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Anxiety and Depression and the Coping Strategies Adapted by Patients with Chronic Cardiac Diseases

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Abstract: ***Background: Chronic diseases constitute a major cause of mortality and the World Health Organization (WHO) reports chronic non-communicable conditions to be by far the leading cause of mortality in the world, representing 35 million deaths in 2005 and over 60% of all deaths. Coronary artery diseases (CAD) as well as depression are both highly prevalent diseases. Both causes a significant decrease in quality of life for the patient and impose a significant economic burden on society. Mental health and physical health are closely tied together, and each can exert a significant effect on the other. Anxiety and depression are one of the most common complications of chronic illness. . People with cardiac disease have associated with anxiety symptom which was not recognized by health team and often untreated. It will lead to severity in the course of illness and may shorten the life span of a person. Anxiety and depression is often unrecognised in cardiac disease which is very important to be recognised. Objectives: The main aim of the research is to find the level of anxiety and depression and the coping strategies adapted by patients with chronic cardiac diseases. Material and Method: An exploratory descriptive design was followed. A total of 100 patients were recruited by consecutive sampling technique. Standardized Goldberg Anxiety and Depression Scale and self developed Likert scale coping strategies are used to assess the level of anxiety and depression and the coping strategies adapted by patients with chronic cardiac diseases. Result: Finding suggests that most (80%) of the patient have depression and one fourth (25%) have anxiety. Most (84%) used to pray God and put trust more than usual as a coping strategies, 83% of of them try to grow as a person, and three-fourth (64%) of them share their feelings by connecting with people. Few (2%) used to take alcohol or other substance as maladaptive coping strategies. The level of anxiety and depression had negative correlation with the coping strategies adapted by the patient. So, it is interpreted that the higher the coping strategies the lesser will be the level of anxiety and depression. Conclusion: People with cardiac disease have associated with anxiety and depressive symptom which was not recognized by health team and often untreated. It will lead to severity in the course of illness and may shorten the life span of a person. So, it is necessary to recognise it so as to expand the life span.***

Keywords: Anxiety, depression, cardiac disease patient, patient coping strategies

1. Introduction

Cardiovascular diseases are the most common cause of mortality worldwide and coronary artery diseases are the most common among all cardiovascular illnesses. They accounted for 50% of deaths in developed countries and each year many people die due to lack of treatment or suffer from related chronic disabilities. Coronary heart disease (CHD) is found to be the leading cause of mortality worldwide.[2]

Anxiety is feeling of unrealistic fear, worry, and uneasiness, usually generalized and unfocused.[3] Learning to cope and live with any long term condition is stressful for most people. Persistent, unrelenting stress often leads to anxiety and unhealthy behaviors. Anxiety disorders affect up to 20% of patients across different stages of coronary artery disease (CAD).[4] Coronary artery diseases (CAD) as well as depression are both highly prevalent diseases. Both causes a significant decrease in quality of life for the patient and impose a significant economic burden on society. There are several factors that seem to link depression with the development of Coronary Artery Disease and with a worse outcome in patients with established Coronary Artery Disease: worse adherence to prescribed medication and life style modifications in depressive patients, as well as higher rates in abnormal platelet function, endothelial dysfunction and lowered heart rate variability. The evidence is growing that depression is an independent risk factor for cardiac events in a patient population without known Coronary Artery Disease and also in patients with established diagnosis of Coronary Artery Disease, particularly after myocardial infarction.

