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EFFECTIVENESS OF ORIENTATION PROGRAM ON PRE AND POST PROCEDURE ANXIETY AMONG PATIENTS UNDERGOING PTCA AT SELECTED HOSPITAL OF CITY.

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ABSTRACT

Background: Coronary artery disease (CAD), also known as ischemic heart disease (IHD) and Atherosclerotic Cardiovascular Disease (ACD), CAD clinically presents as myocardial infarction (MI) and ischemic cardiomyopathy, with atherosclerosis. The incidence of CAD rises due to a significant increase in risk factors such as smoking, diabetes, metabolic disorders, and behavioural changes associated with urbanization and globalization. Percutaneous transluminal coronary angioplasty (PTCA), also called as percutaneous coronary intervention (PCI). Is a minimally invasive technique, restores blood flow to the heart by opening blocked or narrowed coronary arteries. Blockages are caused by lipid-rich plaque, which reduces blood flow and leads to atherosclerosis. Percutaneous Transluminal Coronary Angioplasty (PTCA), also known as coronary balloon angioplasty, it involves using a catheter with an inflatable balloon to open narrowed or blocked coronary arteries.3 Pre and post procedure anxiety which causes several complications. recovery, delayed wound healing, also effect cause on outcomes, an orientation program, offering comprehensive procedure information and addressing patient concerns, can reduce anxiety, enhance satisfaction, and improve overall clinical outcomes. **Objectives: a)** To assess the pre and post procedure anxiety among patients undergoing PTCA at selected hospital of city. **b)** To determine the effectiveness of orientation program on level of anxiety among patients undergoing PTCA at selected hospital of city. **c)** To find association of study findings with selected demographic variables. **Methodology:** The research design used for this study was Quasi Experimental, non-equivalent control group post-test only design adopted among **50 samples** focusing on the Patients undergoing PTCA at selected hospital of city. A standardize open assess scale was used to Beck Anxiety Inventory (BAI) is a self-report questionnaire used to measure the severity of anxiety symptoms. The questionnaire consisted of demographic details and multiple-choice questions measure the severity of anxiety symptoms. **Results:** The study evaluated the effectiveness of an orientation program in reducing anxiety among PTCA patients. Results showed a significant anxiety reduction in the experimental group (mean drop of 25.1), while the control group saw a slight increase. Statistical analysis confirmed the program's impact ($t = 7.72$, $p < 0.05$). These findings align with Trotter et al. (2011), who also reported a significant post-procedure anxiety reduction. Overall, the orientation program proved beneficial in managing patient anxiety. **Conclusion:** Findings of the study stated that orientation program was effective on pre and post procedure anxiety among patients undergoing PTCA thus study suggest that orientation program is the most effective intervention that help the nurses to reduce the pre and post procedure anxiety among patients of PTCA which prevent further complication in this patient with easy and cost-effective way.

Keywords - PTCA, PCI, Orientation, Program, Pre and Post -test, Procedure, Anxiety.

INTRODUCTION

The Heart is one of the most important vital organs, responsible for pumping oxygenated blood and nutrients to tissues while removing waste products. It is a pear-shaped muscular organ about the size of a fist. Various disorders can affect its function, including coronary artery disease (CAD), arrhythmia, heart failure, and more. CAD, also known as ischemic heart disease or atherosclerotic cardiovascular disease, is a leading cause of death globally. It is caused by the buildup of lipid-rich plaques in the coronary arteries, reducing blood flow and leading to myocardial infarction or heart failure.

Risk factors like smoking, diabetes, and sedentary lifestyles contribute significantly to the rising incidence of CAD. Diagnostic tests include ECG, ECHO, TMT, and biomarkers like Troponin T/I and CK-MB. Coronary angiography helps determine the severity of arterial blockages, while percutaneous coronary intervention (PCI) or angioplasty is used to restore blood flow.

Managing CAD also involves addressing the psychological well-being of patients. Anxiety before and after cardiac procedures like PCI is common and can impact recovery. Pre-procedure education has been shown to reduce stress and improve outcomes. Short hospital stays challenge the ability of healthcare providers to deliver thorough cardiac rehabilitation education. In this context, video-assisted teaching is an effective method to convey essential information, alleviate anxiety, and boost satisfaction. Such interventions prepare patients mentally and emotionally, improving their adjustment and post-procedural recovery. Support strategies like relaxation techniques, counselling, and clear communication are crucial for managing both pre- and post-operative anxiety.

