

## ORIGINAL ARTICLE

# Incidence of Depression Among Chronic Heart Failure Patients Presented at Tertiary Care Hospital

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## ABSTRACT

**Objective:** To determine the incidence of depression in patients presenting with chronic heart failure at tertiary care Hospital.

**Materials and methods:** This study was descriptive cross-sectional study conducted at Punjab institute of cardiology Lahore during six months from September 2018 to April 2019. Patients were of chronic heart failure with reduced ejection fraction (<40%) on echocardiography and either of the gender were included in the study. Cases were assessed for depression according to Hospital Anxiety and Depression Scale (HADS). Depression subscale of HADS Questionnaire with score more than 11 was used to diagnose depression. Data was collected via study proforma.

**Results:** Mean age of included heart failure patients was 58±11.26 years. Out of all 62% were males and 38% were female. Out of all 57% cases were found with depression while 43% cases didn't had depression. Incidence of depression was found statistically insignificant according to age, gender, duration of disease and socioeconomic status, p-values were quite insignificant.

**Conclusion:** Incidence of depression was observed to be higher among patients presented with chronic heart failure.

**Key word:** Depression, chronic heart failure

## INTRODUCTION

Heart failure (HF) is a chronic cardiac problem characterized by impairment of cardiac function and clinical presentation by edema, shortness of breath, and fatigue. It is associated with poor physical health, health related frequent hospitalizations, poor quality of life (QoL) and high healthcare costs.<sup>1-3</sup> Psychiatric illnesses are quite prevalent in patients with and without HF. Generalized anxiety disorder (GAD), post-traumatic stress disorder (PTSD), and panic disorder are the commonest psychiatric issues among patients of heart failure. Depression and anxiety disorders further impair health status among patients of HF. Heart failure (HF) and depression, considered separately, are both highly prevalent illnesses. In the united states HF affects more than 5.7 million adults and 26 million adults throughout the world.<sup>4,5</sup> Depression is a main source of incapacity and early mortality influencing around 350 million individuals throughout the world.<sup>6</sup> Depression manifestations among cases of heart failure is the commonest; as the Cochrane survey distinguished the symptoms of depression among 85 percent of the individuals of heart failure.<sup>7</sup> Other symptoms audits place the predominance of burdensome side effects in cases of heart failure with estimated range from 10-60 percent.<sup>8</sup> The continuous appearance of symptoms of depression, just as its worsening impact on the patient's prognosis with heart failure, indicates that the diagnosis of it should be done immediately and patients with such a critical mental aggravation are ought to go through an intensive evaluation.<sup>9</sup> Psychological intervention and drug or non-drug therapy of depression might prompt a considerable reduction in morbidity and maybe in mortality in the cases having heart failure.<sup>9</sup> Clinical depression may aggravate

consistently with cardiovascular prescription regimens, and decreasing depression improves treatment adherence generally.<sup>9,10</sup> Depression and anxiety make it difficult for individuals having cardiovascular diseases to adhere to health behavior suggestions and they are less inclined to keep the healthy diet, regular exercise, mediational follow-up, or complete cardiovascular psychotherapy, compared to those without depression. Likewise, patients with HF suffering from depression are less likely to complete rehabilitation programs of the heart failure. Both pharmacologic and non-pharmacologic interventions have been successful in treating depression and resulting in better outcome of heart failure as well as good health in general. The HADS score is very simple, easy to use and has been used both in diagnosis of anxiety and depression.<sup>11,12</sup> It is helpful for early diagnosis and to assess the progression (or resolution) of symptoms of depression. Hence this designed study is to determine the incidence of depression in the patients presenting with chronic heart failure by using HADS score at tertiary care Hospital.

## MATERIALS AND METHODS

This descriptive cross-sectional study was conducted at Punjab institute of cardiology Lahore. Study duration was six months from September 2018 to April 2019. Consecutive (non-probability) sampling technique was used. All the study participants had chronic heart failure history of at least 6 months and with observed ejection fraction (EF) less than 40% by echocardiography, age range 18-70 years and either gender were included. Cases having clinical depression and having any other reason to be depressed were excluded from the study. A written

informed consent was obtained. After taking complete medical history and clinical examination blood pressure was recorded as per protocol. The patients were evaluated for depression and management was done as per ward and unit protocols. Depression was defined as a score of depression scale (HADS) >11. All the above information including age, gender, duration of heart failure, diabetes mellitus, obesity, hypertension, socioeconomic status was recorded in a predesigned proforma. Data was entered into SPSS version 20.

**RESULTS**

A total of 141 patients of chronic heart failure were studied, their mean age was 58±11.26 years. Males were 62% and females were 38%. Mean duration of heart failure was 2±3.71 years. 42% patients were diabetic, 55% patients were obese and 72% patients were hypertensive. As per

socioeconomic status 42% cases were poor, 35% were middle class and 23% patients were from upper socioeconomic background. Table. 1

According to HADS scoring 43% patients had HADS score <11 while 80(57%) patients had HADS score >11 and average HADS score was 9±3.211. Fig:1.

