RELATIONSHIP BETWEEN ANXIETY, DEPRESSION, PSYCHOLOGICAL WELL- BEING AND QUALITY OF LIFE IN DIABETIC PATIENTS HAVING HAEMODIALYSIS

Asad Nizami, Shabana Abbas, Faiza Aslam, Fareed A Minhas, Najma Najam

ABSTRACT

Objective: To assess the relationship between anxiety, depression, psychological well-being and their association with quality of life in diabetics having haemodilysis due to renal failure and those without haemodilysis.

Design: Cross-sectional comparative study.

Place and Duration of Study: The study was conducted at the inpatient department of Nephrology, Pakistan Institute of Medical Sciences, Islamabad from March 2005 to June 2005.

Subjects and Methods: The sample consisted of 60 diabetic patients selected through non-probability convenient sampling technique, whereby 30 patients had haemodilysis and 30 patients were without haemodilysis. Anxiety, depression, quality of life and psychological well being were assessed with General Health Questionnaire 12 (GHQ 12), Hospital Anxiety and Depression Scale (HADS) and WHO Quality of Life Brief (QOL BREF) respectively.

Results: The mean scores of HADS of diabetic patients with or without haemodilysis on depression dimension were 12.43 (S.D $\pm$ 3.55) and 8.93 (S.D. $\pm$ 4.47) respectively where the difference was statistically significant. Mean scores of patients with and without haemodilysis for anxiety were 14.00 (S.D.$\pm$ 3.454) and 7.23 (S.D $\pm$ 2.763) respectively which were again statistically significant. A significant positive correlation existed between anxiety and depression as well as quality of life and psychological well-being whereas depression was inversely correlated to both psychological well-being and quality of life.

Conclusion: The diabetic patients with haemodilysis have anxiety, depression and poor quality of life when compared to those without haemodilysis.

Key words: Anxiety, Depression, Psychological Well Being, Quality of life, Haemodialysis, Diabetes mellitus.

INTRODUCTION

Diabetes is a growing global health concern. The worldwide prevalence of diabetes in the adult population over 20 years of age is reported at 4% in 1995 with an estimated 135 million people affected. It is expected to rise to 300 million by the year 2025; 75% of these people will hail from the developing countries[1].

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Pakistanis are an ethnic group having an inherent predilection to develop diabetes[2]; increase in life expectancy and major changes in diet and lifestyles that are a part of urbanization and social development further contribute to the existing trend[3]. Undiagnosed, untreated and poorly controlled diabetes is known to exhort a considerable toll on individuals, communities and the healthcare system.

Diabetes is one of the leading causes of death and disability in the world[4]. Poorly controlled diabetes can lead to diabetic complications[5]. Among the various complications, diabetic nephropathy is one of the commonest causes of end-stage renal failure. End-stage renal disease has far reaching impact as it affects not only the patient and the family but also the society in general.

Studies indicate close association between diabetes and depression where depression affecting more than one in eight diabetic patients[6]. This is an important public health issue because depressive disorders generally have been associated with poor outcome of diabetes[7] and have contributed to the high economic burden of health care costs.

Depressive disorders occur at higher rates among individuals with diabetes, with controlled studies reporting that 9 to 27% of diabetic patients suffer from major depres-

sive disorder at any single point in time[8]. Adult depressed patients reported more symptoms of diabetes and showed worse metabolic control than did diabetic patients who were not depressed[9].

Depressive disorders are associated with poor self-care behaviors among patients with diabetes and evaluation and control of depressive symptoms among diabetic patients would improve their adherence to self-care behaviors. People with diabetes who are depressed are less likely to watch what they eat, to exercise, and to take their medications.

Severity of diabetes has also been associated with impairment on many dimensions of health-related quality of life, including social functioning, cognition, role functioning, physical functioning, emotional well-being, general perceptions of health and pain[10].

Anxiety is again a typical response during the early stages of diabetes when a patient does not know what to expect and may fear the worst. Like depression anxiety is common in medical patients and occurs in a similar proportion. Similarly psychological well-being has been shown to be affected in diabetic patients and diabetic patients having haemodilysis experience more psychological distress[11].

However knowing the associations between the end stage renal disease and the accompanying anxiety and depression, the question still remains as to how these correlations work while managing the end stage renal disorder and do these psychological parameters have an impact on the different management strategies for diabetic complications. This study was conducted keeping in view the same perspective which has not been evaluated in the local setting before.

SUBJECTS AND METHODS

This cross-sectional comparative study was conducted at the inpatient department of nephrology, Pakistan Institute of Medical Sciences, Islamabad from March 2005 to June2005.

The sample consisted of 60 diabetic patients selected through non-probability convenient sampling technique, where 30 patients had haemodilysis and 30 patients were without haemodilysis. The patients were selected with the help of the consultant nephrologist. Participants were educated enough to understand and comprehend the questionnaires in Urdu language. All the patients diagnosed with Type II diabetes during the last 5-10 years within the age range of 40 – 70 years and receiving Insulin therapy were included in the study. For patients with haemodilysis the time since dialysis was restricted to last six months as an inclusion criterion. However the patients with co-morbid history of any psychiatric illness and/or receiving drugs which can induce depression/anxiety such as interferons were excluded.

In addition to the demographic data sheet the following instruments were used for data collection in the study through self- administered questionnaires (Urdu version):

1. The General Health Questionnaire-12 (GHQ 12)

Psychological well being was assessed with GHQ 12. The GHQ-12 is a self-administered screening instrument for adult population used to detect psychiatric disorders in community settings and non-psychiatric clinical settings, such as primary care or general practice.

The GHQ-12 consists of 12 items, each assessing the severity of a mental problem over the past few weeks using a 4-point scale (from 0 to 3) ranging from "less than usual" to "much more than usual". The score was used to generate a total score ranging from 0 to 36, with higher scores indicating worse conditions.

