RESEARCH ARTICLE

Mental health of cardiac patients in Gilgit, Pakistan: A cross-sectional study

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Abstract

Objective: To assess and compare mental health of cardiac patients with disease-free individuals.

Methods: This cross-sectional study was carried out at the Combined Military Hospital, Gilgit-Baltistan, Pakistan, from August to December 2016, and comprised cardiac patients in group A and healthy controls in group B. Data was collected using mental health inventory, a 38-item tool to measure general psychological distress and well-being. Cardiac patients' mental health was compared with illness-free individuals by applying descriptive and inferential statistical techniques. SPSS 21 was used for data analysis.

Results: Of the 80 participants, 40(50%) were patients and the rest were controls. The mean mental health inventory score in group B was 150.72±19.94 compared to 140.35±22.83in group A ($p<0.05$). Cardiac patients' mean score on psychological distress was 82.4±14.85 compared to 75.87±15.34in controls ($p<0.05$). The mean level of anxiety was 31.75±8.01 and that of depression was 14.58±3.58 in patients compared to 26.70±6.74 ($p<0.01$) and 12.65±4.34 ($p<0.05$) in the controls.

Conclusion: Cardiac patients experienced higher level of depression and anxiety.

Keywords: Cardiac, Mental health, Gilgit, Depression, Anxiety. (JPMA 67: 1704; 2017)

Introduction

People with chronic health problems often need psychological services due to the weighing down effect of illness-related symptoms.[1] Psychological factors have been extensively studied in relation with cardiovascular disease as they tend to play an important role in the aetiology, continuity and consequences of heart diseases and may also work independently as risk factors or protective factors.[2] Cardiovascular diseases entailed a number of consequences for patients' psychological and social functioning as the diagnosis alone in itself can be frightening.[3]

Positive psychological well-being works consistently against cardiovascular disease; it has been positively related with curative health behaviour and biological function, and negatively related with deteriorative health behaviour and biological function.[4]

In the developing countries, life satisfaction as a major component of psychological well-being tended to be lower among cardiac patients as compared to disease-free individuals.[5] Patients who had a 'negative attribution' towards their cardiac illness were found more prone to develop depressive symptoms.[6] Patients' gender, socio-economic status, obesity and other medical conditions along with cardiac event play an important role in their life satisfaction.[7] A Pakistani study showed the prevalence of depression in 15% of cardiac patients.[8]

Psychosomatic distress, including depression, has also been reported to be related with cardiovascular disease.[6] Depression was also found to increase the risk of cardiac mortality in people with and without cardiac disease at baseline; similarly, the risk of cardiac mortality increased with increasing severity of depression.[9] Mental stress was found to be a likely cause of coronary artery disease in a local study.[10]

The prevalence of anxiety illnesses were found in 16% of Pakistani hospitalised patients, and the severity of the illness increased with duration of illness.[11] Anxiety was expected as a normal response to a cardiac event but persistent and extreme anxiety was not normal and had deteriorating consequences on patients' health.[12] Another local study reported anxiety and stressful life events in the weeks leading to a cardiac event.[13]

Other studies reported mental health-related problems as a consequence of heart disease. Negative affectivity including depression and social inhibition were hallmark indicators of psychological distress as an aftermath of cardiovascular disease.[14] By keeping in view the reciprocal interaction between psychological factors and heart disease, a 'psycho-cardiology model' was presented, which recommended inclusion of psychological components in primary and secondary preventive interventions along with the existing biological ones to

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improve the quality of life of people with cardiac disease.[15] Psychological interventions were found to be effective in reducing distress associated with coronary heart disease and had potential for improving the long-term prognosis and mental health status irrespective of patient's gender.[16] The severity of anxiety and depression decreased and positive well-being and self-control improved after introducing psychological counselling in a cardiac rehabilitation programme.[17]

Keeping in view the importance of psychological consequence of cardiac diseases, the current study was conducted to assess the mental health of people with cardiac diseases and compare it with the disease-free individuals.

Patients and Methods

This cross-sectional study was conducted at cardiology and psychiatry departments of the Combined Military Hospital, Gilgit-Baltistan, Pakistan, from August to December 2016, and comprised cardiac patients in group A and healthy controls in group B.

A demographic form was used to collect participants' personal information such as clinical status, gender, age, marital status, occupation, educational level, etc.

The Mental Health Inventory (MHI)was administered to assess participants' mental health status.[18] MHI consisted of 38 items which measured the mental health domains of anxiety, depression, loss of behavioural/emotional control, general positive affect, emotional ties, and life satisfaction. First three scales evaluated psychological distress, while the last three scales evaluated psychological well-being. All 38 items reflected respondents' overall mental health index in which higher scores indicated better mental health and lower scores reflected poor mental health. Mental health inventory had good psychometric properties, including two highly correlated super-ordinate factors: psychological distress and psychological well-being and convergent validity.

Approval was obtained from the institutional ethics review committee. Purposive sampling technique was used. Patients of age over 18 years and those who had already been diagnosed by a cardiologist as having a cardiac ailment were included. Patients who suffered from any other chronic illness were excluded to reduce bias. Adults accompanying these patients were selected for the disease-free group after conducting a brief screening interview to rule out cardiac disease and other chronic illnesses. Purpose of the study was explained to all participants and data were collected through MHI. Informed consent was obtained from all participants. Descriptive statistics (frequencies, standard deviation and mean) were used to summarise data, whereas inferential statistical tools (independent t-test) were used to compare mental health of cardiac patients with disease-free individuals. SPSS 21 was used for data analysis.

