

ORIGINAL ARTICLE

Quality of Life, Perceived Social Support and Death Anxiety Among People Having Cardiovascular Disorders: A Cross-Sectional StudyMUHAMMAD HASHIM¹, WAQAR AZIM², WAJID HUSSAIN³, FAZAL UR REHMAN⁴, ABDUL SALAM⁵, MUHAMMAD RAFIQUE⁶¹Assistant Professor Cardiology, Civil Hospital, BMCH Quetta Pakistan²Registrar Cardiology, Sandeman Provincial Hospital Quetta Pakistan³Post Fellow Cardiac Imaging, National Institute of Cardiovascular Diseases Karachi Pakistan⁴Associate Professor Cardiology, Civil Hospital, BMCH Quetta Pakistan⁵Clinical fellow Cardiology, National Institute of Cardiovascular Diseases Karachi Pakistan⁶Assistant Professor Cardiology, Shaheed Mohtarma Benazir Bhutto Medical College Layari Karachi PakistanCorresponding author: Muhammad Hashim, Email: khanhashoo@gmail.com**ABSTRACT****Aim:** To assess the quality of life, perceived social support, and death anxiety among people having cardiovascular disorders**Study type:** A Cross-sectional study**Place and Duration:** This study was conducted at Civil Hospital, BMCH Quetta Pakistan from June 2020 to June 2021**Methodology:** This study was designed to evaluate the correlation between quality of life, hope, and death anxiety among people having cardiovascular disorders. We gathered data by using a convenience sampling technique for 4 months. We used the questionnaire method for our survey. Our questionnaire was based on five sections including basic demographic, the 17-item McGill QoL (MQoL) Questionnaire, Herth hope to score, Thorson-Powell Death Anxiety Scale (TPDAS), and Death depression scale (DDS).**Results:** Out of 500 participants half of them were female (52.4%), most of the participants were married with no formal education and belonged to poor or middle-class families. Participants with intermediate education levels who were financially dependent on the government had a better quality of life than others. We observed that patients with myocardial infarction (MI) had higher levels of anxiety. Furthermore, we observed that patients with a belief in life after death had higher death anxiety than those who don't believe.**Conclusion:** Our results concluded a positive association among quality of life and hope. We examined that social support plays a vital role in managing CVD disorders. However, patients with myocardial infarction had high levels of death anxiety than others.**Keywords:** Cardiovascular disorders, coronary artery disease, myocardial infarction, death anxiety, quality of life, social support.**INTRODUCTION**

Cardiovascular disease is the main cause of death worldwide. Every year, approximately 17.9 million deaths are reported. Coronary heart disease, cerebrovascular illness, rheumatic heart disease, and other diseases are among them. The global index reported that coronary artery disease cause 17.3 million deaths per year which will increase to 23.6 million deaths in 2030. Cardiovascular disorders are more prevalent in Asian and Middle Eastern regions.^{1,2} A study conducted by Zipes¹ reported that the prevalence of CAD is sharply increasing in these regions. Meanwhile, studies conducted in the United States and the European region also reported similar patterns of prevalence. However, high mortality ratio of CAD is reported in Iran (39.3% every year).² Cardiovascular disorders affect the patient's quality of life.³ Quality of life is defined by the World Health Organization as an individual's view of his or her position or status in life.⁴ A negative association between quality of life and physical impairment has been found in studies related to CAD patients. Bucket et al.,⁵ examined the association of poor quality of life with the risk of hospitalization and death. Physical symptoms of CAD create disturbance in the sexual and social life of patients.⁶ Due to the loss of functioning patients rely on their families and lose their independence. Patients with CAD reported fatigue, decreased muscle strength, and dyspnea which leads to disruption in daily life activities.⁷ After a diagnosis of CAD patients, the mental condition is also affected due to stress, anxiety, and depression along with social issues like limited social participation and need for social support. These changes affect the person's perception related to the quality of life. The long duration of cardiovascular illnesses and treatment side effects were also found to have a negative impact on quality of life.⁸ However, studies reported improvement in the quality of life of CAD patients due to increase social support, spiritual beliefs, and level of education.⁸ Cardiovascular disorders pose challenges to many factors including hope. Hope is one of the important coping mechanisms that provide strength to patients.⁹ Maintaining hope in chronic illness plays a vital role in treatment. A study by Van Allen¹⁰ observed a positive association between hope and quality of life in obese patients. A study by

