



Creating Better Outcomes for Patients with Heart Diseases- Reducing Depression through Early Detection and Interventions

KEYWORDS

depression screening, depression, PHQ in depression screening

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ABSTRACT Background:

A growing body of evidence points to significant relationship between heart diseases (HD) and depression. Depression reduces the chance of successful modifications of other cardiac risk factors and associated with higher utilization and costs and greatly reduced Quality Of Life (QOL). Though depression affects cardiac outcomes directly or indirectly, screening for depression should be a regular protocol to be followed. This study is done to screen patients for depression and insist the importance of depression screening in cardiac patients

Method and methodology:

A non-experimental study design approach was used in 75 patients who attended cardiac outpatient unit. Self-reported screening tools, Patient Health Questionnaire, PHQ-2 were used to screen for the depression. If a patient says yes to one or either both the questions, PHQ-9 questionnaire was administered. 40 patients fulfilled the criteria by answering YES to one or both the questions. These 40 patients were included in the study and simple descriptive statistics were used.

Results:

At the end of this simple study, 40-45% of the population who had a cardiac event has mild to moderate depression which was not diagnosed. The screening tool which was administered, PHQ-2 and PHQ 9, was found to be effective in screening patients for depression.

Conclusion:

The high prevalence of depression in patients with HD supports a strategy of increased awareness and screening for depression in patients with HD which should be routinely done. Early detection of depression followed by effective treatment can produce favorable outcomes after a cardiac event thereby reducing morbidity and mortality.

INTRODUCTION:

Heart diseases are one of the leading causes of significant morbidity and mortality presently. HD has number of consequences for patient's psychiatric well-being and social life, apart from physiological compromise due to Heart diseases. According to WHO, depression is a significant contributor to the global burden of disease and affects people in all community across the world. Presently depression is estimated to affect 350 million people. World mental health survey found that on an average 1 in 20 people report having faced an episode of depression in the previous years. Depression reduces people functional activities of daily living and often recurring. For these reasons, depression plays a major role leading to disability.

In the current health care system, consideration is given to the treatment of physiological aspects of HD at various stages. In particular, little or no attention is given to the dynamic course of psychosocial issues faced by the patient as the disease progress over time. Many literatures have studied the link between established indices of depression and prognosis in individuals with heart diseases. Depression is 3 times more common in patients after an acute episode of heart problem¹. Prevalence of depression has been shown to be higher in cardiac patients². Assessments conducted in hospital indicate that 15 to 20 of patients with heart diseases meet diagnostic and statistical manual of mental disorders³.

Depression is the third leading cause of morbidity in the world, and organizations such as the Institute of Medicine emphasize that depression screening and treatment should be a priority for medicine in the 21st century⁴.

Depression is a common co morbid condition in patients with heart disease (HD). Although mild emotional distress may be a normal reaction to myocardial infarction or other manifestations of HD, major depression should not be considered a normal reaction, nor should it be ignored. Major depression is a debilitating co morbid disorder that can seriously complicate recovery and increase the risks of further cardiac morbidity and mortality. Fortunately, it is one that can be successfully treated in the majority of cases⁵

Depression reduces the chance of successful modifications of other cardiac risk factors and associated with higher utilization and costs and greatly reduced QOL⁵. Though depression affects cardiac outcomes directly or indirectly, screening for depression should be a regular protocol to be followed. Good systems should be kept in place to facilitate the recognition of key co morbidities, like depression, which can lead to more efficient patient care. Depression is both a risk factor and a disease in its own right, and fulfills these criteria for population screening. Screening for depression in patients with HD would be expected to produce a higher yield than screening for depression in the general population, owing to a much higher prevalence of depression in patients with HD. It is important to recog-

nize depression in patients with HD in order to provide the best possible care. Availability of simple screening tools for depression can be incorporated into routine cardiac care

Materials and Methodology

This study was done in a tertiary care hospital. A non-experimental descriptive research design was used for the study. 75 patients who visited cardiology department on an outpatient basis were taken for the study by using non probability purposive sampling technique. Patients diagnosed with heart diseases (HD). Patients aged,40-70 were included in the study after obtaining their consent. Patients undergoing treatment for any mental disorders were not included in the study. Patient Health Questionnaire 2(PHQ2) and Patient Health Questionnaire9 (PHQ9) were the tools used for the study along with demographic data.

