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A Study to Assess the Effectiveness of Helfer Skin Tap Technique on Level of Pain during Intramuscular Injection among Infants in Selected Hospitals, Moradabad

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Abstract: ***Background of the study: Injections for vaccinations, the most common source of iatrogenic pain in childhood. Hence, a study on the effectiveness of Helfer skin tap technique during Intramuscular injection can contribute to provide evidence for introducing this intervention in clinical practice, which prompts the researcher to conduct this study. Objective: The primary objective of the study was to assess the effectiveness of Helfer Skin Tap Technique on level of pain during Intramuscular injection among infants in selected hospitals. Method: Quasi-experimental design used in this study Comprised of 60 infants selected by purposive sampling technique, 30 in experimental & 30 in the control group. FLACC pain scale, Demographic Performa was used for the data collection and the collected data was analyzed with the descriptive and inferential statistics. Result: The study revealed in experimental group after the intervention 63.3% of the Infant were having mild pain and 36.7% were having moderate pain. In control group 16.7% of the Infant were having mild pain and 46.7% were having moderate pain and 36.7% were having severe pain, the mean difference of post test score of pain of experimental and control group was 2.06. Conclusion: Helfer skin tap technique is effective method for reducing the level of pain during Intramuscular injection. So, the study concluded that the Helfer skin tap technique can be used as folk remedy for reducing the level of pain.***

Keywords: Helfer Skin Tap Technique, Intramuscular Injection, infants

1. Introduction

"Infant" derived from the Latin word "Infans", basically meaning as unable to speak or speechless. The way infants communicate is cry which includes feelings like hunger, pain, discomfort, boredom, loneliness, overstimulation and wanting something. There are techniques which offer painless injection experience, Helfer skin tap is one of them. According to this technique, before injecting the injection and during injecting the injection, if we tap in rhythm at the place where the injection is injected then the muscle gets relaxed and there will be reduction in pain. In 1965, Roger Melzack and Past Wall described it in gate control theory.

2. Objectives

1. To assess the pain level among infants during IM injection in control group and experimental group.
2. To assess the effectiveness of Helfer Skin Tap technique on the reduction of pain among infant in experimental group.
3. To find out the association between pain level of control group with their selected demographic variable.

3. Materials and Methods

To accomplish the objectives of the study a "quantitative approach was used". Quasi-experimental, Post-test control group design was used to assess the effectiveness of Helfer Skin Tap Technique on level of pain during intramuscular injection among infants in selected hospitals, Moradabad. The study was conducted at selected Hospital of Moradabad U. P. The populations of the study were infants. Infants were the target population of the study from selected hospitals of Moradabad U. P. The accessible population consists of infants during Intramuscular Injection in District women Hospital, Moradabad, U. P. In this study Infants at selected Hospitals of Moradabad were selected those who were fulfilling the sampling criteria. Purposive Sampling technique (Non-probability) had utilized for selection of samples. For allocating infants in to experimental and control group Simple random sampling technique (Lottery method) have used.

Description of Tool

The instruments used for data collection in the study were:

Tool 1: Demographic Performa
Tool 2: FLACC Pain Scale

Tool 1: Demographic Performa:

The instrument was developed by the researcher. The tool was used to collect data on sample characteristics. The tool had a total of 4 items such as age, gender, type of vaccine, weight of the baby.

Tool 2: FLACC Pain Scale:

FLACC which consists of 5 points total score is 10. The minimum score is 0 and the maximum score is 10. FLACC pain scale. It consists of Facial expression, Leg movement, Activity, Cry & Consolability.

Assessment of Behavioural Score:

0 = Relaxed and comfortable
1-3 = Mild discomfort
4-6 = Moderate pain

7-10 = Severe discomfort/pain

Statistical Analysis

The obtained data was analyzed on the basis of hypothesis and objectives by utilizing inferential and descriptive statistics and with the use of SPSS 16 version. Descriptive statistics is used for analysis of frequency and percentage distribution of the sample characteristics, mean and SD to compute the pain level. Independent 't' test used to find out the Helfer Skin Tap technique effectiveness on the reduction of pain among infant in experimental group. Chi-square test is used to find out the association between pain of control group with selected sample characteristics.

4. Results

Section 1: Description of distribution Frequency and percentage of sample characteristics among control group and experimental group.

