

**A STUDY TO ASSESS THE ROLE OF COUNCELLING
PRE-OPERATIVE ON THE ANXIETYLEVEL OF PATIENTS UNDERGOING CABG**

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Background

Coronary artery bypass graft surgery is an important treatment for the patients with coronary artery disease to reduce angina and enhance the quality of life. Anxiety is a usual reaction to a stressful situation and is existing in patients awaiting surgery. Coronary artery bypass graft surgery is an important treatment for the patients with coronary artery disease to reduce angina and enhance the quality of life. Anxiety is a usual reaction to a stressful situation and is existing in patients awaiting surgery.

(CAD) is one of the leading causes of morbidity and mortality in both the developing and the developed countries (Sekhri et al., 2014). Coronary artery bypass graft (CABG) surgery is one of the important treatment for the patients with CAD, bearing in mind that the technique reduces angina and enhances the quality of life of the patients (McKenzie, Simpson, & Stewart, 2010). The CABG is the most commonly performed surgery throughout the world, with an annual estimate of 686000 CABG surgeries have been conducted in the United States.

In 2010, the annual number of CABG surgery in India was about 60,000 (Kaul & Bhatia, 2010) and in 2012 the number was about 1.5 lakhs (Panda, 2012). In 2012, an annual number of CABG surgery in England was about 20000 in the United Kingdom (Bhatnagar, Wickremasinghe, Williams, Rayner, & Townsend, 2015). CABG have been considered a routine operation for more than 30 years. In South Africa, approximately 8400 coronary bypass operations are performed per year (The Heart & Stroke Foundation, 2016).

Undergoing cardiac surgery may be a stressful experience for the patients physically and psychologically. The reason for stress while undergoing major cardiac surgery may be due to fear and anxiety on the outcomes of the surgery as a vital organ, the heart, is involved. While waiting for major heart surgery significant physical and psychological stressors, including higher anxiety, uncertainties, depression, and worries regarding outcomes of the surgery are typically experienced by the patients. These factors may aggravate the symptoms of existing disease and can have an adverse effect on physiological parameters during anaesthesia, before and after surgery, and also can lead to disturbed recovery after the surgery (Guo, East, & Arthur, 2012).

The major changes in a general routine lifestyle provoke anxiety in the individuals, and one of the incidents is undergoing coronary artery bypass grafting. Hospitalization, regardless of any medical condition, is familiar to cause anxiety in the patients admitted for surgical treatment. If

not recognized sustained anxiety builds stress which may consequently disturb the patients and their prognosis (Goebel et al., 2011, Yilmaz et al., 2012). In the concept of the pre-operative nursing care, caring for the pre-operative anxiety is more challenging. The majority of the patients who are shortlisted for major heart surgery experience anxiety and it is an anticipated reaction and widely accepted (Nigussie, Belachew, & Wolancho, 2014).

Anxiety is a state of uneasiness and apprehension, as about uncertainties. In human life, people will experience some anxiety as they face life threatening situations. Anxiety is not just a feeling of uneasiness but a serious problem that increases physical health problems and risk of depression. Surgery is a challenging situation in the life of patient and relatives. Surgery often increases stress about what happens during operation. Almost all often have fear about surgery but most of them will not express it. If the pre-operative anxiety is not relieved, the patient can develop post-operative complications easily.

Coronary surgery moved in to modern era in 1950's. CABG is useful in patients with asymptomatic ischemia or mild angina who have three-vessel disease (AHA Guidelines for CABG). Surgery to improve blood flow in patients with moderate to severe levels of blood flow restriction to the heart reduces the risk of cardiac death more than medication alone (Dallas, 2003). CABG surgery is among the most common operations performed in the world and accounts for more resources expended in the cardiovascular medicine than any other single procedure. The emotions of patients in the process of undergoing coronary artery bypass graft surgery have an influence on the rate of mortality (Uys 1993)

SCTIMST is one of the major centres in India where CABG is done successfully. Two hundred and eleven patients underwent CABG in last 6 months (January to June 2006). Left main coronary artery disease (LMCA) is still a widely accepted indication for coronary artery bypass surgery.

