

Anxiety and Depression among Coronary Artery Disease Patients while Attending Outpatient Department in Private Tertiary Care Hospital Peshawar, Pakistan

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Abstract

Objective: The objective of the study was to assess the anxiety and depression level among Coronary Artery Disease (CAD) patients while attending outpatient department (OPD) in tertiary care hospital.

Methodology: Descriptive cross sectional study design was carried out among CAD patients in outpatient department. A sample of 63 participants was selected through convenient sampling technique. Hospital Anxiety and Depression Scale (HADS) questionnaire was used to assess the anxiety and depression among CAD patients. Data analysis was done by SPSS version 20.

Results: Out of total 63 participants 35 were male and 28 were female. Among which 58 were married and 5 were unmarried. Age of the participants ranged between 18 to > 60. Among total sample 55.6% of the participants had severe anxiety and 38.1% had severe depression. Findings of the study showed that females have higher anxiety level than males. The result was significant with a p-value of 0.004.

Conclusion: CAD is second leading cause of death throughout the world. 79.5% of cardiac patients in Pakistan have been noticed that they are suffering from anxiety and depression. HADS questionnaire was used to assess anxiety and depression. The result of the study highlighted 55.6% of the participants had severe anxiety and 38.1% of the participants had severe depression. CAD is associated with anxiety and depression and females have high anxiety level as compared to males.

Keywords: Anxiety; Depression; Coronary Artery Disease

Introduction

Coronary artery disease (CAD) is caused by atherosclerosis of the coronary arteries that leads to restriction of blood flow to the heart [1]. Psychiatric disorder such as depression and anxiety are common among patients with coronary heart disease (CHD). A study indicated that out of 32.5%, 17.5% patients are suffering with CHD depression and anxiety symptoms [2]. According to WHO (2015) statistics, cardiovascular disease (CVD) account for 17.7 million of death worldwide. It is estimated that 7.4 million of these deaths are due to coronary heart disease (CHD) [1].

The reported prevalence of major depression in patient with (CAD) is around 20%. The prevalence of depression is very high (31 - 34%) and is comparatively three times higher than general population [3]. Furthermore, identification of psychiatric disorder (anxiety and depression) in CAD patients is shown to improve prognosis and quality of life of the patient with CAD [4].

Various factors are associated with anxiety and depression with CAD. A study, in a tertiary hospital of Malaysia among CHD patients, revealed that patients with CHD had a level of anxiety and depression score. Unmarried respondents with co-morbid disease have higher anxiety and depression than married respondents without co morbid disease [5].

According to the Institute of Cardiology Pakistan, cardiac patients were admitted in the hospital, among which 79.5%, were commonly diagnosed with depression and anxiety as compared to the control group showing 68.25% anxiety and nervousness. Congestive heart failure, acute myocardial infarction, left ventricular failure, coronary artery disease and rheumatic heart disease shows high incidence of anxiety and depression [6].

A study conducted by Dhital, *et al.* [7] in Nepal showed that 27.4% and 23.6% of the respondents had anxiety and depression case respectively. Analysis of the study shows that the level of anxiety is significantly associated with self-esteem, occupational status, sex, and family income.

A study conducted by Polikandrioti, *et al.* [8] stated that 24.7% and 32.6% of patients were found having moderate or high level of anxiety respectively. Simple multinomial regression showed that no characteristics were significantly associated with anxiety. It also showed that 17.4% and 24.2% of patient had major depression. Moreover, single and widowed patients had high depression level about 35.6% as compared to the married patients 19.2%. Moreover, patients with short (less than 1 year) and moderate (2 - 5 years) disease duration were 69% (OR 0.3) and 61% (OR 0.39) less likely to have major depression compared to those with a long disease duration.

Another study conducted in Iran on anxiety and depression in cardiovascular outpatient clinic. In which 238 participants were included: 93 of them were male and 146 were female. The result of the study showed that 28.5% of patients suffered from anxiety and 41% had depression [9].

A study conducted in Spain based on 200 subjects showed that twenty-eight percent of the patients developed high preoperative anxiety in cardiac surgery patients. The mean Amsterdam Preoperative Anxiety and Information Scale score was 11.4 ± 4.3 , and the mean Visual Analogue Scale for Anxiety score was 48 ± 21 [10].

