

Effectiveness of Self-Instructional Module on Knowledge of Buzzy Technique among Staff Nurses Working in Paediatric Ward in Shri Mahant Indresh Hospital, Patel Nagaer, Dehradun Uttarakhand

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ABSTRACT

Painful medical procedures in childhood may have long term negative effects on development and future tolerance of pain, evidence suggests that a significant number of children receive less than optimal management of procedure related pain. Use of buzzy technique in sick children consider being successful, it requires accurate knowledge of the staff nurses working in paediatric ward. A pre-experimental study was conducted to assess the effectiveness of Self-Instructional Module on knowledge of buzzy technique among staff nurses working in paediatric ward in Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand. An quantitative research approach with one group pre-test and post-test pre-experimental design was used for this study. The sample consisted of 60 staff nurses in paediatric ward in Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand. They were selected by Non-Probability purposive sampling technique. A structured knowledge questionnaire was used for the data collection. Data was analysed and interpreted by using descriptive and inferential statistics. The paired 't' test value for buzzy technique knowledge was 21.11 which suggested significant at $P>0.05$ level, hence stated research hypothesis (H_1) was accepted. The result shows that the staff nurses level of knowledge improved after implementation of the SIM and the study indicates that the SIM is an effective method in improving moderate to adequate level of knowledge regarding health topics to the present day society where much

attention is given to health promotion rather than the disease after acquiring it.

Keywords: Buzzy, Knowledge, SIM, Effectiveness, Staff nurses

INTRODUCTION

“Buzzy is worth its Weight in gold”

-Dr. Phillip R.

Children are the wealth of tomorrow and the growing citizen. Taking care of children will make them to meet the challenges of tomorrow and thereby making strong India.

“Buzzy” is a reusable breakthrough personal pain device that provide natural pain relief.

“Buzzy” uses natural pain relief by confusing your body’s own nerves and distracting attention away from the poke, thereby dulling or eliminating sharp pain.

BUZZY labs, Atlanta, GE, USA); was created by a paediatrician and a nurse looking for an easy to use, reusable and rapid intervention for pain management of children undergoing needle related procedures. It is a bee-shaped device consisting of two component vibration and the ice.

Pain is a sensory and unpleasant emotive experience, which device from real or potential tissue damage. Procedural pain is a clinical manifestation of pain due to a diagnostic or therapeutic intervention. In particular, needle pain is amongst the most

stressful for children. Furthermore, studies revealed that a large number of children do not receive adequate pain prevention during the procedures.

Needle-related procedures are the most important source of pain in children in hospital setting. Unmanaged pain could result in short and long-term physiological, psychological and emotional consequences. Although the efficacy of numerous interventions has been evaluated, procedural pain management is often suboptimal in children undergoing needle related procedures.

Neglecting the prevention of needle pain can cause several psychological effects such as anxiety and phobias, and increase perception of pain in the future.

Most of the study shown that 30% of people presenting needle phobia had experienced in the past. a very painful procedural relating to the insertion of needle without sufficient effort by the health professionals to alleviate the pain.

In vitro diagnostic tests play a key role in patient's management example-guiding red blood cell transfusion. the aim of this study was to evaluate the impact of an innovative device (buzzy) which is claimed to be able to relieve venepuncture pain by means of cold and vibration. This device was applied during collection of venous blood by venepuncture for conventional haematology testing.

There is considerable evidence in the scientific literature regarding the efficacy of technique both pharmacological and non-pharmacological, for the prevention of acute procedural pain in children, depending on the age, personal situation, type of pain preferences and coping abilities of the child.

There exist many evidence-based interventions available to manage procedural pain in children and neonates, yet they are severally underutilised. Parents play an important role in the management of their child's pain; however, many do not possess adequate knowledge of how to effectively do so.

Immunization is a common source of pain and distress for children. Psychological interventions consist of a variety of techniques for relaxing and distracting children during immunization with the goal of reducing pain and distress.

OBJECTIVES OF THE STUDY:

- To assess the pre-test knowledge of buzzy technique among staff nurse working in paediatric ward.
- To administer self-instructional module among nurse working in paediatric ward on buzzy technique.
- To evaluate the effectiveness of self-instructional module among staff nurse working in paediatric ward on buzzy technique.
- To determine the association between post-test knowledge regarding buzzy technique with their selected demographic variables.

HYPOTHESIS:

H₁: There will be a significant difference in the level of knowledge among the staff nurses working in paediatric ward regarding use of buzzy technique before and after self –instructional module programme.

H₂: There will be a significant association between socio demographic variables and knowledge score regarding use of buzzy technique among the staff nurses working in paediatric ward.

MATERIAL AND METHODS

RESEARCH APPROACH

A quantitative research approach is used for this study. "A quantitative research is an applied form of research that involves finding out how well a programme, practice, and policy is working". The main goal is to assess or evaluate the success of the intervention.

RESEARCH DESIGN

The research design adopted for this study is pre-experimental one group pre-test-post-test design.

RESEARCH SETTING

This study was conducted in paediatric unit, Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand.

POPULATION

In this study accessible population are 60 staff nurses working in paediatric ward in Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand.

