



## PSYCHOLOGICAL SYMPTOMS IN PATIENTS WITH ISCHEMIC HEART DISEASES- A TERTIARY CARE HOSPITAL BASED STUDY

### Psychiatry

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### ABSTRACT

Psychological symptoms and Health Related Quality of Life (Hr-QoL) in Ischemic Heart Disease (IHD) are relatively less explored in our country. This cross-sectional study was undertaken to assess the common psychological symptoms experienced by patients with IHD and to gain an impression on Health related quality of life in patients with IHD. Thirty patients with IHD were evaluated for psychological symptoms using DASS. Quality of life was assessed using Ferran's Hr-QOL questionnaire. The data were analyzed using SPSS v 16.0 software. 73.3% (n=22) participants rated themselves to have clinical level of depression, 63.3% (n=19) experienced significant level of stress and 76.7% (n=26) reported to have significant level of anxiety symptoms. 23.3% (n=7) of the participants reported to have very poor quality of life, whereas 30% (n=9) reported to have better quality of life even though having illness. There was no significant difference in psychological symptoms and quality of life across participants of both gender. Further it was found that the quality of life was not significantly related to severity of psychological symptoms experienced by the participants. The findings of our study reveal a high rate of psychiatric morbidity and impaired quality of life in IHD Patients.

### KEYWORDS:

anxiety, depression, stress, quality of life, ischemic heart disease

### Introduction

Within the category of cardiovascular disease, ischemic heart disease (IHD) accounts for the largest percentage of deaths. IHD is defined as damage to the heart muscle due to reduced blood supply caused by a blockage of the heart's arteries. IHD often manifests as angina or as acute myocardial infarction (heart attack). The high comorbidity between psychiatric disorders and Ischemic Heart Disease (IHD) is gaining attention in recent decades as mood and anxiety disorders are common in patients with Ischemic heart diseases. (Evans and Charney, 2003) This is of particular concern because the deadly quarter of metabolic risk factors like obesity, hypertension, dyslipidemia and insulin resistance cluster together and pose high risk of IHD and death (Musselman et al., 1998). Depression is highly prevalent in IHD patients, with 20% to 40% of patients meeting criteria for major depressive disorder or experiencing an elevation in depressive symptoms with 2-3 fold increased risk of mortality. (Barefoot and Schroll, 1996; Hayward et al., 1995) Persons who are depressed for an extended period may become adapted to their emotional stress because of experience, expectations or stoicism which may explain why chronic depression is a trigger for more direct physiologic process underlying IHD. (Rozanski et al., 1999) Generalized anxiety, pervasive fear, specific simple phobias and stress reactions are common and severe complications of IHD. Anxiety representing a response to biological threat is generated by fear for life. Specific phobias and recurrent panic attacks are associated with arrhythmias, angina and heart failure, presumably owing to decreased vagal modulation and increased ventricular tachy-arrhythmias. There are some reasons for a gender difference concerning the effect of psychiatric manifestations. It is plausible that women's physiological reactions to a psycho-social stressor differ from those of men partly because they are protected hormonally and men and women may physiologically define events differently. Patients with IHD also suffers from deteriorated quality of life. Quality of life following IHD is of great importance to those who have suffered the disease. The enormous financial burden, loss of occupation, changes to be made in lifestyle and negative emotional states (Rozanski et al., 1999) following diagnosed with IHD is likely to cause stress and impair the quality of life of patients with IHD.

### Aim

The aim of the study was to assess the psychological symptoms and health related QOL in patients with ischemic heart disease (IHD).

### Objectives

- To assess prevalence and pattern of psychological symptoms in patients with IHD
- To assess health related QOL in patients with IHD

- To examine the gender difference in psychological symptoms and health related QOL in patients with IHD.
- To examine the relationship between psychological symptoms and health related quality of life in patients with IHD.

### Method

#### Participants

This is a cross-sectional study relying on self-report of a sample of 30 patients suffering from Ischemic heart disease. Patients admitted at medicine ward under cardiology unit of Bharati Vidyapeeth Medical College and Hospital, Pune during the study period ie. April 1, 2016 to May 1, 2016 were selected as participants through purposive sampling after screening them for fulfillment of inclusion and exclusion criteria. Adults of both gender of age above 18 were included in the study. Those who were having pre-existing psychiatric illness and substance use disorders were excluded. Similarly patients who were suffering from any chronic ill conditions like diabetes, bronchial asthma, cancer etc. other than ischemic heart disease were excluded. Informed consent was obtained from the participants after explaining the nature and purpose of the study. The participants duly filled the socio-demographic and clinical datasheet and the scales assessing the variables under study in the presence of the researcher and it took approximately 40 minutes to complete.

#### Instruments

*Socio-demographic and clinical datasheet:* Socio-demographic and clinical datasheet was designed by the researcher to obtain the socio-demographic and clinical details of the participants. The semi-structured performa contained socio-demographic characteristics like name, age, sex, education, occupation, marital status, etc. The clinical characteristics included duration of illness, duration of treatment, age of onset etc.