In patients following acute myocardial infarction, up to 25% had severe, often recurrent major depression, while 27–65% manifested symptoms diagnostic of either major or minor depression. The evidence that depression affects prognosis in patients with Coronary Artery Disease, especially in patients after myocardial infarction is growing reported relative risks for adverse outcome (mainly cardiac death) range from 2.5 to 5.7.[5]

Cardiovascular disease can trigger depression. When someone has a heart attack, heart surgery or stroke, the immediate concern obviously is physical health. Once survivors start down the road to recovery, it's important to monitor their mental health, too. While depression affects an estimated 7 percent to 10 percent of Americans ages 18 and older, studies show that up to 33 percent of heart attack patients end up developing some degree of depression.[6] Heart attack can cause intense anxiety or a fear of death. Heart attack survivors often talk about having experienced a sense of "impending doom."[7]

Anxiety and depression are one of the most common complications of chronic illness. It is one of the global burden diseases which take many lives. People with cardiac disease have associated with anxiety symptom which was not recognized by health team and often untreated. It will lead to severity in the course of illness and may shorten the

life span of a person. Anxiety and depression is often unrecognised in cardiac disease which is very important to be recognised.[8]
Cardiac disease patient if remain neglected by the families, relatives and no support system then they feel themselves dependent, worthlessness, hopelessness and lead to depression. Depression is also a major determinant of adherence to treatment strategies. It is therefore important that depressive symptoms are recognised and treated early in patients with cardiac disease.

The main objective of the study were to find the presence of anxiety and depression in patients with chronic cardiac disease and the coping strategies adapted by them.

2. Materials and method

A Non Experimental descriptive research design with quantitative research approach was used to study the level of anxiety and depression and the coping strategies adapted by patients with chronic cardiac disease patient. The study population comprised of all patient with chronic cardiac disease in the age group of 40yrs and above who had come for treatment and follow up in the cardiac OPD. A total of 100 patients were consecutively recruited from the cardiac OPD in a selected multispeciality hospital of Uttarakhand state in India. Patient with any clinically diagnosed mental disorder were excluded from the study. Standardized Goldberg Anxiety and Depression Scale was used to find the level of anxiety and depression and Likert scale coping strategies tool was also used to find out the coping strategies used by them. Informed consent was obtained from all the study participants and ethical committee permission was taken from the Himalayan institute hospital trust.

3. Result

Table 1: Socio demographic characteristics of study participants, N=100

Sample characteristics	Frequency and percentage
Age in years	
• 40-60	62
• 61- above	38
Gender	
• Male	70
• Female	30
Marital status	
• Single	21
• Married	79
Educational status	
• No formal education	32
• Primary education	37
• Secondary and above	31
Occupational status	
• Housewife/no job	22
• Private job	13
• Business	37
• Govt.employee	16
• Retired	12
Type of family	
• Nuclear	32
• Joint	68
Area	
• Rural	67
• Urban	33
Family income per month	
• <Rs.5000	9
• Rs.5000-15000	77
• Rs.15001 and above	14
Duration of illness	
• <5 years	55
• 5-10 years	35
• >10 years	10

The data presented in **Table no.1 reveal that** majority (64%) of the study participants were aged between 40 to 60 years, two-third (70%) of the study participants were male, 21% were unmarried, 68% were from joint family, 67% were from rural area. Nearly one-third (32%) of the study participants had no formal education, majority (37%) were doing business, 12% were retired, 22% were housewife or no job. Majority (77%) of the study participants had monthly income between Rs. 5000-Rs.15000. The duration of illness of majority (55%) of the study participants was less than 5 years and only 10% had history of cardiac illness for more than 10 years.

Anxiety levels of patient with chronic cardiac disease were assessed by using Goldberg anxiety and depression scale. The anxiety part of Goldberg anxiety and depression tool has nine items. Patient with a score of 5 or more in anxiety scale have 50% likely chance to have clinical anxiety

