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To compare the effectiveness of helper skin tap technique and natural method on pain level related to intramuscular injection among patients receiving im injections at selected hospital, Kalaburagi

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Abstract

Since pain is a complicated phenomenon, its precise nature is yet unknown. When someone is in pain, they frequently see it as their only option and want pain alleviation above all other interventions. Pain is an entirely personal experience. **Objectives:** to compare the effectiveness of Helpers skin tap technique vs natural method on level of pain related to IM injections among patients receiving IM injections in selected hospital, Kalaburagi.

Methodology: A evaluative approach with quasi experimental two group pretest-posttest design was adopted for the study. The samples from the selected hospitals were selected using convenient sampling technique. The sample consisted of 60 patients receiving IM injections (30 in each group). The tools used for data collection was Numerical pain scale.

Results: With regard to experimental group 1 pre-test level of pain it shows that, maximum 19(63.3%) respondents were had severe pain and remaining 11 (36.7%) respondents were had moderate pain. During post-test maximum 20 (66.7%) of respondents were had mild and remaining 10(33.3%) of respondents were had moderate pain. In experimental group 2 pre-test level of pain it shows that, maximum 23(76.7%) respondents were had severe pain and remaining 7 (23.3%) respondents were had moderate pain. During post-test maximum 29 (96.7%) of respondents were had mild and remaining 1(3.3%) of respondents were had moderate pain. With respect to experimental group 1, the statistical paired 't' implies that the difference in the pretest and post-test value was found statistically significant at 5% level ($p<0.05$) with a paired 't' value of 15.38. In experimental group 2, the statistical paired 't' implies that the difference in the pretest and post-test value was found statistically significant at 5% level ($p<0.05$) with a paired 't' value of 10.41. There will be significant difference in the mean posttest pain scores of participants of both groups and both groups have differed with respect to level of pain in post-test. As mean pain scores of experimental group1 is lower than experimental group 2 it is inferred that, Helpers skin tap technique was more effective in reducing the level of pain among the participants of experimental group 1 as compared to natural method for reducing the pain among the participants of experimental group 2.

Conclusion: The findings revealed that, level of pain among participants in both experimental groups during pre-test was moderate to severe and is reduced as low in both experimental group after exposure to hand and Helpers skin tap technique.

Keywords: Helpers skin tap technique, natural method, IM injections, pain, patients receiving IM injections

Introduction

Almost everything can affect how a person experiences pain, including how the stimulus is seen, how it enters the brain, and how the person reacts to it.

Every person on the planet has gone through some level of discomfort, for which they receive medical attention. Anguish may be a very unpleasant and private feeling that is not shared with others. It can take up all of a person's thoughts and change their life, but it can also be frightening for a patient to discuss because medical professionals cannot see or feel the patient's anguish. The American Pain Society refers to pain as "the fifth vital sign" in order to draw attention to the necessity of appropriate pain management techniques and ongoing evaluation, as well as to emphasize

the relevance of pain.

Intramuscular (IM) injections are among the most common treatments performed in the medical field virtually daily to administer medication deep into the body's major muscles. It is a proven fact that any intramuscular injection will hurt where it is injected. Every year, 16 billion intramuscular injections are given all around the world.

Approximately sixteen thousand million injections are given annually in underdeveloped nations alone; more than 90% of them are given for therapeutic purposes, whereas only 5–10% are given to prevent disease. The most common adverse reaction to injections is pain.

One of the key areas of nursing care where nurses must be skilled is pain control. It can be difficult for direct care

providers to control pain during an intrusive operation. For patients who are needle-averse, there may be a method by which the nurses can provide injections without causing any pain.

In the medical field, nursing is a career that focuses on providing care for individuals, families, and communities. They reach, hold, or regain their ideal state of health and well-being. Nurses provide care to individuals in all spheres and phases of life. A career as a nurse can take many different forms. It can involve working in a hospital with critically ill patients, helping people from the moment of birth until their death, or helping family members deal with the loss of a loved one or any other scenario involving a person's health or illness. The way that nurses approach patient care, their level of training, and their area of practice set them apart from other healthcare professionals. Together with doctors, therapists, patients, families, and other team members, nurses create a plan of care that focuses on treating illness to enhance quality of life.

