

Research Article

Effect of a 5-minute Educational Video Versus Conventional Verbal Counselling on Preoperative Anxiety in Patients Undergoing Elective Surgery: A Prospective Randomized Controlled Study

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Abstract

Background

Preoperative anxiety is experienced by a substantial proportion of patients undergoing elective surgery and is associated with increased perioperative stress responses, higher anaesthetic requirements, postoperative pain, prolonged recovery, and reduced patient satisfaction. Conventional preoperative counselling is usually provided verbally; however, the quality and consistency of information may vary between healthcare providers. Short educational videos offer standardized information and may improve patient understanding while reducing anxiety.

Aim

To compare the effectiveness of a five-minute educational video with conventional verbal counselling in reducing preoperative anxiety among adult patients scheduled for elective surgery.

Methods

This prospective randomized controlled study included 120 adult patients (ASA physical status I–II) aged 18–65 years undergoing elective surgery under general or regional anaesthesia. Participants were randomly allocated into two equal groups. Group V received a standardized five-minute educational video explaining the perioperative process, whereas Group C received conventional verbal counselling by an anaesthesiologist. Anxiety was assessed using the Amsterdam Preoperative Anxiety and Information Scale (APAIS) before counselling and one hour after the intervention. Patient satisfaction with preoperative

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counselling was assessed using a 10-point Likert scale. Haemodynamic parameters were also recorded before induction of anaesthesia.

Results

Both groups demonstrated a reduction in anxiety after counselling; however, the reduction was significantly greater in the video group. Mean APAIS anxiety scores decreased from 15.1 ± 2.7 to 9.3 ± 2.5 in Group V compared with 14.8 ± 2.9 to 12.6 ± 2.8 in Group C ($p < 0.001$). Patient satisfaction scores were significantly higher in the video group (9.1 ± 0.8 vs 7.8 ± 1.1 , $p < 0.001$). Heart rate and systolic blood pressure before induction were also significantly lower in Group V.

Conclusion

A brief standardized educational video was more effective than conventional verbal counselling in reducing preoperative anxiety and improving patient satisfaction. Incorporating short educational videos into routine preoperative assessment may represent a simple, inexpensive, and reproducible strategy to improve perioperative patient care.

Keywords: Preoperative anxiety, Video counselling, Elective surgery, Patient education, APAIS, Patient satisfaction

Introduction

Undergoing surgery is often accompanied by significant emotional distress. Fear of anaesthesia, postoperative pain, surgical complications, loss of control, and uncertainty regarding recovery contribute to elevated anxiety levels before surgery. Previous studies have reported that 60–80% of surgical patients experience varying degrees of preoperative anxiety.

Excessive anxiety has physiological and psychological consequences. Activation of the sympathetic nervous system increases circulating catecholamines, leading to tachycardia, hypertension, increased myocardial oxygen demand, and greater anaesthetic requirements. High anxiety has also been associated with increased postoperative pain, nausea, delayed recovery, prolonged hospital stay, and reduced patient satisfaction.

Adequate preoperative counselling plays a crucial role in alleviating anxiety. Conventional counselling involves verbal explanations by anaesthesiologists during pre-anaesthetic evaluation. Although effective, the quality and completeness of counselling may vary depending on available time, clinician experience, communication skills, and patient understanding.

Educational videos provide standardized information in a visually engaging manner. Visual demonstration of operating room procedures, monitoring equipment, anaesthesia techniques, and postoperative recovery

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can improve patient comprehension and reduce fear associated with unfamiliar hospital environments. Furthermore, videos ensure uniform delivery of information and require minimal additional manpower once developed.

Despite increasing availability of multimedia educational tools, evidence regarding their effectiveness in reducing anxiety among Indian surgical patients remains limited. The present study was therefore undertaken to compare the effectiveness of a five-minute educational video with conventional verbal counselling in reducing preoperative anxiety among adult patients undergoing elective surgery.

Aim

To compare the effectiveness of a five-minute educational video with conventional verbal counselling in reducing preoperative anxiety among patients undergoing elective surgery.

Objectives

Primary Objective

To compare post-counselling APAIS anxiety scores between the two groups.

Secondary Objectives

- To compare changes in heart rate before induction.
- To compare systolic and diastolic blood pressure before induction.
- To compare patient satisfaction with preoperative counselling.
- To compare willingness to recommend the counselling method to future patients.

Materials and Methods

Study Design

Prospective randomized controlled parallel-group study.

Study Setting

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Study Duration

12 months.

Ethical Approval

Institutional Ethics Committee approval was obtained before commencement of the study. Written informed consent was obtained from all participants.

Sample Size

Based on previous studies demonstrating a mean difference of 2.5 points in APAIS scores with a standard deviation of 4 points, a minimum sample of 54 patients per group was calculated for 80% power and 5% alpha error. Considering a 10% dropout rate, 60 patients were included in each group (total n=120).

