

Intraoperative Guided Imagery on Anxiety

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Abstract:- Spinal anesthesia is preferred for lower abdominal surgeries. The aim of this study is to determine, “Effectiveness of intraoperative guided imagery on anxiety among patients under spinal anesthesia”. The objectives of the study are to assess the level of anxiety among patients under spinal anesthesia and to determine the effectiveness of intraoperative guided imagery on anxiety among patients under spinal anesthesia. Quasi experimental pretest posttest with control group design was used. The data was collected from 60 samples and data analyzed using descriptive and inferential statistics that is independent “t” test. Spielberger State trait anxiety inventory questionnaire used to obtain data before and after intervention. The average pretest scores of anxiety are 50.1 and 46.5 in experimental group and control group respectively. The independent sample t test ($t=1.36$, $p>0.05$) shows homogenous with regard to anxiety level at the pretest level. Independent t test ($t= 7.54$, $p< 0.01$) shows that state anxiety is significantly less in experimental group when compared to control group at posttest level. Hence it can be concluded that intraoperative guided imagery is effective on anxiety among patients under spinal anesthesia.

Keywords:- Effectiveness; Guided Imagery; Anxiety; Spielberger State Trait Anxiety Inventory.

I. INTRODUCTION

Surgeries can restore health and even save lives. Most people feel uncomfortable about “going under the knife”. It is common to all individual to feel anxious before going for surgery.¹ Surgeries are the mode of therapeutic intervention to treat certain pathology, restore health and save lives. Planning for a surgical intervention is one of the well-known causes of anxiety among the patients. It is unique to feel anxious in pre-operative period of surgery. Many are afraid of experiencing pain during surgery. Spinal anesthesia is one of the most generally performed regional anesthesia for surgeries below the level of umbilicus that is lower gastrointestinal tract surgeries, gynecological, urological, and all surgeries on the lower extremities. Safe anesthesia is of vital importance in surgery.²

Age, gender, marital status, education, uncertainty about the exact day of surgery, patient’s understanding about surgical anesthesia, financial loss, postoperative pain, fear of death and fear of unknown origin are the factors influencing anxiety during surgery.³

Guided imagery is an effective, powerful and simple form of relaxation that can reduce anxiety, decrease pain, and enhance sleep without the use of pharmacologic interventions. The goal of guided imagery is to allow patients to create full sensory images in their minds to promote relaxation, concentration and body awareness. Guided imagery can be thought of as a deliberate daydream of positive sensory images encompassing, sights, sounds, smells or tastes.⁴

Guided imagery will have an effect on overall cognitive abilities, helping to focus more, have more concentration and develop skills to increase memory powers. It will help to increase mental well-being and help with depression and anxiety.⁵

1.1 Need and significance of the study

In the present scenario surgeries are found to be the treatment modality for many of the diseases. According to the Global Surgery and Anesthesia report in 2012, there are 143 million surgical procedures done in low and middle income countries to prevent disability and to save lives. Of the 313 million procedures undertaken worldwide each year, only 6 percent occur in the poorest countries, where over one third of the world’s population lives.⁶

The average reported cases undergone spinal anesthesia in NIMS Medicity is increasing day by day. In 2017 MRD clearly stated that 1110 patients had undergone surgeries under spinal anesthesia in NIMS Medicity. The anxiety level of these patients was also in an increasing rate.

Statistics of patients with spinal anesthesia in NIMS Medicity, Neyyattinkara

Year	Total
2017	1110
2016	1086
2015	932
2014	760
2013	640

1.2 Objectives of the study

- To assess the level of anxiety among patients under spinal anesthesia.
- To determine the effectiveness of intraoperative guided imagery on anxiety among patients under spinal anesthesia.
- To find out the association between pretest scores of anxiety among patients under spinal anesthesia with their demographic variables.

1.3 Hypotheses

H₁-There will be a significant reduction of anxiety following intraoperative guided imagery among patients under spinal anesthesia.

H₂-There will be a significant association between the pretest scores on the level of anxiety among patients under spinal anesthesia with selected demographic variables.

1.4 Conceptual Framework

The conceptual framework set up for the present study is Sister Callista Roy's adaptation model. There are four major elements in this Roy's adaptation model that is the person or system, nursing, health and environment. Systems, coping mechanisms, and adaptive modes are used to address these elements.

II. MATERIALS AND METHODS

2.1 Research approach

Quantitative evaluative approach was used to test the effectiveness of the intervention.

2.2 Research design

The research design selected for the present study was quasi- experimental design, where pretest posttest non-randomized control group design was selected to evaluate the effectiveness of intraoperative guided imagery on anxiety among patients under spinal anesthesia.

2.3 Variables

Independent variable - intraoperative guided imagery.

Dependent variable - anxiety.