At the baseline patient health questionnaire 2(PHQ2),ultra brief depression screener, was issued to 75 patient to identify episodes of current depression.40 patients fulfilled the criteria by answering "yes" to one or both the questions. These patients were then administered patient health questionnaire 9(PHQ9), which is a tool for assessing and monitoring depression, was administered.

Results:

Based on the screening protocol, 75 patients underwent screening and 40 patients were screened positive for depression. Majority of the patients were found to be males with the age group between 50-60 and most of the subjects were married (table 1)

Table 1:

Frequency distribution based on socio-demographic variables.			
	Variables	Frequency	Percentage %
Age	40-50	4	10
	50-60	24	60
	60-70	12	30
Sex	Male	27	68
	Female	13	33
Marital status	Married	34	85
	Unmarried	2	5
	Widowed	4	10

Table 2 shows that 48 % of the patients who were detected with depression were suffering from the diseases for more than 1 year to 5 years and primarily diagnosed with Heart disease (HD).

Sex	Male	16	76	6	50	4	67	1	100	0	0
	Female	5	24	6	50	2	33	0	0	0	0

The below table represents that mild to moderate depression were mostly seen in patients who are suffering with problems more than a year and most of the problems were primarily because of Heart diseases(HD).

Table 5:

Association of clinical profile with depression.											
n-21		None		Mild		Moderate		Moderate severe		Severe	
		%	n=12	%	n=6	%	n=1	%	n=0	%	
Duration of cardiac illness	Less than 1 year	2	10	2	17	1	17	0	0	0	0

Table 2:

Frequency distribution of patients according to clinical profile.			
	Variables	Frequency	%
Duration of cardiac illness	Less than 1 year	5	13
	1 year-5 years	19	48
	5-10 years	11	28
	More than 10 years	5	13
Cardiac diagnosis	CAD	31	78
	CHF	8	20
	Valvular diseases	1	3

Table 3:

Frequency distribution of patients according to score obtained for depression in cardiac patients			
Category	Score	frequency	Percentage %
None	0-4	21	53
Mild	5--9	12	30
Moderate	10--14	6	15
Moderately severe	15-19	1	3
Severe	20-27	0	0

The above table 3 represents the depression score. 50% of the people were with minimal symptoms and was categorized as no depression. 45 % of the population were suffering from mild to moderate depression.

The below table 4, shows that most of the people who had mild to moderate depression were between the age group 50-60 years, both male and female were affected equally with mild to moderate depression

Table 4:

Association of selected demographic variables with depression											
		None		mild		Moderate		Moderate severe		severe	
		n=21	%	n=12	%	n=6	%	n=1	%	n=0	%
Age	40-50	2	10	1	8	1	17	0	0	0	0
	50-60	13	62	7	58	3	50	1	100	0	0
	60-70	6	29	4	33	2	33	0	0	0	0

	1 year-5 years	11	52	5	42	2	33	1	100	0	0
	5-10 years	7	33	3	25	1	17	0	0	0	0
	More than 10 years	1	5	2	17	2	33	0	0	0	0
Cardiac diagnosis	CAD	17	81	8	67	5	83	1	100	0	0
	CHF	3	14	4	33	1	17	0	0	0	0
	Valve diseases	1	5	0	0	0	0	0	0	0	0

Discussion:

In this sample population of people who had cardiovascular event, there was an association between the event and depression. This study addresses the relationship between a cardiovascular event and the quantity of depression present in the population associated with the event.