Shifren¹¹ observed that hope reduces anxiety and depression. Hope increases motivation during times of illness in patients with chronic illness.¹² Empirical evidence point to the benefits of hope on chronic illnesses however no single study has been produced yet to evaluate the impact of hope and quality of life on CVD patients.¹³ We planned this study to fill this gap. Our study aimed to evaluate the quality of life, social support, hope, and death anxiety among patients having cardiovascular disorders.

METHODOLOGY

This cross-sectional study was designed to evaluate the correlation between quality of life, hope and death anxiety among hospitalized patients having cardiovascular disorders. Permission was taken from the ethical review committee of the institute. We gathered data by using a convenience sampling technique for 4 months. All the CAD patients with steady vital signs diagnosed by qualified doctors were included. Patients with stable vital signs, stable angina, and stable cardiac hemodynamics were included. Patients who were hospitalized at least for 24 hours were included. However, patients with any psychological problems including anxiety, and depression before the survey data were excluded. By using the previous study of Wang et al.,¹⁴ With an 80 percent power and a 95 percent confidence level, we determined our sample size. We required at least 500 participants. Before the survey, we gathered informed consent from the participants and translated our research goals, objectives, and survey instruments into easy words so that they can easily fill the document.

We used the questionnaire method for our survey. Our questionnaire was based on five sections including basic demographic, the 17-item McGill QoL (MQoL) Questionnaire, Herth hope to score, Thorson-Powell Death Anxiety Scale (TPDAS), and Death depression scale (DDS).

The demographic datasheet includes the information related to participant age, gender, marital status, level of education, sources of income, and socioeconomic status. We measured social support using experimentally validated analysis scales provided by the nursing researchers. This scale was simplified by

using 10 points Likert scale in which participants rated their response from 1 (the least) to 10 (the most).

The 17 items MQoL Questionnaire is widely used for analyzing the quality of life in patients suffering from a life-threatening illness. This questionnaire contains three subscales including information on general (QoL), physical symptoms (four questions), and psychological components (12 questions). MQoL items are scored on a 0–10 scale, with a higher score indicating better quality of life (total range of 0–170). To evaluate the MQoL individual subscale scores and total composite scores were used. The reliability and validity of this tool are assessed by Abshire et al.,¹⁵ in the heart disease context.

Herth hopes scale was based on three subscales provided by Dufault and Martocchio¹⁶ (1985). The Herth scale has 12 items with a four-point Likert response format (ranging from completely disagree to agree). A possible score ranging from 12 to 48 points or higher scores indicates high hope. A previous study by Soleimani et al.,¹⁷ approved the reliability and validity of this scale. The Cronbach's alpha value for the 12-item HHI was reported as 0.79 which indicates satisfactory internal consistency.

The Thorson-Powell Death Anxiety Scale (TPDAS) has 25 items, 17 of which are positive statements like "Coffin distress me," while the remaining 8 are negative statements like "I don't worry about being in debt forever." This scale is rated on 5 points Likert scale ranging from 0 to 100. A higher score indicated high death anxiety. Karaca and Yıldız¹⁸ found the validity and reliability of the scale. Meanwhile, we observed a 0.84 Cronbach α score for this scale.

