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A STUDY TO MEASURE THE LEVEL OF ANXIETY AMONG PATIENTS UNDERGOING CORONARY ANGIOGRAPHY IN SELECTED MULTISPECIALTY HOSPITAL, DEHRADUN.

Nursing

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KEYWORDS

INTRODUCTION

Traditionally heart is considered to be the seat of the soul, centre of courage, abode for soul and even refuge for hatred too. In fact, heart is non-stop pumping engine which maintains circulation of life sustaining fluid blood to each cell of the body. Heartbeat represents life and lack of it pronounces death. Cardiovascular diseases are the primary cause of mortality all over the world it affects more than one in five people.[1]

Coronary heart disease (CAD),is a group of diseases that include: stable angina, unstable angina, and myocardial infarction. It is within group of cardiovascular diseases of which is the most common type is myocardial infarction. [1]Heart related cardiovascular disease includes acute coronary disease, angina, myocardial infarction, congenital heart disease, rheumatic heart disease.[1]

A coronary angiography is a minimally invasive procedure to access the coronary circulation and blood filtered chambers of heart [1]. Plaques can be thought of as large "pimples" that protrude into the channel of an artery, causing-a partial obstruction to blood flow. As with any invasive procedure, all patients experience a variable degree of anxiety before coronary angiogram. Unrelieved anxiety can produce an increase in sympathetic nervous system activity leading to an increase in cardiac workload and imbalance in homeostasis that impair or impede recovery.[2]

In India in the past five decades, rates of coronary heart diseases among urban and rural populations have risen from 4% to 11% (2002-2012)[6]. During the physicians clinical experience, observed that the coronary patients undergoing a angiography procedure have trouble to cope up with procedure as they felt immense pressure and anxiety related to the procedure.[3]

Cardiovascular diseases one of the leading death causes globally. As it brings disability and limitations to their day activity, suspicious of having some heart problems may create enormous anxiety to the patients.[4]

METHODS

A quantitative non-experimental study was carried out in Himalayan Hospital, Dehradun, in the year 2016-17. Cross-sectional observational design was used for the study whereas all the study participants were selected through consecutive sampling technique from all clinically diagnosed coronary artery disease patients and they were individually interviewed and data was collected by Hamilton anxiety rating scale. All Clinically diagnosed coronary artery disease patients undergoing angiography in a selected multi- speciality hospital, uttrakhand.

Total 60 cardiovascular patients were selected for the study. The reliability is the ability of data gathering devices to obtain consistent results. HAM-A was administered by structured interview to 20 patients with coronary artery diseases at Himalayan Hospital, Dehradun, Uttrakhand. Reliability of the tool was established by Test-retest method followed by Pearson's correlation formula and it was found to be 0.96 for anxiety, respectively.

Pretesting was following obtaining formal administrative permission. Hindi version of the tool was administered to 10 cardiovascular patients who fulfilled the inclusion criteria. It was done to determine the simplicity, clarity of items, time required and to ensure the feasibility of the tool. The average time taken for each patients were 15-20 minutes.

RESULTS

Table 1 A : Frequency And Percentagewise Distribution Of Personal Profile Characteristics Of Cardiovascular Patients.

S. No	Sample Characteristics		Frequency	Percentage
1.	Age in Years	30-45	23	38.3%
		46-60	37	61.7%
2.	Diagnosis	MI	40	66.7%
		CAD	20	33.3%
3.	Gender	Male	49	81.7%
		Female	11	18.3%
4.	Marital Status	Married	58	96.7%
		Unmarried	2	3.3%
5.	Occupation	Self employed	45	75%
		Government	15	25%
6.	Type of family	Nuclear	39	65%
		Joint	21	35%
7.	Area of residence	Rural	32	53.3%
		Urban	28	46.7%
8.	Educational status	No Formal Education	8	13.3%
		Formal Education	52	86.7%
9.	Previously Hospitalized	Yes	43	71.7%
		No	17	28.3%
10.	Previous Experience of Angiography	Yes	16	26.7%
		No	44	73.3%
11.	Time since last Angiography	>6months	14	23.3%
		never	46	76.7%
12.	Presence of any medical person in the Family	Yes	0	0%
		No	60	100%
13.	Heart related problems in the Family	Yes	15	25%
		No	45	75%

