EFFECTIVENESS OF PREOPERATIVE NURSING TEACHING MODULE ON ANXIETY AMONG PATIENTS SUBJECTED TO CORONARY ARTERY BYPASS GRAFT (CABG)

Parampal Kaur

Swami Premanand College of Nursing, Mukerian, Punjab, India.

ABSTRACT

Coronary Artery Bypass Graft being a major surgical intervention creates undue stress, uncertainty, fear and anxiety among patients. Generally patients subjected to surgery do not receive much preoperative information as they would like. When the patient receives information from a non-medical professional, contradictory or confusing information might cause more anxiety. This study investigates the effectiveness of preoperative Nursing teaching module on anxiety among patients subjected to coronary artery bypass graft (CABG). The study utilised pre experimental one group pre-test post-test design. Using non probability convenience sampling, total 50 patients subjected to CABG were selected for the study from selected hospitals of Punjab. A pre-test was conducted to assess the baseline level of anxiety among patients using the State Trait Anxiety Inventory (STAI) followed by administration of Preoperative Nursing Teaching Module. The post-test was carried out after 3 days by using same State Trait Anxiety Inventory (STAI). In pre-test, 5 (10%) patients were having mild anxiety and 45 (90%) were having moderate level of anxiety. Whereas during post-test, among 50 patients, 36 (72%) patients were having mild level of anxiety followed by 14 (28%) were having moderate level of anxiety. The mean post-test anxiety scores of patients were significantly lower ($p<0.001$) as compared to pre-test anxiety scores, after administration of the Preoperative Nursing Teaching Module. Hence, the Preoperative Nursing Teaching module is effective in reducing the levels of anxiety among the patients subjected to CABG.

Key words: *Effectiveness, Preoperative Nursing Teaching Module, Patient to Patient Teaching, Anxiety, Patients, Coronary Artery Bypass Grafting*

ABOUT THE AUTHOR

The author Dr. (Mrs) Parampal Kaur is currently working as the Principal in SPN College of nursing, Mukerian. She received M.Sc in Medical Surgical Nursing & Ph.D Nursing. She has more than 35 years of experience in nursing field, viz. Nursing Service, Nursing Administration and Nursing education. She presented Scientific Papers in Nursing and health sciences conferences. She did research on different issues/ problems in Nursing & Health Sciences and also guiding the Nursing Students for doing research work.

INTRODUCTION

Heart diseases are the major cause of morbidity and mortality worldwide. It is the modern epidemic which effects both patient and family in an extremely stressful way.[1] The incidence of coronary heart disease has markedly increased in India over the past few years. Statistics show that 20 - 25% of all medical admissions and 25% of all mortality is due to CAD.[2] Although several alternative treatments for coronary artery disease exist which include:

- Medical management (anti-anginal medications plus statins, anti-hypertensives, smoking cessation, tight blood sugar control in diabetics)
- Percutaneous Coronary Intervention (PCI)
- Coronary Artery Bypass Graft (CABG)

Both PCI and CABG are more effective than medical management at relieving symptoms, (e.g. angina, dyspnea, fatigue). CABG is superior to PCI for some patients with multi-vessel CAD. Patients treated with CABG had lower rates of death and myocardial infarction than treatment with a coronary stent.[3]

More than 85 percent of the people subjected to CABG reported significantly reduced symptoms, less risk for future heart attacks, and a decreased chance of dying within 10 years following the surgery. Even though the results were excellent, there has always been a myth among the people that cardiac surgeries are life threatening surgeries and have more chance of mortality which also becomes an important reason for anxiety among the patients.[4]

LITERATURE REVIEW

In India, CAD rates have increased during the last 30 years, whereas declining trends have been noticed in developed Western countries **(Enas and Senthilkumar 2001)**.[7] Study of Indians from different parts of the world have shown that Asian Indians are at 3–4 times higher risk of CAD than white Americans, 6 times higher than Chinese, and 20 times higher than Japanese **(Enas, Garg, et al 1996).**[8]

