

A DESCRIPTIVE STUDY TO ASSESS THE LEVEL OF PAIN AMONG PATIENTS UNDERGOING PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY (PTCA) ADMITTED IN INTENSIVE CORONARY CARE UNIT (ICCU) OF SREE MOOKAMBIKA MEDICAL COLLEGE HOSPITAL, KULASEKHARAM

¹Abisha J, ²Dr. Ajitha Retnam C, ³Mrs. Adlin Sujitha A, ⁴Mrs. Angelin M R

¹1st Year MSc Nursing, ²Principal, ³Head of the Department, ⁴Associate Professor
Medical Surgical Nursing,

Sree Mookambika College of Nursing, Kanyakumari District, Tamil Nadu, India-629161

Abstract: Pain is one of the common problems experienced by patients after undergoing Percutaneous Transluminal Coronary Angioplasty (PTCA). It may affect the patient's physical comfort and recovery. Assessing the level of pain helps nurses to provide appropriate care and improve patient comfort. Therefore, the present study was conducted to assess the level of pain among patients undergoing PTCA admitted in the Intensive Coronary Care Unit (ICCU) of Sree Mookambika Medical College Hospital, Kulasekharam, and to find the association between the level of pain and selected demographic and clinical variables. The study adopted a quantitative research approach with a non-experimental descriptive research design. The study was conducted at Sree Mookambika Medical College Hospital, Kulasekharam. A total of 30 patients undergoing PTCA were selected using a convenience sampling technique. The data were collected using a demographic questionnaire and the Visual Analogue Scale (VAS) to assess the level of pain. The collected data were analyzed using descriptive and inferential statistics. The findings of the study showed that 36.7% of the patients had mild pain, 30% had moderate pain, and 33.3% had severe pain. The study also found that there was no significant association between the level of pain and the selected demographic variables. The study concluded that most patients experienced pain after undergoing PTCA, indicating the need for proper pain assessment and management.

Keywords: Pain, PTCA (Percutaneous Transluminal Coronary Angioplasty), ICCU, Patients, Visual Analogue Scale.

INTRODUCTION:

Coronary artery disease (CAD) is a condition where the coronary arteries the blood vessels supplying the heart muscles become narrowed or blocked usually due to atherosclerosis. It can lead to angina, heart attacks or other serious heart conditions. Cardiovascular disease (CVD) has been leading cause of the ten most common causes of death and of these, coronary artery disease (CAD) is the most frequently seen. PTCA (percutaneous transluminal coronary angioplasty) is a commonly performed interventional cardiac procedure to treat coronary artery blockages. post procedure, especially after femoral access patients are required to maintain a flat supine position for extended periods (6 to 12 hours) to prevent vascular complications. This immobilization can result in significant back pain, discomfort and anxiety. Interventions such as elevated head of bed position, lumbar support, comfort measures and relaxation techniques may help alleviate these complications.

PTCA (percutaneous transluminal coronary angioplasty) is a life-saving procedure for CAD (coronary artery disease) and myocardial infarction its need for universal access in low and middle- income countries. PTCA (percutaneous transluminal coronary angioplasty) is an essential health service packages under universal health coverage (UHC). Cardiovascular diseases (CAD) are among the most important illness affecting human health in our age. Coronary artery disease is in the first place among cardiovascular diseases, and they are at the forefront among the causes of mortality after the age of 40. Coronary artery disease (CAD) was observed in 15.8 million people in 2010, and it is predicted that this number will reach 23 million in 2030.