Shows that majority (81.7%) of the study participants were male and less than one fourth (18.3%) and almost every 5th participant were female. In Age group two-third (61.7%) of the study participants falls under 30-45 years of age group, whereas only 38.3% of the study participants that is every third participant falls under 46-60 years of age group. According to the diagnosis two-third (66.7%) study participants was diagnosed for myocardial infarction, and one-third (33.3%) of the study participants that is every 3rd participant were reported to be diagnosed with CAD. Three-fourth (75%) of the study participants were reported as self-employed, and one-fourth (25%) of them that is every 4th participant were reported to be as government employer. Two-third(65%) of the study participants reported to be living as nuclear family, more than one third (35%) and approximately every 3rd participant were reported to have joint family. More than half (53.3%) and proximately every 2nd study participants were reported to be living in rural setting, whereas less than half (46.7%) of study participants were reported to be living in urban setting. Most of the study participants (86.7%) had formal education, whereas 13.3% of the study participants had no formal education. Almost three-fourth (71.7%) of the study participants were reported as hospitalized before, and more than one-fourth (28.3%) approximately every 4th participant were reported as no previous history of hospitalization. Almost three-fourth (73.3%) of the study participants were reported as not having any previous experience of angiography whereas one-fourth (26.7%) of the study participants that is every 4th participant had previous

experience of angiography. Three-fourth (76.7%) of study participants were reported as having no experience of angiography, less than one-fourth(23.3%) were reported to be admitted after 6 month of time since last angiography.

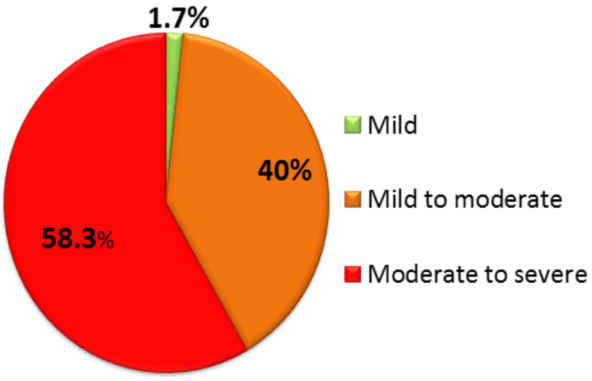

Fig:1:- Level Of Anxiety Among Cardiovascular Patients Undergoing Angiography.

Figure No 1:- Depicts that, more than half (58.3%) of the cardiovascular patients undergoing coronary angiography reported moderate to severe level of anxiety and 40% of cardiovascular patients were reported mild to moderate level of anxiety whereas almost every 50th (1.7%) cardiovascular patient were reported mild anxiety level.

Section III:- Description For Distribution Of Data Measurement Regarding Level Anxiety Among Patients Undergoing Angiography.

Table No. 3:- Distribution Data Measurement Regarding Level Anxiety Among Patients Undergoing Angiography.

N	Mean	Median	SD	SE Mean	Normal Distribution
60	25.83	25.37	4.896	0.632	0.281

Table No. 3:- Shows that the total number of sample were 60, whereas the calculated mean was 25.83, standard deviation was 4.896, median was 25.37 and standard error of mean was 0.632. The calculated value (i,e .281) shows data is normally distributed.

Section IV:- Description For Difference Between Population Mean And Sample Mean.

Table No.4:- Difference Between Population Mean And Sample Mean.

Population Mean	Sample Mean	Sample SD	T-value	DF	P-value	95% of Confidence Interval of difference	
						Lower	Upper
115.97	25.83	±4.896	142.61	59	0.001	24.57	27.09

Table No.4:- Depicts that calculated mean of the sample(25.83) was compared with the population mean(115.97) which was taken from a previous study to check the level of significance in which the calculated t-value was 142.61 with P-value of 0.001 at 95% of the confidence interval. Hence it can be interpreted that the level of anxiety mean score among study sample significantly lower than the population mean score at the level of significance $p \leq 0.05$.

