

Original Research Article

To assess patient's satisfaction level after adopting multimedia video information v/s verbal information for alleviating preoperative anxiety.

Dr. Sangeeta Agarwal Bansal¹ (Professor and HOD), Dr. Mansi Srivastava² (Senior Resident), Dr. Sonali Savarn³ (PG Resident 3rd Year) & Dr. Sonam Dixit⁴ (PG Resident 3rd Year)

Department of Anaesthesiology, Index Medical College Hospital and Research Centre
Indore, M.P.^{1,2,3&4}

Corresponding Author: Dr. Mansi Srivastava

Abstract:

Background & Method: The aim of this study is to assess patient's satisfaction level after adopting multimedia video information v/s verbal information for alleviating preoperative anxiety. Approval of 120 female patients of age group between 25 to 65 belonging to ASAI/ASAII undergoing elective surgical intervention under spinal anaesthesia, detailed history, complete physical examination and investigation done for all patient. Informed written consent was taken. The study population was randomly divided into two groups of 60 patients (n=60) in each group. Patients were randomly allocated using computer generated randomization table into two groups of 60 patients each.

Result:

Mean pre counselling anxiety (A1) levels showed that patients in both the groups were severely anxious at the time of first presentation for pre operative assessment. After intervention, during pre operative period both groups showed a decline in anxiety levels at A2 but the patients in group B (video) showed better/lower anxiety levels than group A (non video) at A2 (p=0.0001). HR showed an uprising trend from baseline to preoperative period in both the Group. HR at preoperative period increased to a difference of 10.59 from Pre counselling values in Group A as compared to a difference of 6.23 in Group B. In the heart rate distribution table, it was observed that Group A subjects had a mean. HR at preoperative period increased to a difference of 0.57 from Pre counseling values in Group A as compared to a difference 0.47 in Group B.

Conclusion: Patients' poor knowledge of anesthesia and surgery is an important factor responsible for perioperative anxiety and a simple multimedia based video information in form of short audiovisual clip during preoperative visit and a short verbal briefing by anesthesiologist on the day of surgery is an effective, feasible, cost effective and less time consuming method to reduce perioperative anxiety significantly.

Keywords: multimedia, video information, verbal, preoperative & anxiety.

Study Designed: Comparative Observational Study.

1. INTRODUCTION

Anxiety among patients is present in operation theatre set up with a reported incidence of 60%-80%. Surgical procedures, anaesthesia, unfamiliar surroundings and unexpected delays typically increase patient anxiety. Around, one-third of patients having surgical procedure under regional anaesthesia are exceptionally restless before surgery. Anxiety invigorates the activity of the sympathetic nervous system and may enhance the frequency of intraoperative tachycardia, hypertension, arrhythmias, hyperventilation, expanded pain perception and prerequisite of anaesthetic drugs.

Amygdala reactivity is of importance in a number of fear based psychopathologies including anxiety, phobia, panic disorder and PTSD. The neurohormonal stress response to surgery and critical illness can cause complex changes in levels of catecholamine, glucocorticoids. Inhibition of GI tract activity is directly proportional to the amount of norepinephrine secreted from sympathetic stimulation, so higher the anxiety higher the inhibition.

Contributing factors to preoperative anxiety are concerns about family, fear of complication, results of operation, postoperative pain, fear of physical disability, financial losses, fear of one's life, change of environment, needing blood transfusion, awareness during surgery, medical mistakes, disability and dependence, cosmetic issues. It is important to know the degree and causes of anxiety for understanding a patient's psychology.

In the preoperative period, patients have anxiety associated with many factors^[1]. In addition to general concerns about their health and surgery, uncertainty, becoming distant from home and family, and interrupted daily routines, they also have anaesthesia-related concerns such as unsuccessful recovery, postoperative pain, and intraoperative awareness^[2].

Preoperative anxiety is a challenging concept in preoperative care of patient. Preoperative anxiety is described as an unpleasant state of uneasiness or tension which begins as soon as surgical procedure is planned. Patient may perceive the day of surgery as the most threatening day in their lives. The degree to which each patient manifest anxiety relies upon many elements like age, gender, previous surgical experience, type and extent of proposed surgery, personal susceptibility to stressful situations^[3].

Some level of anxiety is a characteristic response to the erratic and possibly compromising conditions average of preoperative period, especially for the patient's first surgical experience. Interventions to decrease preoperative anxiety include provision of information, distraction, pharmacological therapy, attention focusing and relaxation procedures^[4&5].