2.4 Setting of the study

The present study was conducted at NIMS hospital, Neyyattinkara, Trivandrum. It is 350 bedded multispecialty hospital consisting all departments and has highly equipped operation theatre.

2.5 Population and sample

The population for this study was all the patients under spinal anesthesia. The samples selected for the present study were the patients under spinal anesthesia at NIMS hospital, who were willing to participate and present during the period of data collection.

The total sample size was 60 patients under spinal anesthesia, out of which 30 patients were in the experimental group and 30 patients were in control group.

Convenient sampling technique was used. The experimental and control group patients were selected from preoperative area.

2.6 Sampling criteria

➤ Inclusion criteria

- Patients under spinal anesthesia with
 - Age group of 18- 60years
 - All genders
 - Who can able to read Tamil, English or Malayalam
 - ASA PS I and ASA PS 2 (American society of anesthesiologist's physical status classification system).

➤ Exclusion criteria

- Patients under spinal anesthesia with
 - Hearing impairment
 - Spinal anesthesia converted into general anesthesia
 - Unstable vital parameters
 - Complication during surgery
 - History of mental illness

2.7 Tools and technique:

Spielberger State Trait Anxiety Inventory (STAI) which consists of 40 self-reporting statements. Each statement in the STAI is rated on a four point scale. Karl Pearson formula was used to test the reliability of the tool. The tool was found to be reliable. (r1 0.88).

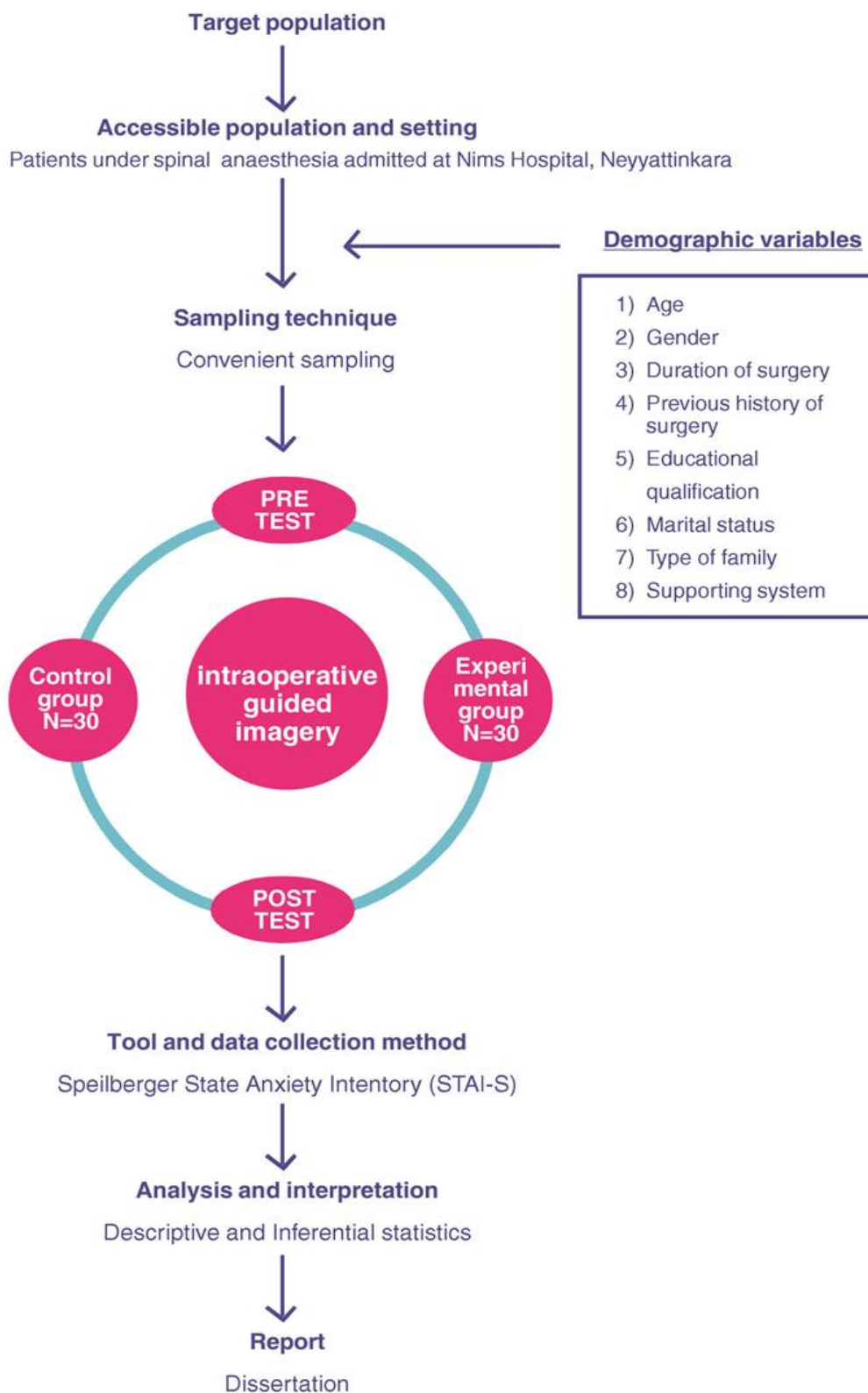


Fig – 1: Schematic Representation of Research Methodology

2.8 Data collection procedure

Prior to data collection, the investigator introduces self and explains regarding the study and assures the confidentiality of the information provided by the study participants.