Patients who are admitted for CABG are found to be more anxious about the outcome of surgery. They also feared about the complications. The patient's anxiety level is an indication of post-operative problems. Pre-operative anxiety increases the chance of post-operative pain, post-operative analgesic consumption, and also hospital stay and recovery. In this situation pre-operative teaching plays an important role in relieving anxiety and reducing anxiety related complications.

Definition of terms

Pre-operative teaching: - An interactive process of providing information and explanation about surgical processes, expected patient behaviour and anticipated sensations and providing appropriate reassurance and therapeutic listening to patients who are about to undergo surgery.

In the study, pre-operative teaching means planned health education about CABG surgery, expected patient behaviour and anticipated sensation and providing appropriate reassurance and therapeutic listening to patients who are about to undergo surgery using a health

education pamphlet.

CABG surgery: - is a type of heart surgery that reroutes or "bypasses", blood around clogged coronary arteries to relieve chest pain and reduce the risk of heart attack.

Anxiety

Objectives

1. to assess pre-operative anxiety of patients undergoing CABG surgery.
2. to assess the effect of preoperative teaching on the anxiety level of patients undergoing CABG Surgery

Review of Literature

The review of literature relevant to this study is arranged in the following situations.

- a) Studies on the effect of pre-operative teaching on anxiety level of patients scheduled for CABG surgery.
- b) Studies for reducing anxiety by pre-operative education.

Ku SL (2002) conducted a study to assess the effects of phase I cardiac rehabilitation intervention on anxiety of patients hospitalized for coronary artery bypass graft (CABG) surgery in the Veterans General Hospital Taipei, Taiwan, Republic of China. 70 patients were randomly assigned to (1) the phase I cardiac rehabilitation intervention (experimental) group and (2) the non-intervention (comparison) group. Ultimately, 60 subjects were included in the data analyses. Psychological status was evaluated by the state of anxiety scores on the State-Trait Anxiety Inventory. Anxiety scores were measured 3 times: (1) after admission, before the patient underwent

CABG surgery; (2) the day before the patient underwent CABG surgery; and (3) the day of discharge from the hospital. Individual instruction in progressive exercises and daily activities according to the phase I cardiac rehabilitation program (Chinese manual) were used during hospitalization. Data analysis was performed with use of generalized estimating equations (GEE) to assess the between- and within-group variations. The mean anxiety for all subjects before undergoing CABG surgery was 42.6. The mean anxiety on the day before undergoing CABG surgery was 33.7 in the experimental group and 49.8 in the comparison group; there were statistical differences, with a $P < .05$ level of significance between these 2 groups. The mean anxiety on the day of discharge in the experimental group was 28.6 and, in the comparison, group was 38.4; there were statistical differences, with a $P < .05$ level of significance between these 2 groups. These results have been supported by similar studies. This finding suggests that application of phase I cardiac rehabilitation intervention can reduce the anxiety level during hospitalization of patients undergoing CABG surgery.

Fitzsimons D (2003) conducted a study to describe the nature and intensity of anxiety felt by patients awaiting coronary artery bypass surgery. A prospective, cross-sectional study design was used, with a qualitative interview and State Trait Anxiety Inventory. Study

took place in 2 large tertiary referral hospitals in Northern Ireland. Seventy patients were randomly selected within 4 weeks of their referral for cardiac surgery. Participants in this study cited 5 main sources of anxiety: chest pain, uncertainty, fear of the operation, physical incapacity, and dissatisfaction with the care offered to them. The State Trait Anxiety Inventory scores of this sample were high at all stages of data collection. There was a statistically significant relationship ($P \leq .01$) between increasing angina and state and trait anxiety. This study identified the major sources of anxiety described by this sample. In doing so it might facilitate greater understanding of the needs of these patients and assist in the development of specific interventions to help alleviate this problem. .

Salameh P (Pubmed 2006) conducted a study to assess the impact of preoperative patient education on anxiety and recovery of the Lebanese patients undergoing open-heart surgery. This quasi-experimental study was conducted at a large hospital in Beirut, which is a university hospital. All patients who were admitted to the cardiac surgery unit and who met the inclusion criteria were randomly assigned to as experimental or a control group. The patients in the experimental group ($n = 57$) received a special educational session on their admission day and had a tour of the cardiac surgery unit. The control group ($n = 53$) followed the routine hospital protocol, which encompassed almost no preoperative education or a tour. Anxiety was assessed using the Beck Anxiety Inventory while recovery was measured by physiological outcomes, days of hospital stay, and presence of complications. A Multivariate Analysis of Covariance (MANCOVA) was performed with adjustment for potential confounding variables. Borderline statistical significance was noted for the experimental group in terms of preoperative and postoperative anxiety. The experimental group had a shorter time from awakening to extubating. Unlike most studies published previously, which noted the benefits of preoperative patient education, this study with the Lebanese clients, failed to support earlier findings. The results suggested that patient education should not be initiated before assessing the patient's cultural and social background.

