

The efficacy of different methods of pre-operative counselling on perioperative anxiety in patients undergoing regional anaesthesia

INTRODUCTION

The unfamiliar operating theatre makes surgery a potentially unpleasant experience causing high levels of anxiety in patients.^[1] The prevalence of anxiety preoperatively in patients ranges from 11% to 80%.^[2] Increased anxiety before surgery is associated with pathophysiological responses such as hypertension, dysrhythmias, increased requirements for post-operative analgesia and may cause patients to refuse planned surgery. By providing information about anaesthesia patients feel more reassured.^[3] Our objective was to determine whether the pre-operative visit by the anaesthesiologist alleviates anxiety. We compared the efficacy of different methods of pre-operative counselling on perioperative anxiety in patients undergoing regional anaesthesia (RA).

METHODS

This study was conducted from September 2011 to March 2013 in patients posted for surgery under RA. Ninety patients of either sex were included in the study after clearance from the Institutional Ethical Committee.

The inclusion criteria were the patients be posted for elective surgical procedures under RA who had minimum education level of higher secondary, aged between 18 and 65 years, have good comprehension skills and accepted under American Society of Anaesthesiologists (ASA) physical status Grade I/II. We excluded patients with a previous experience of anaesthesia and surgery, mentally retarded, deaf, mute or blind patients and patients posted for emergency surgery.

The patients were explained regarding the study and assigned into one of the three groups-Group A- Personal interview (PI), Group B- PI + brochure regarding the procedure and Group C- PI + video regarding the procedure. Microsoft excel 2010 was used to generate random numbers and the patients were allocated into the three groups according to the random numbers generated.

The pre-anaesthetic evaluation (PAE) was performed 1 day before the surgery by a postgraduate student from the department of Anaesthesia. The patients were asked to fill a proforma. Patients were interviewed, asked to read the brochure regarding the anaesthetic procedure or shown a video of the anaesthetic procedure. They were then asked to fill in the proforma once again after the PAE. The following day, ½ h before the surgical procedure they were assessed and once after the procedure [Figure 1].

The patient's anxiety levels were measured using the visual analogue scale (VAS) for anxiety and the state trait anxiety inventory-state (STAI-S) scale. The total score for STAI-S ranges from 20 to 80 and for VAS-A ranges from 0(no anxiety at all) to 100(highest possible anxiety level).

The sample size was calculated based on the reported incidence of pre-operative anxiety of 32%^[4] with 10% absolute allowable error and α of 5% to be 87.04. This was rounded off to 90 and then equally divided into three groups of 30 each.

Statistical analysis was performed using descriptive statistics, *t*-test – paired/independent samples and repeated measure ANOVA using Statistical Package for the Social Sciences (SPSS) version 16 (SPSS Inc. Released 2007. SPSS for Windows, Version 16.0. Chicago, SPSS Inc.). Statistical significance was accepted with $P < 0.05$.

RESULTS

There were no significant differences among the three study groups regarding age, gender, type of RA, and ASA classification. There were no significant intergroup differences in demographic data.

The prevalence of anxiety in patients preoperatively in our study is as shown in Table 1. All the three groups

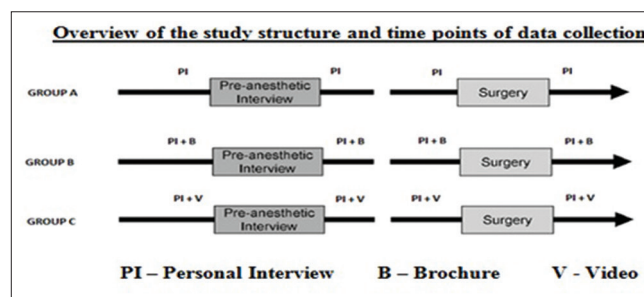


Figure 1: Overview of the study structure and time points of data collection

showed a significant decrease in anxiety after PAE, before surgery and after surgery ($P < 0.0001$). The decrease in anxiety (STAI) after PAE, before surgery, after surgery was different in the three groups and the video group showed a greater decrease in the anxiety levels (overall $P < 0.0001$; group-wise $P = 0.045$).

The decrease in anxiety (VAS-A) after PAE, before surgery, after surgery were comparable in all the three groups (overall $P < 0.0001$; group wise $P = 0.090$).

There was a significant overall decrease in anxiety levels before surgery using STAI and VAS ($P < 0.0001$) when compared to anxiety levels before PAE. All the groups showed a similar decrease in anxiety and were comparable (STAI: $P = 0.080$ and VAS: $P = 0.693$).

There was a significant overall decrease in anxiety levels after surgery using STAI and VAS ($P < 0.0001$) when compared to anxiety levels before PAE. Group C had a significant decrease in anxiety when compared to the other two groups using STAI ($P = 0.037$) whereas, using VAS all the groups caused a similar decrease in anxiety and were comparable ($P = 0.057$).

DISCUSSION

In this randomised controlled study, we found an overall decrease in the anxiety levels in all the three groups. Anxiety was allayed maximum in patients under Group C after surgery using the STAI scale followed by Group B and then Group A [Table 2].

Numerous investigators agree that the interview alone is an insufficient technique for the pre-anaesthetic visit^[5-7] and alternative complementary methods such as brochure and the use of video material might serve

the patients' interests.^[1] Video could reduce some of the problems of informing patients with low levels of literacy. Ample research has shown that video-assisted patient education, compared to interview alone or interview plus brochure, results in better patient satisfaction and improved patient knowledge regarding the anaesthesia procedures. The video group (Group C) in our study according to STAI scale had a significant decrease in anxiety levels post-surgery in comparison to the other two groups similar to Jjala *et al.*^[8]

STAI is the gold standard scale and is superior in detecting subtle changes in anxiety.^[2]

VAS may retain some usefulness in assessing patients with reading or comprehension difficulties or in situations of extreme anxiety. There was an overall decrease in the anxiety levels in all the groups and they were comparable. On the whole, comparative trends indicated a decrease in anxiety in the order Group C > B > A, though not statistically significant. Both the STAI and VAS (for anxiety) may be used to measure pre-operative anxiety but they have their limitations.

In short, all the three groups had an overall decrease in the anxiety levels using both STAI and VAS-A scale. The video group had a significant decrease in the anxiety levels using STAI scale in the post-operative period compared to the other two groups playing a crucial role in the allaying of anxiety perioperatively.

CONCLUSION

Personal interview, brochure and video are good at alleviating the anxiety throughout the perioperative period. Transfer of knowledge and information through video appears to be more effective in decreasing the anxiety and apprehension. It is more helpful in patients who are illiterate and who do not actively participate in the interview. Hence, a personal interview along with a video is a good option in allaying the anxiety.

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Conflicts of interest

There are no conflicts of interest.

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	Grade of anxiety	STAI	VAS
Number of anxious patients (%)	No	0-3.3	6.7-26.7
	Moderate	46.7-66.7	43.3-53.3
	Severe	30-53.3	30-40

STAI – State trait anxiety inventory; VAS – Visual analogue scale

Timing of assessment	Anxiety levels	
	STAI	VAS
After PAE	↓Group A=B=C	↓Group A=B=C
Before surgery	↓Group A=B=C	↓Group A=B=C
After surgery	↓↓↓Group C > ↓↓Group B > ↓Group A	↓Group A=B=C

↓ – Decrease; ↓↓ – Greater decrease; ↓↓↓ – Greatest decrease; STAI – State trait anxiety inventory; VAS – Visual analogue scale; PAE – Pre-anaesthetic evaluation

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