Research question

- What is the level of anxiety and depression among coronary artery disease (CAD) patients while attending outpatient department (OPD) in tertiary care hospital?

Objective of the Study

- The objective of the study was to assess the anxiety and depression level among coronary artery disease (CAD) patients while attending outpatient department (OPD) in private tertiary care hospital.

Methodology

Research design, population, and setting

Descriptive cross sectional study design was used in this research. Patients with coronary artery disease; coming to OPD, at private tertiary care hospital Peshawar.

Sample technique

Convenient sampling technique was used for sample collection. It is the most relevant and commonly used method in clinical research. Convenient sampling was used because of limited period of time and resources.

Sample size

The sample size was calculated by Rao software taking 95% of confidence interval and 5% of margin of error. The total population was 73 and calculated sample size was 63.

Data collection tool

For data collection adopted questionnaire Hospital Anxiety and Depression Scale (HADS) was used. The questionnaire was translated into Urdu for patient's convenience in comprehending it.

Ethical consideration

Permission letter for data collection was signed from Chief Nurse Services (CNS) of the hospital. Written Informed consent was given to each participant before data collection. Confidentiality was maintained throughout the study. Permission was also taken for using this questionnaire.

Inclusion criteria

All the patients who were above 18 years were included to attend OPD for coronary artery diseases (CAD) and those who spoke or understood Urdu, or English.

Data analysis

Data was analyzed by using SPSS version 20. Frequency and percentages were calculated for nominal and ordinal data. Mean and standard deviation was calculated for anxiety and depression, presented in the form of graphs and tables. Chi-square test was applied to find out association between different demographic variables. Correlation was applied for comparison of Anxiety and depression among CAD patients.

According to the score of HADS the score (0-7) is normal, (8-10) have moderate anxiety/depression and (11-21) have severe anxiety/depression (Table 1).

Score	Anxiety	Score	Depression
0-7	Normal	0-7	Normal
8-10	Moderate	8-10	Moderate
11-21	Severe	11-21	Severe

Table 1: Anxiety/Depression scoring scale.

Results

In this cross sectional study total 63 CAD patients were included for assessing anxiety and depression by using adopted questionnaire (HADS).

Among total sample 35 (55.6%) were male and 28 (44.4%) were females (Figure 1). Age of the participants ranged from 18 - 40 years = 20 (31.7%), from 41 - 60 years = 28 (44.4%) and > 60 years = 15 (23.8%) (Figure 2). Among total sample 5 (7.9%) were unmarried and 58 (92%) were married (Figure 3). As concern for the level of education, majority of the participants 22 (34.9%) were formally educated, 14 (22.2%) participants education level was primary, 10 (15.9%) participants had passed secondary and 17 (27%) participants were graduated (Figure 4).

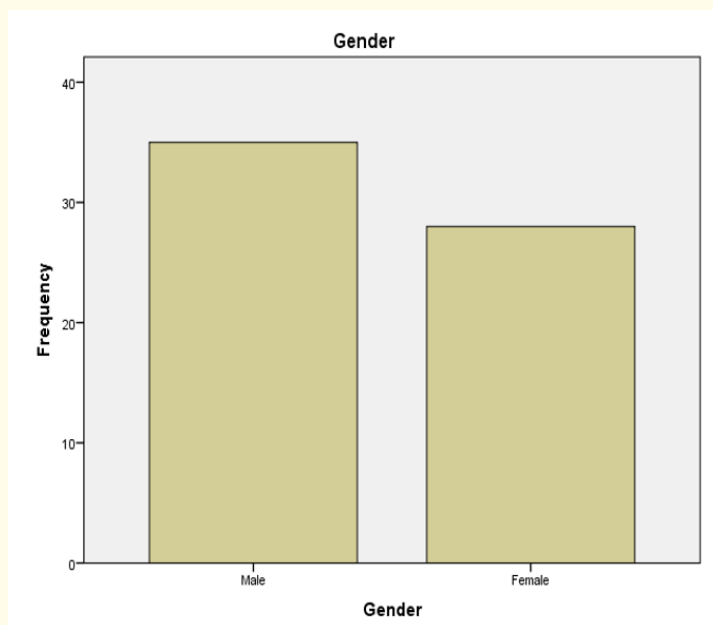


Figure 1: Gender (Male 55.6% & Female 44.4%).

