, Use the tap technique to gauge the impact of the Helfer skin on the degree of discomfort experienced during intramuscular injection delivery, to assess the difference in discomfort between the application of the Helfer skin tap method and after intervention and using the Helfer skin tap technique, to determine the relationship between a subset of demographic characteristics and the degree of discomfort.

**Methods:** After receiving approval from the Bhagyoday Tirth Charitable Trust in Sage, Madhya Pradesh, the researcher proceeded with data collection, selecting samples using the purposive sampling technique. The researcher received formal permission to conduct the study from the principal of Bhagyoday Tirth Nursing College. The researcher-built relationships with the attendees, staff, and patients and gave assurances regarding the confidentiality of the data gathered. They were administered the intervention named the helfer skin tap procedure and asked to record their answers. In order to analyse the data, descriptive statistics were used. The chi-square test was employed to establish a correlation between the patient's chosen demographic factors and the efficacy of the Helfer skin tap technique for intramuscular injection.

**Results:** The study's outcome and analysis were predicated on the statistical analysis of the "t" test results, which were used to determine whether there was a significant difference in the amount of discomfort experienced during an intramuscular injection before and after using the Helfer skin tap technique. Chi square was utilized to determine whether certain demographic factors were associated with the degree of discomfort experienced after the delivery of an intramuscular injection using The Helfer Skin Tap Technique. The mean difference and "t" test were used to compare the data collection results before and after applying the Helfer skin tap technique. The results indicate that the mean score was 5.33 before and 0.93 after applying the Helfer skin tap technique, with a mean difference of 4. Thus, the outcomes demonstrate the efficacy of the Helfer skin tap procedure. According to the data, 53.33% of adult patients reported no pain, 40% reported mild pain, 6.67% reported moderate pain, and 0% reported severe or worse pain.

**Conclusion:**

This study found that the Helfer skin tap method was a highly useful way to lessen injection-related discomfort. According to this research, 53.34% of patients had no pain at all, 40% had mild pain, only 6.67% had moderate pain, and 0% had severe or worse pain. This is a better outcome than what was obtained with the Helfer skin tap approach previously. Prior to the Helfer skin tap, the mean was 5.33; after the skin tap, the mean was 0.93.

**Key Words:** Pain, The Helfer Skin Tap Technique, Intramuscular Injection

## INTRODUCTION

According to gate control theory, which maintains the muscles relaxed and reduces pain when providing intramuscular injection, the Helfer skin tap technique offers mechanical stimulation and distraction during intramuscular injection and helps to lessen discomfort. The injection procedure is painless when using the Helfer skin tap technique. This method keeps the muscle relaxed and activates large diameter fibres by rhythmically tapping the skin at the injection site both before and after the injection.

According to gate control theory, it helps to lessen discomfort during injection by providing a mechanical stimulation and diversion (Roger melzak and past wall, 1965). The Helfer skin tap technique makes use of fundamental ideas from pain theory to mechanically stimulate muscles with greater diameters, which reduces the impact of smaller, pain-carrying muscles. Counting to three assists the nurse in synchronizing the muscle tap with the needle insertion and in standardizing the procedure. Tapping many times promotes greater muscular relaxation. (Manju, 2012).

## SIGNIFICANCE AND NEED FOR THE STUDY

A patient's demand for comfort and assurance is paramount. A primary nursing duty is to ensure comfort; health care interventions may be performed based on traditions and routines that practitioners no longer critically examine. A broad lens through which to evaluate pain and pain treatment options is the context of comfort. Patients in hospitals frequently experience procedural pain, which they all naturally attempt to avoid.

Among all of them, intramuscular injections are a regular technique performed by nurses that frequently results in discomfort and suffering for the patient. One of the challenges of direct care treatments is managing pain during invasive operations. The idea of comfort is essential to the nursing profession. Many nursing theorists see "comfort" as a fundamental client demand that must be met in order for nursing care to be provided (Gitanjali, Zore, and Ragina das 2012). Intramuscular (IM) injection is one of the most common procedures performed virtually daily in the medical field.