The incidence and course of self-reported depression and anxiety in coronary artery bypass graft (CABG) patients were studied. After informed consent, 53 patients who submitted to CABG were examined a few days before and after the operation and 3 months after CABG. They completed the Spielberger Anxiety Questionnaire and Beck Depression Inventory. Approximately, 55% of the patients had a high level of anxiety preoperatively. Shortly after the surgery, 34% of patients and after 3 months 32% of them had clinically relevant level of anxiety **(Tung HH, Hunter A, Wei J, et al 2007)**.[6]

The effect of nurse-initiated preoperative education and counselling on postoperative complications and anxiety symptoms following CABG has been studied. In this prospective and randomised trial, 40 patients were divided into the study and control groups. All patients received standard preoperative and postoperative care, but the study group patients also completed a structured education and counselling course supervised by designated nurses 3 days before the surgery. Anxiety symptoms were assessed by Zung's self-rating anxiety scale (SAS) on the day of admission and at 3 days after the surgery. Following the surgery, the rate of complications such as lower extremity oedema, urinary retention, constipation, respiratory infection, and deep venous thrombosis in the study group was lower than in the control group ($p < .05$). The mean postoperative SAS scores in the study group were lower than in the control group (40.1 vs 48.9 at $p < 0.01$) **(Zhang CY, Jiang Y, et al 2012).**[5]

MATERIALS AND METHODS

The research design that is chosen for this study was Pre-experimental one group pre-test post-test design. The study was conducted in three leading cardiothoracic hospitals situated in the city of Jalandhar in Punjab. A convenience sampling technique was used to select a sample of 50 patients. The tool used in this study consists of two sections. Section-I contains demographic variables. Section-II contains State and Trait Anxiety Inventory “Y” Form Y1 &Y2.

State Trait Anxiety Inventory is a 4 point Likert scale which has 20 items in state anxiety and 20 items in trait anxiety. The items include both positive and negative state of mind. The items which are considered as positive state had reverse scoring. The negative state had direct scoring.

The data were analyzed using descriptive (frequency, percentage, mean and standard deviation) and inferential statistics ('t' test).

RESULTS

Table 1 illustrates the Frequency & Percentage distribution of sample characteristics of 50 patients subjected to CABG who received preoperative nursing teaching module.

Table 1: Frequency & Percentage distribution of sample characteristics

N=50

Sample Characteristics	**Frequency(n)**	**Percentage (%)**
Age in (years)		
≥40	—	—
41- 50	02	04%
51 – 60	26	52%
61 -70	16	32%
71- 80	06	12%
Sex		
Male	20	40%
Female	30	60%
Education		
Illiterate	07	14%
Primary education	12	24%
Secondary education	13	26%
Graduate	13	26%
Post-graduate	05	10%
Occupation		
Unemployed	23	46%
Employed	15	30%
Retired	12	24%
Any other	—	—
Marital status		
Married	42	84%
Unmarried	—	—
Widow	04	8%
Widower	04	8%
Divorced	—	—
Family monthly income (in Rs)		
Less than 5000/-	23	46%
5001-10,000/-	12	24%
10,001-20,000/-	11	22%
> 20,000/-	04	8%

Table 1 depicts Frequency & Percentage distribution of sample characteristics. Majority of (52%) patients were in the age group of 51-60 years and maximum of them were (60%) females. 26% patients had done secondary education and equal number had completed their graduation and majority of them (46%) were unemployed. Analysis of marital status illustrates that majority of (84%) subjects were married and 46% subjects had family income less than Rs.5000.