SAMPLE

The samples selected for this study are staff nurses working in paediatric ward Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand.

SAMPLE SIZE

Sample size comprises of 60 staff nurses working in paediatric ward Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand.

SAMPLING TECHNIQUE

Sample in this study were selected by using non-probability purposive sampling technique.

DESCRIPTION OF THE TOOL

The tool used in the present study consist of following

Section A:

It comprises of seven items seeking information on demographic characteristics of the staff nurses such as, age of staff nurses, education of staff nurses, Experience of staff nurse, knowledge of staff nurses, designation of staff, type of hospital, source of information, knowledge regarding use of buzzy technique.

Section B:

This part of the tool consists of thirty items from all the aspects of Structure questionnaire on use of buzzy technique among the staff nurses working in paediatric ward. The items were closed ended statements of multiple-choice type. The total score was thirty. Each correct response carried 'one score'. The tool was prepared in English and Hindi.

The knowledge of the respondents was arbitrarily categorised into three categories:

Level of knowledge	Score
inadequate knowledge	0-10
Moderate knowledge	11-21
Adequate knowledge	22-30

DESCRIPTION OF SIM

The SIM was entitled on buzzy technique among staff nurses working in paediatric unit. The SIM was prepared to enhance the assessment knowledge of the staff nurse regarding buzzy technique. It consists the following content area.

- Different terminologies
- Buzzy technique
- Buzzy
- Knowledge
- Effectiveness

PLAN FOR DATA ANALYSIS

The data obtained was planned to be analysed based on objectives and hypothesis of the study using descriptive and inferential statistics. Analysed data is represented in the form of tables, graphs and figures.

Descriptive statistics:

- ❖ Frequency and percentage were used to analyse the demographic variable regarding buzzy technique, such as age of staff nurses, education of staff nurses, Experience of staff nurse, knowledge of staff nurses, designation of staff, type of hospital, source of information, knowledge regarding use of buzzy technique.
- ❖ Mean, Median and Standard deviation was used to assess the effectiveness of self-instructional module on buzzy technique.

Inferential statistics:

- ❖ Paired "t" test was used to assess the effectiveness of self-instructional module regarding buzzy technique on knowledge of staff nurses.
- ❖ Chi square test was used to find association between post-test knowledge scores with their selected demographic variables.

Level of significance is set at 0.05 to interpret the hypothesis and findings.

RESULTS

The major findings of the study were as follows:

Section 1: Distribution of respondent according to their selected demographic variables. According to their demographic data details the majority of the respondent in the age group of 29-34 year of staff nurses was 41.66%. Percentage wise distribution of staff nurses according to education of staff nurses reveals that 63.33 were in BSc. Nursing, 33.3% were in GNM 3.33% were in ANM. According to staff nurses experience highest percentage 53.3% were in 1-2 years. According to the source of

information on buzzy technique show that highest 58.33% staff nurses got the information from the health personnel. According to the designation reveal that highest 80% are staff nurses. According to the Type of hospital reveals that highest 100% staff nurses working in private hospital and According to their knowledge shows that 100% staff nurses had no knowledge regarding use of buzzy technique.

Section 2: Comparison between the pre-test and post-test knowledge level.

Table 2: Frequency and percentage distribution of the pre and post test score value. N=60

Level of knowledge	Score range	Pre-test		Post-test	
		Frequency n=60	Percentage (%)	Frequency n=60	Percentage (%)
Inadequate knowledge	<50%	38	63.33%	0	0
Moderate knowledge	51-74%	22	36.66%	25	41.66%
Adequate knowledge	75-100%	0	0	35	58.33%

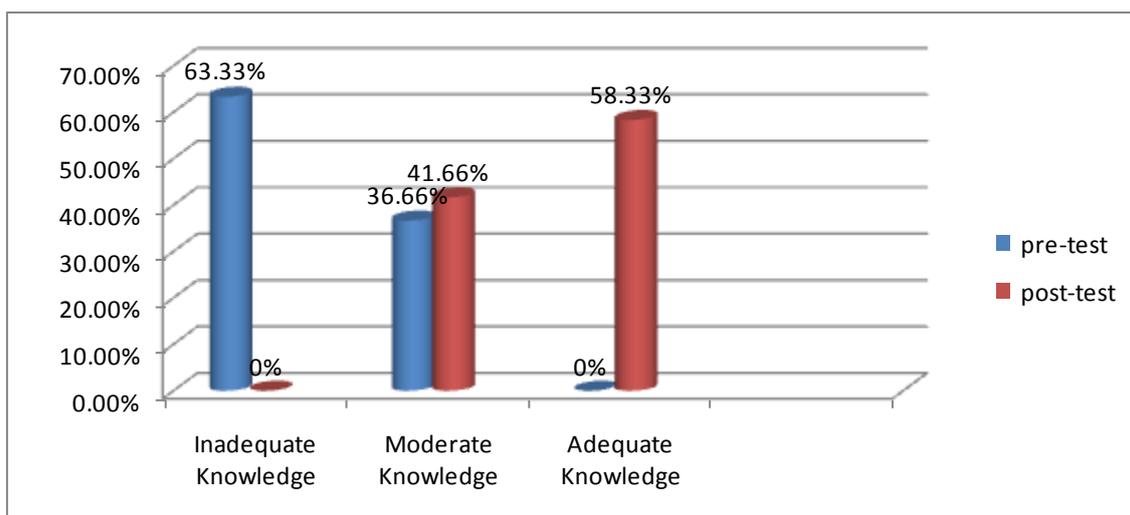


Fig 1: cylindrical bar diagram depicts the comparison between pre-test and post-test level of knowledge.