2. MATERIAL & METHOD

A Prospective comparative observational study was done evaluating the effect of multimedia video information v/s verbal information on patient's anxiety and haemodynamic parameters in perioperative period at Department of Anesthesiology, Index Medical College Hospital and Research Centre (M.P.). 120 female patients in the age group of 25-65 years classified under the ASA PS 1 Or 2 posted for routine elective surgery under spinal anaesthesia were included for study.

Statistical Method:

Descriptive statistics was done for all data and were reported in terms of mean values and percentages. Suitable statistical tests of comparison were done. Continuous variables were analyzed with the unpaired t test Categorical variables were analyzed with the Chi-Square

Test. Statistical significance was taken as $P < 0.05$. The data was analyzed using SPSS version 16 and Microsoft Excel 2007.

After institutional ethical committee approval 120 female patients of age group between 25 to 65 yr either sex belonging to ASAI/ASAI undergoing elective surgical intervention under spinal anaesthesia, detailed history, complete physical examination and investigation done for all patient. Informed written consent was taken.

The study population was randomly divided into two groups of 60 patients (n=60) in each group. Patients were randomly allocated using computer generated randomization table into two groups of 60 patients each.

- Group A (non video group): Patients were verbally explained the anaesthetic technique but were not shown any video night before surgery (during evening PAC)
- Group B (video group): Patients were shown video clippings of anaesthetic technique night before surgery (during evening PAC)

Inclusion Criteria:

- ASA I/ASAI.
- Female patients
- Elective surgery under spinal anesthesia

Exclusion Criteria:

- Unwilling patient.
- Emergency operation.
- Contraindication to SAB
- Patients who had undergone procedures under SAB in the past
- ASA III/IV
- Existing psychiatric disorder
- Drug addict

3. RESULTS

Table 1: Age wise Distribution

Age	Frequency	
	Group A	Group B
25–30	03	02
31 -35	11	10
36-40	13	12
41-45	12	13
46-50	14	13

> 50	07	10
Mean ± S.D	42.5±1.3	42.5±0.4
P value	1.0	
Total	60	60

On analyzing data statistically p value was calculated as p=1.0 for age which is >0.5 and hence insignificant.

Table 2: ASA wise Distribution

ASA Grading	Frequency		
	Group A	Group B	P value
ASA 1	43	41	.495371
ASA 2	17	19	.935466
Total	60	60	

Above table maximum patients enrolled in ASA grade 1 in both Group. The difference in distribution of study subjects was insignificant with p>0.5.

Table 3: Comparison between Heart rate

Group A		Group B	
	HR	HR	P Value
Pre counselling	76.86±10.99	77.33±10.36	0.3258
Pre OP	87.45±2.59	83.56±12.08	1
Post OP	74.98±7.98	76.21±10.14	0.9659

HR showed an uprising trend from baseline to preoperative period in both the Group. HR at preoperative period increased to a difference of 10.59 from Pre counselling values in Group A as compared to a difference of 6.23 in Group B .In the heart rate distribution table, it was observed that Group A subjects had a mean heart rate in pre counselling 76.86±10.99 & 77.33±10.36 in both Groups and 87.45±2.59 &83.56±12.08 in Pre Op. There was statistically non-significant association between heart rate distribution in pre op values.

Table 4: Comparison between respiratory rate

Group A		Group B	
	RR	RR	P Value
Pre counseling	16.46±2.06	16.15±1.62	0.3614
Pre OP	17.03±2.59	15.68±1.77	0.002
Post OP	15.48±2.33	14.65±2.08	0.19292

HR at preoperative period increased to a difference of 0.57 from Pre counseling values in Group A as compared to a difference 0.47 in Group B

Table 5: Comparison between Anxiety Score

Variables	Group A	Group B	P value
Pre counseling	12.06 ±1.7	11.93±1.7	0.5
A1			
Pre Op	9.27 ± 0.71	7.66 ± 0.73	0.0001
A2			
Post Op	6.46 ±1.4	6.01±1.3	0.2855
A3			

The anxiety scores using APAIS in between the Groups at various time interval. Mean pre counselling anxiety (A1) levels showed that patients in both the Groups were severely anxious at the time of first presentation for preoperative assessment and the level of anxiety was comparable in between the Groups and showed no statistical difference (P = 0.5). After intervention, During Preop period patients of both Groups showed a decline in anxiety levels at A2 , but the patients in Group B (video) showed better/lower anxiety levels than Group A (non video) at A2 (P = 0.0001) . The declining trend of anxiety continued in postoperative period at A3, both the Groups were comparable and showed no statistical difference (P = 0.28).

After intervention, the preop mean systolic BP in Group A was 130±17.94 and 122.46±16.95 in Group B and the difference was statistically significant with p value of 0.0149.