An illness is a person's reaction to a sickness; it is an aberrant process that results in a change in the person's functional level relative to a prior level. Traditionally, a doctor diagnoses and treats a sickness, while nurses tend to the sick patient. One of the most important tools in the fight against many illnesses and medical problems is medication. The body can absorb pharmaceuticals or medications through a variety of pathways. They can be administered intravenously, intramuscularly, orally, intrathecally (in the area surrounding the spinal cord), subcutaneously (beneath the skin), or by injection into a vein. Sublingually, under the tongue, buccally, rectally, vaginally, in the eye, through the ocular route, or through the ear; nasally, sprayed into the nose and absorbed through the nasal membranes; nasally, breathed into the lungs, usually through the mouth, through inhalation, or through the mouth and nose, through nebulization; topically, applied to the skin for a localised (topical) or systemic (body-wide) effect; trans dermally, delivered through the skin by a patch for a systemic effect.

Objectives

1. To assess the level of pain level related to intramuscular injections before and after Helfer skin tap technique and natural method among patients in experimental group 1 and experimental group 2.
2. To evaluate the effectiveness of Helfer skin tap technique and natural method on pain level related to intramuscular injections among patients in experimental group 1 and experimental group 2.
3. To compare the level of pain related to intramuscular injections among patients in the experimental group 1 and experimental group 2.
4. To find out association between pain level related to intramuscular injections and selected variables of patients in the experimental group 1 and experimental

group.

Hypothesis

H₁: There will be significant difference in the mean pre-test pain level related to intramuscular injections scores among the patients receiving IM injections between experimental group 1 and experimental groups 2.

H₂: There will be significant difference in the mean post-test pain level related to intramuscular injections scores of the patients receiving IM injections receiving Helfer skin tap technique and natural method at 0.05 level of significance.

H₃: There will be significant difference in the mean post-test pain level related to intramuscular injections scores among the patients receiving IM injections between experimental group 1 and experimental groups 2.

H₄: There will be a statistical association between pre-test pain levels related to intramuscular injections scores of patients receiving IM injections with their selected socio demographic variables at 0.05 level of significance

Methodology

- **Research Approach:** Quantitative– evaluative approach
- **Research Design:** Quasi experimental two group design.
- **Sampling technique:** Non-Probability; Convenient Sampling Technique
- **Sample size:** Patients receiving IM injections, 60 samples (30 in each group)
- **Setting of study:** Selected hospitals, Kalaburagi, Karnataka
- **Population:** Patients receiving IM injections

Tool used for data collection: Following tools used for the data collection

Part I: Consists of demographic variables of the includes Age, religion, type of family, educational status, occupational status and previous history of IM injections

Part II: Consists of Numerical Pain level related to intramuscular injections Assessment Scale in range of 1-10, in which 0 –indicates no pain level related to intramuscular injections, 1-3 indicates mild pain level related to intramuscular injections, 4-6 indicates moderate pain level related to intramuscular injections, 7-10 indicates severe pain level related to intramuscular injections.

Procedure of data collection

A formal prior permission was obtained from the medical officer of selected hospitals of Kalaburagi. Data was collected from 01-04-2024 to 30-04-2024.

Results

Section I: Demographic Profile

Table 1: Frequency & percentage distribution of respondents by age, religion, type of family, educational status, occupational status, and previous history of IM injections N: 30+30=60

Sl. No.	Demographic variables	Exp Gp1		Exp Gp 2	
		Frequency (F)	Percentage (%)	Frequency (f)	Percentage (%)
Age (in yrs)					
1	a) 18-25	7	23.3	11	36.7
	b) 26-30	14	46.7	13	43.3
	c) 31-35	6	20	3	10
	d) Above 35	3	10	3	10
Religion					
2	a) Hindu	18	60	15	50
	b) Christian	5	16.7	8	26.7
	c) Muslim	6	20	6	20
	d) Other	1	3.3	1	3.3
Type of family					
3	a) Nuclear	23	76.7	20	66.7
	b) Joint	7	23.3	10	33.3
Educational status					
4	a) No formal edn	11	36.7	7	23.3
	b) Primary school	4	13.3	6	20
	c) High school	9	30	12	40
	d) PUC and above	6	20	5	16.7
Occupational status					
5.	a) Employed	8	26.7	6	20
	b) Unemployed	22	73.3	24	80
Previous history of IM injections					
6.	a) Yes	11	36.7	17	56.7
	b) No	19	63.3	13	43.3

Section II

Distribution Respondent’s Scores according to their Level of pain level related to intramuscular injections during pretest and post-test in experimental group 1and

experimental group 2

Area wise and total distribution of pre-test and post-test pain level related to intramuscular injections scores of respondents.