Methodology

Introduction

The methodology can properly refer to the theoretical analysis of the methods appropriate to a field of study or to the body of methods and principles of particular to a branch of knowledge.

Research approach

To accomplish the objectives of the study the investigator used descriptive approach. The approach is made quantitative by using Speilberger's state-trait anxiety inventory. The aim of the study to assess the effectiveness of pre-operative teaching on anxiety level of patients before and after CABG surgery.

Research design

Research design is the conceptual structure within which the research is conducted. It facilitates the smooth sailing of various research operations and thereby making research as efficient as possible yielding maximum information with minimal expenditure of effort, time and money. The research design selected for the present study was before and after design.

Setting

The study was conducted in the cardio-thoracic ward at SCTIMST, TVM. Cardio Thoracic ward is divided into Male ward, Female ward & Intermediate Intensive Care unit (IIVICU). Capacity of the ward is 35 beds. Pre- and post-operative patients are admitted in the Cardio - Thoracic ward. It is located at the 5th floor of Surgical Block. Common cases admitted in this ward are operated cases of Valve Replacement, CABG, ASD closure, Pneumonectomy, Lobectomy and Aneurysm repair. The rationale for selecting SCTIMST for the study was the investigators familiarity with this institution. Cardio-Thoracic Surgery ward is located at 5th floor of Surgical Block Population

The population taken for the study was the patients who had undergone CABG surgery at SCTIMST, TVM. Data collected from September 2018 to October 2018, who admitted for

CABG surgery.

Samples and sampling technique

Sample is a subset of unit that composes the group. In the present study total 25 patients who had undergone CABG surgery was selected as samples.

Sample technique refers to the process of selecting a portion of population to represent-
entire population.

Random sampling technique used for the present study.

Inclusion criteria:-Both male and female patients who had undergone CABG surgery.

:-Patients who all are willing for the study

:-Conscious, oriented co-operative patient

Exclusion criteria:-Patients who are not willing for the study

Development of data collection tool

Data collection tool refers to the instrument, which was constructed to obtain relevant data. In this study the investigator used the structured Spielberger's state-trait anxiety inventory for assessing pre-operative and to assess post-operative anxiety. The tool consists of 36 questions.

Description of tool

The tool used in the present study consisted of three sections.

Part I: - for obtaining personal data & general information

Part II: - for obtaining state-trait anxiety score before surgery.

Part III: - for obtaining state-trait anxiety score after surgery

Data collection

For data collection frontal permission was obtained from the authorities. Period of data collection from September 2018 to October 2018. The purpose of the study and the confidentiality of their responses were assured. The patients were made to sit comfortably and interviewed with the structured tool. The day before surgery assessed and proper teaching given for Experimental group. No special Health Education given for Control group. Before discharge (one day before discharge) post-operative anxiety assessed for both Experimental and Control group. The anxiety scored by using Spielberger's state-anxiety inventory. The time taken for the completion for the entire procedure was 10 to 20mts.

ANALYSIS AND INTERPRETATION OF DATA

Interpretation refers to the process of making sense of the results and of examining the implication of the finding within a broader content.

The finding of the study was arranged and analysed under the following sections.

- Sections Distribution of subjects according to the demographic variable.
- A: Distribution of data according to the pre-operative STAI score.
- SectionB: Distribution of data according to the post-operative STAI score.
- SectionC: - Distribution of data according to pre & post-operative STAI score of
Section Experimental group.
- Section D: Distribution of data according to pre & post-operative STAI score of control
- group.
- Distribution of data according to pre & post-operative STAI score of both

Experimental & Control group. Distribution of sample according to age group

No	Age	Frequency	Percentage
1	42 - 48	6	20%
2	49 - 54	4	30%
3	54 - 58	6	10%
4	57- 63	2	30 %
5	64 - 69	2	10%
Total		20	100%

Total data presented on the table - 1 shows that 20% of objects belongs to the age group of <49, 30% of objects belonging to the age of<55, 10% of objects belongs to the age group <59,30% of objects belongs to the age group <64, 10% of objects belongs to <70.

