

A Study to Assess the Effectiveness Structured Teaching Programme on Knowledge Regarding Helfer Skin Tap Technique on IM Injection to Reduce Pain for Infant among Nurses in Selected Hospitalat Gonda, Uttar Pradesh

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Abstract: *Infants can be considered children anywhere from birth to 1 year old. We can't avoid medicines to prevent or cure diseases for the infants. The most of the immunizations are given in the form of IM. It would cause severe pain to the infants. The helper technique is one of the best methods to reduce pain. Therefore, the nurse should have knowledge on this. A one group pretest and posttest design was used to assess the knowledge level. The present study was conducted in SCPM hospital at Gonda. 50 nurses were selected for this study. Non-probability convenient sampling was used. Socio Demographic data and questionnaire on knowledge related to helper skin tap technique was used to collect the data. The final format of the structured questionnaire comprises of two parts. In the pretest only 3(5%) samples were having adequate knowledge but after structured teaching programme it reached to maximum 55(91.7%) samples were having adequate knowledge. There is significant difference between pretest and posttest knowledge scores as the 't' value is higher than the tabulated value in the p value 0.05 level of significance. The chi-square table explains that there is a significant association between socio demographic variables such as "Education" and "Source of information" with the pretest knowledge regarding helper technique among nurses as the chi-square value is higher than the tabulated value at 0.05 level of significance. Therefore, the H₂ hypothesis is accepted.*

Keywords: Helfer technique; infant; STP

1. Introduction

Medicines are chemicals or compounds used to cure, halt, or prevent disease; ease symptoms; or help in the diagnosis of illnesses. Advances in medicines have enabled doctors to cure many diseases and save lives.¹ Hence we can't avoid medicines to prevent or cure diseases. This medication started since childhood. There are different types to take medicines, that is based on the amount, need and its effectiveness of that medicines. Oral medications are not very much difficult rather than its taste. But the IV and IM injections will make pain. Sometime the pain it produces will be very severe. Many peoples after injection more than two days will have that pain. Pain is an unpleasant stimulus causing avoidance of drug regimens leading to noncompliance. Pain will disturb their daily activities. In case of infants, we can't refer oral medications as they can't swallow the big size of the medicines. If we give in liquid form, because of its taste the child can't able to take it. So, most of the time there will be injection for the Infant.²

Infants can be considered children anywhere from birth to 1 year old.³ The brains of babies 'light up' in a very similar way to adults when exposed to the same painful stimulus, a pioneering Oxford University brain scanning study has discovered. It suggests that babies experience pain much like adults.⁴ This is the health care professionals' important work to reduce the pain level while giving the injection. Different methods are used by the nurses to reduce pain during

intramuscular injections such as taping the skin, Z-track, applying pressure, applying heat and cold. Among different physical interventions the most effective are tapping the skin. Tapping over the skin is one of the various techniques to keep the muscles relaxed. It is an accepted fact that there is reduced pain while giving injection into a relaxed muscle. Helfer skin tap technique offers a painless injection. It is a simple intervention which can bring about a great deal of change in the level of pain associated with intramuscular injection. It is an innovative idea to perform painless injection.⁵

The helper technique is that, after identifying the injection site tap the skin 16 times approximately 5 seconds with the palmer aspect of the dominant hand to relax the muscle. After preparing the skin with alcohol uncup the syringe in the dominant hand make a "V" with the thumb and tap the skin again for 3 times. Insert the needle into the anterolateral aspect of the thigh. After aspirating to prevent injection into the vessel as per normal routine inject the medication slowly while continuing to tap muscle gently to keep it relaxed. Remove the needle while simultaneously tapping the skin again using "V" tap (spreading the thumb and index finger) with non-dominant hand.⁶

Routine immunizations are the very painful medical procedure during infant. The World Health Organization estimates that twelve billion injections are given every year and in that almost 5% is childhood vaccinations. Vaccine

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injections are the most common reason for injection pain in childhood. Immunization is a painful experience for infants as well as their parents. ⁶ During the clinical experience, the researcher found that some of the nurses don't doing any method to reduce pain. There the researcher felt that to check the knowledge of nurses about helper skin taping method, which is most effective to reduce the pain.

