

A Descriptive Study to Assess the Pre - Procedural and Post Procedural Anxiety among Patient Undergoing Coronary Angiography in Department of Cardiology, KGMU, Lucknow

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Abstract: ***Background:** The prevalence of coronary artery disease has increased recently as a result of population aging and changes in the lifestyle. Coronary Angiography (CA) is the method of choice for diagnosis of Coronary artery disease and identification of the appropriate procedure strategy, and like other invasive procedures Coronary Angiography (CA) can be stressful for the patients. **Method:** The research approach was quantitative and descriptive study we used CAQ - R to assess pre - procedural and post - procedural anxiety among patients undergoing coronary angiography admitted in department of Cardiology and those who met the inclusion criteria and agreed to participate in the study. Sample size was 57 selected using non - probability sampling technique. **Result:** Total of 57 participants were enrolled in the study. Among them 42 (70%) were Male & Female were 18 (30%) most of the participants were married (96.6%) and majority are illiterate (80%) most of them were self employed (80%) and equally distributed in rural (50%) and urban (50%) area. Majority were not having any medical personnel in family (75%) and previous history of CA were absent in majority (90%) overall frequency of attention seeking behaviour is higher as shown by scatter diagram of co - relation. **Conclusion:** Based on the above finding study concluded that pre procedural and post procedural anxiety was highest among the age group of >55, male, formally educated, self employed, married, urban. and the least level of anxiety among age group of 18 - 25, female, illiterate, unmarried, rural and worry and fear, avoidance and behavior has negative correlation, attention and safety seeking has positive correlation. Hence there is need to assess pre procedural and post procedural anxiety so on information booklet was prepared to help the people to reduce anxiety.*

Keywords: Level of anxiety, Coronary artery disease, Coronary angiography

1. Introduction

Coronary artery disease (CAD), also called ischemic heart disease, is the most common type of heart disease. A well - known type of CAD is a myocardial infarction (a heart attack). As CAD is a potentially disabling and lethal disorder, it represents a major health problem with a large burden. CAD is the leading cause of death worldwide.¹

Coronary heart disease is the most common type of heart disease, killing 360, 900 people in 2019. About 18.2 million adults age 20 and older have CAD (about 6.7%).³ About 2 in 10 deaths from CAD happen in adults less than 65 years old.²

During the past 3 decades, the use of catheter procedures to open coronary arteries blocked or narrowed by CAD has expanded dramatically. These procedures are collectively referred to as percutaneous coronary intervention (PCI). Cardiac catheterization/coronary angiography is one of the most widely performed cardiac procedures. In the United States, more than 1, 000, 000 cardiac catheterization procedures are performed annually.⁶

As a potential life - threatening event, a myocardial infarction (MI) also has psychological impact. During the event, patients may experience anxiety as a natural response to the pain and the circumstances surrounding a heart attack.⁷ Afterwards, when the acute stress of the event itself and its treatment is expected to be settled down, patients

have to deal with insecurities and with the feeling that the body is unreliable: they need to find a new balance in life.⁸

Whereas some patients will manage to cope, the majority of the patients may experience significant symptoms of depression and/or (pathological) anxiety post - MI and a quarter to a third of the MI patients may continue to experience these symptoms one year after the MI.⁹⁻¹⁰

2. Literature Survey

Coronary Angiography like other medical invasive procedures can be stressful and anxiety provoking conditions for many patients. High levels of anxiety are associated with worse outcomes in coronary artery disease patients.^{13, 14} Anxiety is described as a condition in which a person experiences a sensation of apprehension, along with activation of the autonomous nervous system, in response to a vague and unspecified menace.¹⁵ High levels of anxiety are associated with lowered immune response and alterations of cardiovascular function like impaired heart rate variability, endothelial dysfunction and vascular inflammation, which might result in worse clinical outcomes.^{16, 17, 18}

During the clinical posting in department of cardiology the researchers found that many patients of Coronary Artery Disease undergoing Coronary Angiography procedure were having very anxious before the procedure. After the procedure most patients were worried and had fear of the

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prognosis and further treatment. So, need was felt to assess their level of anxiety before and after the procedure so that appropriate measures could be taken to reduce the patient anxiety and improve patient outcome.

3. Methodology

The research approach was quantitative and descriptive study we used CAQ - R to assess pre - procedural and post - procedural anxiety among patients undergoing coronary angiography admitted in department of Cardiology, KGMU and those who met the inclusion criteria and agreed to participate in the study. Sample size was 57 selected using non - probability sampling technique.

The sample of the study comprised of patients undergoing coronary angiography who have fulfilled the inclusion criteria and were available in selected setting at the time of data collection. The study included patients more than 18yrs of age, admitted for coronary angiography and those who were willing to participate.

