

Efficacy of Helfer Skin Tapping Technique on Pain Intensity as perceived by the patients receiving Intramuscular Injection

Amira Ahmed Hassnein¹, Hanan Mohamed Mohamed Soliman²

*¹ Assist prof. of Faculty of Nursing, Mansoura University, Medical- Surgical Nursing Department

*² Lecturer of Faculty of Nursing, Mansoura University, Medical- Surgical Nursing Department ,60 El-Mansoura, EL Gomhoria street, El mansoura city, Egypt.

E Mail: hanansoliman697@ymail.com, hanansolaiman@mans.edu.eg.com

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Abstract: Intramuscular injection is common procedure that nurses frequently carry out which causes pain and distress to the patient, Pain is a feeling triggered in the nervous system. Pain may be sharp or dull. **Aim of the study:** To evaluate the Efficacy of Helfer Skin Tap Technique on reducing Pain intensity Associated with Intramuscular Injection at the study setting. **Methods:** A quasi experimental research design was conducted at medical and surgical units at Main Mansoura University Hospital. The data were collected from purposive sample 100 patients of both sexes who correspond to inclusion criteria. Each patient was administered repeated intramuscular injections at the gluteal site. Then pain level with administration of intramuscular injection by traditional technique was compared with pain level with Helfer Skin Tapping Technique. The tools developed and used for data collection were socio-demographic characteristics and assessment of pain level with Universal Pain Assessment Tool. **Results:** The pain perception of patients in terms of pain level of traditional technique was found to be significantly higher than pain level of Helfer skin tapping Technique. **Conclusion:** Skin tapping technique was effective in reducing pain level of patients. Thus, skin tapping technique can be used as an intervention to reduce pain associated with administration of intramuscular injection.

Keywords: Intramuscular Injection, Heifer Tapping, Pain.

INTRODUCTION

The presence of pain is one of the main reasons why individuals get health care. Pain may be a extremely unpleasant and a really personal sensation will not| be shared with others; it can occupy all an individual's thinking, direct all activities and alter an individual life , Yet, pain may be a scary concept for a patient to communicate; a medical staff neither sees nor feels patients pain (Modi, 2010). It infiltrates everyday living and might considerably decrease the quality of individual life (D'Arcy 2007). A person's response to pain is influenced by age, sex emotion, socio-cultural variables, previous experiences with pain, the meaning of pain and pain tolerance (Burke, Mohn -Brown, & Eby, 2011).

Injections are the foremost health care procedure worldwide. In developing countries alone, some sixteen thousand million injections are administered annually, over, 90%, are administered for therapeutic aims whereas 5 to 10% are administered for disease prevention , as immunization and birth control, the foremost important side-effect associated with injections is that the related pain. Injection pain is associated with the penetration of the skin by the needle and to the mechanical and chemical effects of the drug during and posts its injection. This pain remains a significant obstacle in medication administration in kids furthermore in their population subject to needle-phobia due to the past experience of pain. The associated pain may thus interfere optimized treatment for these clients (Kanika, 2011). Pain originating from intramuscular (IM) injection shouldn't be underestimated, because it can harm the nurse-patient

relationship (Suhrahi & Taghinejad ,2014). Pain relieving measures is a most fundamental requisite of human right, thus it's the responsibility of the nurse to use best approach to pain management. Nurses have legal and ethical responsibilities for managing pain. Effective pain control measures not only alleviate discomfort, but also promote clients' quality of life. According American pain society, Pain is referred as "the fifth vital sign" to stress its significance and to improve attention of health care professionals about the importance of effective pain management strategies, as well as continuous assessment (Zore & Ragina, 2014).

Intramuscular injection is a common technique used to deliver medication deep into the large muscles. Medication administration via Intramuscular injection absorbed faster than other subcutaneous route due to increase vascularity to the muscle. Additionally injection are often named as a 'basic skill', however involve a list of consideration relating to volume of injective, administered medication, technique, injection sit ,equipments. Also Pain management is one among the most aspects of nursing care, wherever nurses ought to be competent. Pain management in invasive procedure may be a challenge to the nurse if there's a method; by that the nurses will give painless injections which will be an excellent relief for those patients who are scared of needles (Malkin, 2008).

Helfer skin tap technique offers a painless injection experience. It provides a mechanical stimulation and distraction during intramuscular injection and thus helps to decrease pain as described in gate control theory. In Helfer

skin tap technique rhythmic tapping before injection over the skin at the site of injection keeps the muscle relaxed and stimulates large diameter fibers. (Malkin, 2008).

