Effectiveness of Helfer Skin Tap Technique and Routine Technique on Pain Reduction among Patients Receiving Intramuscular Injection at Government General Hospital, Puducherry

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Abstract: This study was conducted to assess the Effectiveness of Helfer Skin Tap Technique and Routine Technique on Pain Reduction among Patients Receiving Intramuscular Injection at Government General Hospital, Puducherry by Simple random sampling technique (lottery method), 25 subjects were first assigned for intramuscular injection using Helfer Skin Tap Technique followed by Routine Technique for the next dose of injection and other 25 subjects were first assigned for intramuscular injection using Routine Technique followed by Helfer Skin Tap Technique for the next dose of injection. The subjects were examined with 4 variables viz pain, systolic and diastolic blood pressure and pulse rate. The intervention was implemented for four continuous days for both the groups. It was indicated that the perception of pain intensity is less when intramuscular injection is administered using Helfer Skin Tap Technique. Helfer Skin Tap Technique can be implemented in intramuscular injection technique while caring for patients in various clinical settings.

Keywords: Helfer Skin Tap Technique, Intramuscular Injection

1. Introduction

Comfort is an important need and ensuring a patient’s comfort is a major nursing responsibility. Health care interventions can be undertaken on the basis of customs and habits that practitioner no longer critically question. The term ‘custom and practice’ is commonly used to describe this phenomenon of practicing health care interventions based on customs and habits.

In the medical practice, intramuscular (IM) injection is one of the most frequent procedures done almost everyday. It is fact that any intramuscular injection will cause pain at the site of injection i.e. pain is evident when administering intramuscular injection.

Pain management is one of the main facets of nursing care, where nurses need to be competent. Pain management during invasive procedure is a challenge to the direct care providers. If there is a technique, by which the nurses can provide painless injections that will be a great relief for those clients who are afraid of needles.

Helfer skin tap technique offers a painless injection experience. In this technique rhythmic tapping before and during injection over the skin at the site of injection keeps the muscle relaxed and stimulates large diameter fibres. It provides a mechanical stimulation and distraction during intramuscular injection and thus helps to reduce pain as described in gate control theory by Roger Metzack and Past Wall in 1965.

2. Materials and methods

The research approach selected for the study is quantitative approach and experimental design, cross over design. The study was conducted in medical ward, government general hospital, Puducherry. Sample size was 50. The study was confined to the subjects who receive intramuscular injection. By Simple random sampling technique, with the help of lottery method, 25 subjects were first assigned for intramuscular injection using Helfer Skin Tap Technique followed by Routine Technique for the next dose of injection and other 25 subjects were first assigned for intramuscular injection using Routine Technique followed by Helfer Skin Tap Technique for the next dose of injection. The subjects were examined with 4 variables viz pain, systolic and diastolic blood pressure and pulse rate. The intervention was implemented for four continuous days for both the groups.

“t – Test” was used to compare the pain level and physiological parameters between Helfer Skin Tap Technique and Routine Technique, and it is significant if (p<0.05).

3. Results

The results show that on the day 1, the obtained t value was 2.01 at p level of 0.05. On the day 2, the obtained t value was 2.33 at p level of 0.02. On the day 3 & 4, the obtained t value was 2.76 at p level of 0.01. It indicated that Helfer skin tap technique is statistically significant than routine technique on all the 4 days.
Table 1: Comparison Pain level among Samples receiving intramuscular injection by Helfer Skin tap technique and routine technique.

