MENTAL HEALTH AND QUALITY OF LIFE IN PATIENTS WITH CARDIOVASCULAR DISEASES: SOCIAL SUPPORT AS MEDIATOR

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ABSTRACT

Objective: To investigate the relationship between mental health, quality of life social support in patients with cardiovascular diseases, and mediating role of social support between these variables.

Methodology: This cross-sectional, correlational study was conducted between February and May 2020. Data was collected with purposive sampling from 180 participants (70.6% males and 29.4% females) with an age range of 17 to 83 years (M = 57.74, SD = 13.02) who had been suffering from cardiovascular diseases. An informed consent form, demographic sheet, and Urdu versions of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), Multidimensional Scale of Perceived Social Support (MSPSS), Depression Anxiety Stress Scale-21 (DASS-21), and WHOQOL-BREF were used.

Results: The quality of life is perceived as average by the majority of them (48.9%). A significant negative relationship was found between depression ($r = -.43$, $p<0.01$), anxiety ($r = -.28$, $p<0.01$), and stress ($r = -.33$, $p<0.01$) with social support. Wellbeing has also been found to be significantly and negatively correlated with depression ($r= -.57$, $p<0.01$), anxiety ($r = -.37$, $p<0.01$), and stress ($r = -.39$, $p<0.01$). There is also a significant mediating effect of social support on depression, anxiety, stress, and well-being in the quality of life of patients with cardiovascular diseases.

Conclusion: Patients with cardiovascular diseases have poor mental health and perceived low to average quality of life. Social support is a full mediator ($\beta = -.35$, $p = .01$) for anxiety and partial mediator ($\beta = .35$, $p < 0.01$), for depression, stress, and wellbeing with quality of life.

Keywords: Anxiety; Cardiovascular Diseases; Depression; Heart Diseases; Quality of Life.

INTRODUCTION

Cardiovascular disease (CVD) is the wide term that involves heart disorders such as coronary artery disease, congenital heart defects, arrhythmias, heart attack, stroke, angina, cardiomyopathies, and heart failure. World Health Organization (WHO) has estimated that the primary reason of death internationally is a heart disease. Every year many people die from heart problems than from any other cause.[1] The heart diseases are the number one cause of the death globally.[2] There are a number of evidences present that declared that psychological and social (psychosocial) factors effected the heart diseases gravely. The risk of Cardiovascular Diseases CVD increased by psychological factors involved less social support, personality variables, stress, worries, and certain life styles.

The review of literature for the mental and psychological components, such as depression, stress and anxiety belonged to etiologic and prediction of Coronary Heart Diseases (CHD), especially between the years 1995-2012 was conducted. According to the findings, either as protective component or threat aspect, mental factors played a vital role in CHD[3]. Study reported that psychological factors such as stress and stressors are essential in coronary heart sickness. Conversely, human beings tormented by a mental disorder appear to have a risk of CHD. Moreover, common pathophysiological mechanisms may link both diseases[4]. Mental distresses are also found to be negatively correlated with social support[5]. In patients with acute cardiovascular diseases, depressive and anxiety symptoms were present and depressive symptoms showed a strong association with reduced health-related quality of life[6]. Social support and wellbeing are positive correlated in patients suffering from various cardiovascular diseases[7-8]. Thus, strong social network of rel-

atives and friends can be a prime factor to reduce feelings of sadness, excessive worrying and distress in patients suffering from any kind of cardiovascular disease. The good support can enhance one's wellbeing be giving a sense of belongingness and emotional encouragement to patients to look after themselves and their wellness. It is crucial to understand the meanings of mental health, depression, anxiety, stress, well-being, social support and quality of life for investigation of their role in CVD.

Mental health is a balanced amalgam of individual's emotional and psychological wellness[9]. Depression is a most common mental disorder that exists with loss of interest (pleasure), depressed mood, lack of energy, feels like guilt or low self-respect, irregular sleep or appetite, and low attentiveness[10]. Anxiety disorders generally have reoccurring interrupted thoughts or troubles and excessive worrying vicious cycle[11]. Stress is the response of body to any alternate that needs an accommodation or reaction[12]. Psychological wellbeing is a state in which a person has a great level of satisfaction with his or her life[13]. Social support is the providing of comfort or encouragement to others, commonly to assist them to manage with social, psychological, and biological stressors[14]. The quality of life defines as the person's status or position in the environment, the fulfillment of the merits that are created by the society and culture of the individual. Also to meets the goals, standard, and expectation from self and by other and concerns of the life[15].