REVIEW OF LITERATURE

According to Keen study, the Z track intramuscular injection technique was compared with the standard injection technique for occurrence and severity of pain and lesions at the injection site. The Z-track technique significantly reduced incidence of pain and lesions at selected time intervals, severity of discomfort at selected time intervals, and severity of lesions at all time intervals post injection (Keen, 2010).

Randomized controlled study conducted on the effectiveness of manual pressure on pain severity in Iran 2012. The study concluded that manual pressure in IM injection site leads to pain relief and we can apply this technique for reducing pain severity and promote comfort (Nasiry *et al.*, 2012). Consistent with Schechter pain reduction throughout child immunizations: evidence-based review and suggestions reveals that pain related to immunizations may be a source of anxiety and distress for the kids receiving the immunizations, their families, and also the health care providers who should administer them. Immunizations are stressful for all kids; till innovative approaches are developed, systematic use of accessible techniques will considerably decreased the burden of distress induced by these procedures (Schechter, Zempsky, Cohen, McGrath, McMurtry, Bright, 2007). In line with Esmailzadeh, I.M injection, Nurses are suggested to use local cold therapy to reduced pain intensity of benzathine penicillin I.M injection in clients. However, additional studies are required to identify the underlying mechanisms (Esmailzadeh, 2012).

NEED FOR THE STUDY

There are twelve billion Intra muscular injections administered annually throughout the world. I.M injection may be an unpleasant experience for patients. "Will it hurt?" is a question that's most frequently heard by the nurses from the patients throughout any invasive procedure. Pain management throughout invasive procedure may be a challenge to health care delivery system. One of the standardized nursing responsibilities is to administer the injection with a less pain. So we need a competent nurse in managing pain. Is it attainable to administer injections that do not hurt? If there's a method, by that the nurses will give painless injections which will be an excellent relief for those patients who are scared of needles. Helfer skin tapping technique offers a painless injection. During this technique rhythmical tapping before and through injection over the skin at the site of injection keeps the muscle relaxed and stimulates tall diameter fibers. It provides a mechanical stimulation and distraction during I.M injection and therefore helps decreased pain as represented in gate control theory.

RESEARCH METHODOLOGY

Aim of the study:

The study was conducted to evaluate the efficacy of Heifer Skin Tap Technique on reducing Pain Associated with Intramuscular Injection at Mansoura University Hospitals.

Research Design:

Quasi-experimental research design was used during this study.

Hypotheses:

(All hypotheses will be tested at 0.05 level of significance)

H₁: There'll be significant difference between the mean post-test pain score of patients who receive Helfer Skin Tap technique and those who receive Routine Technique

H₂: There will be significant association between the level of pain and selected demographic variables of patients receiving IM injection.

Variables of the study:

- **Dependent Variables:** Dependent variable in this study was Pain intensity associated with intramuscular Injection
- **Independent Variables:** The independent variable in this study was Helfer Skin Tap Technique and Routine Technique

Setting of the Study:

The study was carried out in the 'Medical and Surgical Unit' at Main Mansoura University Hospital.

Sample:

In this study, the sample consisted of one hundred adult patients of each sex, age ranging from 20-60 years, who receive Intramuscular injection who fulfilled the following inclusion criteria.

Inclusion Criteria:

- Adult's patients who received Intramuscular Injection in dorso-gluteal muscles aged between 20 -60years
- Willing to participate in the study.
- Patient taking vitamins and analgesic
- Not included in pilot study
- Free from psychiatric disorders and sensory perceptual alterations
- Not exposed to any painful procedure within 1 hour of the study.
- Patients who were present during the period of data collection.

Data collection:

Two tools were used for data collection in the current study.

Tool I Structured Interview sheet that consist of two parts, this tool was developed by researcher after extensive literature review

Part 1 Socio-demographic data sheet; Include age, gender, marital status, residence, educational level and occupation

Part 2 Patient level of consciousness, mobility status, smoking ,coffee intake , body mass index , presence of chronic illness require long term treatment by IM ,type of medication ,dose , pain assessment which include onset, duration ,quantity , aggravating ,alleviating factors and pain radiation . The body mass index (BMI) was then calculated

using the following equation: $BMI = \frac{\text{weight (kg)}}{\text{height}^2 \text{ (m)}}$

Tool II: Universal Pain Assessment Tool: Universal pain assessment tool is designed to assess pain level depending on verbal description scale, Wong Baker facial Grimace scale and activity tolerance scale. It has (0-10) scale in which zero indicates minimum level of pain and ten refer to maximum level of pain.