<table>
<thead>
<tr>
<th>Days</th>
<th>Helfer Skin Tap Technique</th>
<th>Routine Technique</th>
<th>Student Independent t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Day 1</td>
<td>3.36</td>
<td>1.50</td>
<td>4.44</td>
</tr>
<tr>
<td>Day 2</td>
<td>3.12</td>
<td>1.64</td>
<td>4.40</td>
</tr>
<tr>
<td>Day 3</td>
<td>2.80</td>
<td>1.63</td>
<td>4.24</td>
</tr>
<tr>
<td>Day 4</td>
<td>2.80</td>
<td>1.63</td>
<td>4.24</td>
</tr>
</tbody>
</table>

Comparison of pretest Physiological parameters between Helfer Skin Tap Technique and routine technique reveals that on the Day 1, the obtained ‘t’ value of systolic BP was 0.04 which was not significant at p = 0.97 level. On the Day 2, the obtained ‘t’ value of systolic BP was 0.15 which was not significant at p = 0.87 level. On the Day 3, the obtained ‘t’ value of systolic BP was 0.20 which was not significant at p = 0.84 level. On the Day 4, the obtained ‘t’ value of systolic BP was 0.05 which was not significant at p = 0.96 level.

Table 2: Comparison Of Pretest the Level of Systolic Blood Pressure Among Patients Receiving IM Injection By Helfer Skin Tap Technique And Routine Technique

<table>
<thead>
<tr>
<th>Physiological parameters</th>
<th>Days</th>
<th>Pretest score</th>
<th>Independent t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Systolic Blood Pressure</td>
<td>Day 1</td>
<td>125.20</td>
<td>16.07</td>
</tr>
<tr>
<td></td>
<td>Day 2</td>
<td>125.60</td>
<td>14.17</td>
</tr>
<tr>
<td></td>
<td>Day 3</td>
<td>125.60</td>
<td>13.87</td>
</tr>
<tr>
<td></td>
<td>Day 4</td>
<td>124.80</td>
<td>13.87</td>
</tr>
</tbody>
</table>

On the Day 1, the obtained ‘t’ value of Diastolic BP was 0.10 which was not significant at p = 0.92 level. On the Day 2, the obtained ‘t’ value of Diastolic BP was 0.11 which was not significant at p = 0.90 level. On the Day 3, the obtained ‘t’ value of Diastolic BP was 0.23 which was not significant at p = 0.82 level. On the Day 4, the obtained ‘t’ value of Diastolic BP was 0.28 which was not significant at p = 0.77 level.

Table 3: Comparison Of Pretest the level of Diastolic Blood Pressure Among Patients Receiving IM Injection By Helfer Skin Tap Technique And Routine Technique

<table>
<thead>
<tr>
<th>Physiological parameters</th>
<th>Days</th>
<th>Pretest score</th>
<th>Independent t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>Day 1</td>
<td>83.20</td>
<td>16.76</td>
</tr>
<tr>
<td></td>
<td>Day 2</td>
<td>82.40</td>
<td>16.45</td>
</tr>
<tr>
<td></td>
<td>Day 3</td>
<td>81.60</td>
<td>19.72</td>
</tr>
<tr>
<td></td>
<td>Day 4</td>
<td>81.40</td>
<td>18.48</td>
</tr>
</tbody>
</table>

On the Day 1, the obtained ‘t’ value of Pulse was 0.21 which was not significant at p = 0.98 level. On the Day 2, the obtained ‘t’ value of Pulse was 0.16 which was not significant at p = 0.87 level. On the Day 3, the obtained ‘t’ value of Pulse was 0.16 which was not significant at p = 0.87 level. On the Day 4, the obtained ‘t’ value of Pulse was 0.44 which was not significant at p = 0.66 level.
Reduction associated with Intramuscular Injection at 4.

There is no significant difference in systolic and diastolic * P<0.05, S – Significant, NS – Not significant

Parameters (BP, Pulse) among samples receiving intra muscular injection. It was observed on pain during intra muscular injection among adult patients control trial in Chandigarh to assess the skin tap technique experience. Said that Helfer skin tap technique offers a painless injection Government General Hospital, Puducherry. Potter (2003) Technique and Routine Technique. It works on the theoretical basis such as gate theory. Intra muscular injection is administered using Helfer Skin Tap Technique. It clearly shows that there is significant reduction of the pain level using Helfer Skin Tap Technique than Routine Technique among patients receiving intra muscular injection. When we compare the level of Physiological Parameters (BP, Pulse) among patients before and after receiving intramuscular injection by Helfer Skin Tap Technique and Routine Technique. In all the parameters SBP, DBP and Pulse, before and after receiving intramuscular injection, there is no statistically significant difference between Helfer skin tap technique and Routine technique.