Results

Of the 80 participants, 40(50%) were in group A and 40(50%) were in group B. In group A, 26(65%) were males and 14(35%) females with a mean age of 57.45±16.47 years (range: 29-85 years). Moreover, 27(67.5%) of them were married, 35(87.5%) from joint-family background, and 19(47.5%) were government employees. Besides, 15(37.5%) patients had been ill for one year, 11(27.5%) for 2-5 years, and 14(35%) for more than five years. Also, 19(47.5%) patients were uneducated and 11(27.5%) had 14 years or more education.

In group B, 23(57.5%) participants were males and 17(42.5%) were females with a mean age of 35.25±10.16 years (range: 20-66 years).Moreover, 20(50%) of them belonged to a nuclear family set-up, 19(47.5%) were married, and 16(40%) were government employees. Besides, 22(55%) controls had 14 years or more education.

Table: Differences between cardiac patients and normal individuals on mental health index, psychological distress, psychological well-being, and sub-scales.

Variables	Cardiac Patients (n=40) M(SD)	Normal Individuals (n=40) M(SD)	t(df)	Sig
Mental Health Index	140.35(22.83)	150.72(19.94)	2.16(78)	<.05
Psychological Distress	82.4(14.85)	75.87(15.34)	1.94(78)	<.05
Psychological Well-being	55.95(9.29)	58.35(8.29)	1.2(78)	>..05
Anxiety	31.75(8.01)	26.70(6.74)	3.04(78)	<.01
Depression	14.58(3.58)	12.65(4.34)	2.16(78)	<.05
Loss of Behavioural/Emotional Control	30.05(6.39)	29.28(6.65)	.53(78)	>.05
General Positive Affect	39.13(7.21)	41.43(6.25)	1.5(78)	>.05
Emotional Ties	7.95(1.97)	8.35(2.32)	.82(78)	>.05
Life Satisfaction	4.98(1.07)	4.68(1.14)	1.2(78)	>.05

SD: Standard Deviation.

The diagnoses of these patients included hypertensive heart disease 14(35%), ischaemic heart disease with angina 7(17.5%), cardiomegaly with dilated cardiomyopathy 9(22.5%), supraventricular tachycardia 3(7.5%), atrial fibrillation 2(5%), mitral valve disease 3(7.5%) and heart block 2(5%).

The mean MHI score among the disease-free controls was 150.72±19.94 compared to 140.35±22.83 among patients ($p<0.05$). Cardiac patients' mean score on psychological distress was 82.4±14.85 as compared to 75.87±15.34 among controls ($p<0.05$). The mean level of anxiety was 31.75±8.01 and that of depression was 14.58±3.58 among patients as compared to 26.70±6.74 ($p<0.01$) and 12.65±4.34 ($p<0.05$), respectively, among disease-free individuals (Table).

Discussion

Study findings revealed that the cardiac patients had poorer mental health in the domains of psychological distress as compared to the disease-free individuals. Depression and anxiety were found to be the two main factors that differed between the cardiac patients and disease-free individuals; this finding was comparable with a previous study conducted in the United States.[4] Similar findings were also reported in a Pakistani context where higher level of co-morbidity of depression and anxiety existed in cardiac patients. The co-morbidity of depression for males was 58% and for females was 74%, whereas co-morbidity of anxiety for males was 54% and for females was 65%.[8] Huffman too reported anxiety and depression as psychological consequences of cardiac diseases.[3] And these negative emotional states, including depression and anxiety, were significantly associated with increased risk of cardiovascular morbidity and mortality.[19]

Three months after a myocardial infarct, one-fifth of the people developed depression,[20] leading to 25% lower return to work after one year and a higher mortality rate.[21] Therefore, depression needed to be treated as a psychological symptom of all cardiac illnesses.

Anxiety was found to be more frequent than depression in cardiac patients. A meta-analysis found anxiety symptoms to be significantly related to raised mortality in similar patients.[22] To improve recovery and reduce recurrence, clinicians have recommended a treatment approach involving identifying and managing anxiety symptoms.[23]

In our study, no difference was found between the two groups in all the components of psychological well-being: general positive affect, emotional ties, and life satisfaction. Similar findings were also reported by a Spanish study in which both groups, i.e. cardiac patients and controls, reported similar level of life satisfaction.[24] Discussing life satisfaction, Baumann et al. have laid emphasis on the demographic variables of cardiac patients rather than their cardiac conditions.[7]

The current study made a vital contribution to the remote Gilgit region of Pakistan where very little data is available on mental health. However, one of the limitations of the study was its small sample size. It is recommended that similar studies with a larger sample size should be conducted in other parts of Pakistan.

It is also recommended that the 'psycho-cardiology model' consisting of systematic screening and individually adjusted multimodal treatment strategies to address depression and anxiety in cardiac follow-up patients should be an integral part of cardiovascular therapeutics.[25]

Conclusions

Cardiac patients were more likely to have psychological distress consisting mainly of depression and anxiety. However, their positive emotions such as general positive affect, emotional ties and life satisfaction were equal to the disease-free individuals.

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