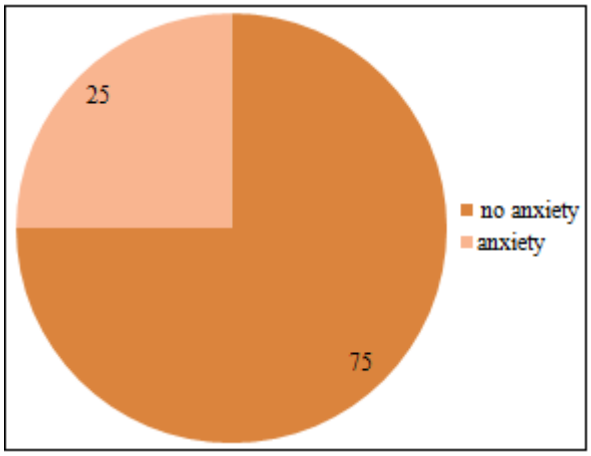


Figure 1: Depicting anxiety level of patient with chronic cardiac disease

The figure no 1 shows that one- fourth (25%) of the patient with chronic cardiac disease are likely chance to have clinical anxiety as they have score 5 or more than 5. Hence, it was interpreted that every fourth patient with chronic cardiac disease has 50% likely chance to have clinical anxiety

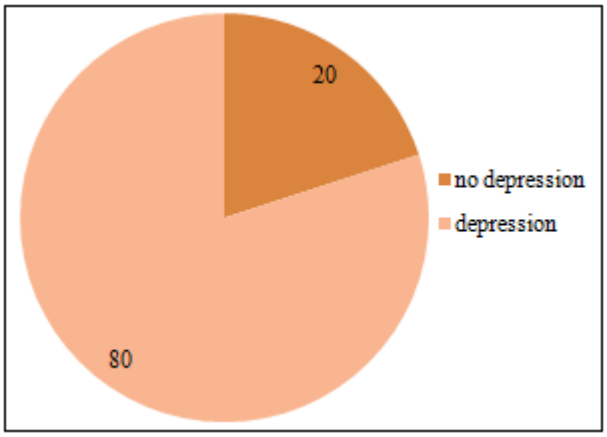


Figure 2: Depicting depression level of patient chronic cardiac disease

Depression levels of patient with chronic cardiac disease were assessed by using Goldberg anxiety and depression scale. The depression part of Goldberg anxiety and depression tool has nine items. Patient who score 2 or more than 2 have 50% likely chance to have clinical depression

The figures no 2 shows that fourth –fifth (80%) of the patient with chronic cardiac disease are likely chance to have clinical depression as they have score 2 or more than 2. Hence, it was interpreted that every fifth patient with chronic cardiac disease has 50% likely chance to have clinical depression.

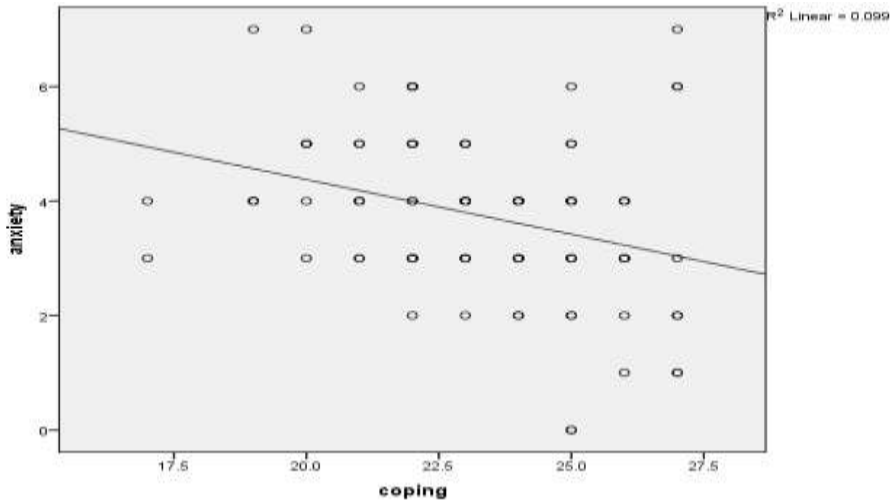
Table 2: Rank wise percentage of the coping strategies adapted by subject, N=100