NEED FOR THE STUDY

Coronary Artery Disease (CAD) is one of the most common cardiovascular conditions affecting the adult population. In India, its prevalence ranges from 3–4% in rural areas to 8–10% in urban populations, with recent estimates suggesting over 54 million adults are affected. This rise is attributed to lifestyle changes, poor diet, and aging. PTCA (Percutaneous Transluminal Coronary Angioplasty) is a frequently performed intervention, with over 200,000 annual procedures in India. However, anxiety associated with such cardiac procedures can negatively impact outcomes by increasing heart rate, blood pressure, and the risk of complications.

Pre-procedural anxiety, often due to uncertainty and lack of information, can impair patient cooperation and cognitive function, increase postoperative pain, and lengthen recovery. Studies show a direct relationship between high anxiety and poor clinical outcomes, especially in elderly patients. Psychological support and patient education, especially through orientation programs and video-assisted teaching, help reduce anxiety, improve satisfaction, and enhance recovery. Nurses and cardiac coordinators play a crucial role in educating patients and their families. Effective communication about the procedure, risks, and expectations can significantly lower anxiety levels. Research suggests that structured pre-operative orientation should become standard practice to ensure better clinical and psychological outcomes for PTCA patients.

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CAD is a prevalent health concern, particularly in India, with millions affected due to lifestyle changes and urbanization. PTCA is a widely used intervention, but preoperative anxiety significantly impacts clinical outcomes. Studies highlight that anxiety leads to increased postoperative pain, cognitive impairment, and physiological stress responses, which can worsen ischemic events. Scholars emphasize the importance of preoperative education, especially structured orientation programs, in mitigating anxiety and improving recovery. Research supports the integration of psychological assessments and targeted interventions before cardiac procedures to enhance patient cooperation, reduce complications, and promote overall well-being and quality of life.

AIM OF THE STUDY

"Effectiveness of orientation program on pre and post procedure anxiety among patients undergoing PTCA at selected hospital of city**"**

OBJECTIVES OF THE STUDY

- To assess the pre and post procedure anxiety among patients undergoing PTCA at selected hospital of city.
- To determine the effectiveness of orientation program on level of anxiety among patients undergoing PTCA at selected hospital of city.
- To find association of study findings with selected demographic variables.

HYPOTHESIS

- H0: There is no significant effect of orientation program on pre and post procedure anxiety among patients undergoing PTCA at selected hospital of city. (p =0.05)
- H1: There is significant effect of orientation program on pre and post procedure anxiety among patients undergoing PTCA at selected hospital of city. (p=0.05)

METHODOLOGY

The research design used for this study was Quasi Experimental, non-equivalent control group post-test only design adopted among **50 samples** focusing on the Patients undergoing PTCA at selected hospital of city. A standardize open assess scale was used to Beck Anxiety Inventory (BAI) is a self-report questionnaire used to measure the severity of anxiety symptoms. The questionnaire consisted of demographic details and multiple-choice questions measure the severity of anxiety symptoms.

Setting of the study

This study was conducted on patients undergoing PTCA at selected hospital of city.

Variables

Independent Variable: The independent variable was the Orientation program.

Dependent Variable: The dependant variables is the pre and post procedure anxiety.

Demographic Variable: Age, Gender, Educational qualification, occupation habits, history of previous cardiac procedure etc.

Population

Target population

In this study Target population are the patients undergoing PTCA all over Maharashtra.

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Accessible population

In this study Accessible population are patients undergoing PTCA at selected hospital of city.

Sample

In the present study, the sample are the patients undergoing PTCA at selected hospital of city

Sample Size

The sample size required for study is 25 in experimental and 25 in control group.

Sampling Technique

In the present study Convenient Sampling Technique was used.

Criteria for Sample Selection

The study samples were selected using the following criteria.

INCLUSION CRITERIA

In this study, the following patients were included,

- Patients undergoing PTCA
- In age group 30 -70 yrs
- Willing to participate in the study
- Able to understand English / Marathi language
- Available at the time of data collection.

EXCLUSION CRITERIA

The study excludes,

- Critically ill
- Unconscious patients
- Anxiety disorders
- Psychiatric illness
- Undergoing emergency PTCA

Development of Data Collection Instruments

The following instruments tools were in order to generated data

Section A: Demographic variables structure questionnaire of demographic variable which includes Age, gender, education, occupation, habits, and previous history of cardiac procedure.

