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## RESEARCH ARTICLE

### ANXIETY AND DEPRESSION AMONG PATIENTS ATTENDING THE CARDIO VASCULAR OUTPATIENT DEPARTMENT IN A TERTIARY CARE CENTRE

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#### ABSTRACT

**Objective:** This Study aimed to investigate the prevalence of anxiety and depression among patients attending the cardio vascular outpatient Department at ASCOMS Hospital Jammu tertiary care centre.

**Methodology:** A cross sectional analysis was conducted, involving 100 patients attending the cardiovascular OPD conducted over 1 month duration. Standardized psychometric assessments, including validated questionnaires like Patient Health Questionnaire - 9 (PHQ- 9) and Generalised Anxiety Disorder- 7 (GAD - 7) were employed to screen for depression and anxiety respectively.

**Results:** Findings revealed the mean age of participants was 52.2 years. 68% were males and 32% were females. 30% of the participants had minimal or no depression, 44% had mild depression, 17% had moderate depression, 9% had moderately severe depression and none had severe depression. Whereas 18% had minimal or no anxiety, 23% had mild anxiety, 30% had moderately anxiety and 29% had severe anxiety. **Conclusion:** This study underscores the importance of recognizing and addressing depression and anxiety in patients visiting a cardiovascular OPD, shedding light on the holistic care required for individuals with cardiovascular diseases.

## INTRODUCTION

Cardiovascular diseases (CVDs) have emerged as a leading global health concern, accounting for a substantial proportion of morbidity and mortality worldwide. Patients grappling with these conditions often navigate a complex web of medical interventions, lifestyle adjustments, and emotional challenges. The intricate interplay between physical health and psychological well-being has gained increasing recognition in recent years, prompting the exploration of the mental<sup>[1-4]</sup> health landscape within medical settings. Among the psychological aspects, anxiety and depression stand out as particularly relevant in the context of cardiology patients. The diagnosis of a cardiovascular ailment can evoke a range of emotional responses, including fear, uncertainty, and heightened stress. These emotional reactions have been shown to influence disease progression, treatment adherence, and overall quality of life.

As a result, understanding the prevalence and implications of anxiety and depression among patients visiting cardiology Outpatient Departments (OPDs) in tertiary care centre assumes paramount significance<sup>[5-9]</sup>. This research seeks to shed light on the prevalence of anxiety and depression among individuals seeking cardiology services within a tertiary care centre. By investigating the psychological well-being of this specific patient cohort, we aim to uncover potential correlations

between mental health states and cardiovascular conditions. Through a comprehensive examination of anxiety and depression in the context of cardiology OPDs, this research aims to contribute to the growing body of knowledge at the intersection of medical and psychological care. By addressing the gaps in current understanding, we aspire to highlight the importance of holistic patient centered approaches that recognize and address the emotional dimensions of cardiovascular care.

## MATERIALS AND METHODS

**Study design:** This cross-sectional study aimed to assess the prevalence of depression and anxiety among patients attending the cardiovascular OPD at ASCOMS Hospital Jammu. The study was conducted over a one-month period.

**Study settings:** The study was conducted at Cardiovascular OPD in ASCOMS Hospital Jammu which serves as a tertiary care centre.

**Participants:** The study included a sample of 100 patients aged 25 years and older who presented to the cardiovascular

OPD during the study period. Patients with a known history of psychiatric illness or those unwilling to participate were excluded.

**Data collection:** Data collection was done in the following steps:

**Informed Consent:** Before participation, patients were informed about the study's purpose and their consent was taken.

**Demographic information:** Demographic details including age and gender were collected through structured interviews.

**PHQ -9 Assessment:** Depression was assessed using Patient Health Questionnaire-9 (PHQ-9). Participants were asked to complete the PHQ-9 Questionnaire, which consists of nine items each scored from 0 (not at all) to 3 (nearly every day). Total scores range from 0 to 27, with higher scores indicating greater depression severity. Scores of 5, 10, 15 and 20 represent mild, moderate, moderately severe and severe depression respectively.

**GAD - 7 Assessment:** Anxiety was assessed using Generalized Anxiety Disorder-7 (GAD-7) questionnaire. Patients completed the GAD-7, which comprises of seven items each scored from 0 (not at all) to 3 (nearly every day). Total scores range from 0 to 21, with higher scores indicating greater severity. Scores of 5, 10 and 15 represent mild, moderate and severe anxiety respectively.

**Statistical Analysis:** Microsoft excel was used in creating the database and producing graphs while the data was analyzed using the statistical package for the social sciences (SPSS) version 23 for windows. Mean and Standard deviation (SD) were used to describe quantitative data meeting normal distribution.

## RESULTS

In present study the majority of the studied cases were in the age group ranging from 25 years to 80 years of age with mean age of 52.2 years with slight male predominance. 68% were males and 32% were females (Table 1&2). 30% of the participants had minimal or no depression, 44% had mild depression, 17% had moderate depression, 9% had moderately severe depression and none had severe depression. Whereas 18% had minimal or no anxiety, 23% had mild anxiety, 30% had moderate anxiety and 29% had severe anxiety. Participants with depression were mostly males while as anxiety was more prevalent in females (Table 3& 4).

