

Original Article

Frequency of depression and anxiety among heart failure patients in a tertiary care hospital of Faisalabad, Pakistan

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Abstract:

Heart failure (HF) is a chronic illness with high prevalence and mortality, leading to economic burden of health due to prolonged hospital stay and re-admissions. Failure to comprehend the importance of identifying mental illnesses could lead to explanations that why the morbidity and mortality of heart failure patients endure to be very high. **Objective:** To determine the frequency of anxiety and depression in heart failure patients. **Methods:** It is a descriptive cross sectional study including 323 CHF patients admitted to the Faisalabad Institute of Cardiology hospital, 250 were males and 73 were females, mean age was 54.1 ± 9.2 years having 70 years as maximum and 25 years as minimum. Data was collected with the help of HADS questionnaire. Patients were interviewed for assessment of anxiety and depression. Data was analyzed using SPSS version 24. Mean and standard deviation was calculated for quantitative data and for qualitative data frequency and percentages was calculated. To measure the association of anxiety and depression with age categories and gender, chi square test was used. P values less than and equal to 0.05 were taken as significant. **Results:** The results showed that 43% subjects had <11 score indicating no anxiety, 57% had >11 score indicating anxiety. 45% subjects had <11 score indicating no depression, 55% had >11 score indicating depression. **Conclusions:** The study concluded that frequency of depression and anxiety is high in congestive heart failure patients. Strategies are required to assess and diagnose these mental illnesses to establish early treatment which may foster multidisciplinary health care team approach and interventions that address the psychological burden.

Keywords: Depression, Anxiety, Heart Failure, Patient Care Team**Introduction:**

Heart failure (HF) is a chronic illness which is highly prevalent and mortality, involving high health expenditure because of increased hospital stay and frequent re-admissions [1]. The prevalence of heart failure is increasing as 5.7 million (2.2%) people over the age of 20 years have heart failure and more than 55,0000 people are newly diagnosed with heart failure annually in USA.¹In the future it is most likely that the frequency of heart failure will only increase partially because of rising aging population as a

result of increased life expectancy and partially because of the interventional therapies for diagnosis and treatment for the coronary artery disease (CAD) or heart failure [2]. HF can lead to depression and anxiety due to pathophysiological changes as a result of the illness, financial burden of hospital stay on the patient and immobility due to illness. Socio-demographic status and clinical characteristics play important role in predisposition for depression and anxiety in HF patients [3]. To

reduce hospitalization of heart failure patients and healthcare costs, it is important that work should be done on improving patient outcomes. Heart failure is a progressively debilitating illness which the patients have to endure long term and results in poor social, operational, physical, psychological, poor physical and an impaired quality of life [4]. The consequences of heart failure are subjected to not only the physical illness aspects but also on the psychology in the form of anxiety and depression [5-7]. Heart patients having coronary heart disease (CHD) and failure with co-morbid depression or anxiety experience more physical limitations and a poor quality of life [8]. Such patients are also at huge risk for recurrent cardiac issues and high mortality [9]. The psychological stress of heart failure patients is often under-diagnosed by physicians and is prone to be inadequately treated. Most health experts pay more attention to the treatment of heart failure symptoms or the disease taking most depression symptoms as symptoms due to heart failure. The patients are driven away by the unfriendliness towards medical and nursing staff leading to withdrawal and poor obedience with instructions. Depression and anxiety are often articulated by the physical symptoms, thus leading patients to further specialties and not the psychiatrist [10].

Failure to comprehend the psychological needs of HF patients, lack of development of multidisciplinary foster approach and lack of services for early screening could lead to explanations that why the morbidity and mortality of heart failure patients endure to be very high. Strategically addressing these issues may improve patient outcome, prognosis and symptoms [11]. After extensive literature review, not much work done was found to be from Pakistan regarding the psychological state of heart failure patients. This study will be of importance to give a picture of prevalence of depression and anxiety among heart failure patients.

Methods:

An Analytical Cross-sectional Study from June 2019 to Nov 2019 in Out Patient Department, Faisalabad Institute of Cardiology, Faisalabad. Inclusion criteria in the study was **1).** History of compensated Chronic Heart Failure with reduced Ejection Fraction (HFrEF) $\leq 40\%$ at least for the last one year. **2).** Symptoms free and at least 72 hours after discharge from hospital due to acute exacerbation. **3).** Age 25-70 years. **4).** both genders. Those patients who had **1).** Any other chronic disease (e.g. cancer, rheumatic problem) that can cause psychiatric symptoms in the patient. **2).** Already taking treatment for a well-defined psychiatric illness **3).** Substance abuse (alcohol or narcotics) during the past 06 months **4).** Unable to clearly communicate with the investigator were excluded from the study.