Serena, (2010) conducted a quasi experimental study (one group pre test and post test design) was conducted on 60 patients in Karnataka, India to assess the effectiveness of Helfer skin tap technique on pain in relation to intramuscular injection. Study revealed that the paired t-test was significant at p < 0.001. In present study also it revealed that the effectiveness of Helfer Skin Tap Technique has produced a statistically highly significant in reducing pain during intra muscular injection among patients at a correlation of p<0.05 level. On All the four days, Helfer skin tap technique is statistically significant than routine technique. When the results of this study are compared with previous studies, it showed that, with increasing age, tolerance to cutaneous pain increases and tolerance to deep pain decreases. In all the parameters SBP, DBP and Pulse, before and after receiving intramuscular injection, there is no statistically significant difference between Helfer skin tap technique and Routine technique. Statistical significance was calculated using student independent t-test.

Kenneth (1992) assessed the nature and extent of group differences in pain tolerance according to age, sex and race. Results showed that on the average, (1) pain tolerance decreases with age; (2) men tolerate more pain than women; and (3) whites tolerate more pain than Orientals. When the results of this study are compared with previous studies, it showed that, with increasing age, tolerance to cutaneous pain increases and tolerance to deep pain decreases. In all the parameters SBP, DBP and Pulse, before and after receiving intramuscular injection, there is no statistically significant difference between Helfer skin tap technique and Routine technique. Statistical significance was calculated using student independent t-test.

5. Conclusion

The following conclusions were drawn from the study. The study proved that Helfer Skin Tap Technique was effective than the Routine Technique in administering Intra Muscular Injection with mild pain or no pain and there is an association between Helfer Skin Tap Technique and Low Volume of Drug, Low dosage of drug and lateral position and no association on the remaining variables. It was concluded that the perception of pain intensity is less when intra muscular injection is administered using Helfer Skin Tap Technique. It works on the theoretical basis such as gate control theory. The technique can be adapted to the nursing education and to the nursing practice so that the quality can be ensured.
6. Implication

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

a) Implication for Nursing Practice
   - Helfer Skin Tap Technique can be adapted to the procedure of intra muscular injection. Nurses can be taught about the Helfer Skin Tap Technique and it can be practiced in the clinical setting. As there is not much empirical evidence for the procedure of intra muscular injection findings can be merged into evidence based nursing practice.

b) Implications in Nursing Education
   - Helfer skin tap technique can be included in the literature on intramuscular injection.
   - The procedure of using Helfer Skin Tap Technique for intra muscular injection can be included into the nursing curriculum.
   - Nursing students can be taught about Helfer Skin Tap Technique for intra muscular injection.

c) Implications in Nursing Administration
   - Policies for the procedure of intra muscular injection can be developed based on the study findings by incorporating Helfer Skin Tap Technique into the procedure.
   - Nurse Managers can update about the procedure of intra muscular injection using Helfer Skin Tap Technique and educate nurses about it through in-service education programs.
   - Nursing administrators can motivate nurses to use Helfer Skin Tap Technique in their clinical area.

d) Implications in Nursing Research
   - Nurse researcher can conduct study to verify the scientific rationale / physiology behind the effect of Helfer Skin Tap Technique.
   - Randomized clinical trials could be undertaken 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.

7. Recommendations

Injection itself is a fear to all irrespective of our age because it causes pain. It is a foremost responsibility of the health care contributor to provide a care for easing of discomfort like pain while rendering care. So that the health care receiver will be much benefited without any hurdles. So in future these kinds of studies definitely will be useful to the entire health care delivery system.

References