Inclusion Criteria

- Age 18–65 years
- ASA Physical Status I and II
- Elective surgery
- Ability to understand the local language or English
- Provided written informed consent

Exclusion Criteria

- Psychiatric illness
- Cognitive impairment
- Hearing or visual disability
- Emergency surgery
- Previous major surgery within one year
- Chronic anxiolytic medication
- Refusal to participate

Randomization

Patients were randomized using computer-generated random numbers in a 1:1 ratio. Allocation concealment was achieved using sequentially numbered opaque sealed envelopes.

Intervention

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Group V (Video Group)

Patients watched a standardized five-minute educational video in their preferred language explaining:

- Admission process
- Operation theatre environment
- Anaesthesia procedure
- Monitoring equipment
- Recovery room
- Pain management
- Frequently asked questions

Group C (Conventional Group)

Patients received routine verbal counselling by an anaesthesiologist covering the same topics without audiovisual aids.

Outcome Measures

Primary Outcome

APAIS anxiety score one hour after counselling.

Secondary Outcomes

- Change in APAIS score
- Heart rate before induction
- Systolic blood pressure before induction
- Diastolic blood pressure before induction
- Patient satisfaction score (0–10)
- Recommendation score

Data Collection

Baseline demographic data including age, gender, BMI, education level, ASA status, and previous surgical history were recorded.

APAIS questionnaire was administered before counselling and one hour after counselling by an investigator blinded to group allocation.

Vital signs were recorded immediately before induction of anaesthesia.

Statistical Analysis

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Data were analysed using SPSS version 27. Continuous variables were expressed as mean±standard deviation and categorical variables as frequencies and percentages. Independent Student's t-test was used to compare continuous variables between groups. Paired t-test assessed within-group changes. Chi-square test was used for categorical variables. A p-value less than 0.05 was considered statistically significant.

Results

Patient Flow

A total of 132 patients were assessed for eligibility during the study period. Twelve patients were excluded (8 did not meet the inclusion criteria and 4 declined participation). The remaining 120 patients were randomized equally into the Video Counselling group (Group V, n=60) and the Conventional Verbal Counselling group (Group C, n=60). All randomized patients completed the study and were included in the final analysis.

Baseline Characteristics

The two groups were comparable with respect to age, sex, body mass index (BMI), ASA physical status, educational status, and type of surgery. No statistically significant differences were observed in baseline demographic variables ($p > 0.05$).

Table 1. Baseline demographic characteristics

The demographic characteristics were well balanced between the study groups.

Table 1. Baseline demographic characteristics

Variable	Group V (n=60)	Group C (n=60)	p-value
Age (years)	41.8 ± 11.4	42.5 ± 10.9	0.72
Male, n (%)	34 (56.7)	32 (53.3)	0.71
Female, n (%)	26 (43.3)	28 (46.7)	0.71
BMI (kg/m ²)	24.9 ± 3.5	25.2 ± 3.2	0.64
ASA I, n (%)	38 (63.3)	36 (60.0)	0.70
ASA II, n (%)	22 (36.7)	24 (40.0)	0.70

Preoperative Anxiety Scores

Baseline APAIS anxiety scores were comparable between the groups (p = 0.56).

Following counselling, anxiety scores decreased significantly in both groups. However, the reduction was significantly greater in Group V than in Group C.

Table 2. Comparison of APAIS anxiety scores

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APAIS Score	Group V	Group C	p-value
Baseline	15.1 ± 2.7	14.8 ± 2.9	0.56
After counselling	9.3 ± 2.5	12.6 ± 2.8	<0.001
Mean reduction	5.8 ± 2.0	2.2 ± 1.8	<0.001

The video counselling group demonstrated a significantly greater reduction in anxiety compared with the conventional counselling group.

Haemodynamic Parameters Before Induction

Patients in Group V had significantly lower heart rate and systolic blood pressure immediately before induction of anaesthesia.

Table 3. Pre-induction haemodynamic parameters

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Variable	Group V	Group C	p-value
Heart rate (beats/min)	76.8 ± 8.4	82.6 ± 9.1	0.001
Systolic BP (mmHg)	122.5 ± 10.6	128.9 ± 11.4	0.003
Diastolic BP (mmHg)	77.6 ± 7.3	80.2 ± 7.8	0.06

A statistically significant reduction in heart rate and systolic blood pressure was observed in the video counselling group.

Patient Satisfaction

Patients who received video counselling reported significantly higher satisfaction with the preoperative counselling process.

Table 4. Patient satisfaction scores

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Variable	Group V	Group C	p-value
Satisfaction score (0–10)	9.1 ± 0.8	7.8 ± 1.1	<0.001
Would recommend the counselling method, n (%)	57 (95.0)	47 (78.3)	0.008

Variable| Group V| Group C| p-value

Satisfaction score (0–10)| 9.1 ± 0.8| 7.8 ± 1.1| <0.001

Would recommend the counselling method, n (%)| 57 (95.0)| 47 (78.3)| 0.008

Patients in Group V expressed greater satisfaction and were more likely to recommend the counselling method to other surgical patients.