Table.1 Demographic characteristics of the patients n=141

| variables            | Mean+SD      | Statistics     |
|----------------------|--------------|----------------|
| Age                  | Mean+SD      | 58±11.26 years |
| HADS score           | Mean+SD      | 9±3.211        |
| Comorbidities        | Diabetes     | 59(42%)        |
|                      | Hypertension | 102(72%)       |
|                      | Obese        | 78(55%)        |
| Socioeconomic status | Poor         | 59(42%)        |
|                      | Middle       | 49(35%)        |
|                      | Upper        | 33(23%)        |

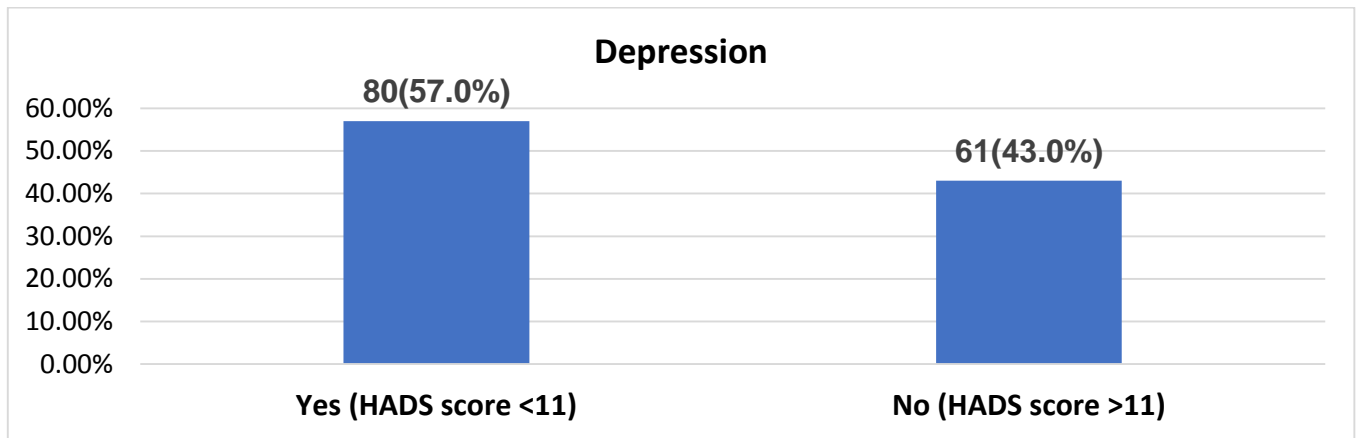


FIG:1 Frequency of depression among chronic heart failure depression n=141

Table.2. Frequency of depression according to effects modifiers n=141

| variables            |             | Depression |    | p-value |
|----------------------|-------------|------------|----|---------|
|                      |             | Yes        | No |         |
| Age groups           | 41-50 years | 14         | 11 | 0.960   |
|                      | 51-60 years | 30         | 24 |         |
|                      | >60 years   | 36         | 26 |         |
| Gender               | Male        | 50         | 37 | 0.823   |
|                      | Female      | 30         | 24 |         |
| Duration of HF       | <1 year     | 27         | 21 | 0.933   |
|                      | >1year      | 53         | 40 |         |
| Socioeconomic status | Poor        | 34         | 25 | 0.776   |
|                      | Middle      | 19         | 20 |         |
|                      | Upper       | 17         | 16 |         |

**DISCUSSION**

Heart failure is highly prevalent debilitating disorder of poor prognosis the reality of which itself puts a tremendous stress on the patient’s mental health. This may result in depressive illness due to which overall prognosis of the patient as well as the outcome of HF itself is affected adversely. Treating depression may result in better adherence to treatment of HF with improved survival and quality of life. In this study the frequency of depression has been very high and our findings were consistent with the trends found in international literature. In a study conducted by Hwang B high prevalence of depression was seen

among patients with HF, which has been reported to range from 11% to 42%. Similar results were seen in a study conducted by Khan S. who reported that depression is very common in the patients of chronic heart failure. Severe depression is more frequent as compared to mild depression. In another study conducted by Song E.K. reported that the prevalence of depression was 24%.<sup>14-15</sup> Depression is common both in men and women in our study while it occurs relatively more in women than men in international literature. Heart failure duration was associated with more incidence of depression which is quite understandable and highlights the importance of early

intervention both in HF treatment as well as for depressive symptoms. Socioeconomic problems further deteriorate the mental capabilities of the patients who are suffering from chronic heart failure. Cases with pattern of psychosocial issues including clinical presentation of depression, anxiety, stress lacking social help might be almost certain than other cases to show troubles with heart failure self-care that can expand their Hospitalization risk.<sup>16</sup> This emphasizes the role of governments in taking steps to improve affordable healthcare systems and establishing social support programs. Cognitive behavioral therapies have been found effective in treatment of depression in HF patients.<sup>17</sup>

## CONCLUSIONS

Incidence of depression was observed frequently higher among patients presenting with chronic heart failure. We didn't include patients of HFpEF but only patients of HFrEF. We also didn't study the treatment strategies of depression in HF patients. The large-scale studies should be done in this context in our population.

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