Any intramuscular injection will undoubtedly hurt where it is injected. Individual experiences of pain after intramuscular injection can be influenced by a number of factors, including anxiety, culture, age, gender, and expectations of pain treatment. Additionally, even though intramuscular injection is sometimes referred to as a "basic skill," it really involves a number of intricate considerations and decisions regarding pharmaceutical preparation, method, location, equipment selection, and more. Malkin (2008). Hence the researchers planned to select this study.

## STATEMENT OF THE STUDY

A study to evaluate the effectiveness of the Helfer skin tap technique on injection-related discomfort in patients getting intramuscular injections at the Bhagyoday Tirth Charitable Hospital in Sagar.

## OBJECTIVES OF THE STUDY:

- To gauge the degree of discomfort before to using the Helfer skin tap procedure.
- To gauge the impact of the Helfer skin approach on the degree of discomfort experienced during intramuscular injection delivery.
- To assess how much discomfort there was both before and after using the Helfer skin tap technique.
- Using the Helfer skin tap technique, to determine the relationship between a subset of demographic characteristics and the degree of discomfort.

## RESEARCH HYPOTHESIS

RH1: The Helfer skin tap technique will have a major impact on pain management following intramuscular injection.

RH 2: A noteworthy correlation will exist between the Helfer skin tap technique and the discomfort resulting from intramuscular injection, as well as with the demographic characteristics that were chosen.

## OPERATIONAL DEFINITIONS

### Effectiveness:

Effectiveness is the ability to bring about the intended outcome. According to a numerical pain rating scale, the effect of the Helfer skin tap technique on OPD patients' perception of pain during intramuscular injection is discussed in this research.

**Pain:**

Pain is characterized as an unpleasant emotional and sensory experience linked to real or potential tissue damage. According to a numerical pain severity scale, pain in this study is defined as an uncomfortable feeling that arises after intramuscular injection delivery.

**Helfer skin tap technique:**

It is a method that involves tapping the skin at the injection site rhythmically both before and after to maintain the muscle relaxed and to activate big diameter fibres. Helfer skin tap technique in this study refers to rhythmic skin tapping. It was applied to the injection site for five seconds both before to and during the intramuscular injection procedure.

**Intramuscular injection:**

It involves injecting medication straight into the muscle. This study pertains to the administration of intramuscular injection to the patient's Gluteus Medius muscle located in the gluteus area.

**Adult patient:**

Adult patients in this study are those who have had intramuscular injections and are older than 18 years.

**ASSUMPTION**

- ❖ Every adult is different, and every adult reacts to unpleasant procedures differently.
- ❖ The Helfer skin tap method could help to lessen injection discomfort intramuscularly.
- ❖ Pain may subside if the muscle relaxes.
- ❖ The intramuscular injection process hurts.
- ❖ There are no negative consequences from the Helfer skin tap method.
- ❖ The patient is not harmed by a Helfer skin tap.

**DELIMITATION:**

- ✓ The study is delimited a selected hospital.
- ✓ The study is data collection period is delimitated to 6 weeks.
- ✓ The study is limited to the patient received intramuscular injection.
- ✓ The study is delimitated to adult age group who undergo intramuscular injection.

**SCOPE OF THE STUDY:**

The study's focus is on utilizing the Helfer skin tap technique to lessen injection discomfort intramuscularly. The study's conclusions will be useful in determining if the Helfer skin tap technique reduces discomfort during intramuscular injection.

**REVIEW OF LITERATURE**

Researcher also did the review of literature in various aspect of effectiveness of Helfer skin tap technique under the following subdivisions.

**SECTION A: Studies related to during pain on intramuscular injection.**

**SECTION B: Studies related to Helfer skin tap technique on pain.**

**SECTION C: Studies related Helfer skin tap technique for reducing pain during intramuscular injection.**

**SECTION A: Studies related to during pain on intramuscular injection**

Comparison research was carried out by **Kusumadev et al. (2010)** to see how men and women perceived the discomfort associated with intramuscular injections. the investigation carried out at Bangalore's Victoria Hospital. Out of the 300 overall sample size, 140 men and 160 women were allocated. Using a 23G needle, multivitamin intramuscular injections were given to each subject in the gluteal area. Using a visual analogue scale, pain was measured. Statistical analysis revealed that women had a higher pain score (2.24 ± 1.19) than males (1.7 ± 1.06). According to the study's findings, women were more sensitive to discomfort during intramuscular injections.