Problem Statement

"A study to assess the effectiveness structured teaching programme on knowledge regarding helper skin tap technique on IM injection to reduce pain for infant among nurses in selected hospital at Gonda, Uttar Pradesh"

2. Objectives of the Study

- 1) To assess the pretest and posttest knowledge regarding helper skin tap technique on IM injection to reduce pain for infant among nurses in selected hospital at Gonda, Uttar Pradesh.
- 2) To assess the effectiveness of structured teaching programme on knowledge regarding helper skin tap technique on IM injection to reduce pain for infant among nurses in selected hospital at Gonda, Uttar Pradesh.
- 3) To find the significant association between socio demographic variables and knowledge regarding helper skin tap technique on IM injection to reduce pain for infant among nurses in selected hospital at Gonda, Uttar Pradesh.

Hypothesis

H₁: There is a significant difference between the pretest and posttest knowledge scores.

H₂: There is a significant association between socio demographic variables and knowledge regarding helper skin tap technique on IM injection to reduce pain for infant among nurses in selected hospital at Gonda, Uttar Pradesh.

Assumptions

The study helps to understand the helper skin tap technique on IM injection to reduce pain.

Limitations

The study will be limited to 60nurses in selected hospital at Gonda, Uttar Pradesh.

3. Methodology

The conceptual frame work of the present study was developed using the concepts from ground general system's theory (Von Ludwing Bertalamffy 1956). A one group pretest and posttest design was used to assess the knowledge level. The present study was conducted in SCPM hospital at Gonda. 50nurses were selected for this study. Non-probability convenient sampling was used. The inclusion criteria are the samples who are willing to participate, nurses who are able to write and read Hindi and both male and females were included. Exclusion criteria are those who were not willing to participate and sick. Socio Demographic data and questionnaire on knowledge related to helper skin tap technique was used to collect the data. The final format

of the structured questionnaire comprises of two parts. Part I consists of items describing the demographic variables of the sample like age in years, religion, education, Worked area, monthly income, experience and source of information. Part II consists of 30 questions. Minimum 0 and maximum 30 marks. The pilot study was conducted on 6samples. The reliability of the tool was computed by using split half technique. The reliability co-efficient found to be 0.86 and validity coefficient worked out to be 0.97 revealing that the tool is feasible for conducting the main study. The respondents were assured that the confidentiality of the information provided by them. It took 2 minutes for introduction and rapport building and 15 minutes for filling the questions.

4. Results

Table 1: Frequency and percentage distribution of socio demographic variables, n=60

| Socio-demographic Variables | | Frequency | Percentage |
|-----------------------------|------------------------|-----------|------------|
| 1 | Age in years | | |
| | a) 21-23 | 16 | 26.7 |
| | b) 24-26 | 29 | 48.3 |
| | d) 27-29 | 10 | 16.7 |
| | e) >29 | 5 | 8.3 |
| 2 | Religion | | |
| | a) Hindu | 32 | 53.3 |
| | b) Muslim | 15 | 25 |
| | d) Christian | 8 | 13.3 |
| | e) Other | 5 | 8.3 |
| 3 | Education | | |
| | a) ANM | 16 | 26.7 |
| | b) GNM | 18 | 30 |
| | c) B.Sc. Nursing | 14 | 23.3 |
| | d) M.Sc. Nursing | 12 | 20 |
| 4 | Worked area | | |
| | a) Paediatric ward | 22 | 36.7 |
| | b) Emergency ward | 20 | 33.3 |
| | c) ICU | 8 | 13.3 |
| | d) General ward | 10 | 16.7 |
| 5 | Monthly income | | |
| | a) Below 10000 | 30 | 50 |
| | b) 10000-20000 | 19 | 31.7 |
| | c) Above 20000 | 11 | 18.3 |
| 6 | Experience | | |
| | a) 0 to one year | 35 | 58.3 |
| | b) One year to 5 years | 15 | 25 |
| | c) 5 years to 10 years | 8 | 13.3 |
| | d) above 10 years | 2 | 3.3 |
| 7 | Source of information | | |
| | a) Media | 7 | 11.7 |
| | b) Senior staff | 15 | 25 |
| | c) Colleagues | 6 | 10 |
| | d) Friends | 10 | 16.7 |
| | e) Doctors | 22 | 36.7 |