After taking ethical approval from ethical committee of Faisalabad Institute of Cardiology, written consent from the patients were taken, data was collected as the patients filled HADS questionnaire. 323 heart failure patients with reduced Ejection Fraction visiting the hospital were enrolled fulfilling the criteria. The respondents were of both genders. The Hospital Anxiety and Depression Scale (HADS) questionnaire which is semi structured questionnaire, questionnaire was used to collect information data. It took 7-10 min in total. The survey was conducted face to- face with the respondents by the investigator and volunteers in the hospital.

Data was processed and analyzed by using the Statistical Package for Social Science (SPSS) version 24. For quantitative data, mean and standard deviation was calculated and for qualitative data frequency and percentages was calculated. To measure the association of anxiety and depression with age categories, LVEF and gender; chi square test was used. P values less than and equal to 0.05 were taken as significant.

Results:

The mean age of participants was 54.1 ± 9.2 years with minimum and maximum age as 25 and 70 years. There were 5 (1%) subjects in 25-35 years group, 51 (16%) subjects in 36-45 years group, 123 (38%) subjects in 46-55 years group, 115 (36%) subjects in 56-65 years and 29 (9.0%) subjects were in the 66-70 years old. It was

found that more HF patients belonged to the ages of between 46-65 years. There were 250 (77%) male and 73 (23%) female subjects in the study. There were 271 (80%) subjects with less than 30% LVEF and 52 (16%) subjects with 30%-40% LVEF. The responses of participants according to HAD scale are presented in table 1.

3	2	1	0	(D/A)	Questions	Sr.No
16(5%)	97(30%)	81(25.1%)	129(39.9%)	A	Worrying thoughts go through my mind	Q1
74(22.9%)	49(15.2%)	55(17%)	145(44.9%)	D	I look forward with enjoyment to things	Q2
49(15.2%)	16(5%)	113(35%)	145(44.9%)	D	I feel as if I am slowed down	Q3
16(5%)	129(37.4%)	145(44.9%)	33(10.2%)	A	I feel tense or wound up	Q4
112(34.7%)	65(20.1%)	81(25.1%)	65(20.1%)	D	I can enjoy a good book or radio or TV program	Q5
12(3.7%)	33(10.2%)	113(35%)	165(51.1%)	A	I can sit at ease and feel relaxed	Q6
20(6.2%)	60(18.6%)	113(35%)	130(40.2%)	A	I get sudden feelings of panic	Q7
61(18.8%)	49(15.2%)	100(31%)	113(35%)	D	I feel cheerful	Q8
16(5%)	65(20.1%)	129(39.9%)	113(35%)	A	I get a sort of frightened feeling like butterflies in my stomach	Q9
65(20.1%)	29(9%)	129(39.9%)	100(31%)	D	I still enjoy the things I used to enjoy	Q10
16(5%)	145(44.9%)	81(25.1%)	81(25.1%)	A	I feel restless as I have to be on the move	Q11
32(9.9%)	33(10.2%)	81(25.1%)	177(54.8%)	D	I can laugh and see the funny side of things	Q12
65(20.1%)	97(30%)	112(34.7%)	49(15.2%)	D	I have lost interest in my appearance	Q13
33(10.2%)	64(19.8%)	113(35%)	113(35%)	A	I get a sort of frightened feeling as if something awful is about to happen	Q14