Table 2: Mean, median, mode, standard deviation and range of pre-test pain level related to intramuscular injections scores of Respondents N: 30+30=60

Groups	Mean	Median	Mode	Standard deviation	Range
Experimental group 1	6.9	7	7	1.02	5-9
Experimental group 2	7.23	7	7	1.10	5-9

Table 2 reveals total pre-test pain level related to intramuscular injections score of respondents, it shows that- In experimental group 1 respondent’s pain level related to intramuscular injections score mean was 6.9, median was 7, mode was 7with standard deviation 1.02 and score range

was 5-9. In experimental group 2 respondent’s pain level related to intramuscular injections score mean was 7.23, median was 7, mode was 7 with standard deviation 1.10 and score range was 5-9.

Table 3: Mean, median, mode, standard deviation and range of post-test pain level related to intramuscular injections scores of respondents N: 30+30=60

Groups	Mean	Median	Mode	Standard deviation	Range
Experimental group 1	3.20	3	3	0.84	2-5
Experimental group 2	4.70	5	5	0.83	2-6

Table 3 reveals total post-test pain level related to intramuscular injections score of respondents, it shows that - In experimental group 1 respondent’s pain level related to intramuscular injections score mean was 3.20, median was 3, mode was 3 with standard deviation 0.84 and score range was 2-5. In experimental group 2 respondent’s pain level related to intramuscular injections score mean was 4.70,

median was 5, mode was 5 with standard deviation 0.83 and score range was 2-6.

Distribution Respondent’s Pretest and Post-test Scores According to their level of pain level related to intramuscular injections in Experimental Group 1 and Experimental Group 2.

Table 4: Frequency and Percentage distribution of respondents according to level of pain level related to intramuscular injections in pretest and post-test N: 30+30=60

Groups	Level of pain level related to intramuscular injections					
	Pre-test			Post-test		
	Mild F (%)	Moderate F (%)	Severe F (%)	Mild F (%)	Moderate F (%)	Severe F (%)
Exp gp 1	00	11 (36.7%)	19 (63.3%)	20(66.7%)	10(33.3%)	00
Expgp 2	00	7 (23.3%)	23 (76.7%)	1(3.3%)	29 (96.7%)	00

The data presented in the Table 4 depicts the respondent’s level of pain level related to intramuscular injections during pretest and post.

Experimental Group 1

With regard to pre-test level of pain level related to intramuscular injections it shows that, maximum 19(63.3%) respondents were had severe pain level related to intramuscular injections and remaining 11 (36.7%) respondents were had moderate pain level related to intramuscular injections. During post-test maximum 20 (66.7%) of respondents were had mild and remaining 10(33.3%) of respondents were had

moderate pain level related to intramuscular injections.

Experimental group 2

With regard to pre-test level of pain level related to intramuscular injections it shows that, maximum 23(76.7%) respondents were had severe pain level related to intramuscular injections and remaining 7 (23.3%) respondents were had moderate pain level related to intramuscular injections.

During post-test maximum 29 (96.7%) of respondents were had mild and remaining 1(3.3%) of respondents were had moderate pain level related to intramuscular injections.

