ORIGINAL RESEARCH

Psychiatric comorbidities in patients with acute coronary syndromes

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ABSTRACT
Background: Cardiovascular diseases contribute to 17.5 million deaths per year and depressive disorders are the fourth leading cause of the global disease burden. The present study was conducted to evaluate psychiatric comorbidities in patients with acute coronary syndromes. **Materials & Methods:**140 patients with ACS of both genderswere assessed on a structured and validated proforma before discharge, at 3 months, and at 6 months. Screening of psychiatric disorders was done using Mini International Neuropsychiatric Interview PLUS 5.0.0 and assessment of depression was done using Hamilton Depression Rating Scale. **Results:** Out of 140 patients, males were 62 and females were 78. Educationwas illiterate44, primary in 56, high in 24 and degree in 16 patients. Marital status was unmarried in 14, married in 96 and divorced/widow in 30. Occupation was skilled in 25, semi- skilled in 35, unskilledin 75 and students 5. SES was upper in 30, middle in 58 and lower in 52. Domicilewas urban in 48 and rural in 92. The difference was significant (P< 0.05). Diagnosis was STEMI in 95, UNSTEMI in 35 and Unstable Angina in 10 cases. Substance use was alcohol in 48 and smokingin 32. Comorbidities were diabetes in 62 and hypertension in 51. Psychiatric illness was major depressive disorder in 48, major depressive with melancholia in 12, recurrent depressive disorder in 5, dysthymia in 2, bipolar type 1 in 3, social phobia in 6, alcohol abusein 4 and somatization disorders in 2 patients. The difference was significant (P< 0.05). The value for HDRS at baseline was 17.2, at 3 months was 18.9 and at 6 month was 16.3. The difference was significant (P< 0.05). **Conclusion:** There was high prevalence of psychiatric illness in patients with cardiovasculardiseases. The most common was substance abuse, anxiety, and depression.
Keywords: Cardiovascular diseases, depression, psychiatric comorbidities

INTRODUCTION

Cardiovascular diseases contribute to 17.5 million deaths per year and depressive disorders are the fourth leading cause of the global disease burden.[1] One of the key mechanisms of acute coronary syndrome (ACS), which includes ST-segment elevation myocardial infarction (STEMI), non-STEMI (NSTEMI), and unstable angina (USA), is the sudden rupture of plaque in the coronary artery, leading to a flow-limiting lesion.[2] There is a higher prevalence of four stress factors: financial stress, work-related stress, and major life events. In addition, eight other risk factors found to be associated with an increased risk of ACS, including blood apolipoprotein association, waist/hip ratio, dietary patterns, physical activity, smoking, and alcohol consumption.[3]

Mental illnesses rank among the most debilitating worldwide and are projected to rise in the next decades. The prevalence of depressive disorders in children and adolescents is estimated to be increasing, and the average age at which the first signs or symptoms appear is decreasing.[4]Nonetheless, the majority of the material used to create these forecasts has been reviewed, and current needs call for universal population surveys. They influence people's quality of life as well as economic factors.There is evidence that there is a reciprocal association between psychiatric comorbidities and cardiovascular illnesses.[5]The present study was conducted to evaluate psychiatric comorbidities in patients with acute coronary syndromes.

MATERIALS & METHODS

The present study was conducted on 140 patients with ACS of both genders. All were informed regarding the study and their written consent was obtained.

Data such as name, age, gender etc. was recorded. The patients were assessed on a structured and validated proforma before discharge, at 3 months, and at 6 months. Screening of psychiatric disorders was done

using Mini International Neuropsychiatric Interview PLUS 5.0.0 and assessment of depression was done using Hamilton Depression Rating Scale.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS
Table I Distribution of patients

Total- 140		
Gender	Males	Females
Number	62	78

Table I shows that out of 140 patients, males were 62 and females were 78.

