

## ORIGINAL ARTICLE

# Investigating the Link Between Video-driven Pre-operative Education and Patient Satisfaction in Cardiac Surgery

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## Abstract

**Background:** Diseases affecting heart have become predominant in our country. Cardiac surgeries are performed in cases where medical management alone does not suffice for the treatment. Patients undergoing cardiac surgery can have various concerns and expectations. Pre-operative education can help them clarify doubts and misconceptions, which would in turn aid in faster recovery and better satisfaction.

**Aim:** The goal of this study was to ascertain the effect of pre-operative video-assisted teaching on satisfaction of patients undergoing cardiac surgery.

**Methods:** Quasi experimental design was adopted for the study which included forty cardiac surgery patients. Patients satisfying the inclusion criteria were allocated randomly to intervention and control groups. Pre-operative video-assisted teaching program was provided to patients in the intervention group before surgery. Control group received only routine instructions from the hospital. Patient satisfaction was assessed on discharge using the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ). The SPSS software version 20 was employed for data analysis. Independent t test was applied for inter-group comparison.

**Results:** The patient satisfaction mean scores for the intervention and control groups were 107.35 (1.14) and 48.37 (5.14), respectively. The intervention group's patient satisfaction levels were noticeably higher in comparison to the other group.

**Conclusion:** Results revealed that video-assisted teaching program could improve the levels of satisfaction among patients undergoing cardiac surgery. Educating the patients and clarifying their doubts through regular communication by nurses while delivering quality care can make a huge impact.

**Keywords:** Pre-operative teaching program, Patient satisfaction, Patients, Cardiac surgery

## Introduction

Cardiac diseases have emerged as a major health concern in our country, necessitating surgical interventions alongside medical management options. Across the globe, low- and middle-income countries account for at least 75% of deaths from cardiovascular diseases (CVD). WHO has set target to reduce the number of heart attacks to at least 50% by 2025.<sup>1</sup> Patients undergoing cardiac surgeries usually express various concerns and expectations. Nurses need to identify their apprehensions and help to clarify doubts to facilitate faster recovery, minimal post op complications and better patient satisfaction. Quality of nursing care is directly proportional to patient satisfaction.<sup>2</sup>

One of the key components of nursing care is preoperative patient education, which can have a positive impact on both physical and psychological outcomes. It helps the patients to prepare mentally and would reduce their fear and anxiety related to the outcome of surgery. Organized and well planned pre-operative education can minimize post-operative complications and improve patient satisfaction. Video assisted teaching can be more effective as it is interesting, more flexible, easy to comprehend and is cost effective.<sup>3</sup> Evidence supports that providing pre-operative education in an audio-visual format works better in reducing anxiety in bariatric surgery patients compared to traditional written and verbal instructions.<sup>4</sup>

Patient centered care is vital in considering individual preferences of patients and to practice this, patient feedback is very essential. Patient experience regarding communication, meeting needs and quality care provides input on how effectively nursing care can be executed and what measures can be taken to improve the same. Good communication and coordination, providing right information, clean and comfortable environment, timely attention to needs and consistent delivery of quality nursing care will promote patient satisfaction and successful recovery of patients.<sup>5</sup>

A randomized controlled trial (RCT) among 100 elective coronary artery bypass graft (CABG) patients and their family members revealed that providing comprehensive preoperative information would result in improved levels of satisfaction among patients and their families and decreased levels of patient's anxiety.<sup>6</sup> A comprehensive analysis of 29 publications revealed that

the application of educational strategies can significantly improve patients' levels of knowledge and care, while also lowering stress and financial burden in patients undergoing cardiac surgery.<sup>7</sup>

A cross sectional study involving written survey among 257 patients who had undergone elective cardiac surgery suggested that pre-operative verbal education related to occupational therapy would aid in lowering anxiety levels.<sup>8</sup>

A survey on patient satisfaction was conducted by the Hospital Consumer Assessment of Health Care Providers and Systems among 12572 patients who had heart surgeries. The study's conclusions support the idea that decreased patient satisfaction following heart surgery is correlated with post-operative problems.<sup>9</sup> Preoperative education can help patients undergoing heart surgery feel less anxious, according to a systematic review and meta-analysis.<sup>10</sup>

Studies have proven that pre-operative education influenced cardiac surgery patients in different ways in terms of speedy recovery, less pain and anxiety, less number of days in ICU, reduced duration of hospital stay and better patient and family satisfaction.