1-Verbal Description Scale:

(Zero)= No pain, (1-2) =mild pain, (3-6) =moderate pain, (7-8) =sever pain (9-10) =worst pain.

2- Wong- Baker Facial Grimace Scale:

(Zero)=alert – smiling, (1-2) =no humor – serious flat (3-4) =furrowed brow- pursed lip breath holding (5-6)=wrinkled nose, raised upper lips, rapid breathing (7-8) =slow blink (9-10) = eye closed, moaning, crying.

3-Activity Tolerance Scale:

(Zero) =no pain, (1-2) =can be ignored, (3-4) =interfere with tasks (5-6) =interfere with concentration, (7-8) =interfere with basic needs, (9-10) = bed rest required.

Validity and reliability:

The Content validity of tools was validated by a panel of 7 expertise in the field of the study (6 were nurse professors working at faculty of nursing and 1 was medical professor working in faculty of medicine) who had expertise in developing such instruments and the necessary modification was done accordingly. Tool was tested for its reliability by test retest measurements and cronbach alpha. Ranged from $r = 0.90 - r = 0.97$ and cronbach alpha ($r.alpha$) = .878.

Procedure:

The researcher obtained the needed official permissions from the Research Ethics Committee of the faculty of Nursing Mansoura University and the hospital authorities approved the study. After a pilot study on 10 patients, Patients who had the inclusion criteria were selected by daily referring to the wards. In the beginning, the researcher presented the necessary explanations about the research objectives to the patients. Each respondents were taken four injection two by traditional technique followed by two by Heifer technique and pain level were compared, also structured interview were done for each patient to collect necessary data to determine relation of other variable and pain level . The researcher introduced herself to the Head nurse of the ward. The researcher remained in the medical and surgical wards from 8am to 4pm. The researcher involved in all the routine functioning of the wards so as to create a familiar environment for the patients attending the wards. The investigator (1) Welcomed and interviewed the respondents to fill the first tool I- Demographic data sheet to obtain the baseline information and 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. Immediately before giving I.M injection. The investigator (2) places the patient in side lying position and flexes the knee to relax muscles. The investigator (2) makes a wide V with thumb & rest of the fingers taps the muscle which is intended to use with the palmar aspect of fingers 16 times before the insertion and counts 1.2. & 3 while removing the needle

during IM injection. After the injection was administered to the respondents, the investigator (1) assess the pain intensity within 1 minute of administration of the injection using tool II-. Universal Pain Assessment Tool to assess the pain perception of the respondents after receiving IM injection Each respondents were taken four injection two by traditional technique followed by two by Helfer technique .

OPERATIONAL DEFINITION

Efficacy: during this research study efficacy refers to the extent to which the Helfer Skin Tap technique and traditional technique helps to reduce the pain caused by IM injection as measured by universal pain scale.

Helfer Skin Tap technique: It's a method in which the researcher taps the muscle which is intended to use with the palmar side of fingers sixteen times before the insertion and three counts whereas removing the needle throughout IM injection.

Pain: Pain is an unpleasant subjective sensational experienced by people whereas receiving IM injection and is measured by universal pain scale soon once the withdrawal of needle.

Patients receiving IM injection: It refers to both sexes who receive injection intra muscularly at 90 degree angle into dorso gluteal muscles at the medical and surgical department.

ETHICAL CONSIDERATIONS

Official written permissions to conduct the study was obtained from the Director of Mansoura University Hospitals. The researcher obtained the required permissions from the research ethics panel of the college of nursing Mansoura University, Verbal clarification of the aim of the study were performed to participants and health care providers in surgical & medical wards. Consent was obtained from every of the participants. Confidentiality was assured. Patients were protected against every type of hurt. The individual participant had the right to withdraw far away from the study without giving any reason to the investigator.

DATA ANALYSIS

The analysis of the data was done according to the aim of the study. Researcher planned to analyze the data in the following ways. Descriptive statistics and inferential statistics-The researcher analyses the data obtained by using descriptive statistics- mean, frequency, percentage and standard deviation. Efficacy of Helfer Skin Tap technique and traditional technique analyzed by independents' test. And it is significant if ($p < 0.05$). Association between level of pain and demographic variables will be done using Chi-square test.

RESULTS

The data collected were analyzed statistically and therefore the results indicated that 3 quarter of studied sample aged from twenty to forty nine year, majority of them sixty two percent were female. In regard to marital status, majority of patient fifty six percent of them were married and only two percent were divorced. It additionally disclosed that more

than half 52% of patients were from urban. Relating to educational level, 37% were Middle education and only 14% read and write. 40% doesn't work and 23 % were housewife as shown in table (1).