Table II Sociodemographic details

Parameters	Variables	Number	P value
Education	Illiterate	44	0.05
	Primary	56	
	High	24	
	Degree	16	
Marital status	Unmarried	14	0.04
	Married	96	
	Divorced/widow	30	
Occupation	Skilled	25	0.03
	Semi- skilled	35	
	Unskilled	75	
	Student	5	
SES	Upper	30	0.75
	Middle	58	
	Lower	52	
Domicile	Urban	48	0.01
	Rural	92	

Table II shows that education was illiterate44, primary in 56, high in 24 and degree in 16 patients. Marital status was unmarried in 14, married in 96 and divorced/widow in 30. Occupation was skilled in 25, semi- skilled in 35, unskilled in 75 and students 5. SES was upper in 30, middle in 58 and lower in 52. Domicile was urban in 48 and rural in 92. The difference was significant (P< 0.05).

### Table III Assessment of parameters

Parameters	Variables	Number	P value
Diagnosis	STEMI	95	0.02
	UNSTEMI	35	
	Unstable Angina	10	
Substance use	Alcohol	48	0.17
	Smoking	32	
Comorbidities	Diabetes	62	0.85
	Hypertension	51	
Psychiatric illness	Major depressive disorder	48	0.01
	Major depressive with melancholia	12	
	Recurrent depressive disorder	5	
	Dysthymia	2	
	Bipolar type 1	3	
	Social phobia	6	
	Alcohol abuse	4	
	Somatization disorder	2	

Table III shows that diagnosis was STEMI in 95, UNSTEMI in 35 and Unstable Angina in 10 cases. Substance use was alcohol in 48 and smoking in 32. Comorbidities were diabetes in 62 and hypertension in 51. Psychiatric illness was major depressive disorder in 48, major depressive with melancholia in 12, recurrent depressive disorder in 5, dysthymia in 2, bipolar type 1 in 3, social phobia in 6, alcohol abuse in 4 and somatization disorders in 2 patients. The difference was significant (P< 0.05).

Table IV Grading severity of depression by Hamilton Depression Rating Scale-21

HDRS	Mean	P value
Baseline	17.2	0.05
3 months	18.9	
6 months	16.3	

Table IV, graph I shows that the value for HDRS at baseline was 17.2, at 3 months was 18.9 and at 6 month was 16.3. The difference was significant (P< 0.05).

Graph I Grading severity of depression by Hamilton Depression Rating Scale-21
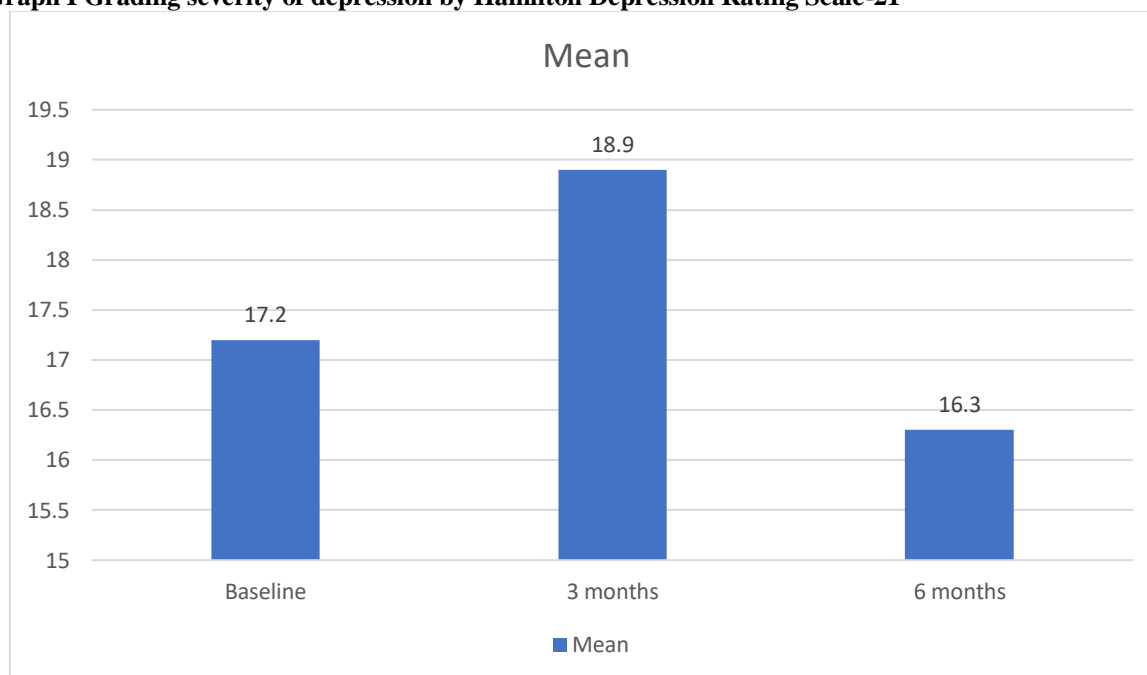
DISCUSSION