**SECTION B: Studies related to Helfer skin tap technique on pain.**

In order to evaluate the effect of the skin tap technique on pain during intramuscular injection in adult patients undergoing intramuscular analgesic injection, **Shimmy et al. (2010)** carried out a randomized control study trial in Chandigarh. The experimental group's mean pain score was 2.08±1.26, whereas the control groups was 2.94±1.68. At df – 198, the difference t-4 was statistically significant ($p<0.05$). It was determined that employing the skin tap technique to deliver intramuscular injections results in a reduced sense of pain intensity. This study discovered that employing the Helfer Skin Tap Technique instead of the standard procedure while administering intramuscular injections results in a reduced perception of pain intensity.

**SECTION C: Studies related Helfer skin tap technique for reducing pain during intramuscular injection.**

In order to determine the impact of the Helfer skin tap technique on patients getting intramuscular injections, **Shajitha, N. R. (2018)** performed research. The researcher developed the conceptual framework and methodology for the study with the help of a review of related literature. The Prescriptive Helping Art of clinical nursing theory by Einstein Widen Bach (1964) served as the foundation for the conceptual framework that was used in this investigation. A quantitative research methodology was applied. The effectiveness of the Helfer skin tap method on the degree of pain perception in patients undergoing intramuscular injection was assessed using a quasi-experimental approach. The PPK Hospital Marthandam served as the study's location. Twenty-five samples were chosen for the study group and twenty-five samples for the control group using the purposive sampling approach. Both a numerical pain scale and demographic characteristics were used in the data gathering process. The research group received administration of the Helfer skin tap method. Following the intramuscular injection in each group, a post-test was administered. Descriptive and inferential statistical methods were used to analyse the collected data, and the study's objectives guided the interpretation process. To test the hypotheses, the degree of significance was determined by $p < 0.05$.

**RESEARCH METHODOLOGY**

**Research Approach:** Quantitative Research Approach.

**Research Design:** True Experimental Research with Post-Test only Control Group Design.

**Settings of the Study:** Bhagyoday Tirth Charitable Trust Hospital, Sagar, MP.

**Variables:**

**Dependent Variable:** Pain intensity associated with Intramuscular Injection.

**Independent Variable:** Helfer Skin Tap Technique.

**Extraneous Variable:** Age, Gender, Religion, Educational Achievement, Business, Amount of Injected Substance, Complaints About Allergy During IM Injection, Exposure to IM Injection.

**Population:**

**Target Population:** The study comprised of adult patients between the age group of 18 to 40 years and above.

**Accessible Population:** The Adult patients between the age group of 18 to 40 years and above who were admitted in Bhagyoday Tirth Charitable Trust Hospital, Sagar, MP. who were receiving Intramuscular Injection.

**Sample Size:** The sample size consists of 30 selected patients who received IM injection in Bhagyoday Tirth Charitable Trust Hospital, Sagar, MP.

**Sampling Technique:** Non – Probability Purposive Sampling Technique.

**Criteria for Sample selection:**

Sample was selected based on the following criteria:

**Inclusion criteria**

- Patients between the age group of 18 to 40 years.
- Both male and female patients.
- Conscious, cooperative and alert patients.
- Patients those who are willing to participate in the study.
- Patients who can understand Hindi or English.

**Exclusion criteria**

- Patients who are receiving chemotherapy.
- Post operative patients.
- Unconscious patients.
- Patient who are not willing to participate.
- Patients who were diagnosed with Chronic illness.