Rank	Item	Percentage
	Adaptive coping strategies	
1	Pray and put trust in God more than usual	84
2	Try to grow as a person as a result of the experiences	83
3	Let my feelings out by connecting with the people who are almost meaningful to me	64
4	Learnt to live with it happily	62
5	Turn to work somewhat to make mind off things	42
6	Try to practice relaxation techniques such as yoga , deep breathing , meditation	40
7	Ask people and get advice who had similar experiences and ask what intervention they had taken	7
8	Said to myself , this is not real and I don't want to think about it	5
	Maladaptive coping strategies	
9	Use to take alcohol or other substance	2
10	Admit to myself that I can't deal with it	9

Item wise analysis of frequency and percentage response of patients to each item of the scale was done and illustrated rank wise in table no 2, most (84%) of patients used "pray and put trust in God more than usual" as a coping measures to deal with the cardiac disease. 40% response that they used "try to practice relaxation techniques such as yoga, deep breathing, meditation" as a coping strategies.

2% of the patient with chronic cardiac disease used to take alcohol or other substance as maladaptive coping strategies and 9% of them response that they used admit to myself that I can't deal with it as a maladaptive coping strategies.

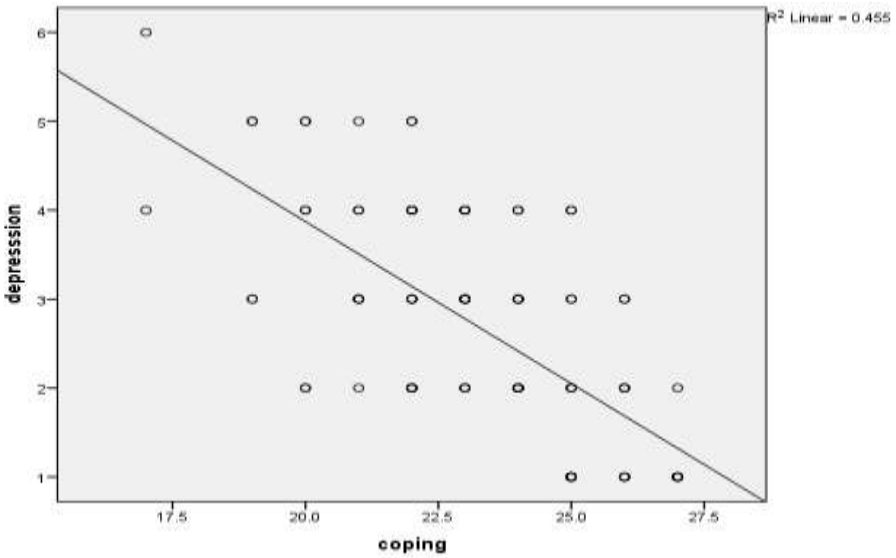
In order to find the correlation between anxiety score and depression score with coping strategies Karl Pearson correlation coefficient test was used. **N=100**



r value= - 0.315 Significant at 0.01 level

It reveals that there was moderately negative correlation between anxiety score and coping score. So, it suggests that higher the anxiety level lesser the adaptive coping strategies.

N=100



r value= - 0.674 Significant at 0.01 level

It reveals that there was negative correlation between depression score and coping score. So, it was suggested that higher the depression level lesser the adaptive coping strategies.

4. Discussion

The study results proved that 25% have 50% more likely chance to have clinical anxiety. It means that every fourth patient with chronic cardiac disease have 50% likely chance to have clinical anxiety. Peyman H, Yaghoubi M, Zarei M and Dastgerdian F conducted a study to assess prevalence of anxiety disorder among cardiovascular patients in Ilam province; western Iran The result showed that the prevalence of anxiety was estimated to be 20%.[9]

The finding shows that 80% have 50% more likely chance to have depression. It means that every fifth patient with chronic cardiac disease have 50% likely chance to have clinical depression. Thombs D B, et al. conducted a study to assess the prevalence of depression in survivors of myocardial infarction. The result shows that major depression was identified in 19.8%of patients using structured interview and based on Beck Depression Inventory score ≥ was 31.1%.[10]**Error! Bookmark not defined.**