Cardiovascular diseases (CVD) and psychiatric disorders often coexist, and their relationship is complex and bidirectional. Depression and anxiety disorders are among the most common psychiatric comorbidities in patients with cardiovascular diseases. These conditions can increase the risk of developing CVD and worsen outcomes in individuals with existing cardiovascular conditions.[6] Conversely, the stress and burden of living with cardiovascular diseases can contribute to the development or exacerbation of depression and anxiety.Chronic stress, social isolation, and other psychosocial factors can have a significant impact on cardiovascular health.[7] High levels of stress and inadequate coping mechanisms can contribute to the development of hypertension, coronary artery disease, arrhythmias, and other cardiovascular conditions. Conversely, living with cardiovascular diseases can lead to increased stress, anxiety, and depression.[8]The present study was conducted to evaluate psychiatric comorbidities in patients with acute coronary syndromes.

We found thatout of 140 patients, males were 62 and females were 78. Shruthi et al[9]assessed the psychiatric comorbidities in 248 consecutive patients presented with ACS. The most common psychiatric comorbidities include major depressive disorder (44%), it persisted at the end of 3 (P < 0.001) and 6 (P < 0.001) months. A spectrum of anxiety disorders including panic disorder (12.10%), dysthymia (3.60%), agoraphobia (2.40%), social phobia (2%), obsessive-compulsive disorder (1.6%), specific phobia (1.2%), and posttraumatic stress disorder (0.8%) in descending order at the end of 6 months were found. Significant reduction in substance use of nicotine (66.1%) and alcohol (56.0%) was reported on follow-up.

We observed that educationwas illiterate44, primary in 56, highin 24 and degree in 16 patients. Marital status was unmarried in 14, married in 96 and divorced/widow in 30. Occupation was skilled in 25, semi- skilled in 35, unskilled in 75 and students 5. SES was upper in 30, middle in 58 and lower in 52. Domicile was urban in 48 and rural in 92. A study conducted by Davidson et al[10] using the concept of enhanced depressive care for patients with persistent depression in 237 post-ACS patients showed a significant reduction in depressive symptoms and modest improvement in cardiac prognosis

We found diagnosis was STEMI in 95, UNSTEMI in 35 and Unstable Angina in 10 cases. Substance use was alcohol in 48 and smokingin 32. Comorbidities were diabetes in 62 and hypertension in 51. Psychiatric illness was major depressive disorder in 48, major depressive with melancholia in 12, recurrent

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depressive disorder in 5, dysthymia in 2, bipolar type 1 in 3, social phobia in 6, alcohol abusein 4 and somatization disorders in 2 patients. We observed thatthe value for HDRS at baseline was 17.2, at 3 months was 18.9 and at 6 month was 16.3. A study conducted by Feng et al[11] has shown that anxiety among post-MI patients was associated with a 9.37-fold increase in the recurrence of MI. The prevalence of mental illnesses was calculated by Sathyanarayana et al[12]who also looked at how they related to other socioeconomic factors. Depending on their age group, each participant was given either the MINI plus or the Mini International Neuropsychiatric Interview Kid (MINI). It was discovered that 24.40 percent of the participants had at least one diagnosable mental illness. Anxiety disorders were found to be 4% prevalent, and depressive disorders to be 14.82%. In 3.95% of cases, alcohol dependency syndrome was identified. It was discovered that 10% of participants older than 60 had dementia. One in four participants in this study were found to have a mental illness. Enhancing undergraduate medical and nursing students' education will probably be crucial in tackling the risingpsychiatric morbidities.

The shortcoming of the study is small sample size.

CONCLUSION
Authors found that there was high prevalence of psychiatric illness in patients with cardiovasculardiseases. The most common was substance abuse, anxiety, and depression.

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