Data Collection tools are the devices or instruments that are used to collect data, such as a paper questionnaire computer assisted interviewing system, case studies checklist etc. The validity and reliability of data collection instrument is important to yield high quality data.

The tool is used for the present research study is procedural Anxiety Inventory, have -

Section A - Socio - demographic Variable.

Section B - Cardiac Anxiety Questionnaire Revised (CAQ - R).

4. Results

Table 1: Showing Mean, Standard deviation, and chi - square value of association of Pre - procedural and Post - Procedural with the selected demographic variables

S. No	Socio - Demographic Data	Frequency (f)	Percentage	df	chi - square value	
1	Age in years			df=8		
	18 - 25	2	3.33			0.61
	26 - 35	4	6.6667			0.98
	36 - 45	4	6.6667			0.62
	46 - 55	17	28.333			0.77
>55	33	55	0.96			
2	Gender			df - 4		
	Male	42	701			0.97
	Female	18	30			0.89
3	Education Qualification			df=4		
	Formal Education	43	71.666			0.98
	Illiterate	17	28.33			0.86
4	Occupation			df=4		
	Government	9	15			0.92
	Self - Employed	51	85			1
5	Marital status			df=4		
	Married	58	96.667			1
	Unmarried	3	5			0.84
6	Residence			df=4		
	Urban	31	51.667			0.91
	Rural	29	48.33			0.89
7	Medical Personnel in Family					

	Yes	15	25	df=4	0.81	
	No	45	75		0.97	
8	Previous Coronary Angiography				df=4	
	Yes	6	10	0.62		
	No	55	91.666	0.99		
9	Duration of after Angiography				df=4	
	6 Months And More	4	56	0.54		
	Never	6.66	93.3333	0.99		

The above table depicts that procedural anxiety was highest (33) in age group of >55, followed by score of (17) in age group of 46 - 55 and (4) in age group of 36 - 45, (4) in age group 26 - 35 whereas the least level of anxiety (2) in age group 18 - 25. Hence, it is concluded that age has significant impact on Pre - procedural and Post - Procedural Anxiety among Patients undergoing Coronary Angiography. According to gender level of anxiety was greatest in males hence, gender has significant impact on anxiety. According to educational qualification anxiety was highest in patients having formal education and had significant impact on pre and post procedural anxiety. According to occupation anxiety was highest among self employed patients and had significant impact on pre and post procedural anxiety among patients undergoing coronary angiography. According to marital status anxiety was highest among married patients and had significant impact on pre and post procedural anxiety among patients undergoing coronary angiography. According to residence anxiety was highest among urban patients, and patients having medical personnel in family had significant impact on pre and post procedural anxiety among patients undergoing coronary angiography. According to previous coronary angiography the mean participants responded no had significant impact on pre and post procedural anxiety among patients undergoing coronary angiography. According to duration of previous coronary angiography 6 months and before the mean patients responded 6 responded in never for previous coronary angiography had significant impact on pre and post procedural anxiety among patients undergoing coronary angiography.

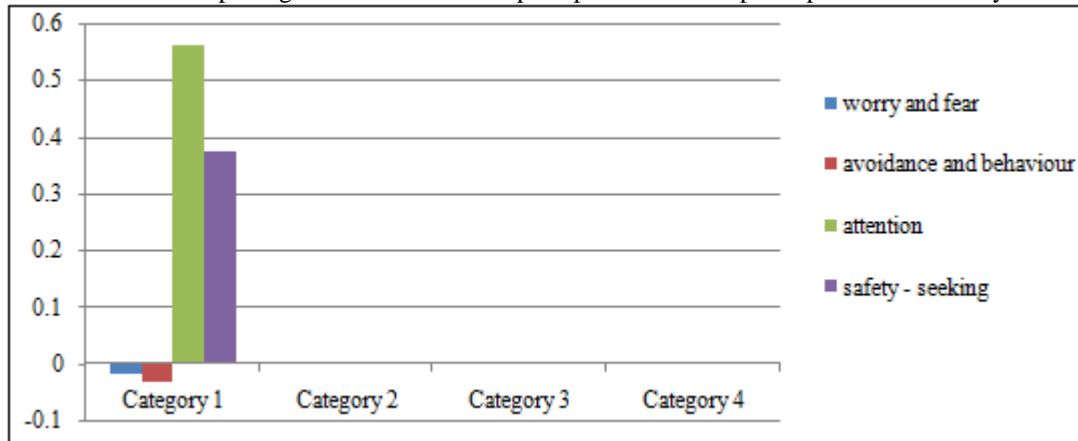
Table 2: Frequency and percentage distribution of socio - demographic variables