The result of the present study also shows that most (84%) of patient "pray and put trust in God more than usual" as a coping measures to deal with the cardiac disease. 40% response that they used "try to practice relaxation techniques such as yoga, deep breathing, meditation" as a coping strategies. 2% of the patient with chronic cardiac disease used to take alcohol or other substance as maladaptive coping strategies and 9% of them response that they used "admit to myself that I can't deal with it" as a maladaptive coping strategies

Chiavarino C conducted a study to assess the coping strategies of cardiac patient and the result shows that Emotional coping is a better predictor of cardiac prognosis than depression and anxiety. The medical predictors of LVEF accounted for 10.6% of the variance of LVEF at follow up. Emotion-focused coping strategies significantly contributed for an additional 6.1%, while the presence of a depression and/or anxiety disorder was not a significant predictor of LVEF at follow up, nor were dysfunctional and problem-focused coping strategies. Conclusion: Emotion-focused coping strategies at the time of the cardiac event were the only reliable psychological predictor of disease severity at a three-month follow up.[11]

There was moderately negative correlation between anxiety score and coping score. So, it suggests that higher the anxiety level lesser the adaptive coping strategies. Larrivee L, Davis T and Maquire T conducted a study to find out the relationship between coping strategies and perceived anxiety of patients undergoing cardiac catheterization. The result shows that 62 patients' subjective ratings of anxiety, reported at 6 points during the procedure, and the coping strategies which were used at those times.[12]

There was negative correlation between depression score and coping score. So, it was suggested that higher the depression level lesser the adaptive coping strategies. Allman E, Berry D and Nasir L conducted a study to find out the relation between depression and coping strategies. Coping strategies were found to be associated with depression in patients with heart failure. Adaptive coping such as active coping, acceptance and planning tended to be used by more patients and were associated with less depression. Those who used more maladaptive methods of coping such as denial and disengagement had higher levels of depression.[13]

No association between level of anxiety and duration of illness, type of family, educational status, occupational status, duration of illness, and family income per month. But there was association between level of anxiety with gender and age. Patients who are in the age group of 40-60 year have 3.696 times risk of developing anxiety as compare to those in the age group of 60 years and above. Female patient has 0.3 times risk of developing anxiety as compare to male patients. Dr. Akhtar MS and Dr. Malik SB conducted a study to find out the associated factors of anxiety and

depression in acute myocardial infarction and it was revealed that a significant association between age (above 45 years i.e.46-60 years), female sex (p <0.02) and symptoms of depression and/or anxiety following AMI.[14]

No association between level of depression and age, gender, duration of illness, type of family, educational status, occupational status, duration of illness, and family income per month. But there was association between level of depression and residence area .Patient who are residing from urban area ha 0.237 times more risk of developing depression as compare to patients residing from rural area. Meyer A conducted a study to find out the urban living raises the risk of Emotional disorders. Urbanites are more likely to suffer from anxiety and depression, and the risk of schizophrenia increases dramatically among people raised in a city. Some researchers have calculated that children born in cities face twice, if not three times, the risk of developing a serious emotional disorder as compared with their rural and suburban peers.[15]

There are several limitations in the study. First the small size was small which affect the generalisation of the study. Second, sampling technique (consecutive sampling technique) where there is more chance of sampling bias. Third, researcher limited to only chronic cardiac disease patients. The strength of the study was, researcher selected the statistical test based on the distribution of the data.

5. Conclusion

Based on the findings of the study following conclusion were drawn that anxiety and depression are one of the most common complications of chronic illness. It is one of the global burden diseases which take many lives. People with cardiac disease have associated with anxiety symptom which was not recognized by health team and often untreated. It will lead to severity in the course of illness and may shorten the life span of a person. Anxiety and depression is often unrecognised in cardiac disease which is very important to be recognised.[16]

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