

Anxiety Experienced by Patient Relatives During Major Cardiac Surgeries

Lt Col Geethu Chandradas¹, Brig (Dr) Vandana Agnihotri², Brig (Dr) S Gita³

Abstract: Major cardiac surgeries often elicit profound emotional stress among patient relatives, significantly affecting their psychological well-being. A cross sectional study was conducted on 95 primary caregivers in a tertiary hospital of Western Maharashtra to assess the level of anxiety among relatives of patients undergoing major cardiac surgeries and determine its association with selected demographic variables. Purposive sampling method. Data were collected through a semi-structured questionnaire and the Beck Anxiety Inventory (BAI). Sociodemographic and health-related variables were analyzed for correlation with anxiety levels. Out of 95 participants, 36.8% exhibited moderate anxiety, and 24.2% experienced severe anxiety. Female caregivers, those with lower educational levels, and relatives from nuclear families had significantly higher anxiety levels ($p < 0.05$). Anxiety was also more prevalent among caregivers with a history of prior hospitalizations and limited knowledge of the patient's illness. High levels of anxiety among caregivers necessitate timely psychological support, structured counseling, and targeted nursing interventions to promote both caregiver and patient well-being.

Keywords: Anxiety, Caregiver burden, Cardiac surgery, Beck Anxiety Inventory, Tertiary care

1. Background of the study

Caregivers of patients undergoing major cardiac surgeries often experience significant anxiety and stress, which can adversely affect their well-being. A study conducted in New Delhi assessed stressors among 384 caregivers of individuals with cardiovascular diseases. The findings revealed that the magnitude of stressors ranged from 79.4% to 90.4%, with primary stressors including economic burden (70.8%), lack of knowledge about the medical condition (67.7%), and changed patient behavior (65.6%). These stressors were significantly associated with factors such as occupation, relationship to the patient, duration of caregiving, regularity of treatment, patient condition, activities of daily living impairment, and multimorbidity of cardiovascular disease.

2. Introduction

The emotional toll on families of patients undergoing major cardiac surgeries is immense. While patients experience physical and emotional distress, their caregivers often suffer silently. In India, where familial support forms a cornerstone of patient care, the psychological state of caregivers is a crucial yet overlooked component of holistic treatment. Anxiety in caregivers not only affects their own health but may also impair decision-making, communication with healthcare providers, and the emotional climate around the patient. This study aimed to quantify the level of anxiety among caregivers and explore the contributing demographic and clinical factors within the Indian sociocultural context, particularly in Western Maharashtra.

3. Methodology

A descriptive, cross-sectional study was carried out over six months in the cardiac surgical ICU and surgical wards of a tertiary care hospital in Western Maharashtra. A total of 95 primary caregivers of patients undergoing major cardiac surgeries were recruited using purposive sampling. Inclusion criteria comprised caregivers aged above 18 years, cohabiting with patients for over one year, and willing to participate. Exclusion criteria included caregivers with known psychiatric illness or severe physical illness. Beck Anxiety Inventory

(BAI) is used as the tool for Data Collection. A Socio-demographic and health-related questionnaire was developed to gather data on age, gender, education, marital status, income, occupation, type of family, and prior caregiving experiences. Beck Anxiety Inventory (BAI) is a 21-item standardized tool, measuring anxiety on a 4-point Likert scale (0–3). Total scores were categorized as: Minimal anxiety: 0–7, Mild anxiety: 8–15, Moderate anxiety: 16–25 and Severe anxiety: 26–63. Ethical clearance was obtained. Written informed consent was secured from all participants. Interviews were conducted in a private area, lasting 10–15 minutes. Descriptive statistics (mean, standard deviation) and inferential statistics (Chi-square, ANOVA) were employed to analyze associations between anxiety levels and demographic variables. A p-value of <0.05 was considered statistically significant.