S. No	Socio - Demographic Data	Frequency (f)	Percentage
1	Age		
	18 - 25	3	5.6
	26 - 35	5	9.3
	36 - 45	2	3.7
	46 - 55	17	31.5
>55	27	50	
2	Gender		
	Male	42	70
	Female	18	30
3	Education		
	Formal Education	12	20
	Illiterate	48	80
4	Occupation		
	Government	12	20
	Self - Employed	48	80
5	Marriage		
	Married	58	96.7
	Unmarried	2	3.3
6	Residence		
	Urban	30	50

	Rural	30	50
7	Medical Personnel in Family		
	Yes	15	25
	No	45	75
8	Previous Coronary Angiography		
	Yes	6	10
	No	54	90
9	Duration of Previous Coronary Angiography		
	6 Months And More	4	6.7
	Never	56	93.3

The above table depicts that majority of the participants were in the age group >55 (50%) and male (70%) with (70%) formal education, self –employed (80%) occupation, and married (58%) with (50% - 50%) urban and rural residence, with no medical personnel in family (75%), with maximum no Previous Coronary Angiography Patients (54%), with no specific duration of last Coronary Angiography (93.0%).

Table 3: Depicting correlation between pre - procedural and post - procedural anxiety



S. No.	Correlation	DATA (t value)
1.	Worry and Fear	- 0.020
2.	Avoidance and Behavior	- 0.033
3.	Attention	0.561
4.	Safety Seeking	0.372

Section - 3 Co - relation between pre - procedural & post - procedural Anxiety among patient undergoing Coronary Angiography.

The findings of the study revealed that the dimension and factors – Analytically derived CAQ subscales i. e, Attention (0.561) the result is supported by, the study **Delewi Ronak, Vlastra wieneke, Rohling J. wim Wagenaar C. Tineke et. al (2016)** that patient <65 years had high anxiety scores prior to the procedure, a difference that disappeared after the procedure. Patients with a low level of education reported higher Post - Procedural VAS anxiety scores, than patient who were intermediately or highly educated.²⁰

5. Results

The results shows that worry and fear and avoidance and behavior has negative correlation and attention and safety seeking has positive correlation.

6. Discussion

Section - 1 Pre - procedural anxiety among the patient undergoing Coronary Angiography.

The finding of the study revealed that, the dimensions and factor analytically derived CAQ subscales i. e safety and reassurance seeking behaviour. The result is supported Own by, **L. Raymond, Carmin, Cheryl. N, Marker D. Craig. (2007)**, that a four factor solution was judged to provide the best fit with the results reflecting the following factor composition heart focused attention, avoidance of activities that bring on symptoms, worry or fear regarding symptoms & reassurance.⁴³

Section - 2 Post - procedural anxiety among patient undergoing Coronary

The finding of the study revealed, that the dimensions and factor analytically derived CAQ subscales i. e, avoidance of strenuous activity. **Sears. F. Samuel, Lawless Christine, Mosesso N Vincent Rachel Lampert, Whited Amanda, Rosman Lindsey (2015)** that SCA Survivors reported significantly higher levels of heart – focused attention and greater Cardiac Fear & Avoidance Behavior than LQTS patients.

Section - 4 Association of Pre - Procedural & Post - Procedural anxiety among patient undergoing Coronary Angiography with selected Socio - demographic variables.

The finding of the study revealed that selected socio - demographic variable was found to be significant impact on pre - procedural and post procedural anxiety among patient undergoing Coronary angiography these findings is supported by **Popovi DDj, Culafic DM, Tepavecvic NV, Spuran MM, Dyuranovic. S. P, et. al (2015)**. The study Conclusion yielded that 13.4% of the patient was having anxiety⁴².

7. Conclusion

Based on the above finding study concluded that pre procedural and post procedural anxiety was highest among the age group of >55, male, formally educated, self employed, married, urban. and the least level of anxiety among age group of 18 - 25, female, illiterate, unmarried, rural and worry and fear, avoidance and behavior has negative correlation Hence there is need to assess pre

procedural and post procedural anxiety so we prepared the information booklet to help in reduce the anxiety of patients.

8. Future Scope

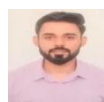
Based on the research, following recommendation for future scope are made -

- The tool use for assess pre procedural and post procedural anxiety among the patient undergoing Coronary angiography can be further modified.
- Study can be replicated in large samples to generalize the findings.
- Comparative studies with pre procedural and post procedural anxiety among patient can be under taken.
- Study can be under taken to compare anxiety before and after Coronary angiography patient.

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