Age: Majority of the Infants (60%) in control group were belongs to the category of 14-17 weeks. In Experimental group almost half infants (50%) were in the age group of 14-17 weeks.

Gender: Majority of the Infants (60%) in Control group were Males. In Experimental group, Infants (56.7%) were Males.

Type of Vaccine: Infants (63.3%) in Control group having Pentavalent. In Experimental group, most of Infants (70%) having Pentavalent Vaccine.

Weight of the baby: Infants (53.3%) in Control group were belongs to the category of 5.1-7 Kg. In Experimental group, infants (40%) were belonging to the category of 5.1-7.

Section 2: Levels of pain in control group and experimental group among Infants during Intramuscular injection.

Most of the Infants in control group i. e., 16.7% were experiencing mild pain and 46.7% were experiencing moderate pain and 36.7% were experiencing severe pain.

Infants in experimental group i. e., 63.3% were experiencing mild pain and 36.7% were experiencing moderate pain.

Section 3: Findings related Helfer Skin Tap technique effectiveness on pain during IM Injection among experimental Group infants.

Result of the present study reveals that the mean pain score in control group (5.76±1.9) was higher than the mean pain score in experimental group (3.7±1.55) and 2.06 is the mean difference and p value is 0.00001 so it reveals that Helfer skin tapping is effectual in pain reduction during Intramuscular Injection.

Section 4: Association between pain level of control group with their selected sample characteristics.

It concludes that no statistically significant association between pain of control group with selected sample characteristics of infants including age in weeks ($p = 0.256$), gender ($p = 0.124$), Type of vaccine ($p = 0.714$), and weight of the baby ($p = 0.837$). Hence (H_{02}) null hypothesis was accepted.

5. Discussion

Result of the present study reveals that mean pain score in control group was higher than the mean pain score in experimental group and 2.06 is the mean difference is and ($p<0.05$). So, it reveals that Helfer skin tapping procedure during IM Injection is an effectual method in pain level reduction. There is no statistically significant association between pain of control group with selected sample characteristics of infants.

Present study findings congruent with study conducted by Negi. Parvati. (2019) study on Helfer Skin Tap technique procedure effectiveness. The result of the study depicts that in control group, the Mean± SD score was 6.59 ±1.722 and the mean FLACC Mean ± SD score was 2.55± 1.434 among the experimental group. The result depicts that data is significant ($p<0.001*$). The result findings support that this skin tapping technique had effectual on administering IM Injections than the routine technique.

6. Conclusion

The present study shows that Helfer Skin Tapping Technique is an effective method during Intramuscular Injection among infants to reduce the pain level. It should be use in usually practice of giving during intramuscular injections and immunization in clinical settings.

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Table 1.1: Frequency and percentage distribution of demographic variable among control and experimental group

S. No.	Demographic variable		Control group (n= 30)		Experimental group (n= 30)	
			f	%	f	%
1.	Age in weeks	6-9 weeks	7	23.3	5	16.7
		10-13 weeks	5	16.7	9	30
		14-17 weeks	18	60	15	50
		18 and above	0	0	1	3.3
2.	Gender	Male	18	60	17	56.7
		Female	12	40	13	43.3
3.	Type of vaccine	Pentavalent	19	63.3	21	70
		IPV Vaccine	11	36.7	9	30
4.	Weight of the baby	3-5 kg	6	20	6	20
		5.1-7 kg	16	53.3	12	40
		7.1-9 kg	7	23.3	10	33.3
		9.1-11 kg	1	3.3	2	6.7

Table 2.1: Frequency and percentage distribution of Levels of pain in control group among Infants during Intramuscular injection

S. No.	Criterion	Range of score	Number of Respondent	Percentage
1.	Relaxed and comfortable	0	0	0
2.	Mild discomfort	1-3	5	16.7
3.	Moderate pain	4-6	14	46.7
4.	Severe discomfort/pain	7-10	11	36.7

Table 2.2: Frequency and percentage distribution of Levels of pain in experimental group among Infants during Intramuscular injection

S. No.	Criterion	Range of score	Number of Respondent	Percentage
1.	Relaxed and comfortable	0	0	0
2.	Mild discomfort	1-3	19	63.3
3.	Moderate pain	4-6	11	36.7
4.	Severe discomfort/pain	7-10	0	0