When considering the effect of Helfer Skin tap technique on reducing pain intensity among patients receiving intramuscular injection. Table 2 clarifies that There were a statistically significant differences in pain level in Helfer technique when compared to traditional technique where (p=0,002)* when using verbal rating scale. When using Wong Baker Facial Description Scale p=0,002)* and According to Activity Tolerance Scale (p=0,003)*, The results shows that on verbal rating scale, 17% were reporting no pain, 6% having worst pain on application of Traditional technique, while 40% reporting no pain ,2% worst pain on

application of Heifer Technique and There was a significant differences between two techniques as (p=0,002)*.

Regarding Wong Baker Facial Description Scale , 21% were alert smiling, 11% were have eye closed ,moaing and crying on application of Traditional Technique , while 48% were alert smile ,5% were have eye closed ,moaing and crying on application of Heifer Technique, and There was a significant differences between two techniques as (p=0,002)* According to Activity Tolerance Scale, 36% of patients were reporting no pain, 2% reporting bed rest required on application of Traditional Technique, while 57% were reporting no pain, no one reporting bed rest required on application of Heifer Technique. And There was a significant differences between two techniques as (p=0,003)*.

Table (1): Frequency Distribution of patients in relation to their Socio-demographic data N=100

Socio demographic data	No	%
Age (years)		
▪ 20-29	27	27.0
▪ 30-39	21	21.0
▪ 40-49	27	27.0
▪ 50-60	25	25.0
Gender		
▪ Male	38	38.0
▪ Female	62	62.0
Marital status		
▪ Single	19	19.0
▪ Married	56	56.0
▪ Widow	23	23.0
▪ Divorced	2	2.0
Residence		
▪ Rural	48	48.0
▪ Urban	52	52.0
Education		
▪ Illiterate	32	32.0
▪ Read and write	14	14.0
▪ Middle education	37	37.0
▪ High education	17	17.0
Occupation		
▪ Working	37	37.0
▪ Not working	40	40.0
▪ House wife	23	23.0

Table (2): Comparing the Pain level among patients receiving intramuscular injection by Helfer Skin tap technique and traditional technique. N = 100

Pain Scale	Traditional technique		Helfer technique		MH	P
	No	%	No	%		
Verbal Description Scale					6.8	0.002*
▪ No pain	17	17.0	40	40.0		
▪ Mild pain	27	27.0	34	34.0		
▪ Moderate pain	39	39.0	23	23.0		
▪ Sever pain	11	11.0	1	1.0		
▪ Worst pain	6	6.0	2	2.0		
Wong Baker facial Grimace Scale					6.0	0.002*
▪ Alert Smiling	21	21.0	48	48.0		
▪ No humor , Serious flat	29	29.0	32	32.0		
▪ furrowed Brow , wrinkled Nose	34	34.0	13	13.0		
▪ Slow Blink, Open Mouth	5	5.0	2	2.0		
▪ Eye Closed	11	11.0	5	5.0		
Activity Tolerance Scale					5.1	0.003*
▪ No pain	36	36.0	57	57.0		
▪ Can Be Ignore	40	40.0	39	39.0		
▪ Interfere with task , Interfere with concentration	22	22.0	4	4.0		
▪ Interfere with Basic Need	0	0.0	0	0.0		
▪ Bed Rest Required	2	2.0	0	0.0		