**Description of the Tool**

**Part -A**

- Age,
- Gender,
- Religion,
- Educational Achievement,
- Business

**Part - B:** Numerical Pain Scale (NRS).

**Interpretation of the Tool**

0 (No Pain)

1, 2, and 3 (Mild Pain)

4, 5, and 6 (Moderate Pain)

7, 8, and 9 (Severe Pain)

10 (Worst Pain)

**Pilot study**

The Bhagyoday Tirth Charitable Trust Hospital's principle and ethics committee gave its formal approval before the pilot research could be carried out. The Bhagyoday Tirth Charitable Trust Hospital in Sagar served as the site of the pilot trial. A four-day (04/02/23 to 07/02/23) pilot research was carried out in February after receiving approval from the university. The researcher made an excellent first impression on the study participants by introducing herself. Six adult patients were chosen for the group; three had the Helfer skin tap procedure as an intervention, while the remaining three were monitored using the numerical pain rating scale (NPRS). And three weeks following this little trial, the larger study was carried out.

**Data Collection Procedure**

The principal of Bhagyoday Tirth Nursing College, Sagar, MP, formally granted the researcher permission to carry out the study. The researcher begins data gathering after receiving consent from the Bhagyoday Tirth Charitable Trust's administrators in Sagar, Madhya Pradesh. The Non-Probability Purposive Sampling Technique was used to choose the sample. The researcher-built relationships with the visitors, personnel, and patients, and gave assurances regarding the confidentiality of the data gathered. They were administered the intervention (the Helfer skin tap procedure) and asked to record their answers. Both descriptive and inferential statistics were used to analyse the data. The chi-square test was employed to establish a correlation between the patient's specified demographic factors and the efficacy of the Helfer skin tap technique for intramuscular injection.

## DATA ANALYSIS AND INTERPRETATION OF DATA

**Table – 1 Frequency and Percentage Distribution of the sample according to their socio demographic variables**

| | DEMOGRAPHIC VARIABLES | FREQUENCY | % |
|---|---|---|---|
| 1. | Age in years | | |
| | a) 18- 28 years | 8 | 26.66% |
| | b) 29- 29 years | 9 | 30% |
| | c) 40 years and above | 13 | 43.34% |
| 2. | Gender | | |
| | a) Male | 19 | 63.34% |
| | b) Female | 11 | 36.66% |
| | c) Others | 0 | 0% |
| 3. | Religion | | |
| | a) Hindu | 25 | 83.33% |
| | b) Muslim | 2 | 6% |
| | c) Christian | 0 | 0% |
| | d) Others | 3 | 10% |
| 4. | Educational achievement | | |
| | a) primary education | 4 | 13.34% |
| | b) 1st and secondary education | 11 | 36.66% |
| | c) Higher secondary education | 9 | 30% |
| | d) The graduate and above | 6 | 20% |
| 5. | Business | | |
| | a) Working | 13 | 43.33% |
| | b) Student/ house wife/ retired | 10 | 33.33% |
| | c) Unemployed | 7 | 23.33% |
| 6. | Amount of injected substance? | | |
| | a) Less than 2 ml | 26 | 86.66% |
| | b) More than 2 ml | 4 | 13.33% |
| 7. | Have you ever complained of any type of allergy due to intramuscular injection? | | |
| | a) Yes | 0 | 0% |
| | b) No | 30 | 100% |
| 8. | Have you been exposed to intramuscular injection before? | | |

| | | | |
|---|---|---|---|
| | a) Yes<br>b) No | 23<br>7 | 76.66%<br>23.33% |

**Fig 1 Frequency and Percentage distribution of the sample according to their level of pain with and without Helfer skin tap technique.**