The Cause of 37% of deaths under the age of 70 in turkey is cardiovascular diseases. Turkish statistical institute's mortality results show that, the rate of heart diseases in total deaths is gradually increasing. Coronary angioplasty (CAG) is the most chosen method in the diagnosis and treatment of coronary artery diseases. Coronary interventions, including angioplasty or stent placement, can also be performed during angiography. In Percutaneous coronary interventions (PCIs), pain in the intervention area, hospitalization requirement a failure to meet needs such as activity and eating and experiencing anxiety adversely affect comfort. The Percutaneous Transluminal Coronary Angioplasty (PTCA) procedure itself and outcomes are a source of anxiety for patients. Anxiety exceeding a normal level is a cause of many complications. The presence of anxiety increases the frequency of acute coronary events and increases the frequency of acute coronary events and can increase mortality.

NEEDS OF SIGNIFICANCE OF THE STUDY:

Coronary artery disease (CAD) causes 32% of global deaths. Around 5-6 million PTCA procedures are performed globally each year. The global need for PTCA is rising due to increase in diabetes 10.5 % of adults. High cholesterol 39 % of adults and aged 25+ have low density level. Secondary life style. World Health Organization (2017) In India contributes to 20% of global CVD deaths CAD prevalence in adults in urban – 11 to 12 %, rural 4 to 5%. More than 4 to 5 lakh PTCA procedures are done annually in India. Over 60% of heart attacks in Indian patients occurs before age 55. Tamil Nadu reports >15 % of hospital admissions under government schemes for cardiac issues. CAD prevalence in Tamil Nadu urban -13 %, rural -6 to 8 %. PTCA procedure volumes have increased by 40 to 50 %. over the past decade due to life style change. -NFHS-5 (National Family Health Service) Kanyakumari has one of the highest literacy rates, yet CAD prevalence is rising especially in coastal and semi urban population. It is estimated CAD burden in district 8 to 10 % in adults over 40. PTCA cases have increased due to

- Rise in hypertension 25 to 30 %
- High diabetes rate 15 to 20 %
- Limited advanced cardiac centres in rural taluks.

District Health Action Plan Kanyakumari District (2024-2025).

METHODOLOGY:

The study was done to assess the level of pain among of patients undergoing Percutaneous Transluminal Coronary Angioplasty (PTCA) at Sree Mookambika Medical College Hospital Kulasekharam. A quantitative research approach with non-experimental research design was used in this study. The study was conducted in Sree Mookambika medical college hospital, Kulasekharam. Purposive sampling technique was used for the selection of the samples. The total sample of the study is 30 PTCA (Percutaneous Transluminal Coronary Angioplasty) patients. Level of pain was assessed using visual analogue scale. The data was analysed and interpreted in terms of the objective. Descriptive and inferential statistics was adopted for analysis and interpretation of data.

RESEARCH APPROACH:

In this study is quantitative research approach was adopted.

RESEARCH DESIGN:

In this study, non-experimental descriptive research design was adopted.

SETTING OF THE STUDY:

The setting was chosen on the basis of availability of samples and the cooperation extended by the management and the health team. This study was conducted in Sree Mookambika medical College Hospital, Kulasekharam, it is 950 bedded NABH affiliated hospital. The hospital has ICCU (Intensive Coronary Care Unit), it is well structured and well equipped. The total bed strength is 10, on an average bed occupancy rate is 8 to 10.

SAMPLE SIZE:

Sample size consists of 30 PTCA (Percutaneous Transluminal Coronary Angioplasty) patients.

SAMPLING TECHNIQUE:

Purposive sampling technique.

SAMPLING CRITERIA:

Sampling criteria involves selecting cases that meet some pre-determined criteria of importance. The criteria for sample selection are mainly depicted under two heading which includes the inclusion and exclusion criteria.

INCLUSION CRITERIA:

- Age >18 years undergoing PTCA (Percutaneous Transluminal Coronary Angioplasty) procedure.
- No history of psychiatric diagnosis.
- Conscious patient only involved and also, they can able to respond questions.