4. DISCUSSION

On analyzing data statistically p value was calculated as p=1.0 for age which is >0.5 and hence insignificant. The mean value for Group A is 42.5 ±1.3 and for Group B is 42.5 ± 0.41. Statistical significant relation between age and anxiety was seen in studies of Tarkan et al in 2014^[6] and Dias et al in 2016^[7].

Maximum patients are enrolled in ASA grade 1 in both Groups. The difference in distribution of study subjects was insignificant with $p > 0.5$. Maximum number of patients were seen in illiterate category and there was no statistical significance between educational qualification wise distribution between both the Groups with p value > 0.5 . Statistical significant correlation between education and anxiety was seen in studies of Jafar et al in 2009^[22] and Erkilic et al^[30] showing anxiety level higher in less educated people^[8].

Precounseling value for SBP in both Group were comparable and were statistically not significant with p value of 0.982 at $p < 0.5$.

After intervention, the preop mean systolic BP in Group A was 130 ± 17.94 and 122.46 ± 16.95 in Group B and the difference was statistically significant with p value of 0.0149. SBP showed an uprising trend from precounselling to preoperative period in both the Groups, but they were better managed and showed lesser diversion from Precounselling values in Group B (video) as compared to/Group A^[9]. The mean SBP at preoperative period increased to a difference of 14.67 from Pre counselling values in Group A as compared to a difference of 7.2 in Group B. Post op mean SBP in Group A was 114.43 ± 15.47 in Group A and 112.4 ± 16.58 in Group B and was statistically insignificant. Similar trend was shown in study done by Lamparyk K, Mahajan L, Lamparyk C, et al. 2019^[10] DBP showed an uprising trend from precounseling to preoperative period in both the Groups, but they were better managed and showed lesser diversions from baseline values in Group B (video) as compared to Group (A). DBP at preoperative period increased to a difference of 8.64 from Pre counselling values in Group A as compared to a difference of 4.78 in Group B and the difference between pre op values was statistically insignificant ($P > 0.05$).

5. CONCLUSION

120 female patients of age Group between 25 to 65 yr belonging to ASAI/ASAI undergoing elective surgical intervention under spinal anaesthesia, detailed history, complete physical examination and investigation done for all patient. Patients' poor knowledge of anesthesia and surgery is an important factor responsible for perioperative anxiety and a simple multimedia based video information in form of short audiovisual clip during preoperative visit and a short verbal briefing by anesthesiologist on the day of surgery is an effective, feasible, cost effective and less time consuming method to reduce perioperative anxiety significantly.

6. REFERENCES

1. Shevde k, panagopoulos G. A survey of 800 patients knowledge, attitude, and concerns regarding anaesthesia. *Anaes Analg*. 1991;73:190-8.
2. Norris W, Baird WL. Preoperative anxiety: a study of the incidence and aetiology. *Br J Anaesthesia*. 1967;39:503-9.
3. Frazier, Moser, Riegel, McKinley, Blakely and Garvin 2002, 57; Disano 2015, 6.
4. Klopfenstein CE, Forster A, Van Gessel E (2000). Anesthetic assessment in an outpatient consultation clinic reduces preoperative anxiety. *Can J Anaesth* 47: 511-515.
5. Koivula M, Paunonen-Ilmonen M, Tarkka MT, Tarkka M, Laippala P (2001) Fear and anxiety in patients awaiting coronary artery bypass grafting. *Heart Lung* 30: 302-311.
6. Tarkan Mingir, Spinal Anaesthesia and Perioperative Anxiety, *Turk J Anaesth Reanim* 2014; 42: 190-5.

7. Dias R, Baliarsing L, Barnwal NK, Mogal S, Gujjar P. Role of pre-operative multimedia video information in allaying anxiety related to spinal anaesthesia: A randomised controlled trial. *Indian J Anaesth.* 2016;60(11):843-847
8. Sukantarat KT, Williamson RC, Brett SJ (2007) Psychological assessment of ICU survivors: a comparison between the Hospital Anxiety and Depression scale and the Depression, Anxiety and Stress scale. *Anaesthesia* 62: 239-243.
9. Kiyohara LY, Kayano LK, Oliveira LM, Yamamoto MU, Inagaki MM, et al. (2004) Surgery information reduces anxiety in the pre-operative period. *Rev Hosp Clin Fac Med Sao Paulo* 59: 51-56.
10. Saur CD, Granger BB, Muhlbaier LH, Forman LM, McKenzie RJ, et al. (2001) Depressive symptoms and outcome of coronary artery bypass grafting. *Am J Crit Care* 10: 4-10.