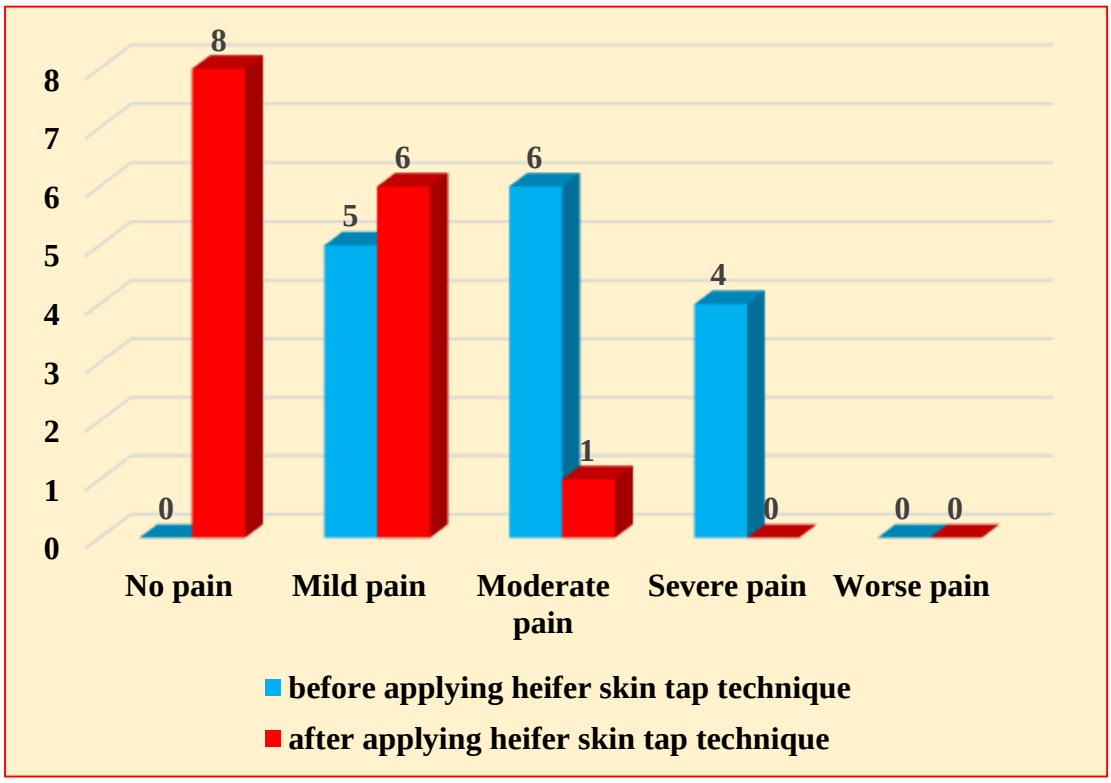


**Fig: 2 Showing the mean difference between the before and after applying the Helfer skin tap technique on the study sample.**

