RESEARCH ARTICLE

Comparison of social support, depression and anger in diabetic and cardiac patients

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Abstract

Objective: To explore the role of social support, depression and anger in diabetic and cardiac patients.

Method: The cross-sectional study was conducted from April to September 2015 at three public-sector hospitals in Punjab, Pakistan, and comprised cardiac and people with diabetes from outpatient departments. Data was collected using the Siddiqui-Shah depression scale, the interpersonal support evaluation list and the Trait anger and expression scale. Data was analysed using SPSS 21.

Result: Of the 200 patients, 101(50.5%) were cardiac and 99(49.5%) were diabetic. Among the cardiac patients, 51(50.5%) were males and 50(49.5%) were females, while the corresponding number among the diabetics were 50(50.5%) and 49(50.5%). Cardiac patients exhibited higher level of depression and received more social support than the diabetic patients ($p<0.05$). Low social support was a significant negative predictor of anger and depression among diabetic and cardiac patients ($p<0.05$).

Conclusion: Social support was found to be a significant factor in the treatment of diabetes and cardiac diseases.

Keywords: Social support, Diabetic, Cardiac, Anger, Management. (JPMA 71: 1814; 2021)

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Introduction

There is a drastic increase in diabetes and cardiac diseases in the modern era due to unhealthy diet, lifestyle, competing with life challenges and certain other risk factors, like overweight and obesity.[1,2] Due to the hectic and tough schedule of daily life, levels of stress, anxiety, depression and anger have increased. These negative attitudes also increase the risk of type 2 diabetes mellitus (T2DM) and coronary heart disease (CHD).[3,4] Diabetes is defined as a chronic illness in which pancreas does not produce enough insulin or the body becomes unable to use insulin effectively to maintain optimal blood glucose level.[5] The global prevalence of diabetes was estimated to be 9.3% in 2019.[6] However, the prevalence of T2DM in Pakistan was 11.77% in 2016.[7] Mostly, it occurs after the age of 40, more in women than men, and in those having low socioeconomic status (SES). It is reported that more than 90% of obese people are diagnosed with T2DM.[5]

CHD refers to the lack of sufficient blood flow. The blockage of blood supply occurs because of atherosclerosis. Due to the build-up of fatty deposits, the blood flow is severely restricted which causes serious consequences in the form of angina or a myocardial infarction (MI).[8] Literature reveals that different psychosocial factors are significant in the morbidity and poor prognosis of cardiac patients.[9,10] The prevalence of depression was found to be 27.24% among patients with MI in Abbottabad, Pakistan.[11] The associated risk factors were high cholesterol level (8.8%), increased triglycerides (TG) level (40%), obesity (47.8%) and hypertension (HTN) (28%).[12] Patients with chronic ailments, such as CHD, diabetes and HTN, need significant support from family members and close friends.[13]

Anger, especially anger temperament, is found to be linked with the development of T2DM. It is found that participants having high level of trait anger are at 50% increased risk of developing T2DM than individuals having low level of trait anger.[14] Individuals scoring high on anger temperament had 34% increased possibility to have diabetes than individuals scoring low.[15] Anger is also linked with CHD outcome and its management is essential for the prevention and treatment of CHD.[16] Lack of social support as well as anger and depression contribute to poor management of CHD and T2DM. The current study was planned to explore the role of social support as predictor of anger and depression among cardiac and T2DM patients.

Subjects and Methods

The cross-sectional study was conducted from April to September 2015 at three public-sector hospitals in Punjab, Pakistan. After approval from the ethics review committee of the Department of Applied Psychology, Lahore College for Women University, Lahore, and consent for data collection was sought from medical

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superintendents of concerned hospitals. The sample was raised using purposive sampling technique on the basis of the rule of thumb[17] from among patients in the outpatient departments (OPDs) of cardiology and endocrinology at Jinnah Hospital and Services Hospital in Lahore and Tehsil Headquarter Hospital (THQ), Muridke. The sample was limited to OPD patients to make both cardiac and diabetic patients comparable in terms of severity. Those included were patients of either gender aged 40-65 years. T2DM patients had minimum 6 months post-diagnosis with elevated glycated haemoglobin (HbA1c), while cardiac patients had maximum disease history of 10 years post-diagnosis. Patients with history of other medical/psychiatric conditions were excluded. Data was collected using the Urdu version of the interpersonal support evaluation list (ISEL).[18] It comprises 40 items spread over four subscales. Higher score indicates higher social support. Also used was Siddiqui-Shah depression scale (SSDS) which has 36 items scored on a 4-point scale.[19] Higher score on SSDS indicates higher depression. The trait anger and expression scale (TAES) was also used which comprises 25 items and is scored on a 5-point scale.[20] Higher score indicates higher anger.