Section V:- Prevalence Of Anxiety According To Area Wise Distribution.

Table 5:- Area Wise Distribution Regarding Level Of Anxiety Among Cardiovascular Patients Undergoing Coronary Angiography.

S.No	Characteristics	Mean±SD	Level of severity
1.	Anxious mood	1.71±0.49	Moderate
2.	Tension	2.29±0.69	Moderate
3.	Fears	1.075±0.64	Moderate
4.	Insomnia	1.93±0.59	Moderate
5.	Intellectual	0.84±0.32	Mild
6.	Depressed mood	2±0.59	Moderate
7.	Somatic(Muscular)	2.09±0.63	Moderate
8.	Somatic(sensory)	1.88±0.64	Moderate
9.	Cardiovascular symptoms	2.8±0.56	Severe
10.	Respiratory symptoms	1.78±0.84	Moderate
11.	Gastrointestinal symptoms	2.08±0.89	Moderate
12.	Genitourinary symptoms	0.9±0.37	Moderate
13.	Autonomic symptoms	2.38±0.73	Moderate
14.	Behaviour at interview	2.2±0.67	Moderate

Table No.5:- Depicts that the level of anxiety among cardiovascular patients undergoing angiography, whereas majority of cardiovascular patients were experienced 'moderate', in the area of cardiovascular symptoms of the patients were reported 'severe' level of anxiety and intellectual symptoms were reported 'mild' level of anxiety.

Section VI:- Association With Personal Profile Characteristics.

Table No.6:- Association Between Personal Profile And Level Of Anxiety Among Cardiovascular Patients Undergoing Coronary Angiography. (N=60)

S. No	Personal profile characteristics		Mild	Mild to Moderate	Moderate to Severe	Fisher	P Value
1.	Age	30-45years	0	9 (15%)	14 (23.3%)	.670	1.000
		45-60 years	1 (1.7%)	15 (25%)	21(35%)		
2.	Diagnosis	MI	1 (1.7%)	11 (18.3%)	28 (46.7)	7.988	.011
		CAD	0	13 (21.7%)	7 (11.7%)		
3.	Gender	Male	1 (1.7%)	20 (33.3%)	28 (46.7%)	.619	.759
		Female	0 (0%)	4 (6.7%)	7 (11.7%)		
4.	Marital Status	Married	1 (1.7%)	22 (36.7%)	35 (58.3%)	4.272	0.189
		Unmarried	0 (0%)	2 (3.3%)	0 (0%)		
5.	Occupation	Self Employed	1 (1.7%)	19 (31.7%)	25 (41.7%)		
		Government worker	0	5 (8.3%)	10 (16.7%)	0.794	0.668
6.	Type of Family	Nuclear	0	16 (26.7%)	23 (38.3%)	4.869	0.558
		Joint	1 (1.7%)	8 (13.3%)	11 (18.3%)		
7.	Area Of Residence	Rural	0	11 (18.3%)	21 (35%)	2.237	0.296
		Urban	1 (1.7%)	13 (21.7%)	14 (23.3%)		
8.	Educational status	No Formal Education	0	0	8 (13.3%)	6.593	0.148
		Formal Education	1 (1.7%)	24 (40%)	27 (45%)		
9.	Previously hospitalized	Yes	0	21 (35%)	22 (36.7%)	6.602	.017
		No	1 (1.7%)	3 (5%)	13 (21.7%)		
10.	Previous Experience Of Angiography	Yes	0	8 (13.3%)	8 (13.3%)	1.26	0.553
		No	1 (1.7%)	16 (26.7%)	27 (45%)	2	
11.	Time since Last angiography	>6 months	0	7 (11.7%)	7 (11.7%)	0.978	0.644
		Never	1 (1.7%)	17 (28.3%)	28 (46.7%)		
12.	Presence of medical person in Family	Yes	0	0	0	4.97	0.692
		No	1 (1.7%)	24 (40%)	35 (58.3%)	2	