*MH: Test of Marginal Homogeneity for Related Groups
* P < 0.05 (significant)*

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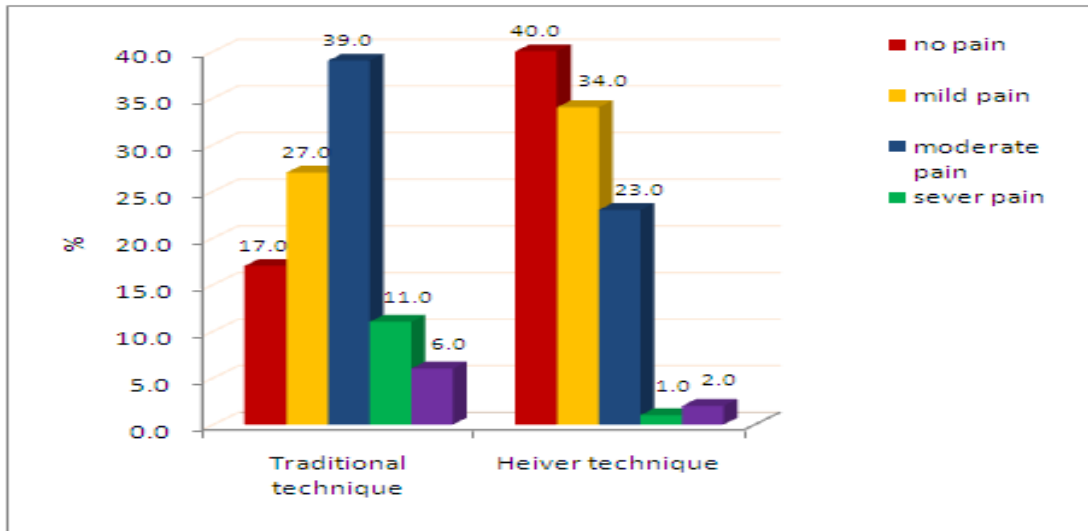


Figure (1): Distribution of Traditional & Heifer technique by verbal descriptor scale.

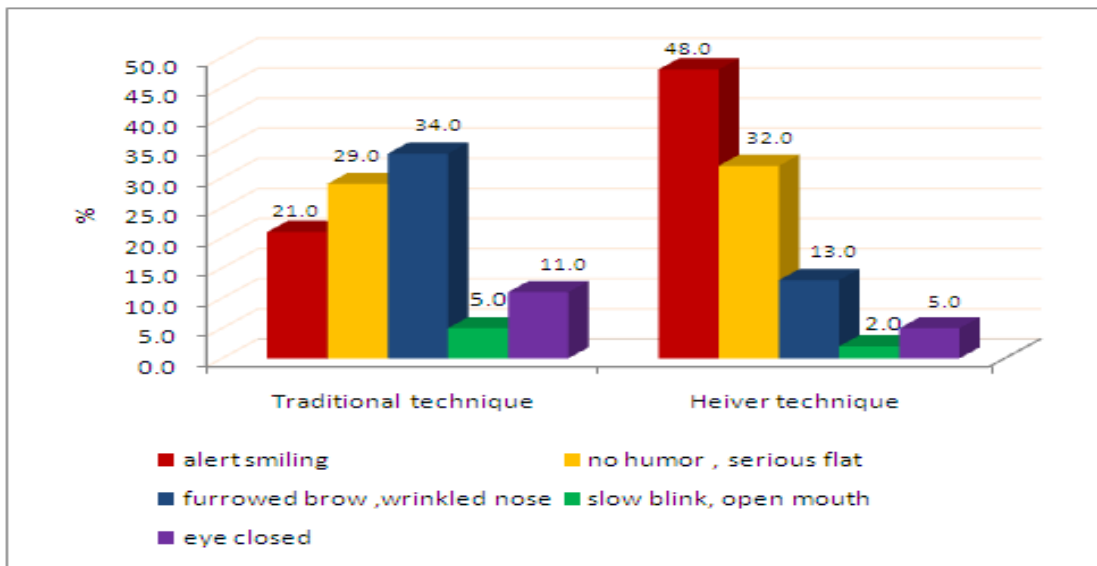


Figure (2): Wong Baker Facial Grimace Description scale in Traditional & Heifer technique