Data was analysed using SPSS 21. The t test was used to compare the two groups of patients on social support, anger and depression. Linear regression was used to see the role of low social support as a predictor of anger and depression among the patients.

Results

Of the 200 patients, 101(50.5%) were cardiac and 99(49.5%) were T2DM patients. Among the cardiac patients, 51(50.5%) were males and 50(49.5%) were females, while the corresponding number among the diabetics were 50(50.5%) and 49(50.5%). The overall mean age of the sample was 53.29±6.84 years. Among the study population, 160(80%) were married and 126(63%) were educated. The cardiac patients experienced more depression and received more social support compared to the diabetics ($p<0.05$), while the difference on the variable of anger was non-significant ($p>0.05$) (Table-1).

Social support was a significant negative predictor of anger and depression among diabetics ($p<0.001$) (Table-2).

Social support was also a significant negative predictor of anger and depression among cardiac patients ($p<0.05$) (Table-3).

Table-1: Comparison of mean values between cardiac and diabetic patients on depression, social support and anger.

	Cardiac Patientsa		Diabetic Patients b				95% CI		Cohen's
Measures	M	SD	M	SD	t(198)	p	LL	UL	d
Depression	46.40	21.21	39.57	18.40	2.43	.01	1.28	12.37	0.17
Soc.sup	64.51	11.38	60.76	14.01	2.07	.04	0.18	7.32	0.14
Anger	58.81	12.89	61.81	13.16	1.63	.10	6.64	0.62	0.11

M: Mean; SD: Standard deviation; CI_ Confidence interval; LL: Lower limit; UL: Upper limit, Soc. sup: Social support.

Table-2: Linear regression on social support as predictor of anger and depression in diabetic patients.

	Anger			Depression		
Variable	B	SEB	β	B	SEB	β
Social Support	-.36	.09	-.38***	-.55	.10	-.47***
R^2	.14			.22		
F	16.26			26.95		

***p<.001.

B: unstandardized beta; SEB: standard error for the unstandardized beta; β: standardized beta; F: ratio of mean regression; R: coefficient of determination.

Table-3: Linear regression on social support as predictor of anger and depression in cardiac patients.

	Anger			Depression		
Variable	B	SEB	β	B	SEB	β
Social Support	-.24	.11	-.21**	-.59	.10	-.50***
R^2	.04			.25		
F	4.82			33.79		

B: unstandardized beta; SEB: standard error for the unstandardized beta; β: standardized beta; F: ratio of mean regression; R: coefficient of determination.

Discussion

The present study investigated the role of social support, depression and anger on patients of CHD and T2DM. Cardiac patients had more depression and received more social support compared to the diabetics. The findings are consistent with literature.[11,21] According to a study, the prevalence of depression is higher among cardiac patients, and social support is a significant contributing factor in the rehabilitation of cardiac patients.[22] The reason of receiving more social support might be that their disease is more critical and life-threatening.

The finding of low social support significantly predicted depression and anger among the diabetics, and the finding was also consistent with literature.[23-25]

It was also seen that low social support significantly predicted depression and anger among cardiac patients, which is also consistent with literature.[26,27] A study suggested that psychological problems, like depression, anger and anxiety, have an adverse effect on the course of cardiac disease.[9]

The current study has a few limitations. The sample size was small because the study was conducted for a short period of six months. A longitudinal study should be conducted to see the cause and effect of negative emotions on the quality of life and treatment of T2DM and CHD patients.

Conclusion

Cardiac patients experienced more depression compared to the diabetics. Low social support was a significant negative predictor of anger and depression in both CHD and T2DM patients.

Disclaimer: The text is based on an MS (Health Psychology) thesis.

Conflict of Interest: None.

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