Section B: Beck Anxiety Inventory (BAI) The Beck Anxiety Inventory (BAI) is a self-report questionnaire used to measure the severity of anxiety symptoms. It was developed by Aaron T. Beck and his colleagues in the 1980s. The BAI consists of 21 multiple-choice questions, each of which describes a common symptom of anxiety. Respondents are asked to rate how much they have been bothered by each symptom over the past week, using a 4-point scale ranging from "not at all" to "severely." The total score on the BAI ranges from 0 to 63, with higher scores indicating more severe anxiety. The BAI has been widely used in both clinical and research settings to assess anxiety symptoms in adults. It has been found to be a reliable and valid measure of anxiety, and is often used in conjunction with other assessment tools to diagnose anxiety disorders and monitor treatment progress.

Data Collection Procedure

- The instruments selected in the research should be as far as possible the vehicle that would best obtain data for drawing condition, which are pertinent for the study.

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- Approval from the research committee members, and written permission from head of institution to conduct research.
- Explained the purpose of the research to the participants.
- Obtained informed written consent from the participants.
- Orientation program given to experimental group. Day prior to PTCA over 60 minutes, then observation 01 (anxiety) will be assessed. next day morning, after PTCA, observation 02 (anxiety) will be assessed Control group receives only standardised one, no orientation program.
- Assess the anxiety of both experimental and control group undergoing PTCA at selected hospital of city.
- The data gathering process began from 21/06/2023 to 20/07/2023.
- A formal permission was obtained from concerned authority. Subjects were taken from the selected hospitals using convenient sampling technique.
- The investigator introduced self and informed the sample about the nature of the study to ensure better co-operation.
- Objectives of study and confidentiality of the data were discussed.
- Each subject was given prepared tool containing.

Data Analysis

Demographic Profile: In the experimental group, the majority of patients (64%) were aged 51–60 years, while in the control group, 48% were aged 51–60 and another 48% were 61–70 years. Female participants predominated in the experimental group (56%), whereas the control group had a higher proportion of males (72%). Most participants in both groups had secondary education (52% in experimental, 72% in control). Occupationally, farmers (36%) and housewives (36%) were dominant in the experimental group, while the control group had a more balanced distribution among farmers (32%), housewives (28%), and businesspersons (28%). Risk behaviour analysis revealed tobacco chewing (32%) and fast-food consumption (28%) was more prevalent in the experimental group, while tobacco chewing (44%) was highest in the control group. None of the participants had a history of PTCA.

Pre- and Post-Procedure Anxiety: Pre-intervention, anxiety levels were high in both groups. In the experimental group, 48% had moderate and 52% had severe anxiety. After the orientation program, 52% showed very low and 48% had moderate anxiety. In contrast, the control group showed no reduction, with 52% still experiencing severe anxiety post-procedure.

Statistical Findings: A paired t-test within the experimental group showed a significant reduction in anxiety scores from 45.8 to 20.7 ($t = 7.3$, $df = 24$, $p < 0.05$). A two-sample t-test comparing mean anxiety change between groups revealed a significant difference (25.1 vs. -3.4; $t = 7.72$, $df = 48$, $p < 0.05$). Fisher's exact test showed no significant association between anxiety levels and demographic variables ($p > 0.05$).

The orientation program was statistically and clinically effective in reducing anxiety among PTCA patients, independent of demographic variables.

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RESULTS AND DISCUSSION

The present study aimed to evaluate the effectiveness of an orientation program in reducing pre- and post-procedural anxiety among patients undergoing Percutaneous Transluminal Coronary Angioplasty (PTCA) at a selected hospital. The findings reveal a significant reduction in anxiety levels among patients who received the orientation program compared to those in the control group. In the experimental group, pre-procedure anxiety scores averaged 45.8, which decreased to 20.7 post-procedure—indicating a mean reduction of 25.1. In contrast, the control group showed a slight increase in anxiety levels, with a mean change of -3.4. The statistical analysis, including a t-value of 7.72 and a p-value less than 0.05, confirms the significant impact of the orientation program in reducing patient anxiety.

These results are supported by previous research. For example, a study by Trotter et al. (2011) demonstrated that anxiety levels in PTCA patients were highest before the procedure and significantly decreased both post-procedure and post-discharge. Their study showed a statistically significant decrease in anxiety ($F = 39.72$, $p < .001$), aligning with the present findings.

The observed anxiety in both experimental and control groups prior to the intervention highlights the psychological burden associated with invasive cardiac procedures like PTCA. It is evident that uncertainty, lack of information, and fear of complications contribute to heightened anxiety levels. The orientation program helped address these concerns through structured education, reducing fear and increasing patient preparedness.

The findings underscore the importance of preoperative health education in managing anxiety, improving patient cooperation, and potentially enhancing clinical outcomes. Incorporating such interventions into standard nursing practice can play a vital role in comprehensive cardiac care. As anxiety is known to have both physiological and psychological impacts on cardiac patients, effective management through orientation programs should be considered a critical component of pre-procedural care.