EXCLUSION CRITERIA:

- History of chronic back pain and musculoskeletal disorders.
- Patient who has undergone recent spinal or orthopaedic surgery.
- Patient requiring mechanical ventilation or sedation

DESCRIPTION OF THE TOOL:

In this study used tools such as demographic variables, clinical variables, visual analogue scale and modified state trait anxiety inventory tool. The tool has 2 sections

- Section-A Demographical variable
- Section-B Visual Analogue scale

SECTION-A DEMOGRAPHICAL VARIABLE:

Demographic variables include Age, Gender, Marital status, Religion, Level of education, Employment Status, Dietary pattern, Place of residence and Bad habits.

SECTION-B VISUAL ANALOGUE SCALE:

Pain will be assessed using visual analogue scale (VAS) to measure the pain level. It is a standardized tool to prepared by Hayes and Patterson (1921). This visual analogue scale is a validated, subjective measure for acute and chronic pain. This measurement tool scores are recorded by making a handwritten mark on a 10cm line that represents a continuum between no pain and worst pain. The score of visual analogue scale maximum is 7-10 and minimum score 1-3 and also it consists of 0-10.

SCORING TECHNIQUE:

- 0-no pain

- 1-3 mild
- 4-6 moderate
- 7-10 severe

VALIDITY:

The tool was tested for its content validity by experts in the medical surgical medicine and nursing, to ascertain relevance and completeness. The relevancy, clarity, fluency and simplicity of each component in the questionnaire were examined by the experts.

RELIABILITY:

Reliability was assessed by Bland-Altman analysis and found intraclass correlation coefficient for all paired VAS score was **0.97 (95% CI = 0.96 to 0.98)**.

DATA COLLECTION PROCEDURE:

The study was conducted in ICCU (Intensive Coronary Care Unit) of Sree Mookambika Medical College Hospital, Kulasekharam. 30 patients who met the inclusion criteria were selected using convenience sampling technique. Developed rapport with the patient and assessed the level of pain and anxiety.

RESULT AND DISCUSSION

SECTION A: Distribution of samples according to the demographic variables.

Table 4.1: Frequency and percentage distribution of selected demographic variables

Sl. No	Demographic Variables	Frequency(F)	Percentage (%)
1	Age		
	25-35	6	20
	35-45	5	16.7
	45-55	6	20
	55-65	6	20
	66-75	7	23.3
2	Gender		
	Male	17	56.7
	Female	13	43.3
3	Marital status		
	Married	30	100
	Unmarried	0	0
4	Education		
	Primary school	8	26.7
	Higher secondary school	10	33.3
	Under graduate	8	26.7
	Post graduate	4	13.3
5	Religion		
	Christian	9	30
	Hindu	10	33.3
	Muslim	11	36.7
6	Employment Status		
	Self employed	8	26.7
	Government Employee	9	30
	Unemployed	8	26.7
	Others	5	16.6
7	Dietary pattern		
	Vegetarian	23	76.7
	Non vegetarian	7	23.3
8	Place of residence		
	Village	22	73.3
	Town	8	26.7
9	Bad habits		
	Alcoholism	7	23.3
	Smoking	8	26.7
	Both	5	16.7
	No bad habits	10	33.3

Table 4.1 shows: Age 20% belongs to a 25-35years, 16.7% belongs to a 36 45years,20% belongs to a 46-55years, 20% belongs to a 56-65years, 23.3% belongs to a 66-75years, Gender 56.7%belongs to male, 43.3% belongs to female. Marital status 100% married. Education 26.7% belongs to a primary school, 33.3% belongs to a higher secondary school, 26.7% belongs to a under graduate, 13.3% belongs to a post graduate. Employment status 30%belong to government employe,26.7% belongs self -employed, 26.7% belongs to unemployed, 16.6% belongs to others, Dietary pattern 76.7% vegetarian, 23.3% belongs to a non -vegetarian. Place of residence 73.3% belons to a village, 26.7% belongs to a town and Bad habits, 23.3% belongs to alcoholism, 26.7% belongs to smoking, 16.7% belongs to both alcoholism and smoking, 33.3% belongs to no bad habits.