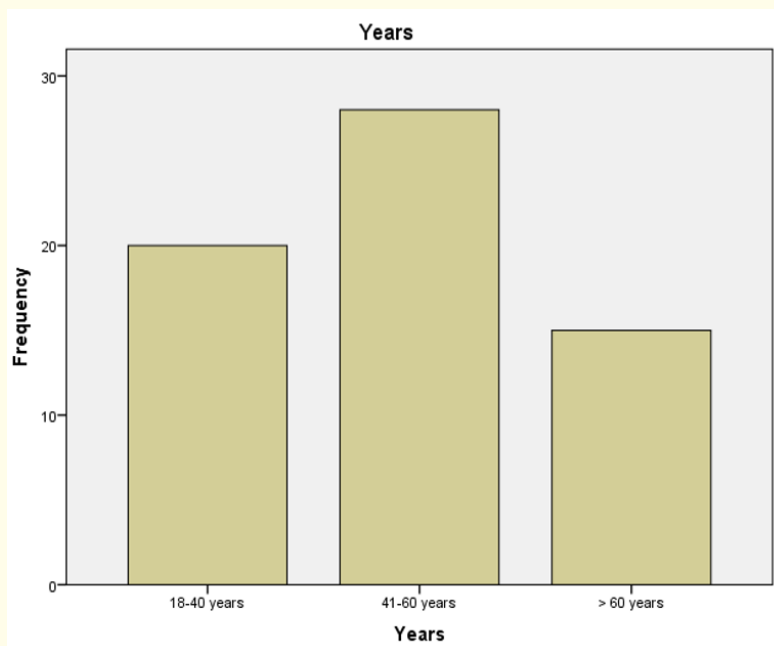


Figure 2: Age of the Participants.

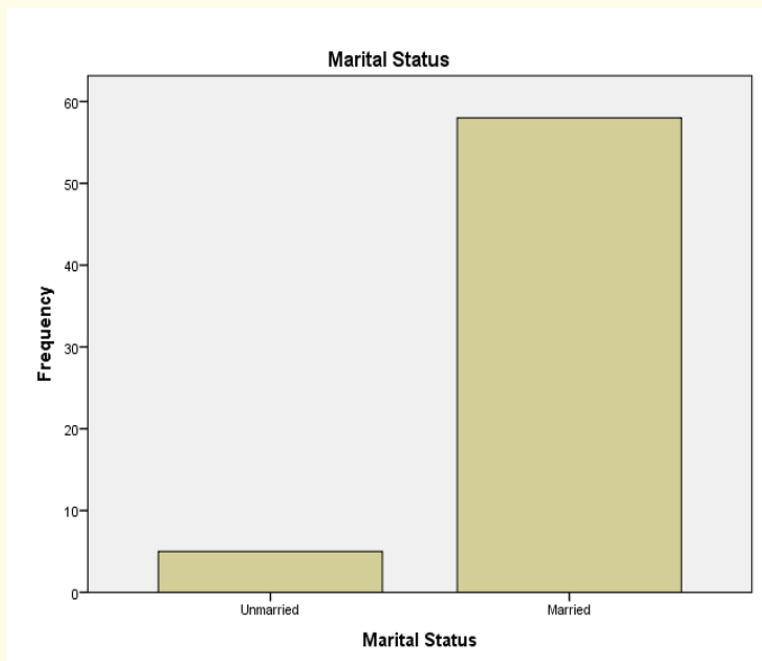


Figure 3: Marital Status.