A systematic review and meta-analysis[16] revealed that the prevalence of depression, anxiety and stress in patients diagnosed with CVD is 31.3%, 32.9%, and 57.7%. It's necessary to look on the factors that effect the heart disease. Although a few studies have focused on investigation of psychological factors associated with CVD in Pakistan, yet research has not been proceeded to explore these variables in the patients with CVD. This study has assessed the psychological components of the heart patients that might aggravate the heart problems. By exploring the social support and wellbeing of the heart patients and levels of depression, anxiety and stress that are experienced by the patients. Implications of the findings served to enhance our strategies to plan for interventions aimed at reduction of mental disorders, enhancement of social support and production of wellbeing in patients with CVD. The hypotheses of the present study, derived on the basis of literature review are: 1) there would be a relationship between depression, anxiety, stress, and wellbeing with social support and quality of life among the patients with CVD. 2) Social support would mediate between mental health (depression, anxiety, stress and wellbeing) and quality of life among the patients with CVD.

METHODOLOGY

This cross-sectional study was conducted between February and May 2020 among patients diagnosed with cardiovascular diseases in hospitals in Gujrat and Lahore. The sample was selected using purposive sampling as sampling frames for diagnosed CVD patients were not available. A total of 180 patients diagnosed with various types of CVD (such as angina, heart attack, coronary artery diseases, mitral stenosis, myocarditis, pericardium, septal defects, dilated cardiomyopathy, etc.) were included in the study while visiting the hospitals. The research participants, after being fully informed about the study through an informed consent form, agree to participate in the study. Demographic information such as age, gender, residence, and education was collected through a demographic information sheet. The study recruited a majority of married patients within the age range of 61 to 80 years old, with a high number of participants having low education levels. The inclusion criteria for the study focused on patients seeking treatment for cardiovascular diseases and who were willing to participate. Exclusion criteria included patients diagnosed with comorbid mental illnesses in addition to cardiovascular disorders and those with only minor cardiovascular issues. Participants in intensive care units or unable to respond properly were not considered for the study, and infants with heart problems at birth were also excluded. The World Health Organization's Quality of Life (WHOQOL-BREF), Warwick-Edinburgh Mental Well-being Scale (WEMWBS), the Multidimensional Scale of Perceived Social Support (MSPSS), and the Depression Anxiety Stress Scale (DASS-21) were used to measure the study variables. The participants took around 10-15 minutes to complete the questionnaires and were thanked for their time. The data was analyzed using Statistical Package for Social Sciences (SPSS) and AMOS 24, where descriptive statistics such as frequencies, percentages, reliabilities, and correlation coefficients were calculated. The study also calculated the Cronbach's alpha reliability coefficients and conducted mediation analysis to examine the role of social support in the relationship between depression, anxiety, stress, well-being, and quality of life.

RESULTS

The examination of mental health status showed that majority of the patients has suffered with poor mental health (and the quality of life is average. The moderate to extremely severe level of depression, anxiety, and stress is prevalent as 84.4%, 96.1%, and 39.5% respectively. 62.8% have low wellbeing. 94.5% perceived their quality of life as low to average.

Table 1 shows means, standard deviations and Pearson correlation coefficient to assess the linear relationship between depression, anxiety, stress, social support and wellbeing among patients with cardiovascular diseases. There was a significant negative correlation between depression ($r = -.57$, p

Table 1: Mean, Standard Deviation, Reliability Coefficients and Pearson Product Moment Correlation among Mental Illnesses, Social Support and Wellbeing

	M	SD	Cronbach's Alpha	A	S	WB	SS	QOL
Depression	10.21	3.75						
.83	.54**	.57**	-.57**	-.43**	-.65**			
Anxiety	10.62	3.26		-	.60**	-.37**	-.28**	-.49**
Stress	12.22	3.49			-	-.39**	-.33**	-.54**
Wellbeing	40.33	9.56	.86			-	.57**	.66**
Social Support	48.18	11.58	.86				-	.64**
Quality of Life	75.44	12.61	.85					-