4. Results

Demographic Profile

Table 1: Socio - demographic profile of relatives, n=95

Socio demographic data	Parameters	No. of cases	Percentage (n=95)
Age (Yrs)	18 – 35	41	43.2
	36 – 45	52	54.7
	46 – 55	2	2.1
Gender	Male	42	44.2
	Female	53	55.8
Educational qualification	No formal education	7	7.4
	10+2 or below	59	62.1
	Graduate	26	27.4
	Post graduate	3	3.2
Marital status	Single	12	12.6
	Married	81	85.3
	Divorced	2	2.1
	Unemployed	49	51.6
Occupational status	Part time	31	32.6
	Full time	11	11.6
	Others	4	4.2
	<2	33	34.7
Annual income of the family (Lakhs)	2 – 6	61	64.2
	6 – 10	1	1.1
	Nuclear	71	74.7
Type of family	Joint	24	25.3

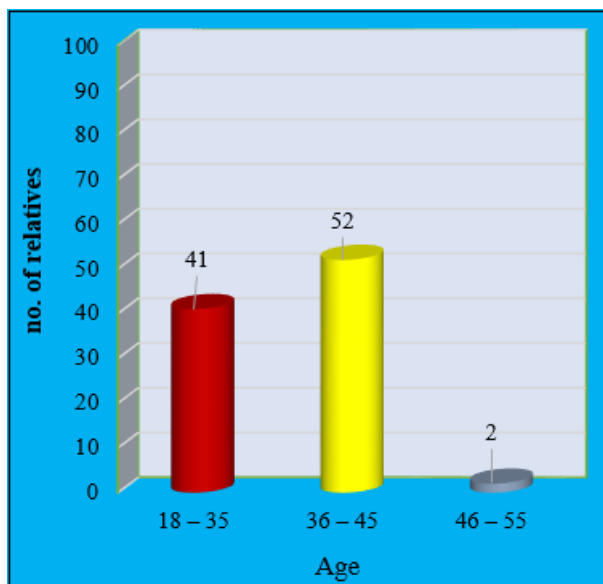


Figure 1: Relatives based on age

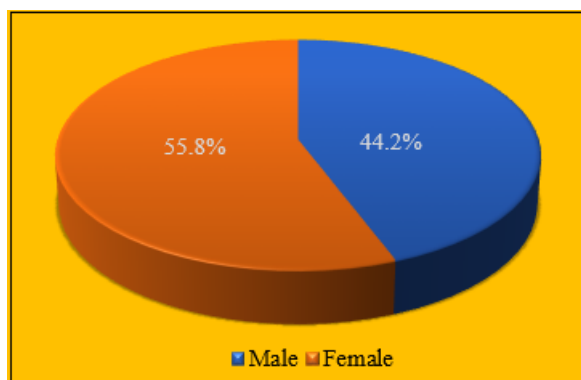


Figure 2: Relatives based on gender

Majority of participants were female (58%) and between 36–50 years (47.4%). Most were married (76.8%) and lived in nuclear families (61%). 40% had only primary-level education; 33.6% were unemployed. 45% had an annual income < ₹2,00,000.

Health-Related Information

Table 2: Health related information of the relatives, n=95

	Parameters	No. of cases	Percentage (n=95)
Were you admitted in the hospital any time	Yes	5	5.3
	No	90	94.7
If yes (n=5)	fever	2	40
	Gastroenteritis	1	20
	Dengue	1	20
	Migraine	1	20
Have you undergone any surgeries	Yes	8	8.4
	No	87	91.6

If yes (n=8)	Caesarean	5	62.5
	Hysterectomy	2	25
	Hernia repair	1	12.5
Do you suffer from any illness presently	Yes	6	6.3
	No	89	93.7
If yes (n=6)	Hypertension	3	50
	DM	1	16.67
	Migraine	1	16.66
	Arthritis	1	16.66
Do you suffer from any cardiac disorder	Yes	0	0
	No	95	100