The self-reported death depression scale (DDS) was developed by Templer et al.,¹⁹ in 1990. This 17 item scale was used to examine the sadness, loneliness, terror, and grief about death. Scores can be 0 at least and 17 at most. The validity and reliability of this scale were measured by Yaparel and Yıldız²⁰ in 1998. Meanwhile, the Cronbach α score was reported as 0.74, and α reliability was 0.92.²¹

Statistical analysis was performed by using IBM SPSS version 23.0. Demographic information was presented in frequencies and percentages for categorical variables while mean and standard deviations were used for the ratio scale variables. Pearson correlation was used to examine the association between main variables while general linear models with Bonferroni corrections²² was used for the quality of life. We set a 0.05 p-value for defining statistical significance.

RESULTS

Out of 500 patients, half of them were female (52.4%), most of the participants were married with no formal education and living in poor or moderate-income households (As shown in Table 1). We observed a Quality of life mean score of 38.86 indicating higher quality of life than moderate however moderate level of hope was examined with a mean score of 34.13 (As shown in Table 2). We observed that QoL is highly associated with income social support

and age (p-value <0.001, 0.004, and 0.006 respectively). We also found a positive correlation between hope and QoL. After multivariate analysis, we found that age, income source, religious beliefs, social support, socioeconomic status, and level of education were the predicting factors of QoL. Patients with intermediate education levels who were financially dependent on government and families had better QoL than others (As shown in Table 4). We observed that patients with MI had higher levels of anxiety. Furthermore, we observed that patients with a belief in life after death had higher death anxiety than those who don't believe (As shown in Table 5). However, we did not find any correlation between several heart attacks and death anxiety.

Table 1: Characteristics of the study participants

Characteristics	Frequency (%)
Gender	
Female	262 (52.4%)
Male	238 (47.6%)
Source of income	
Personal	211 (42.2%)
Pension from the government	203 (40.6%)
Family	32 (6.4%)
Charitable giving	49 (9.8%)
Friends	5 (1%)
Marriage	
Married	406 (81.2%)
Widowed/ Divorced	94 (18.8%)
Economic status	
Good	20 (4%)
Average	353 (70.6%)
Poor	127 (25.4%)
Level of education	
University graduates	12 (2.4%)
High school	55 (11%)
Intermediate	58 (11.6%)
Primary	19 (21.8%)
No formal education	266 (53.2%)

Table 2: Mean and Standard deviation of participants

Variables	Mean SD	Range
Age (years)	60.68 (10.34)	30–96
Religious belief	9.06 (1.14)	0–10
Total hope	34.13 (4.05)	22–43
Social support	5.92 (2.58)	1–10

Table 3: Hope and quality of life correlation²²

Variables	Mean SD	Range	Pearson correlation	
			r	P
Feeling and thoughts	72.32 (11.95)	34–95	0.412	< .001
Physical problems	23.25 (3.94)	7–34	0.129	0.004
Holistic view well-being	3.28 (1.79)	0–10	-0.067	0.136
Total score	38.86 (12.75)	23–46	0.337	< .001

Table 4: Predictors of quality of life (Multivariate analysis)

Model	Standardized Coefficients		95% CI for B		Unstandardized Coefficients	
	Beta	p	Upper	Lower	SE	B
Age	-0.023	0.006	-0.05	-0.3	0.17	-0.2
Gender						
Female	-	-	-	-	-	0
Male	0.039	0.575	-0.21	0.12	0.54	0.858
Source of income						
Personal	-0.410	< .001	-5.71	-13.65	2.03	-9.680
Pension from the government	0.088	0.005	0.14	0.03	0.03	0.083
Family	0.035	0.125	0.17	0.02	0.05	0.075
Charitable giving	-	-	-	-	-	0
Friends	0.009	0.705	0.02	0.01	0.01	0.003
Marital status						
Married	-0.043	0.062	0.06	-2.40		-1.172
Widowed/ Divorced	-	-	-	-	0.63	0
Economic status						
Good	-	-	-	-	-	0