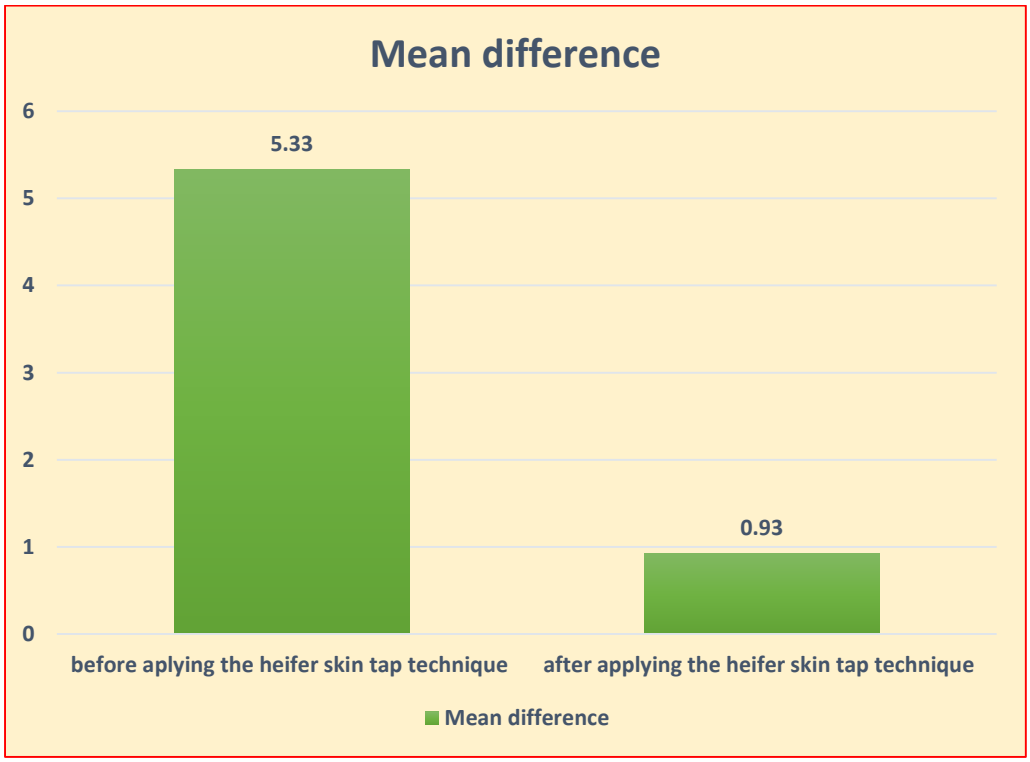

**Table: 2 Association between selected demographic variables and level of pain applying Helfer skin tap technique.**

| Sr.No. | Demographic variables | Df | X2 | Table value |
|---|---|---|---|---|
| **1.** | Age in years<br>a) 18- 28 years<br>b) 29- 29 years<br>c) 40 years and above | 8 | 4.9778<br>NS | 15.51 |
| **2.** | Gender<br>a) Male<br>b) Female<br>c) Others | 12 | 2.8443<br>NS | 21.03 |
| **3.** | Religion<br>a) Hindu<br>b) Muslim<br>c) Christian<br>d) Others | 12 | 1.7564<br>NS | 21.03 |
| **4.** | Educational achievement<br>a) primary education<br>b) 1st and secondary education<br>c) Higher secondary education<br>d) The graduate and above | 12 | 2.5769<br>NS | 21.03 |
| **5.** | Business<br>a) Working<br>b) Student/ house wife/ retired<br>c) Unemployed | 8 | 9.5998<br>NS | 15.51 |
| **6.** | Amount of injected substance?<br>a) Less than 2 ml<br>b) More than 2 ml | 4 | 7.5<br>NS | 9.49 |
| **7.** | Have you ever complained of any type of allergy due to intramuscular injection?<br>a) Yes<br>b) No | 4 | 0<br>NS | 9.49 |
| **8.** | Have you been exposed to intramuscular injection before? | 4 | 0 | 9.49 |

| | | | | |
|---|---|---|---|---|
| | a) Yes<br>b) No | | NS | |

Table- 2 Shows that there is no association between Helfer Skin Tap Technique with their selected demographic variables.

**DISCUSSION**

**Objective: 1 The study's primary goal was to determine the degree of discomfort prior to using the Helfer skin tap procedure.**

The Bhagyoday Tirth Charitable Trust Hospital served as the study's site. The research comprised 30 adult patients who were getting intravenous injections at this facility. A numerical pain rating scale and demographic variables were used to evaluate each patient. Prior to using the Helfer skin tap technique, the frequency and percentage distribution of samples revealed that 33.34% of adult patients experienced mild pain during the administration of an IM injection, 40% of adult patients experienced moderate pain, 26.67% of adult patients experienced severe pain, and 0% of patients reported no pain at all, indicating that no one had the worst pain and that no one had reported no pain at all in the absence of the Helfer skin tap technique.

**Objective: 2 The study's second goal was to evaluate the impact of the Helfer skin tap technique on the degree of discomfort experienced during intramuscular injection delivery.**

We utilized this approach after the administration of an IM injection and gathered data using a numerical pain rating scale after collecting data from the samples without utilizing the Helfer skin tap technique since we were evaluating its efficacy. According to the data, 53.33% of adult patients reported no pain, 40% reported mild pain, 6.67% reported moderate pain, and 0% reported severe or worse pain.

**Objective: 3 Comparing the degree of discomfort before and after using the Helfer skin tap technique was the third goal of the study.**

The mean difference and "t" test were used to compare the data collection results before and after applying the Helfer skin tap technique. The results indicate that the mean score was 5.33 before and 0.93 after applying the Helfer skin tap technique, with a mean difference of 4. Thus, the outcomes demonstrate the efficacy of the Helfer skin tap procedure.