The intent of this study was to ascertain the impact of a preoperative video-assisted education program on satisfaction of patients undergoing cardiac surgery.

## Materials and Methods

To determine the impact of a preoperative video-assisted teaching program on satisfaction of patients undergoing heart surgery, a quasi-experimental design was used.

Using a purposive sampling technique, patients undergoing cardiac surgery were chosen in accordance with the inclusion criteria. A random assignment of 20 patients each to the intervention and control groups was done after selection of patients.

Socio demographic and clinical profile was collected from the samples. Pre-operative video assisted teaching program was provided to patients in the intervention group before surgery. Control group received only routine instructions from the hospital. Patient satisfaction was assessed on discharge for both the groups.

Data was collected using socio demographic questionnaire, clinical profile and by using Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ).<sup>11</sup> The PSNCQQ includes statements

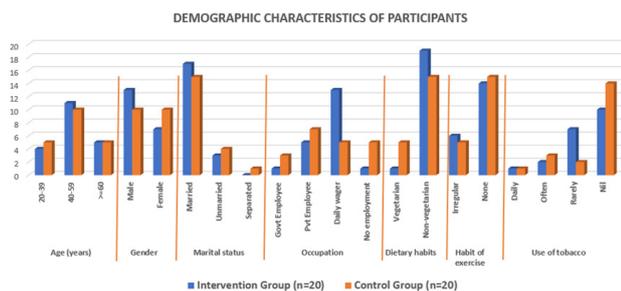
concerning various aspects of care which is graded against five levels from poor to excellent. Prior to the study, the validity and reliability of the Kannada version of the scale was established.

**Statistical Analysis**

Version 20 of the SPSS was employed to examine the data. The Kolmogorov Smirnov test was used to check the normality of variables included. For the sociodemographic and clinical data, descriptive statistical measures such as mean, standard deviation, and percentage were computed. Patient satisfaction is the study's dependent variable, while the preoperative video assisted instruction program is its independent variable. An independent t test was applied to compare groups. A P-value of 0.05 was chosen, which is statistically significant.

**Results**

Figure 1 displays the individuals' sociodemographic information. Figure 1 shows that the two groups' demographic factors did not differ significantly ( $P > 0.05$ ). Approximately 50% of the patients belonged to 50-59 years age category in both the groups. Males comprised 60% of the intervention group, whereas females were on an equal basis in the control group. Thirty-five percent of the intervention group waded every day. The majority of people in the intervention and control groups were not vegetarians. Approximately 70-75% of patients did not regularly exercise. The majority of both the groups did not regularly smoke (Figure 1).



**Figure 1:** Demographic characteristics of the participants

Clinical factors did not significantly differ between the two groups ( $P > 0.05$ ). In the intervention group, 50% of patients had a coronary artery disease (CAD) diagnosis, compared to 55% of patients in the control group. Cardiac illness was observed in 55% of participants for 1-2 years duration in the control group. In both the groups, between 70 and 75 percent of patients had no co-morbidities (Table 1).

**Table 1:** Demographic characteristics of the participants

Clinical Variables	Intervention Group (n=20)	Control Group (n=20)
<b>BMI</b>		
< 18.5	2 (10 %)	4 (20%)
18.5-25	8 (40 %)	6 (30%)
25-30	7 (35%)	6 (30%)
>30	3 (15.0%)	4 (20%)
<b>Diagnosis</b>		
CAD	10 (50%)	11 (55%)
Chronic constrictive	0	1 (5%)
Pericarditis	0	2 (10%)
CHD	1 (5%)	0
RCA-Aneurysm	9 (45%)	6 (30%)
RHD		
<b>Duration of cardiac illness</b>		
Less than six months	1 (5%)	1 (5%)
six months to 1 year	6 (30%)	0
1 to 2 years	7 (35%)	11 (55%)
>two years	6 (30%)	8 (40%)
<b>Type of surgery</b>		
Aneurysm repair	1 (5%)	0
AVR	1 (5%)	2 (10%)
CABG	10 (50%)	11 (55%)
DVR	0	2 (10%)
DVR, TV plasty	2 (10%)	0
MVR	2 (10%)	1 (5%)
MVR, AVR	1 (5%)	0
MVR, TV plasty	3(15%)	1 (5%)
Pericardiectomy	0	1 (5%)
TOF Repair	0	2 (10%)
<b>Previous history of cardiac surgery</b>		
Yes	2 (10%)	2 (10%)
No	18 (90%)	18 (90%)
<b>Comorbidities</b>		
DM	2 (10%)	2 (10%)
DM, HTN	2 (10%)	2 (10%)
HTN	1 (5%)	2 (10%)
Nil	15 (75%)	14 (70%)
<b>On Regular medication</b>		
Yes	11 (55%)	9 (45%)
No	9 (45%)	11 (55%)