The above table shows that the maximum 29(48.3%) samples were 24-26 age in years, the maximum 32(53.3%) samples were Hindus, the maximum 18(30%) samples were done their GNM, the maximum 22(36.7%) samples were worked in pediatric ward, the maximum 30(50%) samples were having below 10000 monthly income (in Rs.), the maximum 35(58.3%) samples were having 0 to one year of

experience, the maximum 22(36.7%) samples' source of information was doctors.

Table 2: Comparison of knowledge level regarding helper skin tap technique on IM injection to reduce pain, n=60

| Knowledge levels | Pre-test | | Post-test | |
|------------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Inadequate | 38 | 63.3 | 2 | 3.3 |
| Moderate | 19 | 31.7 | 3 | 5 |
| Adequate | 3 | 5 | 55 | 91.7 |

In the pretest only 3(5%) samples were having adequate knowledge but after structured teaching programme it reached to maximum 55(91.7%) samples were having adequate knowledge.

Table 3: Assess the effectiveness of structured teaching programme on knowledge regarding helper skin tap technique on IM injection to reduce pain, n=60

| Knowledge aspects | Standard Error Mean | Pretest Mean±SD | Posttest Mean±SD | Students' paired t-test |
|---------------------------|---------------------|-----------------|------------------|-------------------------------|
| General information | 0.236 | 2.72±1.53 | 5.42±1.013 | t=-11.457; p=0.05 Significant |
| IM injection | 0.486 | 6.72±3.395 | 13.65±2.057 | t=-14.252; p=0.05 Significant |
| Pain related to injection | 0.174 | 1.98±1.372 | 4.55±0.723 | t=-14.782; p=0.05 Significant |
| Helper techniques | 0.195 | 1.87±1.255 | 3.58±0.743 | t=-8.817; p=0.05 Significant |
| Over all | 0.881 | 13.28±6.151 | 27.2±3.583 | t=-15.788; p=0.05 Significant |

The above table shows that there is significant difference between pretest and posttest knowledge scores as the t value is higher than the tabulated value in the p value 0.05 level of significance. It shows that there is a significant effectiveness on the administration of structured teaching programme. Therefore, the H₁ hypothesis is accepted.

Table 6: Association between socio demographic variables and knowledge regarding helper skin tap technique, n=60