Average	0.020	0.372	6.42	-2.41	2.25	2.009
Poor	-0.016	0.471	9.41	-20.38	7.59	-5.481
Level of education						
University graduates	-	-	-	-	-	0
High school	0.006	0.792	5.37	-4.10	2.41	0.636
Intermediate	-0.010	0.654	0.27	-0.42	0.18	-0.079
Primary	-0.002	0.917	7.58	-8.42	4.08	-0.424
No formal education	-0.065	0.004	-1.24	-6.63	1.37	-3.933
Religious belief	0.054	0.340	1.6	0.1	0.9	0.62
Social support	0.004	0.004	1.2	0.2	0.7	0.45
Total hope	0.710	< .001	1.4	0.8	0.80	1.1
Death experience						
No	-	-	-	-	-	0
Yes	0.051	0.340	0.04	-0.01	0.01	0.011
Constant		0.053	50.94	-0.37	13.08	25.286

Table 5: Death anxiety and death depression in patients of Myocardial Infarction

Variables	Mean ± SD	Pearson correlation	
		r	P
Death depression	9.77 ± 3.65	0.454	0.001
Death anxiety	51.60 ± 16.40		

DISCUSSION

In this study, we observed an association between quality of life (QoL) and hope along with predictive factors of QoL among CVD patients. In our study, we observed high QoL among CVD patients due to socio-demographic factors. We observed a positive correlation between hope and QoL which is parallel to the results of previous studies. They also demonstrate hope as an independent predictor of QoL.²³ Another study by Li et al.,⁸ also reported the same results. One Chinese study revealed that hope and social support are major factors for improving QoL in patients with oral cancer.²⁴ Hope is an important factor that leads to stabilizing the mental health, well-being, and QoL of patients.²⁵ Our findings revealed that the education level of patients is a positive predictor of QoL similar to the previous study by Li et al.⁸ Interestingly, the study of Bovero et al.²⁷ revealed that patients with low education status have better satisfaction. They further revealed a positive effect of low education on better quality of life. Timing of illness and trust in physicians might be the possible reason for these results.²⁶ However, qualified patients earn more money and enjoy better social status. A study by Muhammad et al.,²⁷ analyzed that high qualified patients had more better understanding of treatment plans.

We also observed better QoL in patients with poor or moderate socioeconomic status. These findings are persistent with the previous South African study of Adjaye-Gbewonyo et al.,²⁸ in which he observed the association of CAD risk factors with income inequality. Another study by Sadoughi et al.,²⁹ observed a positive association among QoL and socioeconomic status among breast cancer patients. However, a study conducted in San Diego observed no relationship between the two variables.³⁰ The income of patients is highly associated with CAD.³¹ A study by Lee et al.³² observed two timeless hypertension among high-income patients than low income. A high mortality ratio of CAD has been observed among low-income countries with fewer education levels.³³ We observed a positive correlation between QoL and household income. We observed that patients supported by their families and who received pensions had better QoL than others. After a diagnosis of chronic illness patients needs costly treatment and medical care services. However, financial support from family or government reduces anxiety and enhances QoL.³⁵ Age is one of the predictors of QoL in our study. Studies observed lower QoL in elder age CAD patients, among the patients who underwent coronary artery bypass graft surgery.³⁶ Contrastingly, in Sunkarapalli et al.³⁷ no significant correlation was found between QoL and age in cancer patients. Low mobilization, excessive fatigue, depression, and anxiety affect the QoL among the elder age population.^{37, 38} Meanwhile, we observed a higher level of

death anxiety in patients with myocardial infarction consistent with the previous studies.^{39, 40} We observed that patients with high levels of death anxiety are more prone to a heart attack. Social support was another indicator of QoL in CAD patients. We observed that patients with higher social support had less anxiety. Social support also speeds up the recovery of CAD patients and reduces complications.⁴¹ Therefore better quality of life can be achieved by high social support.

CONCLUSION

Our study concluded a positive correlation between hope and quality of life. We examined that social support plays a vital role in managing coronary vascular disorders. However, patients with myocardial infarction had high levels of death anxiety than others.

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