Data presented in Fig(1) shows 63.33% sample score ranging <50% inadequate knowledge and 36.66% had score between 51-74% moderate knowledge, which shows majority of sample are having knowledge in pre-test and 58.33% sample score ranging between 75-100% adequate knowledge and 41.66% had score between 51-74% moderate knowledge and 0% of sample score <50% inadequate knowledge in post-test. It is clearly indicating that there was increase the level of knowledge after self-instructional module programme.

Section 3: Mean, standard deviation, and paired t value of pre-test and post-test knowledge scores.

Table 3: Mean, standard deviation, and paired t value of pre-test and post-test knowledge scores. N=60

Knowledge Score value	Mean	SD	t-value	Level of significance
Pre-test	14.8	3.09	21.11	Highly
Post-test	25.23	2.37		Significant

Significant at P<0.05

Data shows in table no (3) revealed that the mean post-test knowledge score value among the staff nurses were significantly higher than the mean pre-test value. The calculated “t” value (21.11) is

more than the table value at 0.05 level of significance. Therefore, it can be said that the self-instructional module was effective in increasing knowledge level among the staff nurses working in paediatric department. Hence the hypothesis (H1) is accepted i.e. there is a significant difference in the level of knowledge among the staff nurses working paediatric department before and after self-instructional module programme.

Section 4: Association between post-test knowledge scores with their selected demographic variables.

The result of Chi square analysis depicts that the demographic variable such as Age of staff nurses, Education of staff nurses, Experience of staff nurses Source of information, Designation of staff, Type of hospital, Knowledge regarding use of buzzy technique shows no statistically significant association of demographic variable with their post-test level of knowledge. The obtained Chi square value of the variables such as Age ($X^2 = 0.042$, $P > 0.05$) Education ($X^2 = 0.1055$, $P > 0.05$), Experience ($X^2 = 0.0374$, $P > 0.05$) Source of information ($X^2 = 0.090$, $P > 0.05$) Designation of staff ($X^2 = 0.020$, $P > 0.05$) Type of hospital ($X^2 = 0.0290$, $P > 0.05$) Knowledge regarding use of buzzy technique. ($X^2 = 0.046$, $P > 0.05$).

Hence the hypothesis (H1) was accepted and null hypothesis was rejected.

CONCLUSION

On the basis of finding of study below said conclusion was drawn. It also brings out the limitation of the study in picture the pre-test knowledge score was less among staff nurses working in paediatric department. After self-instructional module programme the knowledge score was increased so it is effective.

NURSING IMPLICATIONS

The findings of this study have implication for Nursing Education, Nursing Practice, Nursing Administration and Nursing

Research and it also insight in the future studies.

Nursing education: -

Nursing education emphasizes that health care system should pay more attention on staff nurses teaching, so that they themselves will gain knowledge about the use of buzzy technique among staff nurses working in paediatric department. In service education should be conducted to improve knowledge of health professionals regarding use of buzzy technique to reduce pain among children due to immunization, medication. The curriculum should give importance to health education.

Nursing practice: -

As a nurse educator in school of nursing, college of nursing, teachers should come forward to check the student nurse practice and: -

- Encourage students nurse to perform correct way to use of buzzy technique.
- Provide adequate training and demonstration to the student nurse for proper use of buzzy technique.
- Arrange the self-instructional module programme to the student staff nurses and allow them to participate in teaching programme which can provide information on use of buzzy technique.

Nursing administration: -

The nurse administrator should take interest in providing information to the staff nurses regarding use of buzzy technique.

- The administrator can organize seminars and teaching programme for nurses regarding use of buzzy technique.
- Nurse administrator should encourage the nurses about use of buzzy technique.
- Promote opportunity for nurses to attained training programme to increase their knowledge and skill.
- Recommendations are given to the management in allocation of the funds to teaching programme through audio-visual aids.

Nursing research: -

Currently nursing practices is based on evidenced based practice. It is important to do research to equip and expect the nurses

to be independent nurse midwifery. The study will motivate the new researchers too conduct the same study with different variables and on large scale.

- The finding needs to be disseminated through conference, seminars, and published to journals.
- The findings of the research study will help in building and strengthening body of knowledge in the discipline of nursing.

Recommendations:

- ❖ The study can be replicated with a large number of samples for better generalization.
- ❖ The similar study can be done to assess practices regarding use of buzzy technique.
- ❖ The similar study can carry out to assess the knowledge and practices among the staff nurses working in paediatric department.
- ❖ This study can be carried out in the paediatric unit.
- ❖ This study can be used as review for the future studies.

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