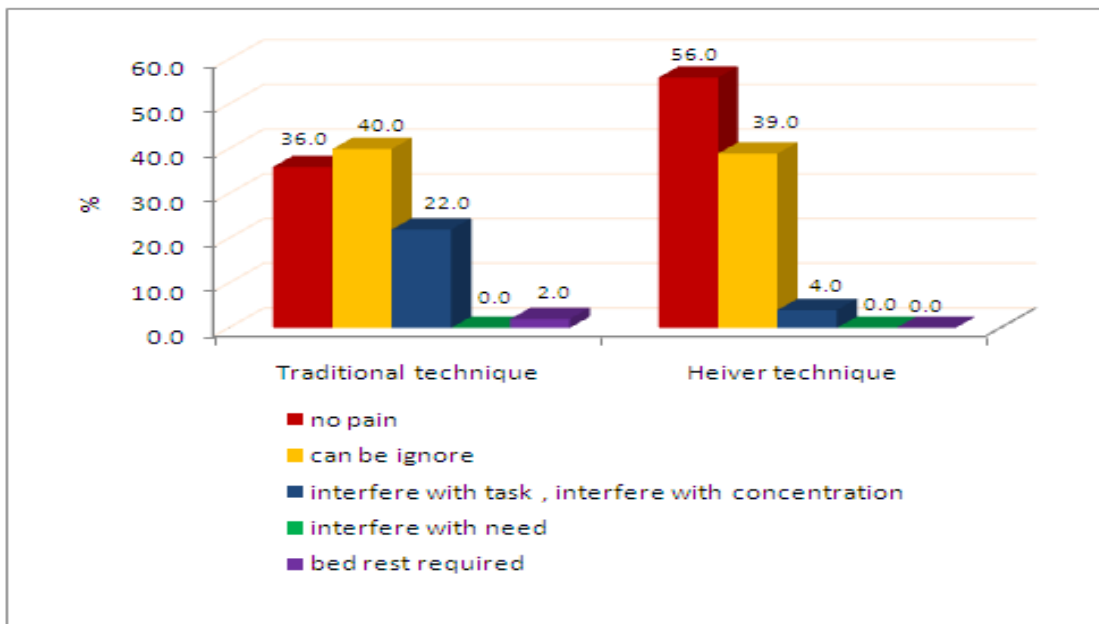


Figure (3): Activity Tolerance scale in Traditional & Heifer Technique

Table (3): Comparing overall Pain level of Analgesic and Vitamins among patients receiving Intramuscular injection by Helfer technique and traditional technique N = 100

Overall pain	Medication				t (P)
	Analgesic		Vitamins		
	Mean	SD	Mean	SD	
Traditional technique	7.3±2.9		6.9±2.7		0.72 (0.476)
Helfer skin tap technique	5.4±2.4		5.04±2.1		0.79 (0.426)

From table (3) we can see, the mean score, standard division of overall pain on traditional technique on analgesic was 7.3±2.9 while mean and standard of vitamins were 6.9±2.7. So there was no significant difference between two medications regarding overall pain in traditional technique. This table also illustrated that the mean score, standard division of analgesic was 5.4±2.4 while mean and standard of vitamins were 5.04±2.1. From this table we can see there was no significant difference between two medications regarding overall pain in Helfer technique.

As regards association between socio-demographic variable and pain intensity, there was a significant relation between pain and socio-demographic data as presented in table (4) where p value <0.005 and there was an overall decrease of pain level on Helfer technique than Traditional technique. Regarding age , the age group from (20-29) have the higher pain level as mean standard was 8±2.4 on traditional technique and 5.5±2.5 on Helfer technique , while the patient aged (50-60) have the lowest pain level as mean standard was 6.5±2.1on traditional technique and 5±1.9 on

Helfer technique . Regarding gender, the female have highest degree of pain mean standard was 8±2.7on traditional technique and 5.8±2.3 on Helfer technique. Regarding marital status, the divorced show more pain level with standard was 10±2.8on traditional technique and 6.5±.7 on Helfer technique. While married patient have minimum degree of pain mean standard was 6.5±2.9on traditional technique and 5±2.3 on Helfer technique. Regarding residence, pain level was presented to increase on patient living in urban as mean standard was 8±2.6on traditional technique and 5.7±2.2 on Helfer technique . Regarding education , middle education were have more pain level with mean standard was 7.9±2.7on traditional technique and 5.6±2.4 on Helfer technique . While illiterate patient have less pain with mean standard was 6.3±2.3on traditional technique and 4.8±2.1 on Helfer technique. Regarding occupation , housewife have more pain level with mean standard was 8 .1±3on traditional technique and 5.4±2.1 on Helfer technique , while working group have minimum level of pain with mean standard was 6.5±2.7on traditional technique and 4.9±2.1 on Helfer technique.

Table (4): Relation of Socio-demographic Characteristics and Pain intensity among patients receiving intramuscular injection by Helfer technique and traditional technique N = 100

Socio demographic data	Overall pain in traditional		Overall pain in Helfer		P
	Mean	SD	Mean	SD	
Age					
▪ 20-29	8.0	± 2.8	5.5	± 2.5	0.001*
▪ 30-39	6.7	± 3.0	5.0	± 2.2	0.001*
▪ 40-49	7.0	± 3.0	5.4	± 2.4	0.001*
▪ 50-60	6.5	± 2.1	5.0	± 1.9	0.001*
P+	0.195		0.801		
Gender					
▪ Male	5.6	± 2.3	4.3	± 1.9	0.001*
▪ Female	8.0	± 2.7	5.8	± 2.3	0.001*
P#	0.003*		0.006*		
Marital status					
▪ Single	7.6	± 2.8	5.6	± 2.7	0.001*
▪ Married	6.9	± 2.9	5.0	± 2.3	0.001*
▪ Widow	7.0	± 2.5	5.3	± 1.9	0.003*
▪ Divorced	10.0	± 2.8	6.5	± 0.7	0.074
P+	0.372		0.662		