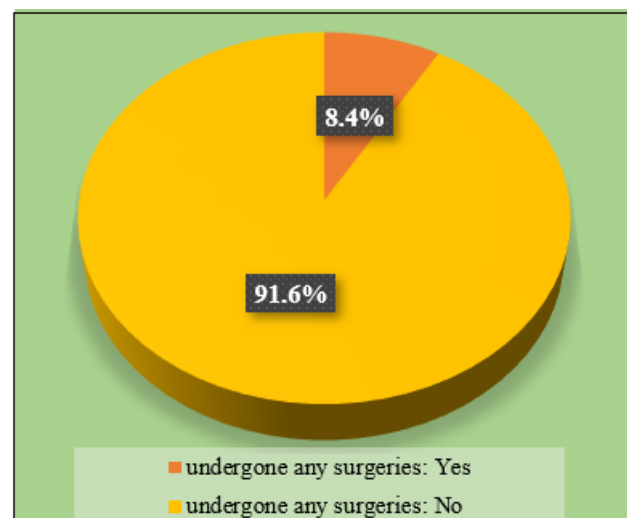


Figure 3: Description of relatives based on history of previous surgeries

60% of relatives had previous hospital exposure. 44.2% had cared for a patient undergoing previous surgeries.

Table 3: Health related information about the patients from the relatives.

	Parameters	No. of cases	Percentage (n=95)
How are you related with the patient	Daughter	21	22.1
	Father	10	10.5
	Mother	8	8.4
	Son	31	32.6
	Wife	23	24.2
	Husband	2	2.1
Duration of staying with the patient (Yrs)	Up to 5	48	50.5
	6 – 10	30	31.6
	>10	17	17.9
What is the illness of the patient	Bypass surgery	52	54.7
	Heart related	1	1.1
	Valve replacement	42	44.2
How long have been the patient is suffering with the illness	<1	43	45.3
	1 – 3	34	35.8
	>3	18	18.9

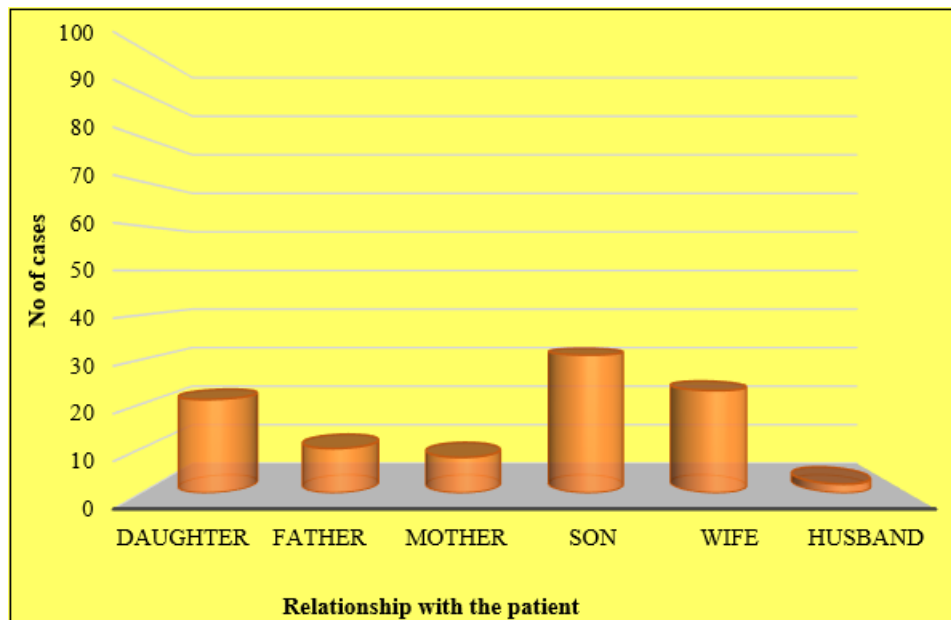


Figure 4: Relationship of relatives with patient

32.6% of relatives have father as the patient. 54.7% of the patients were undergoing bypass surgery and 44.2% of the patients were be undergoing valve replacement surgery.