Adverse Events

No adverse events related to either counselling method were reported. All patients completed the assigned intervention without interruption.

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Discussion

The present prospective randomized controlled study evaluated the effectiveness of a standardized five-minute educational video compared with conventional verbal counselling in reducing preoperative anxiety among adult patients undergoing elective surgery. The principal finding was that patients who received video-assisted counselling experienced a significantly greater reduction in anxiety scores, lower pre-induction heart rate and systolic blood pressure, and higher satisfaction with the counselling process than those who received conventional verbal counselling.

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Preoperative anxiety is a common psychological response among surgical patients and is associated with activation of the sympathetic nervous system, increased circulating catecholamines, higher anaesthetic requirements, increased postoperative pain, delayed recovery, and reduced patient satisfaction. Therefore, effective strategies to reduce anxiety are an important component of perioperative care.

In the present study, baseline demographic characteristics and pre-intervention anxiety scores were comparable between the two groups, confirming successful randomization and allowing a valid comparison of the interventions. Both counselling methods reduced anxiety, indicating that providing information before surgery is beneficial regardless of the delivery method. However, the reduction in APAIS scores was significantly greater in the video counselling group, suggesting that audiovisual education enhances patient understanding and reassurance beyond conventional verbal explanations.

Several factors may explain the superiority of video counselling. First, standardized videos ensure that all patients receive complete and uniform information, eliminating variability in counselling between healthcare providers. Second, visual demonstration of the operating theatre, monitoring equipment, anaesthetic procedures, and recovery area familiarizes patients with the perioperative environment, thereby reducing fear of the unknown. Finally, audiovisual learning engages multiple sensory pathways, improving comprehension and retention of information compared with verbal communication alone.

Patients in the video group also demonstrated lower pre-induction heart rates and systolic blood pressure. These findings support the hypothesis that improved psychological preparedness attenuates sympathetic activation before anaesthesia. Although the difference in diastolic blood pressure did not reach statistical significance, the overall haemodynamic profile suggested a lower stress response in patients who viewed the educational video.

Patient satisfaction was significantly higher among participants receiving video counselling. Most patients reported that the video was easy to understand, informative, and reassuring. A large majority stated that they would recommend this method of counselling to future surgical patients. Improved satisfaction may contribute to greater trust in healthcare providers and a more positive perioperative experience.

The findings of the present study are consistent with previous reports demonstrating that multimedia educational interventions reduce preoperative anxiety and improve patient satisfaction. Several randomized studies have shown that audiovisual education improves understanding of anaesthetic procedures, decreases anxiety scores, and enhances communication between patients and anaesthesiologists. Our findings further support incorporating brief educational videos into routine pre-anaesthetic evaluation, particularly in busy hospitals where consultation time may be limited.

From a practical perspective, a five-minute educational video represents an inexpensive, scalable, and reproducible intervention. Once developed, the same video can be used repeatedly without increasing the workload of healthcare personnel. Videos can also be translated into regional languages, making them suitable for diverse patient populations and improving accessibility.

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Strengths of the Study

- Prospective randomized controlled study design.
- Standardized intervention delivered uniformly to all participants.
- Use of a validated anxiety assessment tool (APAIS).
- Inclusion of both psychological and physiological outcome measures.
- High participant compliance with no loss to follow-up.
- Intervention that is simple, low-cost, and easily implementable in routine clinical practice.

Limitations

The study was conducted at a single tertiary care centre, which may limit the generalizability of the findings. Anxiety was measured only during the immediate preoperative period, and postoperative outcomes such as pain scores, analgesic consumption, recovery quality, and length of hospital stay were not evaluated. Blinding of participants was not feasible because of the nature of the intervention. Future multicentre studies with larger sample sizes and long-term follow-up are recommended to evaluate the effect of video counselling on broader perioperative outcomes.

Clinical Implications

Routine incorporation of a short educational video during the pre-anaesthetic assessment has the potential to improve patient understanding, reduce anxiety, optimize haemodynamic stability before induction, and enhance overall patient satisfaction. This strategy may be particularly valuable in high-volume institutions where consultation time is limited and standardization of patient education is desirable.

Conclusion

A standardized five-minute educational video was significantly more effective than conventional verbal counselling in reducing preoperative anxiety among patients undergoing elective surgery. Patients receiving video counselling demonstrated greater reductions in APAIS anxiety scores, lower pre-induction heart rate and systolic blood pressure, and higher satisfaction with the counselling process. The intervention is simple, inexpensive, reproducible, and can be incorporated into routine preoperative assessment without additional manpower. Wider adoption of video-assisted preoperative counselling may improve the quality of perioperative care and enhance the overall patient experience.

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Conflicts of Interest

The authors declare that there are no conflicts of interest.

Ethical Approval

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