| Socio demographic Variables | Knowledge scores | | Total | Df | Chi-Square | Inference | |
|-----------------------------|------------------|---------------------|-------|----|------------|-----------|------------|
| | < median | >= median | | | | | |
| Age in years | | | | | | | |
| 1 | a) | 18-22 | 8 | 8 | 3 | 0.444 | p>0.05; NS |
| | b) | 22-26 | 13 | 16 | | | |
| | d) | 26-30 | 5 | 5 | | | |
| | e) | >30 | 3 | 2 | | | |
| Religion | | | | | | | |
| 2 | a) | Hindu | 15 | 17 | 3 | 2.461 | p>0.05; NS |
| | b) | Muslim | 9 | 6 | | | |
| | d) | Christian | 4 | 4 | | | |
| | c) | Other | 1 | 4 | | | |
| Education | | | | | | | |
| 3 | a) | ANM | 10 | 6 | 3 | 11.777 | p<0.05; S |
| | b) | GNM | 8 | 10 | | | |
| | c) | B.Sc. Nursing | 6 | 8 | | | |
| | d) | M.Sc. Nursing | 5 | 7 | | | |
| Worked area | | | | | | | |
| 4 | a) | Paediatric ward | 11 | 11 | 3 | 3.137 | p>0.05; NS |
| | b) | Emergency ward | 12 | 8 | | | |
| | c) | ICU | 2 | 6 | | | |
| | d) | General ward | 4 | 6 | | | |
| Monthly income | | | | | | | |
| 5 | a) | Below 10000 | 13 | 17 | 2 | 1.032 | p>0.05; NS |
| | b) | 10000-20000 | 11 | 8 | | | |
| | c) | Above 20000 | 5 | 6 | | | |
| Experience | | | | | | | |
| 6 | a) | 0 to one year | 17 | 18 | 3 | 0.029 | p>0.05; NS |
| | b) | One year to 5 years | 7 | 8 | | | |
| | c) | 5 years to 10 years | 4 | 4 | | | |
| | d) | above 10 years | 1 | 1 | | | |
| Source of information | | | | | | | |
| 7 | a) | Media | 4 | 3 | 4 | 11.745 | p<0.05; S |
| | b) | Senior staff | 8 | 7 | | | |
| | c) | Colleagues | 3 | 3 | | | |
| | d) | Friends | 3 | 7 | | | |
| | e) | Doctors | 11 | 11 | | | |

The above chi-square table explains that there is a significant association between socio demographic variables such as "Education" and "Source of information" with the pretest knowledge regarding helper technique among nurses as the chi-square value is higher than the tabulated value at 0.05 level of significance. Therefore, the H_2 hypothesis is accepted.

5. Discussion

Major findings were maximum 29(48.3%) samples were 24-26 age in years, the maximum 32(53.3%) samples were Hindus, the maximum 18(30%) samples were done their GNM, the maximum 22(36.7%) samples were worked in pediatric ward, the maximum 30(50%) samples were having below 10000 monthly income (in Rs.), the maximum 35(58.3%) samples were having 0 to one year of experience, the maximum 22(36.7%) samples' source of information was doctors. In the pretest only 3(5%) samples were having adequate knowledge but after structured teaching programme it reached to maximum 55(91.7%) samples were having adequate knowledge. There is significant difference between pretest and posttest knowledge scores as the 't' value is higher than the tabulated value in the p value 0.05 level of significance. It shows that there is a significant effectiveness on the administration of structured teaching programme. Therefore, the H_1 hypothesis is accepted. The chi-square table explains that there is a significant association between socio demographic variables such as "Education" and "Source of information" with the pretest knowledge regarding helper technique among nurses as the chi-square value is higher than the tabulated value at 0.05 level of significance. Therefore, the H_2 hypothesis is accepted.

A supportive study was found, it was conducted to improve the knowledge regarding helper technique among nurses in dadwan gurdaspur. Objective of doing this study is to assess the knowledge about helper technique and its importance. One group pretest posttest was used. Study was conducted on 50 subjects from hospital, dadwan. Using Purposive sampling technique with randomly allocation of groups, it was observed that Overall Mean knowledge regarding of the subjects was (23%) had good knowledge, (17%) had average. After teaching programme in posttest the 99% of the samples had good knowledge regarding helper technique. Calculated χ^2 values showed, there is association between the socio-demographic variables of subjects and level of knowledge at $p=0.05$ level of significance.⁸

6. Ethical Consideration

Written permission was taken from the SCPM hospital, Gonda. Written Informed consent was taken from each study sample.

7. Conclusion

This study concluded, that many of the nurses not having knowledge about helper technique. They are simply injecting the medicine, without worrying about the infant pain and its management. After the posttest the researcher concluded

that the structured teaching programme was effective as the most of the nurses got adequate knowledge regarding helper technique in IM injection to reduce pain.

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