**p<0.01

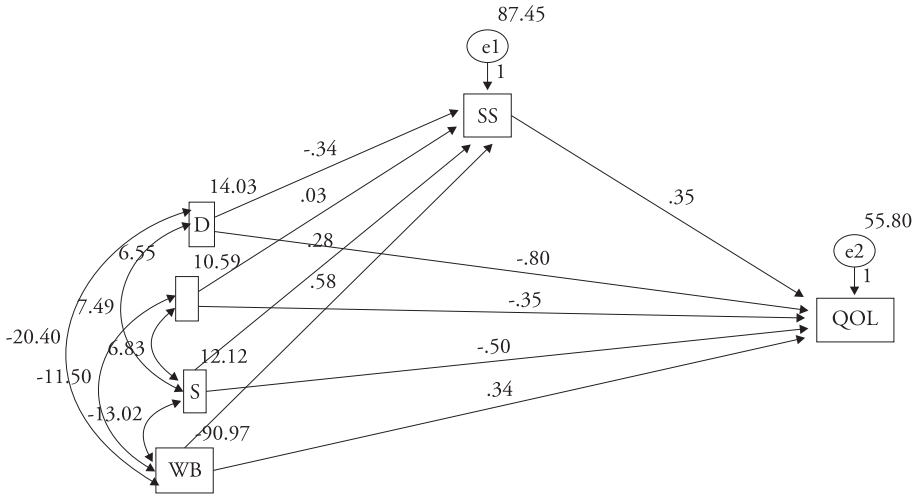

Figure 1: Path Analysis for Mediating Role of Social Support (M) between Mental Health (X) and Quality of Life (Y)

<.01), anxiety (r= -.37, p <.01), stress (r = -.39, p <.01) with wellbeing. Therefore, higher the level of depression, anxiety and stress, lower is the level of wellbeing. Social support has significantly negative correlation with depression (r = -.43, p <.01), anxiety (r = -.28, p <.01) and stress (r= -.33, p <.01). Quality of life and social support are significantly positively related (r = .66, p <.01).

Path analysis showed that social support (β = .35, p < 0.01) has partially and significantly mediated between quality of life with depression (β = -.80, p < 0.01), stress (β = -.50, p < 0.01) and welling (β = .34, p < 0.01). However, with anxiety (β = -.35, p = .01) in relation to quality of life, the mediation of social support is fully and completely significant (Figure 1).

DISCUSSION

In 2021, the prevalence of depression and anxiety as estimated in CVD with reference to Pakistan are 50% and 20% respectively[20]. This high rate indicated the significance of exploring the relationship of psychological mental state with a quality of life in patients with CVD. The findings of the present research on cardiovascular patients showed a significant negative correlation of depression, anxiety, and stress with social support, wellbeing, and quality of life. However, social support and wellbeing are positively correlated at significant level Thus, confirmed the first hypothesis of the study. A study in 2017 revealed that depression, anxiety and stress are contributing factors in wellbeing negatively for patients with cardiovascular diseases[21]. Research indicated high social support enhanced patients' wellbeing and reduced coronary heart disease incidences (CHD)[22]. Wellbeing and social support have been found to be inversely related with depression, anxiety, and stress among patients with heart diseases[23]. Individuals with decrease ranges of social support have cardiovascular sickness and much less powerful immune system functioning. Conversely, high social aid were associated with numerous effective consequences, such as faster restoration from coronary artery surgery, linking cardiovascular, and immune system with better tiers of social associations[24]. QOL seems to be negatively affected by psychological distress and psychiatric disorders particularly in patients having heart diseases[25-26]. Further, the finding of the present study has showed that social support has partially mediated between depression, stress and wellbeing with quality of life among patients with cardiovascular diseases. These findings are consistent with the previous researches[24-25]. The partial mediation implied significant negative impact of depression, anxiety, and stress in quality of life of the patients. In short, quality of life is flourished by improving mental health in the presence of supporting others who understand and relate with warmth and affection with patients while this study provides valuable insights, it is important to note that the small sample size limits the generalizability of the findings to larger populations. Future studies with larger sample sizes are needed to confirm these results. Additionally, this study suggests a relationship between the variables, but an experimental study would be needed to establish causality. Despite these limitations, the study's findings have important implications for the treatment of patients with cardiovascular diseases. The results suggest that the involvement

of psychologists and clinical psychologists in rehabilitation programs could enhance the well-being of these patients by reducing levels of depression, anxiety, and stress through the provision of counseling and psychotherapeutic interventions.

CONCLUSION

It is empirically evident that social support has mediated depression, anxiety, stress, and well-being to affect the quality of life of patients with cardiovascular diseases.

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Author's Contribution

SS conceived the idea, designed the study, analyzed the data, and final writeup of the manuscript. IS contributed in the collection of data and final writeup for the manuscript.. Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of Interest

Authors declared no conflict of interest

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None

Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.