Table 1: Responses of subjects according to HADS

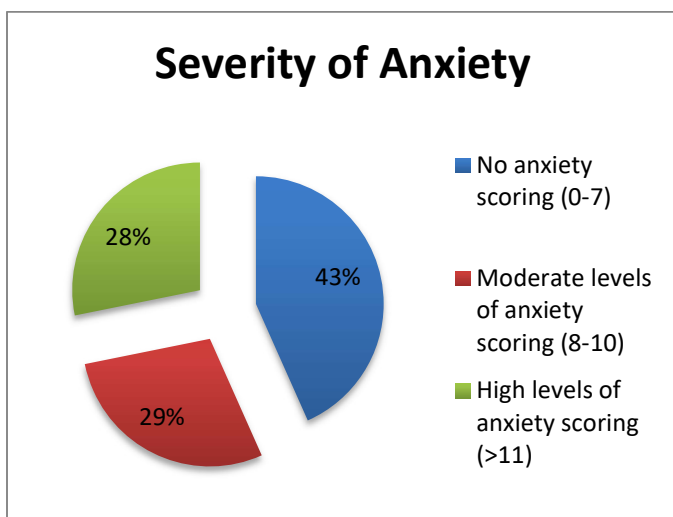


Figure 2: Distribution of frequency of severity of anxiety

There were 140 (43%) subjects with no anxiety having score from 0-7, 92 (29%) subjects with moderate levels of anxiety having score from 8-10 and 91 (28%) subjects with high levels of anxiety having score >11 (Figure 2).

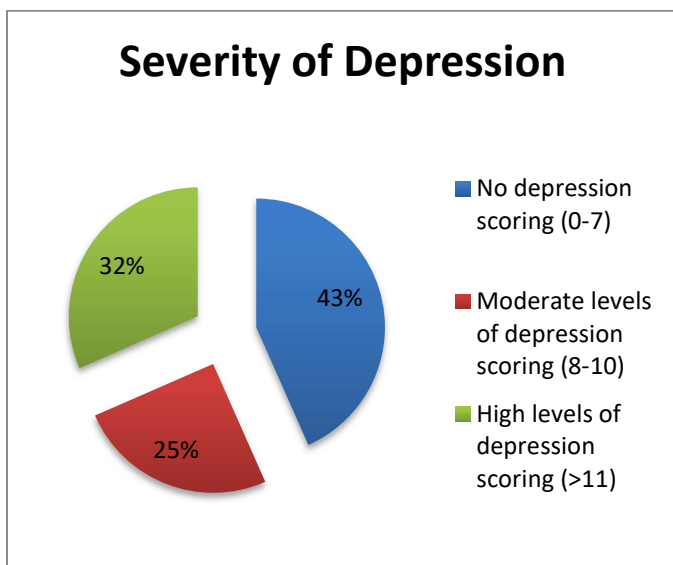


Figure 3: Distribution of frequency of severity of depression

There were 140 (45%) subjects with no depression having score from 0-7, 81 (26%) subjects with moderate levels of depression having score from 8-10 and 102 (29%) subjects with high levels of depression having score >11 (Figure 3).

Discussion:

It has been observed in some studies that heart failure patients experience more depression as compared to other chronic diseases patients [12,13]. In the current study, 323 patients were studied using the Hospital Anxiety Depression Scale in order to determine the frequency of anxiety and depression in heart failure patients whereas many other studies have used Beck Depression Inventory (BDI) [14,15] or Center for Epidemiologic Studies Depression (CES-D) in CHF patients [16]. The present study focused on 323 patients with established heart failure over one year, using the Hospital Anxiety and Depression Scale. It was indicated that out of 323 heart failure patients, 43% of the participants experienced no anxiety and 45% experienced no depression while 29% of the participants experienced moderate levels of anxiety and 26% had moderate levels of depression. According to HAD scale, 28% of the participants had severe anxiety and 29% experienced severe depression. Our findings corroborates with another study conducted in Pakistan by Shah Savar in 2012 where 70% patients had HADS score till 11 and 30% patients had HADS score >11 that means severe depression [17]. The HADS questionnaire has been used to assess levels of depression and anxiety in heart failure patients in various other studies. Sokoreli I et al. in Russia (2016) supported that depression is associated with increased mortality with chronic heart failure by HADS and concluded that depression is linked with adverse outcome [18,19].

Several questions in the HAD scale were able to reflect the mood and functional impairment that was because of the heart failure rather than depression or anxiety itself. For example, the question "I feel cheerful" or "I enjoy good book, radio or TV" response of about 50% of the patients were poor on the scale which could be interpreted by how low they feel because of heart failure symptoms. More than 50% of the subjects said that they feel restless when they have to move which depicts the inability to

exercise or cope with the disease. Other questions had wider distribution of the scores. The questions in the HAD scale are single and easy to conduct, although it is needed to be interpreted in the context of the patient's situation like worsening of HF symptoms etc. [20].

Conclusions:

Depression and anxiety is highly prevalent in congestive heart failure patients. Diagnosing these mental illnesses is prudent and will increase the awareness of the need for treatment, support and encourage adherence to medication. Strategies are required to assess and diagnose these mental illnesses to establish early treatment which may foster multidisciplinary health care team approach and interventions that address the psychological burden.

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