**Objective: 4 Finding a relationship between a few demographic factors and the degree of discomfort after using the Helfer skin tap technique was the study's fourth goal.**

Age and the degree of discomfort experienced when using the Helfer skin tap technique are not significantly correlated; the chi square value at df 8 is 1.7181. The chi square score of 6.551 at df 8 indicates that there was no significant relationship between gender and the amount of discomfort experienced while using the Helfer skin tap technique. Using the Helfer skin tap technique, there was no significant correlation found between the amount of discomfort and religion (chi square value = 1.9639 at df 12). There is no significant correlation between the degree of discomfort experienced when using the Helfer skin tap technique and academic success, as indicated by the chi square value of 6.5906 at df 12. The chi square score of 6.4631 at df 8 indicates that there was no significant relationship between the business and the degree of discomfort when using the Helfer skin tap technique. the relationship between the quantity of injectable

material and the degree of discomfort while using the Helfer skin tap technique? At df 4, the chi square value of 16.6535 was quite significant. The chi square value of 0 at df 4 indicates that there is no significant correlation between the amount of discomfort experienced while using the Helfer skin tap technique and complaints of any allergy to IM injection. the relationship between the degree of discomfort while using the Helfer skin tap technique and the previous exposure to an IM injection? The significance level of the chi square value at df 4 was 2.1102.

## CONCLUSION

This study found that the Helfer skin tap method was a highly useful way to lessen injection-related discomfort. According to this research, 53.34% of patients had no pain at all, 40% had mild pain, only 6.67% had moderate pain, and 0% had severe or worse pain. This is a better outcome than what was obtained with the Helfer skin tap approach previously. Prior to the Helfer skin tap, the mean was 5.33; after the skin tap, the mean was 0.93.

## NURSING IMPLICATIONS

Nurses play a significant role in any healthcare environment, and this study helps nurses spot issues and complaints early on. So, nurses ought to acquire information. Nursing practice, nursing education, nursing administration, and nursing research are among the fields where the study's implications are evident.

**Implications for Nursing practice:**

- Clinical nursing research can look at nursing experiences and interventions for sickness prevention, health promotion, and care for people in different settings—individuals, families, and communities.
- The results indicate that in order to lessen discomfort during intravenous injection and to enhance patient comfort, nurses should concentrate more on the Helfer skin tapping technique.
- According to this study, nurses should put more emphasis on the comfort and pleasure of their patients.
- In order to increase patient comfort during intramuscular injections, this study suggests that nurses from different institutions participate in a training program on Helfer skin tapping.

**Implications for Nursing Education:**

- The primary goal of nursing education is to consistently supply the nation with skilled nursing labour, which is urgently needed in a nation like India. Therefore, the goal of nursing education research is to create and assess effective teaching strategies as well as identify novel approaches and theologies that can effectively improve nursing students' learning in both clinical and classroom settings.
- The research places a strong emphasis on encouraging staff nurses to enrol in continuing education programs and pursue specialized training in injectable administration in order to stay current with emerging medical trends.
- The student can be prepared to use instruction in accordance with community and patient comfort needs by the nurse educator.
- This study may be used to inspire teachers to create and impart these kinds of strategies in order to enhance their clinical practices.

**Implications for Nursing Administration:**

- ❖ One of the areas of nursing that requires ongoing study is administration. This is because nurse administration has a number of challenges that need to be resolved, and research in this area of the nursing discipline may provide the answer.
- ❖ This study aids nursing administrators in the development and testing of various practice strategies in various patient care domains.
- ❖ Research on any practice that will be useful in maintaining and enhancing patients' health can be done by nursing administrators.

**Implications for Nursing Research**

- ❖ Future researchers can expand on the breadth of the current study.
- ❖ To improve individual performance overall, the application of research findings has to be included in the quality assurance assessment process.

**RECOMMENDATIONS**

The research findings allow for the formulation of the following suggestions:

- ✓ A greater number of samples may be used to do similar research.
- ✓ The Helfer skin taps method and other alternative treatments, such as cryotherapy and acupressure, may be compared.
- ✓ A research like to this one might be carried out utilizing cross-over design.
- ✓ Research may be done to determine how painful injection sites and kinds are perceived by patients, as well as how medications are administered.

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