Patients were requested to complete state anxiety components of the STAI pre-operatively on arrival at the operation theatre holding area.

Intraoperative guided imagery was given to the experimental group, after spinal anesthesia was stabled in the surgical table during intraoperative period. After the spinal anesthesia, the patients were positioned in operation table and the guided imagery was given to the patient through an audio tape with a head set. This audio tape contains audio section of relaxation of whole body parts from toe to head and the relaxation of mind with a powerful meditation back ground music which is played throughout the surgery. The guided imagery was narrated with a faint, soft voice, instructing the patient to relax. No sedative medications were given to the patient during intraoperative period. For patients enrolled in control group, the intervention did not occur and routine case management was in accordance with institutional standards.

The state anxiety inventory was repeated immediately on admission to the recovery room after the surgery. All patients were instructed to reflect their level of anxiety during the surgery while completing the state anxiety inventory. This score was taken to represent the intra-operative state anxiety score.

III. RESULTS AND DISCUSSION

3.1 Description of the socio demographic characteristics under study.

- ❖ Among the samples in experimental group 43.3% of samples belongs to age group of 18-30 years, 16.7% belongs to age group of 31-40 years, 20% belongs to age group of 41-50 years, 20% belongs to age group of 51-60 years, where as in control group 43.3% of samples belongs to the age group 18-30yrs, 6.7% belongs to the age group of 41-50yrs, 20% belongs to the age group of 51-60 yrs.
- ❖ Among the samples in experimental group 36.7% of samples are males and 63.3% are females whereas in

control group 30% of samples are males and 70% of samples are females.

- ❖ Among the samples in experimental group 6.7% of samples have primary education, 20% have high school education, 70% have college education and 3.3% have professional education where as in control group 6.7% have primary education, 20% have high school education, 70% have college and 3.3% have professional education.
- ❖ Among the samples in experimental group 36.7% of samples are in joint family and 63.3% of samples in nuclear family whereas in control group 66.7% of samples in joint family and 33.3% of samples in nuclear family.
- ❖ Among the samples in experimental group 6.7% of samples are single, 93.3% are married whereas in control group 10% are single and 90% are married.
- ❖ Among the samples in experimental group 100% of samples have the duration of surgery half an hour whereas in control group 96.7% of samples have the duration of surgery half an hour and 3.3% of samples the duration was one hour.
- ❖ Among the samples in experimental group 56.7% have previous history of surgery and 43.3% have no history of previous surgery whereas in control group 46.7% have history of previous surgery and 53.3% have no history of previous history.

Among the samples in experimental group 93.3% of samples supporting system are spouses, 6.7% are parents whereas in control group 83.3% of samples supporting system are spouses and 16.7% are parents.

3.2 Description of effectiveness of intraoperative guided imagery on anxiety among patients under spinal anesthesia.

- ❖ The average pretest scores of state anxiety are 50.1 and 46.5 in experimental group and control group respectively. The independent sample t test (t=1.36, p>0.05) shows homogenous with regard to state anxiety level at the pretest level. Independent t test (t= 7.54, p< 0.01) shows that state anxiety is significantly less in experimental group when compared to control group at posttest level. Hence it can be concluded that intraoperative guided imagery is significantly effective in reducing state anxiety.

Comparison of state anxiety based on group								
State anxiety	Experimental			Control			t	p
	Mean	SD	N	Mean	SD	N		
Pre	50.1	9.2	30	46.5	11.2	30	1.36	0.179
Post	32.3	7.5	30	51.5	11.8	30	7.54**	0.000

Table -1: Effectiveness of intraoperative guided imagery on anxiety among patients under spinal anesthesia n=60

**:- Significant at 0.01 level

Table shows that the average pretest scores of state anxiety are 50.1 and 46.5 in experimental group and control group respectively. The independent sample t test (t=1.36, P>0.05) shows homogenous with regard to state anxiety level at the pretest level. Independent t test (t= 7.54, P<0.01) shows that state anxiety is significantly less in experimental group (32.3) when

compared to control group (51.5). Hence it can be concluded that intraoperative guided imagery is significantly effective in reducing state anxiety.