Residence			
▪ Rural	6.1 ± 2.7	4.7 ± 2.2	0.001*
▪ Urban	8.0 ± 2.6	5.7 ± 2.2	0.001*
P#		0.003*	0.031*
Education			
▪ Illiterate	6.3 ± 2.6	4.8 ± 2.1	0.001*
▪ Read and write	6.7 ± 3.1	4.7 ± 1.8	0.008*
▪ Middle education	7.9 ± 2.7	5.6 ± 2.4	0.001*
▪ High education	7.2 ± 2.7	5.8 ± 2.5	0.003*
P+		0.241	0.504
Occupation			
▪ Working	6.5 ± 2.7	4.9 ± 2.1	0.001*
▪ Not working	7.1 ± 2.6	5.4 ± 2.5	0.001*
▪ House wife	8.1 ± 3.0	5.4 ± 2.1	0.001*
P+		0.186	0.874

P: Paired t-test P+: One Way ANOVA P#: Student t-test * P < 0.05 (significant)

DISCUSSION

Pain is one in all the foremost common causes of human sufferings that is taken into account as a significant health problem among adults, there are twelve billion Intra muscular injections administered annually throughout the world. Pain originating from IM injection shouldn't be underestimated, because painful injection may incite severe fear of injection, which can lead a patient to delay seeking medical advice. Reducing patients' pain is very important for all nurses due to several reasons. Unneeded pain can harm the nurse—patient relationship (Ozdemir, Pınarct, Nisa Akay & Akyol , 2010) .

According Zore and Ragina (2014) Nurses play a pivotal role in minimizing the pain and discomfort throughout any invasive procedure. The nurse can eliminate the discomfort and pain during I.M injection by helping the patient to assume comfortable position and by applying of various physical, psychological interventions. Physical interventions and injection techniques that minimize pain during injection provide benefits over other techniques because they can be easily incorporated into clinical practice without additional cost or time. Once the patients experience pain during I.M injection they become scared of getting the injections via IM route in future (Kanika, .2011).

EFFICACY OF HELFER SKIN TAPPING TECHNIQUE ON REDUCING PAIN INTENSITY

In present study it revealed the perception of pain intensity is less when intra muscular injections are administered using Helper Skin Tap Technique rather than routine technique. This findings come congruent with Serena (2010) conducted a quasi experimental study (one group pre test and post test design)was conducted on 60 patients in India to assess the effectiveness of Helper skin tap technique on pain in relation to intramuscular injection. Study revealed that the effectiveness of Helper Skin Tap Technique has produced a

statistically highly significant in reducing pain during intra muscular injection among patients at p<0.05 level. The same of these result reported by Helfer (2010) said that the perception of pain intensity is lessen when IM administer by Helfer technique.

When comparing effectiveness of Helfer Technique and Traditional Technique on Pain Level, our findings demonstrated that ,assessing the pain by Verbal rating scale showed that , there was significant decrease on pain level on application of Heifer technique than Traditional technique as majority of patient reporting moderate pain on traditional while reporting no pain in Heifer technique. By using Wong Baker facial Grimace Scale it was Alert Smiling in majority of patient on heifer technique and furrowed Brow, wrinkled Nose of traditional technique, and according to activity tolerance scale more than half having no pain on heifer technique and more than one third have pain that can be ignored on traditional technique this can be shown in (table 2 & figures 1,2 and 3).

These result supported by the following studies. Serena (2010) who founded that one third of patient has no pain with IM administration on verbal rating scale., Also Zore and Ragina (2014) said that pre test cases reporting moderate pain while post test reporting mild pain. Kanika (2011) clarifies that main score of pain without massage higher than that with massage on verbal rating scale, and nearly the same of Mini et al, (2014) who reveled that pain level decrease on experimental group due to application of skin tapping as majority of experimental group reporting mild pain. This is parallel to Rezca and Zahra (2013) who have study the effect of pressure on the skin with multiple blunt pins on IM injection pain said that the pain level relatively decrease in experimental group in compared with control group. An experimental study conducted on effect of manual pressure on pain severity in Iran. The study concluded that manual pressure in I.M injection site leads to pain relief (Nasiry et al.,2013)

Finally, based on the present study findings, it is concluded that Helfer skin tapping technique is effective intervention that able to decrease pain intensity associated with Intramuscular injection. The results of the present study and other studies suggest that improving nurse patient relationship by decreasing pain associated with IM injection and these will improve quality of care delivered to patient, increase patient satisfaction and decrease burden of pain on patient and health care organization.