*Depression, Anxiety, Stress Scale:* Psychological symptoms that were assessed using Depression, Anxiety and Stress Scale. It was developed by Lovibond and Lovibond in 1995. The DASS is a 42-item questionnaire which includes three self-report scales designed to measure the negative emotional states of depression, anxiety, and stress. Each of the three scales contains 14 items divided into subscales of 2-5 items with similar content. Each item is rated on a likert scale of 0 to 3. The scale has been shown to have high internal consistency and capacity to discriminate between the three related states. It was found that reliability, assessed using Cronbach's alpha, was acceptable for the depression, anxiety and stress scales (.91, .84 and .90, respectively).

*Ferran's and Power's Quality of Life Index (Cardiac Version IV)*: The Quality of Life Index was developed by Carol Estwing Ferrans and Marjorie Powers in 1984 to measure quality of life in terms of satisfaction with life. For the present study the cardiac version IV of the index was used to assess the health related quality of life of the participants of the study. Using a six point likert type scale, life satisfaction items are measured in a range from "very satisfied" to "very dissatisfied", while life importance items are measured in a range from "very important" to "very unimportant". The possible range of scores for an overall (total) quality of life score is from 0 to 30. Higher scores indicate high satisfaction/high importance. The lower scores indicate lower satisfaction/high importance (Ferrans & Powers, 1985) Internal consistency reliability for a total combined QLI with Cronbach's alphas, ranging from .84 to .98, has been supported in several studies with cardiac patients (Bliley & Ferrans, 1993; Delunas & Potempa, 1999).

**Results**

**Socio-demographic details**

There were total 30 participants, of which 10 were female and 20 were male. 37% and 27% patients fell into the age group of 41-50 and 51-60 age group respectively. 36.7% of the participants who were women were home makers (n=11), 3.3% were working in government sector (n=1), 6.7 % (n=2) had private jobs, 6.7% (n=2) were retired, 20 % (n=6) were self-employed and 26.7% (n=8) were unemployed. Majority of the participants (33%) were educated up to graduation level, 10% (n=3) were educated up to post graduation, 13.3% (n=3) participants had education level of elementary and secondary respectively, 10% (n=3) were educated up to higher secondary level, and rest 10% (n=3) were literate but doesn't had any formal education.

**Table 1: Socio-demographic characteristics of the participants**

Variable		N	%
Sex	Male	20	66.7%
	Female	10	33.3%
Education	No formal education	3	10.0%
	Primary	3	10.0%
	Elementary	4	13.3%
	Secondary	4	13.3%
	Higher secondary	3	10.0%
	Graduation	10	33.3%
Occupation	Post graduation	3	10.0%
	Unemployed	8	26.7%
	Self employed	6	20.0%
	Private job	2	6.7%
	Government job	1	3.3%
	Homemaker	11	36.7%
	Retired	2	6.7%

**Psychological symptoms**

Psychological symptoms was present in majority of the participants of the study. 73.3% (n=22) participants rated themselves to have clinical level of depression. Of them 15% male had mild level of depression, 50% female and 45% male were suffering from moderate level of depression, 20% female and 15% male were suffering from severe level of depression. 63.3% (n=19) of the participants reported to have been experiencing significant level of stress. Of them 50% females and 25% males had mild level of stress, 20% females and 35% males had moderate level of stress. 76.7 % (n=26) participants reported to have significant level of anxiety symptoms, 10% females and 15% males had mild anxiety, 80% females and 50% males had moderate anxiety and 10% females and 15% males had severe level of anxiety symptoms. There was no significant difference in psychological symptoms between participants of both gender. Distribution of participants of both gender did not differed significantly with regard to level of depressive symptoms. ( $\chi^2 = 0.63, p=0.64$ ). Similarly participants of both gender were distributed in a similar manner with regard to level of stress experienced by them ( $\chi^2 = 1.93, p=0.38$ ). Again there was no significant difference in distribution of participants of both gender on level of anxiety ( $\chi^2 = 3.25, p=0.35$ ).

**Table 2: Distribution of male and female participants of the study based on severity of psychological symptoms assessed in the study.**

Variable	Severity of symptoms	Male (N=20)		Female (N=10)		$\chi^2$
		N	%	N	%	
Depression	Normal	5	25.0%	3	30.0%	0.63NS (df = 3)
	Mild	3	15.0%	0	.0%	
	Moderate	9	45.0%	5	50.0%	
	Severe	3	15.0%	2	20.0%	
Anxiety	Normal	4	20.0%	0	.0%	1.93NS (df = 3)
	Mild	3	15.0%	1	10.0%	
	Moderate	10	50.0%	8	80.0%	
	Severe	3	15.0%	1	10.0%	
Stress	Normal	8	40.0%	3	30.0%	3.25NS (df = 2)
	Mild	5	25.0%	5	50.0%	
	Moderate	7	35.0%	2	20.0%	

NS-Not Significant

**Health related quality of life**

Quality of life (QOL) has been defined as "the subjective satisfaction expressed or experienced by an individual in his physical, mental, and social situations. 23.3% (n=7) of the participants reported to have very poor quality of life on Ferran's and Power's Quality of Life Cardiac Version. 20% female and 25% male participants reported poor quality of life. 30% (n=9) of the participants reported to have better quality of life despite of having illness. There was no significant difference in quality of life between participants of both gender. Distribution of participants of both gender did not differed significantly with regard to quality of life. ( $\chi^2=0.10, p=0.95$ ).