**Table 1. Age wise distribution of patients**

Age (in years)	No. of patients	Percentage (%)
25-35	12	12
35-45	26	26
45-55	34	34
55-65	18	18
≥65	10	10
Total	100	100

**Table 2. Gender wise distribution of patients**

Gender	No. of patients	Percentage (%)
Female	32	32
Male	68	68
Total	100	100

**Table 3. Number of patients in Depression according to PHQ-9**

PHQ-9	MALE		FEMALE	
	N	%	N	%
Minimal or no depression(0-4)	21	30.88	09	28.13
Mild depression (5-9)	27	39.71	17	53.13
Moderate depression(10-14)	15	22.06	02	6.25
Moderately severe depression(15-19)	05	7.35	04	12.5
Severe depression (20-27)	0	0	0	0
Total	68	100	32	100

**Table 4. Number of patients in Anxiety according to GAD-7**

GAD-7	MALE		FEMALE	
	N	%	N	%
Minimal or no anxiety (0-4)	12	17.65	06	18.75
Mild anxiety (5-9)	20	29.41	03	9.38
Moderate anxiety (10-14)	17	25	13	40.63
Severe anxiety(>15)	19	27.94	10	31.25
Total	68	100	32	100

## DISCUSSION

Psychiatric morbidity is one of the domains which can significantly influence the quality of life of patients having cardiovascular diseases. Understanding this issue is vital for comprehensive cardiovascular assessment and care. The findings and results of this cohort study, after systematic analysis of all the data from 100 patients with cardiovascular diseases proves that the prevalence of depression and anxiety were increased many fold as disease prolonged. Consequently, it is need of the hour to focus on risk factors and protective factors to decrease the prevalence of depression and anxiety in cardiovascular diseases patients. In our study, we took patients with ages 25 years and older with mean age 52.2 years and we used GAD-7 and PHQ-9 to assess depression and anxiety in patients and 44% of patients had mild depression, 17% had moderate depression, 9% had moderately severe depression and none had severe depression. Whereas 18% had minimal or no anxiety, 23% had mild anxiety, 30% had moderate anxiety and 29% had severe anxiety. Similar studies conducted by Meneghetti C. C et al., in which patients were take with age 44 years to 90 years with mean age of 64 years, Hospital Anxiety and Depression scale(HADS) was used. In their study 48.4% of Cardiovascular disease patients had anxiety and 26.4% had depression respectively<sup>[10]</sup>. Rothenbacher D. et al also performed a study patients with coronary artery disease with ages 30 years to 70 years. They also used Hospital Anxiety and Depression scale(HADS) in which 8.3% patients with coronary artery disease had anxiety and 5.9% patients had depression<sup>[11]</sup>. In our study, sex of the patients was significantly associated with level of anxiety where females had higher level of anxiety than males while as depression was found mostly in males than in females<sup>[12]</sup>. This finding is supported by the studies conducted by Carvalho I. G. et al who studied the prevalence of anxiety and depression with cardiovascular diseases and used Hospital Anxiety and Depression scale(HADS) and Resilience Scale and Rosenberg Self- esteem Scale 32.5 % patients had anxiety and 17.5 % had depression. This study also showed the higher level of anxiety in female patients. Females are more prone to have anxiety which might be due to their multiple roles, gender discrimination, or other family problems. Another prospective cohort study performed by Young-Xu Ye in patients with coronary artery disease with mean age of 68 years. They used

Kellner symptom questionnaire to diagnose anxiety inpatients with coronary artery disease and found high level of anxiety in these patients<sup>[13]</sup>. In 2011, Bayani Baktash et al conducted a study on patients visiting cardiovascular department and used the Hospital Anxiety and Depression scale (HADS) to assess depression and anxiety and revealed that 41.9% of the patients suffered from depression, and 28.5% had anxiety. The severity of depression was related to hypertension<sup>[14]</sup>. Our study's results underscore the multifaceted nature of mental health issues in cardiovascular patients. The observed prevalence rates of depression and anxiety emphasize the importance of routine psychometric assessments in cardiovascular care. The coexistence of mental health disorders in this population necessitates a comprehensive approach that addresses both cardiovascular and psychological aspects of patient well-being. Moreover, it is need of the modern society to take preventive measure to decrease the prevalence of depression and anxiety in such cardiac disease patients<sup>[15]</sup>. Focus should be placed to counsel the patients and their family members that they should take steps to involve the patients in activities of daily life as well as in social activities. With all the proper precautions and being active patients can avoid development of depression and anxiety, which is becoming more harmful to decrease the prognosis of cardiovascular diseases<sup>[16]</sup>.

## CONCLUSION

Patients with cardiovascular diseases tend to have depression and anxiety too. Having physical health problems increases the chances of depression and anxiety. Patients living with cardiovascular diseases need to be assessed and cared for mental health status like depression and anxiety. Results from this study highlight the need for proper assessment and confirmation of depression and anxiety especially among patients visiting cardiovascular OPD.

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