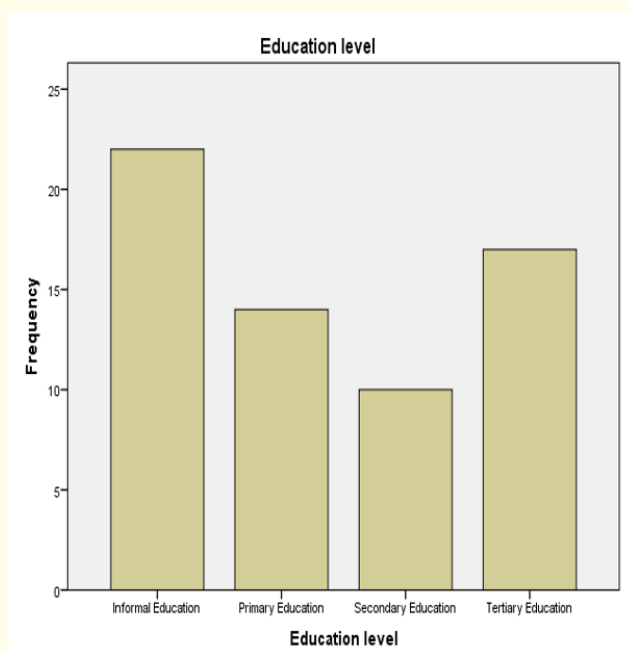


Figure 4: Education Level.

As three level were set to assess anxiety and depression in HADS, so according to the score of anxiety 18 (28.6%) participants were normal, 10 (15.9%) participants had moderate anxiety and 35 (55.6%) participants had severe anxiety (Table 2). Similarly for depression 21 (33.3%) participants were normal 18 (28.6%) participants had moderate depression and 24 (38.1%) participants' had severe depression (Table 3).

Score	Frequency	Percentage
0-7	18	28.6%
8-10	10	15.9%
11-21	35	55.6%
Total	63	100.0%

Table 2: Anxiety frequency and percentage.

Score	Frequency	Percentage
0-7	21	33.3%
8-10	18	28.6%
11-21	24	38.1%
Total	63	100.0%

Table 3: Depression frequency and percentage.

Moreover, chi-square test was applied to find out the association between demographic variables. The result highlighted significant association of gender with anxiety with p-value 0.004, in which anxiety was severe among 13 male and 22 female while 8 male and 2 female had moderate level of anxiety. Other demographic variables showed no association with anxiety and depression as the p-value was above 0.05.

Furthermore, mean and standard deviation for anxiety and depression were calculated. The mean score was 2.26 with a standard deviation of 0.8 for anxiety while the mean score for depression was 2.04 with a standard deviation of 0.8 for depression.

Discussion

In the current study 55.6% CAD patients had severe anxiety, 15.9% had moderate anxiety, 38.1% patients had severe depression and 28.6% had moderate depression, in contrast to the study conducted by Puja., *et al.* (2018).

However, the finding of the current study is consistence with the result of the study conducted by Moradia., *et al.* (2013). The result highlighted that 38% had anxiety and 45.7% had depression. Furthermore, there was significant relationship between anxiety and depression with R-value 0.67 similar to the result of the current study where R-value is. 0.691.

The result of the study, conducted by Sarkar S. Chadda RK, Kunar N and Narang R (2012) highlighted that 48.5% of the participants have anxiety which is consistence with the result of the current study.

Consistence with the findings of the current study, the study conducted by Bayani., *et al.* [9] highlights that 41% of the participants had depression.

In the current study, gender of the patients was significantly associated with level of anxiety of the CAD patients, where females had higher anxiety level than males. These findings are supported from study conducted by Puja., *et al.* Moreover, a study conducted by Dogar., *et al.* [11] also supports that females are more prone to anxiety and depression as compared to males.

Moreover, the finding of current study showed that the level of anxiety and depression was not significantly associated with age, marital status and income of the CAD patients. This finding is similar to the finding of the study conducted in faisalabad (pakistan) by Shujjad, *et al.* (2016) [12-13].

Recommendations

- The study recommends that educating patients about their life style may effect their health in later life.
- Additionally, a nurse should be guided on therapeutic education to educate every cardiac patient in the hospital.
- As anxiety and depression makes the condition worse of the cardiac patients so therapeutic education, support and supervision of nurse should meet the rehabilitative care needs for the patients to overcome the anxiety and depression of cardiac patients.
- Also this study provides basis for conducting other studies which can address the gaps and limitations of this study.

Conclusion

CAD is second leading cause of death throughout the world. 79.5% of cardiac patients in Pakistan are suffering from anxiety and depression. The finding of the study also shows that anxiety is associated with CAD. In addition, the anxiety level was high in female CAD patients as compared to the male patients.

Furthermore the finding of the study also supports the benefits of education and awareness among cardiac patients which can overcome the level of anxiety and depression among them.

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