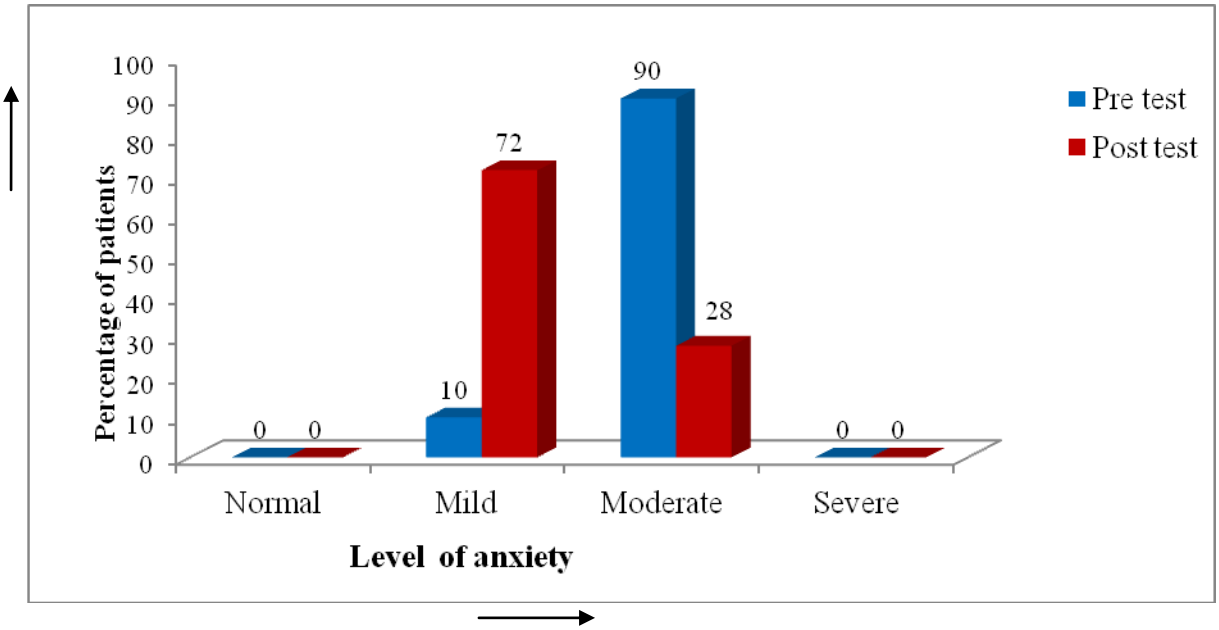

Figure 1 Percentage distribution of Pre-test and Post-test level of anxiety in patients subjected to CABG

Figure 1 depicts the percentage distribution of Pre-test and Post-test level of anxiety in patients subjected to CABG. It was found that in pre-test 10% patients were having mild anxiety and 90% were having moderate anxiety. Whereas in post-test, 72% patients had mild anxiety and 28% were found having moderate level of anxiety.

Table 2: Comparison between pre-test and post-test level of anxiety mean score in patients subjected to CABG

N=50

Level of Anxiety					
Pre test		**Post test**		**Paired 't' test**	**P value**
Mean	**S.D**	**Mean**	**S.D**		
102.52	14.671	64.56	19.01	11.57	0.001

NS -Not significant, **-significant at p<0.01, *** -significant at p<0.001 level

Table 2 revealed comparison between pre-test and post-test level of anxiety mean score in patients subjected to CABG. The mean value of anxiety among patients who received preoperative nursing teaching module was 102.52 in pre-test with S.D of 14.671 and post-test mean value was 64.56 with standard deviation of 19.01. The calculated paired 't' value was 11.57 and it was statistically significant at p<0.001 which showed that there was a significant reduction of anxiety from moderate to mild.

DISCUSSION

The results of this study showed that:

1. There was a significant reduction in the level of anxiety of patients who received preoperative nursing teaching module on CABG at a level of p<0.001.
2. Comparison of the pre-test and post-test levels of anxiety mean score showed that preoperative nursing teaching module was effective in reducing the level of anxiety among patients subjected to CABG.

The findings were supported by a study done by **(Towell A, Nel E, 2010)**[9] on effect of patient education program to relieve anxiety and produce a better outcome after coronary artery bypass graft. The results revealed that there was a positive effect of the patient education programme in the form of written material given to the patients before surgery. It was recognised as an effective tool to reduce the level of anxiety and maintain physiological parameters in the post operative period.

CONCLUSION

Patient education is one of the most important responsibilities of the nurse in all health care settings. The results of this study demonstrate that preoperative nursing teaching module had shown a greater reduction in the level of anxiety from moderate to mild.

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