Anxiety Levels

Table 4: Level of anxiety among relatives of patients undergoing major cardiac surgeries, n=95

Anxiety score	No of cases	Percentage
0 – 21 (Low)	26	27.4
22 – 35 (Moderate)	63	66.3
36 & above (Potential concerning)	6	6.3
Total	95	100

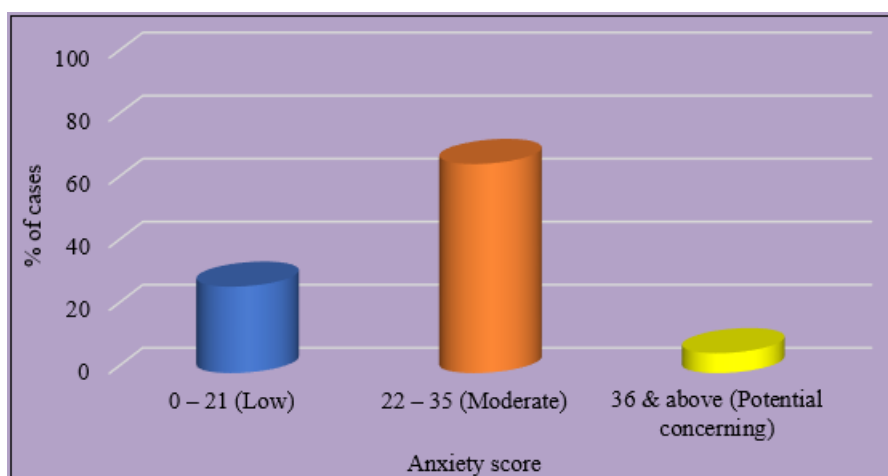


Figure 5: Level of anxiety among relatives of patients undergoing major cardiac surgeries

The assessment of anxiety levels among the participants showed that 7.4% experienced minimal anxiety, 31.6% had mild anxiety, 36.8% were found to have moderate anxiety, and 24.2% suffered from severe anxiety. These findings indicate that the majority of the participants experienced mild to moderate levels of anxiety, while a considerable proportion also exhibited severe anxiety, highlighting the emotional burden faced by the study population.

Most common symptoms were nervousness (90% experienced moderate to severe), fear of worst happening, hot/cold sweats and hand tremors.

The study found that most relatives of patients undergoing major cardiac surgeries experienced moderate anxiety, with fewer experiencing low or severe anxiety. Importantly, socio-demographic factors such as age, gender, educational qualification, marital status, occupational status, annual income, and family type did not significantly impact the anxiety levels of the relatives.

5. Discussion

The present study identified a high burden of moderate to severe anxiety among caregivers of cardiac surgery patients, consistent with findings from studies by Sharma et al. (2023)

and Gitumoni et al. (2015). Female caregivers, especially spouses, were significantly more anxious, likely due to emotional dependence and caregiving responsibilities.

Educational level and lack of adequate communication from healthcare providers exacerbated anxiety, reflecting findings from Moller et al. (2020) who linked unmet information needs with psychological distress. Notably, relatives with prior caregiving experience reported lower anxiety, supporting the idea that familiarity with hospital systems may buffer emotional distress. This study supports the need for preoperative counseling, structured family education, and psychological screening as routine nursing responsibilities in cardiac units.

6. Conclusion

Caregivers of patients undergoing major cardiac surgeries face a significant emotional burden, with over 60% experiencing moderate to severe anxiety. This highlights the necessity of family-centered care models in cardiac surgical settings.

7. Recommendations

Routine anxiety screening of caregivers using tools like BAI, development of caregiver support groups, preoperative informational sessions, hospital tours and integration of psychological support within cardiac care teams.

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