SECTION B

Table 4.2: Distribution of samples according to the level of knowledge.

Sl. No	Variable	Frequency(F)	Percentage (%)
1	No pain	0	0
2	Level of Pain	Mild	36.7
		Moderate	30
		Severe	33.3

Table 4.2 shows that 36.7% sample has Mild pain, 30% sample has Moderate pain, 33.3% sample has Severe pain.

SECTION C

Table 4.3: Distribution of samples according to Mean and standard deviation.

Sl. No	Variable	Mean	Standard Deviation
1	Pain	5	2.54

Table 4.3 shows that the mean score Pain is 5 with the standard deviation of pain is 2.5

SECTION D

Table 4.4: Association between the level of pain among selected demographic

Sl. No	variables	Chi square	df	Table Value	Significance
1	Age	0.57	1	P=3.84	P>0.05
2	Gender	0.03	1	P=3.84	P>0.05
3	Marital status	0.004	1	P=3.84	P>0.05
4	Education	0.01	1	P=3.84	P>0.05
5	Religion	2.39	1	P=3.84	P>0.05
6	Employment Status	0.27	1	P=3.84	P>0.05
7	Dietary pattern	0.04	1	P=3.84	P>0.05
8	Place of residence	0.003	1	P=3.84	P>0.05
9	Bad habits	1.29	1	P=3.84	P>0.05

Table 4.4 represents that there is no significant association between level of pain with demographic variables.

NURSING IMPLICATIONS:

The research has derived the following implications from the study results. Which is concerning to the field of nursing practice, nursing education, nursing administration and nursing research.

NURSING PRACTICE:

- The present study will help the nurses to identify the level of pain among PTCA (Percutaneous Transluminal Coronary Angioplasty) patient.
- The nurses can provide health education regarding the level of pain among PTCA (Percutaneous Transluminal Coronary Angioplasty) patients.

NURSING EDUCATION:

- The nursing education prepares the nursing students to make aware about the level of pain among PTCA (Percutaneous Transluminal Coronary Angioplasty) patient.
- The curriculum can encourage the students to create an awareness regarding pain among PTCA (Percutaneous Transluminal Coronary Angioplasty) patient.

NURSING ADMINISTRATION:

- The findings of the study would motivate the researcher to conduct the study on large sample.
- The study would help to expand the scientific body of knowledge.
- Comparative studies can be done to assess the effectiveness of intervention.

LIMITATIONS:

- Small number of samples.
- Convenient sampling technique restricts generalization.

RECOMMENDATIONS:

- Similar study can be conducted in large number of samples for generalization.
- Studies can be conducted to assess the pain among PTCA (Percutaneous Transluminal Coronary Angioplasty) patient.
- Studies can be conducted to compare the effectiveness of intervention to improve the level of pain among PTCA (Percutaneous Transluminal Coronary Angioplasty) patient.

FINDINGS OF THE STUDY:

36.7% sample has mild pain, 30% sample has moderate pain and 33.3% sample has severe pain. There was significant association between the level of pain and demographic variable.

CONCLUSION:

The study finding shows that majority of the patients has pain for undergoing PTCA (Percutaneous Transluminal Coronary Angioplasty).

Book Reference:

- Suresh K Sharma, "Nursing research and Statistics," 2014 second edition, Published by relax India private limited.
- Denis F Polit, Cheryl Tatano Beck "Nursing research principles and methods" seventh edition published by Lippincott Williams.
- Brunner and Suddath's (2011) Text book of Medical Surgical nursing, Philadelphia: Lippincott publication.
- Black, M (2001), Text book of Medical Surgical Nursing, W.B. Saunders Company Publication.
- Lewis "Text book of Medical Surgical Nursing. Assessment and Management of clinical problems" second south Asia edition, Volume 2, Published by Elsevier.

Copyright & License:

© Authors retain the copyright of this article. This work is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.