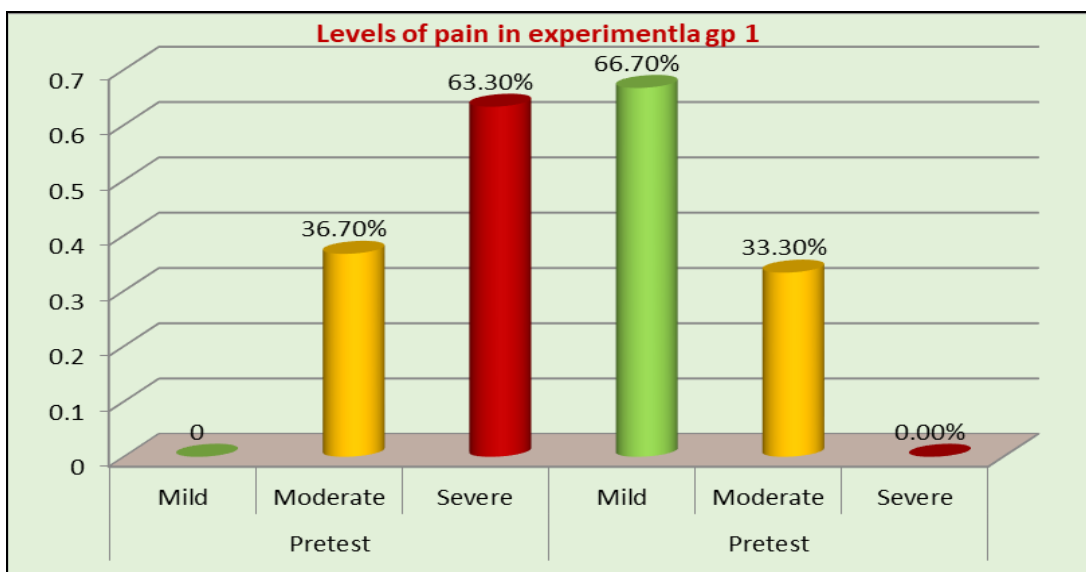


Fig 1: Pre-test and post-test level of pain level related to intramuscular injections of respondents in experimental group 1

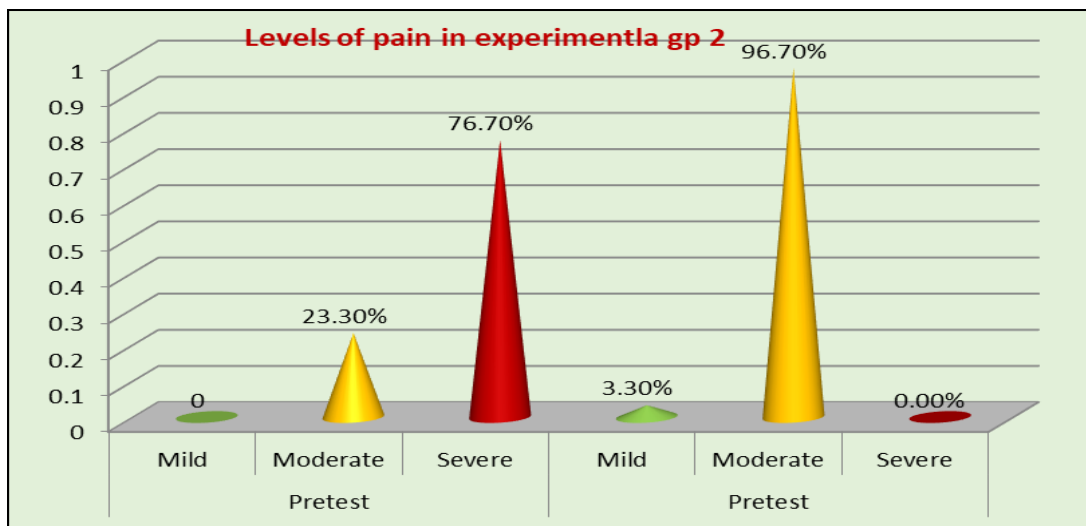


Fig 2:Pre-test and post-test level of pain level related to intramuscular injections of respondents of experimental group 2

Comparing the pre-test scores between the experimental group 1 and experimental group 2

Table 5: Mean difference, standard deviation of the difference and standard error of the mean difference and ‘t’ value of pre-test pain level related to intramuscular injections scores of respondents between experimental group 1 and experimental group 2 N: 30+30=60

Groups	Mean _D	SD _D	SEMD	Independent ‘T’ Test	Significance
Experimental group 1 Experimental group 2	0.33	0.08	0.27	1.21	NS

Independent ‘t’₍₅₈₎ = 2.00, (p<0.05), S=Significant

The statistical significance of the mean gain in pre-test pain level related to intramuscular injections score difference tested between the Experimental group1 and experimental group 2 is not found significant at 0.05 level [‘t’₍₅₈₎ = 1.21, (p<0.05)]. Thus, the findings do not support the hypothesis H₁. Hence, it is inferred that, there will not be significant difference in the mean pre-test pain level related to intramuscular injections scores of participants of both

groups and both groups have similar level of pain level related to intramuscular injections in pretest.