**Table 3: Distribution of male and female participants of the study based on level of quality of life**

Quality of life	Male (N=20)		Female (N=10)		$\chi^2$
	N	%	N	%	
Poor	5	25.0%	2	20.0%	0.10NS
Intermediate	9	45.0%	5	50.0%	
High	6	30.0%	3	30.0%	

NS- Not Significant

Psychological symptoms did not correlate with the health related Quality of Life in IHD patients.

**Table 4: Results of Correlation analysis between of psychological symptoms and health related quality of life**

Variable	Depression	Stress	Anxiety
Hr- QOL	-.058NS	-.272NS	-.105NS

NS-Not Significant

**Discussion**

Mental health aspects of general medical conditions especially which are persisting for longer time and creating more disability for the victims has been of increasing interest among the researchers for the past decades. Chronic medical conditions are associated with mental distress and depressive and anxiety symptoms. This understanding have resulted in the development and provision of mental health services to patients suffering from these physical conditions. The present study was undertaken to examine the nature and prevalence of the psychological symptoms experienced by patients with IHD and its relation to health related quality of life.

The study included patients from age group of 30 years to 65 years with presence of varying degrees of psychological symptoms ranging from mild anxiety to severe depression and stress and thus having a negative impact in the quality of life in all the patients suffering from IHD. Findings of the present study shows that patients with IHD experiences variety of psychological symptoms. Majority of the patients suffer from clinical level of anxiety, depression and stress. The degree of severity of symptoms vary across patients. John S. (2013) in her study on psychiatric morbidity of patients with IHD reported that nearly 95.4% of the patients had either depressive or anxiety symptoms of clinical severity. Further the study had shown that 85.4% suffered from clinically significant depressive symptoms with 34.6% having major depressive disorder. In the present study 73.3% of the participants reported depressive symptoms. Comorbid depression with IHD is predicted to result in poor prognosis of cardiac symptoms across many studies. Frasure-Smith N. et al. (1985) assessed the depressive symptom level of 218 patients treated for myocardial infarction at the

Montreal Heart Institute. Those with elevated levels of depressive symptoms, at a "mild" or greater level, had an eight-fold greater risk of experiencing cardiac mortality across an 18-month follow-up period. John S. (2013) reported that 36.9% of patients with IHD had comorbid anxiety disorders. Present study did not attempt to diagnose the patients on various anxiety disorders. A prevalence of 76.7% of participants having clinically significant level of anxiety found in the present study is higher than most other studies. Michael et al. (2005) in their study on 65 patients with diagnosed unstable angina or myocardial infarction revealed normal range of anxiety levels with 26% and 32% scoring above normal levels during both screening (baseline and 6-month follow-up) in most patients. 63.3% of the participants reported significant level of stress in the present study. Mahendru et al. (1976) in their study examining psychological correlates of coronary heart disease have identified that majority of the patients suffer from significant level of stress with the major stressors being maladjustment in the family, financial stress and job difficulties. There was no significant difference between patients of both sex with regarding to psychological symptoms.

Health related quality of life was reported to be poor by 23.3% patients who participated in the present study, whereas 30% of the participants reported good quality of life. This result suggests that the perception of quality of life of patients with IHD who participated in the study was varied. Some patients choose to perceive that they are better in doing health wise with the available health support and appeared to be satisfied about that, whereas a few others tend to be dissatisfied of their health conditions. Further analysis to find out if the severity of psychological symptoms is related to quality of life has not shown any significant results. The result makes researcher assume that variables other than psychological symptoms may be playing a major role in determining the quality of life of patients with IHD. Quality of life was not significantly different across the genders. The findings of the present study is not in accordance with majority of the studies which have shown that quality of life is by enlarge determined by stress and other psychological symptoms experienced by patients with IHD with the more severe the psychopathology associated with IHD the greater the impairment in quality of life (Allison et al., 1995; Libbus, 1997; Brummett et al., 1998)

### Conclusion

These finding demonstrate that almost all patients with IHD experience some psychological symptoms which has a greater impact on mental health. Patients of both gender did not differed in psychological symptoms and quality of life. Early signs of stress, depression and anxiety should be recognized and assessed and should be addressed.

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