Table Comparison of pretest score of state anxiety based on selected demographic variables n=60						
		Mean	SD	N	t	p
Gender	Male	49.5	9.4	20	0.62	0.540
	Female	47.8	10.8	40		
Educational qualification	Primary/High school	55.2	4.3	16	3.36**	0.001
	College/Professional	45.8	10.8	44		
Type of family	Joint	49.3	9.3	31	0.77	0.447
	Nuclear	47.3	11.3	29		
Marital status	Single	49.8	8.3	5	0.33	0.743
	Married	48.2	10.5	55		
Duration of surgery	Half an hour	48.4	10.4	59	0.13	0.898
	One hour	47.0	0.0	1		
Previous history of surgery	Yes	46.6	9.4	31	1.37	0.176
	No	50.2	11.0	29		
Supporting system	Spouse	48.3	10.7	53	0.14	0.888
	Parents	48.9	7.3	7		

Table -2: Association between pretest level of state anxiety among patients under spinal anesthesia with their selected demographic variables

**:- Significant at 0.01 level, t test

Among the different demographic variables only the variable – educational qualification has a significant association with pre-test score of state anxiety. The average score regarding state anxiety is 55.2 among patients having primary/ high school education whereas this score is 45.8 among patients having college /professional education. The independent ‘t’ test ($t=3.36, p<0.01$) shows the variation in state anxiety significantly differ between educational level. It means that state anxiety is significantly less among high educated group as compared to lower educated group. There is no significant association between state anxiety and other variables selected for the study such as the gender, type of family, marital status, duration of surgery, previous history of surgery and supporting system.

Age	Mean	SD	N	F	p
18 – 30	45.3	8.0	26	2.38	0.101
31 – 40	49.0	12.7	14		
>40	51.8	10.5	20		

Table -3: Comparison of pretest score of state anxiety based on age #ANOVA test

From the above table it can be seen that average state anxiety score is 45.3, 49.0, 51.8 respectively for patients in the age group 18-30, 31-40 and >40. One way ANOVA test ($f=2.38, p>0.05$) shows that there is no significant association between age and state anxiety.

3.3 Discussion

The present study has focused to assess the effect of intraoperative guided imagery on anxiety among patients under spinal anesthesia at NIMS hospital, Neyyattinkara. The findings of the study have been discussed based on the objectives of the study and findings of other similar studies.

Lee W P. et.al (2016) conducted a study to explore the effects of listening music on the anxiety levels and physiological responses of surgical patients receiving spinal anesthesia. An experimental design was used with 50 samples in each control and experimental group. The experimental group received 30 min of musical intervention and routine nursing care in the Post-Anesthesia Care Unit

while the control group received only routine nursing care. The study found significant differences in both anxiety and physiological responses between the two groups. The mean score of the State-Trait Anxiety Inventory (STAI) in the study group decreased from a pre-test score of 59.0 to a post-test score of 31.20 ($t = 28.63, p < 0.001$). Physiological responses such as heart rate ($t = 2.61, p = 0.012$), respiration rate ($t = 2.29, p = 0.026$), systolic blood pressure ($t = 2.30, p = 0.026$), and diastolic blood pressure ($t = 3.02, p = 0.004$) decreased significantly as well. In control group there was no significant changes in values.⁷

Rinu J George.et.al (2014), conducted a study regarding the effect of guided imagery in reducing the pain of children, a systematic review using the preferred reporting items for Systematic Reviews and Meta-Analysis (PRISMA) protocol was used to perform this systematic review. Studies conducted on children between 5-18 years. In this systematic review, five published studies on the effect of guided imagery were reviewed. The best evidence

from these studies shows guided imagery is an effective technique for managing and limiting pain in a pediatric population especially 5-18 years.⁸

IV. CONCLUSION

The present study shows that the majority of the clients in spinal anesthesia experience severe anxiety and intraoperative guided imagery has shown to decrease the level of state anxiety. The study also reveals that there is a significant reduction in state anxiety level after implementing guided imagery.

4.1 Nursing implications

The present study has got implications in the field of nursing service, nursing administration, nursing education and nursing research.

- ❖ Guided imagery can be used by the nursing professionals who are working in any health care settings while doing various medical and surgical procedures.
- ❖ Nursing professionals can use guided imagery as a non-pharmacological intervention in case of various situations like pain, anxiety, depressive symptoms, anger, frustration, etc.
- ❖ Nurse educator should educate the students regarding guided imagery and its implementation to decrease the anxiety, depressive symptoms etc.
- ❖ The study is relevant for the nurse administrators to determine the need of guided imagery to reduce anxiety among patients under spinal anesthesia.
- ❖ Similar studies can be done with a large sample.
- ❖ This study will be a motivation for the beginning researcher to conduct similar studies.

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