BMI: Body mass index; CAD: Coronary artery disease; CHD: congenital heart defect; RCA: right coronary artery; RHD: Rheumatic heart disease; AVR: Aortic valve replacement; CABG: coronary artery bypass graft; DVR: Double valve replacement; TV plasty: Tricuspid valve plasty; MVR: Mitral valve replacement; TOF: Tetralogy of Fallot; DM: Diabetes mellitus; HTN: Hypertension

**Table 2:** Comparison of patient satisfaction between groups

Patient satisfaction	Intervention Group (n=20)		Control Group (n=20)		t value	P value
	Mean	SD	Mean	SD		
On discharge	107.35	1.14	48.37	5.14	50.035	<0.001

The patient satisfaction mean scores for the intervention and control groups are displayed in Table 2. The control group's mean score was 48.37 (5.14), while the intervention group's mean score was 107.35 (1.14). The intervention group's patient satisfaction levels were noticeably higher in comparison to the other group.

$P < 0.001$  indicates that the intervention was effective, and there was a statistically significant difference in patient satisfaction between the groups (Table 2).

## Discussion

This study focused on the effectiveness of a preoperative video-assisted education program in enhancing patient satisfaction. It was conducted among 40 patients undergoing heart surgeries.

Multidisciplinary pre-admission patient education is advised for elective heart surgery patients as it would aid in reducing anxiety, according to a cross-sectional study involving 375 patients.<sup>8</sup> The current study also proved the necessity of pre-operative education.

An RCT was conducted in China including 153 adult patients undergoing heart surgery to investigate the effect of preoperative education on outcomes following surgery. Anxiety, pain, depression, length of ICU stay, and post-operative hospital stay were among the study's outcomes. The number of hours spent in the intensive care unit, anxiety, and depression were found to decrease with pre-operative education; however, the duration of post-operative hospital stay remained unchanged. The preoperative video-assisted instruction approach in the current study was effective in enhancing patient satisfaction.<sup>12</sup>

A study was conducted on satisfaction with pre-operative education among 422 elective surgical patients in Ethiopia. 84% of respondents stated that they were pleased with their pre-operative instructions, which is in line with the findings of present study.<sup>13</sup>

To ascertain the impact of pre-operative education on post-operative results and patient satisfaction, another quasi-experimental study was carried out among 69 patients undergoing heart surgery. After evaluating patient satisfaction, post-operative problems, and length of hospital stay, it was determined that nurse-led pre-operative education improved patient satisfaction in patients scheduled for heart surgery, including the current study, and had a positive impact on reducing hospital stay duration.<sup>14</sup>

The results showed that video-assisted teaching programs was effective in improving the level of patient satisfaction among those undergoing cardiac surgery.

## Conclusion

The study's findings provided insight into the efficacy of video-assisted teaching program on patient satisfaction among patients undergoing cardiac surgery. This study provided valuable insights into the interplay between preoperative education, effective communication and nursing care in improving patient satisfaction. Nurses can contribute significantly towards enhancing patient satisfaction through the delivery of high-quality nursing care blended with regular communication. This would ultimately result in better post-operative outcomes in cardiac surgery patients.

The findings from this research are beneficial in perioperative care planning for patients undergoing heart surgery so that they can feel confident, have fewer difficulties, recover more quickly, and have better post-operative results.

## Conflict of Interest

Nil

## Acknowledgement

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