13.	Related heart problems in family	Yes	0	5 (8.3%)	10 (16.7%)	0.872	0.668
		No	1 (1.7%)	19 (31.7%)	25 (41.7%)		

Table No 6:- According to distribution of the data in the cells Fisher's Exact test was used to measure the significant association between personal profile and level of anxiety among cardiovascular patients undergoing coronary angiography. The personal profile of the cardiovascular patients like age (0.712), gender (0.759), marital status (0.189), occupation (0.706), type of family (0.558), area of residence (0.296), educational status (0.108), previous experience of angiography (0.553), time since last angiography (0.748), any other disease (0.128), presence of medical person in family (0.692), related heart problems in family (0.668) has not shown any statistical association with the level of anxiety score at the significant level $p \leq 0.05$. Only previous hospitalization (0.017), and diagnosis(0.011) were significantly associated with level of anxiety among cardiovascular patients undergoing coronary angiography at significant level $p \leq 0.005$.

DISCUSSION

Section 1:- Level Of Anxiety Among Cardiovascular Clients Undergoing Coronary Angiography.

The findings of the study revealed that , more than half of the cardiovascular patients undergoing coronary angiography experience moderate to severe level of the anxiety, more than one fourth of the cardiovascular clients reported mild to moderate level of anxiety, and less than one fourth of the cardiovascular clients experience d mild level of severity. These results were supported by **Bunevicius A, Staniute M, Brozaitiene J, pop VJM, Veverauskas J, Bunevicius R, (2007)** that total 7% cardio vascular patients suffered from anxiety disorder[5].

Section2:- Prevalence Of Anxiety According To Domain Wise Distribution.

The findings of the study revealed that the level of anxiety among cardiovascular patients undergoing angiography, most of cardiovascular patients were experienced 'moderate', in the area of cardiovascular symptoms of the patients were reported 'severe' level of anxiety and intellectual symptoms were reported 'mild' level of anxiety.

These findings were supported by, **Delewi.R, Wim Rohling J, Wagenaar.T, Henriques Jose. P, in 2016** conducted a study which concluded that, examined that anxiety among patients undergoing coronary angiography was highest immediately around the procedure and severe in cardiovascular symptoms and moderate in other physiologic patients in <65 [6].

Section 3:-distribution Data Measurement Regarding Level Anxiety Among Patients Undergoing Angiography.

The findings showed that the total number of sample were 60, whereas the calculated mean was 25.83, standard deviation was 4.896, median was 25.37 and standard error of mean was 0.632. The calculated value (i,e .281) shows data is normally distributed.

These findings were supported by, **Farsi.Z, Azam Sajadi.S, Eslami.R, in 2015** conducted a study which concluded that, the three groups did not significantly differ regarding the mean anxiety scores before the intervention. However, the mean anxiety score significantly increased in the control group[7].

Section4:- Difference Between Population Mean And Sample Mean.

The findings of the study revealed that sample mean score significantly higher than population mean score at the level of significance $p \leq 0.05$. These findings were supported by, **Khayyam Nekouei .Z, Yousefy .A, Manshaee .G, Nikneshan, in 2011** conducted a study which concluded that t-test showed a significant difference between the anxiety of cardiac patients candidate for angiography and non cardiac people ($P<0.001$). Moreover, the differences between the amount of obvious anxiety and hidden anxiety in the two groups were significant($P<0.001$) for both[8].

Section 5:- Association With Personal Profile Characteristics.

The present study findings revealed that the cardiovascular clients who were diagnosed with MI and previously hospitalised had significant association with level of anxiety score, it implies that previously hospitalized cardiovascular patients had higher chances of developing anxiety among them.

These finding was supported by **Popovic DDj, Culafic DM, Tepavecvic NV, Spuran MM, Djuranovic SP, et. Al. (2015)** The study conclusion yielded that 13.4% of the patients was having anxiety. The anxiety score was higher among women and unemployed patients[9].

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