Depression and cardiovascular event

In this study done, majority of the people were found to have mild to moderate depression. According to [Redford B. Williams](#), depression is 3 times more common in patients after a cardiovascular incident with 15 to 20 percent of the people qualifying for a major depressive disorder. In this study depression associated with middle age was significantly present. Depression was present more in the age group between 50-60 compared to age group 60 and above and also age between 40-50. The significant depression in the middle aged adults suggests that depression is due to a larger disparity between the perception of functional status and expectations. Women in the general population are likely to get depressed. This is crucial because they tend to get more depressive episodes which leads to increased functional impairments and leads to chronic depression. In this present study 8 of 13 females, 62% were reported to have depressive symptoms. This needs more focus towards females being screened for depression and treatment. In this study 30% of the population facing depression was either widowed or unmarried. The numbers of patients married and widowed were only 6, out of which 5 (84%) were reported to have depression symptoms. According to [Demosthenes B Panagiotakos](#), People who were not-married, widowed and depressed at the time of an acute cardiac episode were at higher risk of fatal events than people who were married, irrespective of depression status and other characteristics⁹. Being married has been associated with financial stability, opportunities for social development, better dietary habits, and well-being. However, the presented findings were independent from psychological factors, like depression status, financial status and dietary habits.

Many researchers have consistently demonstrated that the married people enjoy a health advantage over the unmarried¹⁰. For example, married people report better self-assessed health, have lower rates of long-term illness, and live longer than their unmarried counterparts¹¹.

In the present study patients with problem more than a year had mild to moderate depression, which suggests that as the chronicity of the problem increases so as depression. According to [Melissa Hance](#), minor depression which is faced after an acute event is likely to progress into major depression if left undiagnosed and untreated¹³

Patients with chronic heart failure were suffering from mild to moderate depression according to the study. Numerous literatures are present to substantiate the relation between depression and chronic heart failure. According to [John C Barefoot](#), The heightened long-term risk of depressed pa-

tients suggests that depression may be persistent or frequently recurrent in CAD patients and is associated with CAD progression, triggering of acute events, or both¹⁴

Screening for depression

Screening for depression can improve both depression and cardiovascular outcomes in patients with coronary heart disease. Screening tests should be applied as early as possible and should be an integral part of the treatment programme as early detection could reduce the mortality and morbidity and provide better outcomes. According to [Judith H. Lichtman](#), Routine screening for depression in patients with HD in various settings should be made, and if positive symptoms are present screening results should be evaluated by a professional qualified in the diagnosis and management of depression. Patients with cardiac disease who are under treatment for depression should be carefully monitored for adherence to their medical care, drug efficacy, and safety with respect to their cardiovascular as well as mental health⁷. Since cardiovascular events are chronic long term disorders, depression is very commonly manifested in this disorder according to [Burton C8](#). Current evidence indicates that only approximately half of cardiovascular physicians report that they treat depression in their patients, and not all patients who are recognized as depressed are treated¹². Many health care professionals fail to recognize or screen depression because they think that it is normal to have episodes of depression after a cardiac event. Although there is currently dearth of evidence for screening for depression leads to improved outcomes in cardiovascular populations, depression has been linked with increased morbidity and mortality, poorer risk-factor modification, lower rates of cardiac rehabilitation, and reduced quality of life. Therefore, it is important to assess depression in cardiac patients with the goal of targeting those most in need of treatment and support services⁷

CONCLUSION

Summarizing the study, depression is significant after a coronary event. Steps should be taken to screen for depression and should be incorporated into routine medical care and should emphasize on being an integral part of assessment of a patient. Although individual treatment strategies are present to treat depression, a collaborative care (pharmacological therapy, cognitive behavioral therapy, exercise rehabilitation, diet-modification, and lifestyle modification) approach should be taken for managing patients who has depression along with HD.

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