RELATION OF SOCIO-DEMOGRAPHIC VARIABLES AND PAIN INTENSITY

The present study has showed that, nearly all of study sample reporting burning pain after IM injection and in my own point of view these could be due to chemical effect of medication and also due to injuries to tissues as majority of Egyptian take IM injection from non professional personal. These results were in line with **Nony (2010)** who reported that most patients were complaining of burning pain after IM injection. According to present study there was a significant relation between pain level and age and the age group (20- 29) have higher degree of pain and decreased on age group (50 -59) because of past experience. These results supported by Ozdemir (2013) who study the effect of methyl-prednisolone injection speed on the perception of intramuscular injection pain. Said that patient on these age group have more pain. On the other side Osamu (2014) said that pain intensity didn't significantly differ by age group.

Regarding to sex, on these study female have higher pain level than male, Racheal (2012) who have research about Women Feel Pain More Intensely than men do, agree with study results and said that women feeling more pain than men, and also Jerin (2011) founded that the mean value of pain level is greater in female than male. Nearly to that Chan (2003) reported female were reporting more pain from all IM injection than men do , But this was opposing to Antonio,etal, (2012) who found no sex differences between male and female in prevalence and intensity of pain. But according to my own point of view , female have more pain level than male because male denied their pain to protect their masculine image. And also search about Men and women differ in their pain tolerance reporting male tolerate pain more female because of hormonal and psychological factors.

Concerning to marital status , these results revealed that pain level increased in divorced patient , and these was in line with Antonio et al (2012) with a study about Influence of sociodemographic factors upon pain intensity in patients with temporo-mandibular joint disorders seen in the primary care setting said that divorced and separation have increase pain level . As regarding to education , the present study showed that middle education have more pain level while illiteracy have less pain , these also near to Ozdemir et al.,(2013). Said that patient with higher level of education have more pain intensity, These findings contradict with those of Antonio et al., (2012) who said that low educational level increase pain intensity . According to residence, the present study showed that pain level increased in people coming from urban than rural areas. This is supported by Tripp, VanDenKerkhof, and McAlister (2006) who said that being female, low income and rural residence associated with

greater pain, on the other side Komiyama, et al, (2014) said that the place of residence doesn't affect pain intensity. Concerning to the effect of analgesic and vitamins on pain level, these result revealed that , There was no significant differences between two medication regarding overall pain , But these is in contrast to Frances who reported that there was a greater pain following intramuscular diclofenac injection (Brzeziński, 2013).

CONCLUSION

The following conclusions were drawn from the study. The study verified that Helfer Skin tapping Technique was effective than the Routine Technique in administering Intra Muscular Injection with mild pain or no pain it absolutely was terminated that the perception of pain intensity is less after intra muscular injection when applying Helfer Skin tapping Technique. It works on the theoretical basis of gate control theory.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

FINANCIAL COMPETING INTEREST

No funding sources were provided

IMPLICATIONS

The findings of the study have the subsequent implications in nursing.

IMPLICATION FOR NURSING PRACTICE

Helfer Skin tapping Technique may be tailored to the technique of I.M injection. Nurses need to be educated regarding the Helfer Skin tapping Technique and it may be practiced in the clinical setting. This technique eliminate pain during injection offer benefits over different other techniques because they can be easily incorporated into clinical practice without added cost or time.

IMPLICATIONS IN NURSING EDUCATION

Skill of using Helfer Skin Tapping Technique for intra muscular injection can be included into the curriculum of nursing students.

IMPLICATIONS IN NURSING ADMINISTRATION

Policies for the procedure of I.M injection can be established based on the study findings by incorporating Helfer Skin Tapping Technique into the procedure.

Nurse Managers can update the procedure of I.M injection by applying Helfer Skin Tapping Technique and taught nurses about it through in-service training and education programs.

Nursing administrators may encourage nurses to apply Helfer Skin Tapping Technique in their clinical practice.

IMPLICATIONS IN NURSING RESEARCH

Nurse Researcher can conduct study to verify the scientific justification / physiology behind the effect of Helfer Skin Tapping Technique.

Randomized clinical trials could be conducted so that the validity of the results can be increased and it can be incorporated into the evidence based nursing practice. Guidelines for the procedure of intramuscular injection technique can be prepared based on Helfer Skin Tap Technique.

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