Effectiveness of foot and natural method

Comparison of the pre-test and post-test pain level related to intramuscular injections scores in experimental group 1 and experimental group 2.

Table 6: Mean, standard deviation, standard error of difference and ‘t’ value of pre-test and post-test pain level related to intramuscular injections scores of exp group 1and experimental group 2 N: 30+30=60

Groups	Aspects	Mean	SD	SEMD	Paired t Test
Exp Gp1	Pre-test	6.90	1.02	0.24	15.38*
	Post-test	3.20	0.84		
Expgp 2	Pre-test	7.23	1.10	0.24	10.41*
	Post-test	4.70	0.83		

Table 6 indicates the overall mean pain level related to intramuscular injections scores of pre-test and post-test scores of experimental group 1 and experimental group 2.

Experimental group 1

The findings reveal that the post-test mean pain level related to intramuscular injections scores was found lower [mean=3.20, SD of 0.84] when compared with pre-test mean pain level related to intramuscular injections score value which was 6.90with SD of 1.02.

The statistical paired ‘t’ implies that the difference in the pretest and post-test value was found statistically significant at 5% level (p<0.05) with a paired ‘t’ value of 15.38. There exists a statistical significance in the difference of pain level related to intramuscular injections score indicating the positive impact of Helpers skin tap technique.

Hence with respect to experimental group 1, the research hypothesis H₂ is supported. This indicates that the decrease in pain level related to intramuscular injections is not by chance and the participants who exposed to Helpers skin tap technique are significantly lowered in their pain level related to intramuscular injections level.

Experimental Group 2

The findings reveal that the post-test mean pain level related to intramuscular injections scores was found lower [mean=4.70, SD of 0.83] when compared with pre-test mean pain level related to intramuscular injections score value which was 7.23with SD of 1.10.

The statistical paired ‘t’ implies that the difference in the pretest and post-test value was found statistically significant at 5% level (p<0.05) with a paired ‘t’ value of 10.41. There exists a statistical significance in the difference of pain level related to intramuscular injections score indicating the change of pain level related to intramuscular injections scores between pretest and post-test.

Hence with respect to experimental group 1, the research hypothesis H₂ is supported. This indicates that the decrease in pain level related to intramuscular injections is not by chance and the participants who exposed to natural method are significantly lowered in their pain level related to intramuscular injections level.

Comparing the post-test scores between the two experimental groups

Table 7: Mean difference, standard deviation of the difference and standard error of the mean difference and ‘t’ value of post-test pain level related to intramuscular injections scores of respondents between experimental group 1 and experimental group 2 N: 30+30=60

Groups	Mean _D	SD _D	SEMD	Independent ‘t’ test	Significance
Experimental group 1 Experimental group 2	1.50	0.01	0.21	6.90	S

Independent ‘t’₍₅₈₎ = 2.00, (p<0.05), S=Significant

The statistical significance of the mean gain in post-test pain level related to intramuscular injections score difference tested between the Experimental group 1 and experimental group 2 is found significant at 0.05 level [‘t’₍₅₈₎ = 6.90, (p<0.05)]. Thus, the findings do support the hypothesis H₃. Hence, it is inferred that, there will be significant difference

in the mean posttest pain level related to intramuscular injections scores of participants of both groups and both groups have differed with respect to level of pain level related to intramuscular injections in post-test. As mean pain level related to intramuscular injections scores of experimental group 1 is lower than experimental group 2 it is

inferred that, Helpers skin tap technique was more effective in reducing the level of pain level related to intramuscular injections among the participants of experimental group 1 as compared to natural method for reducing the pain level related to intramuscular injections among the participants of experimental group 2.

Association between level of pain level related to intramuscular injections and selected socio demographic variables

The computed Chi-square value for association between level of pain level related to intramuscular injections of participants of both groups and their selected demographic variables is not found to be statistically significant at 0.05 levels for any selected socio demographic variables. Therefore, the findings do not support the hypothesis H₅, inferring that participants levels of pain level related to intramuscular injections is not significantly associated only with any of selected socio demographic variables.

Conclusion

Helpers skin tap technique and natural method were effective to reduce pain of postnatal mother's undergone caesarean surgery. Since a very few studies have been conducted regarding this topic in India, so the nurse researcher can take further studies on the same topic.

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