Distribution of sample according to sex

No	Sex	Frequency	Percentage
	Male	16	70%
	Female		30%
Total		20	100%

Data presented on the table shows that 70% of objects belongs to Male group and 30% of objects belongs to Female group.

Distribution of data according to the pre-operative STAI Score.

Group	Average of Preoperative state anxiety score	Average of Preoperative Trait Anxiety score
Experimental	49.5	46
Control	47.5	45.1



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Distribution of data according to pre of post-operative STAI score of Experimental Group.
Distribution of data according to pre of post-operative STAI score of Experimental Group.

Control Group	Average of Pre-operative & Post-operative state anxiety score	Average of Pre & Post-operative Trait Anxiety score
Pre-Operative	47.5	45.1
Post-Operative	45.2	45.5

Distribution of Data according to Pre & Post-operative STAI score of both Experimental & Control Group

Group	Average of Preoperative State anxiety score	Average of Preoperative State Anxiety Score	Average of Pre-Operative Trait Anxiety Score	Average of Post-Operative Trait Anxiety Score
experimental	49.5	41.3	46	44.1
control	47.5	45.2	45.1	45.5

SUMMARY, CONCLUSION, LIMITATION AND RECOMMENDATION

Introduction

A brief account of the study is given in this chapter which cover objectives, findings of the study and possible application of the result. Recommendations for future research and suggestions for improving the presents study are also presented.

Summary

The study was conducted with the objective to assess pre-operative anxiety before health teaching and to assess post-operative anxiety. The structured state-trait anxiety inventory was used for collecting data from 20 samples.

A review of related literature helps the investigator to get a clear concept about the project topic undertaken, as well as to develop tools, methodology of the study and decide the plan for data analysis.

The research approach adopted for the study was descriptive approach. The study was conducted at Cardio-Thoracic surgery ward of SCTIMST, TVM. Random sampling technique was used to obtain samples.

Tools used for data collection was structured Speilberger's state-trait anxiety inventory score consisting of demographic data, state anxiety score and trait anxiety score. State anxiety scale consists of 18 questions.

The pilot study was conducted among 6 samples. The data collection was done and it was analysed and interpreted.

Objectives of the study

1. To assess pre-operative anxiety of patients undergoing CABG surgery.
2. To assess the effect of pre-operative teaching on the anxiety level of patients undergoing CABG Surgery.

Limitation

1. The sample size limit to 20 patients
2. Random sampling technique is used
3. Sample includes CABG surgery patients from one institute only (SCTIMST, TVM).

Findings of the study

The trait anxiety score which refers to stable personality factors reflecting the general level of fearfulness did not change significantly after surgery for both experimental and control group. In contrast the state anxiety score which refers to transient anxiety that varies according to the situation, decreased significantly after the pre-operative teaching. Only the pre-operative high state anxiety score among multiple variables were associated with the significant decrease in state anxiety after surgery. The statistically significant was not tested due to the small sample size.

Implications of the study: - The study results showed that pre-operative state anxiety score decreased postoperatively. But the trait anxiety score did not change. A structured pre-operative health teaching helps the patient to reduce the anxiety and to avoid anxiety related complication. So, for reducing anxiety related complications structured pre-operative teaching is necessary.

Recommendations for future study

Keeping in mind the findings & limitations of the study, the following recommendations were made for future research.

- Similar study would be repeated by increasing the sample size.
 - An evaluation study to assess the effectiveness of pre-operative teaching on anxiety level of patients before and after open-heart surgery can be done.

Conclusion

Based on the findings of the study, the following conclusions were drawn.

- The anxiety of the patients with CABG surgery is significantly decreased after surgery for both groups.
 - High pre-operative state anxiety score is decreased after surgery for both groups.
 - No patient exhibited a post-operative increase in state anxiety score.
 - The trait anxiety score did not change post-operatively.

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APPENDIX

1. Adoption and translation of Spielberger's state-trait anxiety inventory.
2. Health Educati