Table I- To assess the data related to the association of pre and post procedure anxiety among patients undergoing PTCA with selected demographic variables.

Demographic variable		**Anxiety**		**p-value**
		Moderate	**Severe**	
Age	41-50 years	3	0	0.190
	51-60 years	12	16	
	61-70 years	10	9	
Gender	Male	14	15	1.000
	Female	11	10	
Education	Primary	5	10	0.275
	Secondary	17	14	
	Diploma	2	0	

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	Graduation and above	1	1	
Occupation	Private employee	4	4	1.000
	Farmer	8	9	
	Businessman	5	4	
	Housewife	8	8	
Habits	Alcohol consumption	2	1	0.948
	Tobacco chewing	10	9	
	Smoking	5	5	
	Fast food eating	5	5	
	No habit	3	5	

Table 2: To assess the data related to pre and post procedure anxiety among patients undergoing PTCA at selected hospital of city.

	Experimental		**Control**	
	Pre procedure test		**Post procedure test**	
Anxiety	**Freq**	**%**	**Freq**	**%**
Very Low (score 0-21)	0	0.00%	0	0.00%
Moderate (score 22-42)	12	48.00%	13	52.00%
Severe (score >42)	13	52.00%	12	48.00%

Table 3: To assess the data related to the effectiveness of orientation program on level of anxiety among patients undergoing PTCA at selected hospital of the city.

Anxiety	**Experimental**				**Control**			
	Pre procedure test		**Post procedure test**		**Pre procedure test**		**Post procedure test**	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**

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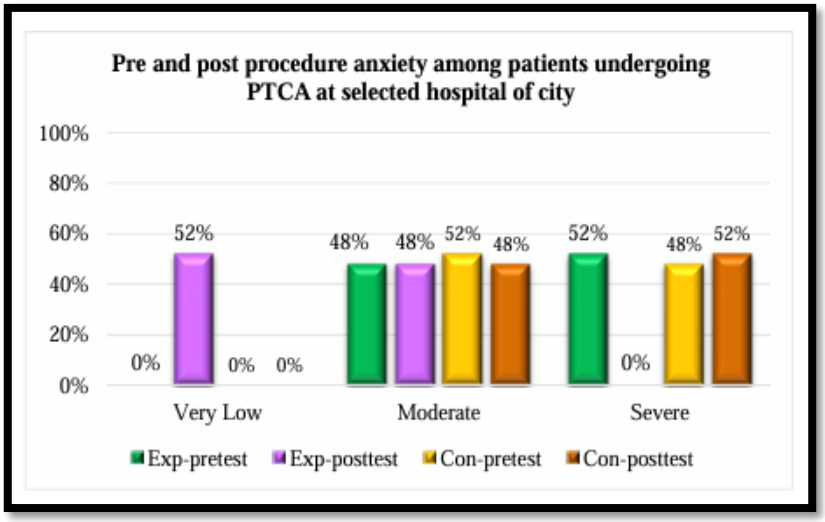
Very Low (score 0-21)	0	0.00%	13	52.00%	0	0.00%	0	0.00%
Moderate (score 22-42)	12	48.00%	12	48.00%	13	52.00%	12	48.00%
Severe (score >42)	13	52.00%	0	0.00%	12	48.00%	13	52.00%



CONCLUSION

The study concludes that an orientation program is an effective intervention for reducing anxiety levels among patients undergoing Percutaneous Transluminal Coronary Angioplasty (PTCA), also known as Percutaneous Coronary Intervention (PCI). Coronary artery disease (CAD), which frequently necessitates PTCA, is increasingly prevalent due to rising risk factors like smoking, diabetes, and lifestyle changes linked to urbanization and globalization. The procedure itself, though minimally invasive, often induces significant anxiety before and after its performance. This anxiety can negatively affect recovery, wound healing, and overall clinical outcomes.

By providing comprehensive information about the procedure, addressing patient concerns, and preparing them mentally and emotionally, the orientation program significantly reduced anxiety levels in the experimental group, as demonstrated by a substantial mean drop of 25.1 on the Beck Anxiety Inventory (BAI). The statistical analysis ($t = 7.72$, $p < 0.05$) confirmed the program's effectiveness.

These findings are consistent with existing literature, such as Trotter et al. (2011), supporting the role of patient education in anxiety management.

Therefore, implementing orientation programs in clinical settings can serve as a cost-effective, simple, and impactful nursing intervention to enhance patient satisfaction, prevent complications, and improve procedural outcomes for PTCA patients. Nurses play a crucial role in delivering such programs effectively.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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