2. WHO Quality of Life Brief(WHO-QOL BREF)

Quality of life was assessed with the help of WHO-QOL BREF. The WHO QOL scale consists of 26 items. Items 3, 4,10, 15,16,17, and 25 represents satisfaction with physical functioning, items 5, 6, 7, 11,18 and 26 represents psychological dimension, items 19, 20, 21 represents social dimension whereas items 8, 9,12, 13, 14, 22, 23 and 24 reflects satisfaction with environment.

3. Hospital Anxiety and Depression Scale (HADS)

HADS is a self-assessment scale that has been developed and found to be a reliable instrument for detecting states of depression and anxiety in the setting of hospital medical outpatient clinic. The HADS contains 14 items and consists of two subscales: anxiety and depression. The scale is a 4-point rating scale with fourteen items. Each item is rated on a four-point scale, giving maximum scores of 21 for anxiety and depression.

Internal consistency reliability of General Health Questionnaire 12: GHQ 12, Hospital Anxiety and Depression Scale and WHO Quality of Life Brief was ascertained using Corn Bach's alpha. All the scales deemed reliable for the present study with alpha reliability of .89, .82, and .83.

The data was entered and analyzed in SPSS and simple frequencies and descriptive statistics were calculated for the demographic data and for categories of scores of anxiety and depression, association with haemodilysis was looked for using CHI-squared test. Pearson product correlation was computed to find out the relationship between quality of life, psychological well being, depression and anxiety. Test of significance (t-test) was applied to assess the difference between the mean scores of anxiety, depression and psychological well being.

RESULTS

The study was conducted on 60 patients in total, where 30 patients had haemodilysis and 30 patients were without haemodilysis. All patients completed the self administered questionnaires. There were 30 female and 30 males patients.

The ages of most of the patients (45%) ranged from 60 to 70 years. A total of 32 (53.3%) patients had education above matriculation whereas 28 (46.7%) were below matriculation. A total of 46 (76.7%) patients were married, 12 (20%) were widowed and 2 (3.3%) were unmarried. The time since haemodilysis started was 5 to 6 months in 38.3%, 3-4 months in 33.3% and 1-2 months in 16.6%.

Table 1 shows the frequencies of patient in each category of scores of depression and anxiety depending on the fact whether they received haemodilysis or not. The CHI-squared values in these tables also show that at á = 0.05, which is a statistically significant association between haemodilysis and depression as well as haemodilysis and anxiety.

Table 1
The caseness for depression and anxiety labeled on HADS scale

	DEPRESSION(n=60)		
	NORMAL (0-7)	BORDERLINE (8-11)	ANXIOUS (12 and above)
Diabetics with Haemo-dialysis	1	9	20
Diabetics without Haemo-dialysis	14	11	0
	ANXIETY(n=60)		
Diabetics with Haemo-dialysis	1	4	25
Diabetics without Haemo-dialysis	18	10	2
	$\times^2$ VALUE = 33.227 (p-value 0.00) Where d.f.=2 and α = 0.05		

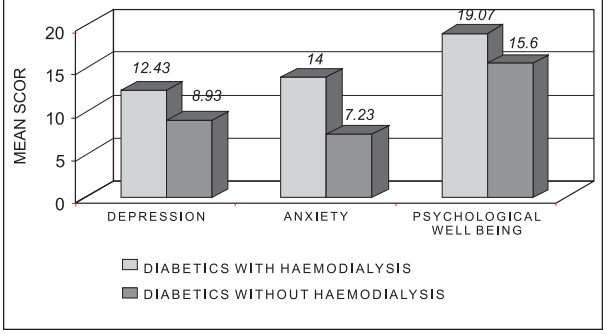
Figure 1 shows the comparison of mean scores of depression, anxiety and psychological well being in both types of diabetic patients based on the status of haemodilysis. By applying the test of significance (t-test) for comparison of mean scores of depression in patients with haemodilysis (mean12.43 and SD 3.55) or without haemodilysis (mean 8.93 and SD 4.47) the results indicate a significant difference.(t=3.35, p=.001). This shows that diabetic patients having haemodilysis exhibited more depressive symptoms then the diabetic without haemodilysis.

There was also a significant difference between diabetics with haemodilysis (mean score of anxiety 14.00 with SD3.454) and diabetics without haemodilysis (mean score of anxiety 7.23 and SD2.763) with depression (t=8.379, p=.001). This showed that diabetic patients having haemodilysis exhibited more anxiety symptoms than the diabetics without haemodilysis

The mean score of psychological well being in patients with and without haemodilysis was 19.07 with SD 7.82 and 15.60 with SD 1.94 respectively but the t-value of 2.356 at p-value 0.2 depicts a non-significant statistical difference.

Figure - I

GRAPH SHOWING COMPARISON OF SCORES OF DEPRESSION, ANXIETY AND PSYCHOLOGICAL WELL BEING IN DIABETIC PATIENTS WITH AND WITHOUT HAEMODIALYSIS



There was a significant correlation between psychological distress and depression (r= .593**) indicating that higher the psychological distress, more severe will be the symptoms of depression and vice versa.

A highly significant (**P<=0.005)* inverse correlation was found between Depression and Quality of Life (r= -.361* and two tailed Sig of 0.14) indicating that higher the depressive symptoms lower will be the quality of life and vice versa.

A highly significant positive correlation between Anxiety and Depression (r= .6.36**) indicating higher the symptoms of anxiety, higher will be the depression and vice versa.

Similarly a highly significant inverse correlation was found between psychological distress and Quality of Life (r= -.771**) indicating higher the psychological distress lower will be the quality of life and vice versa.

DISCUSSION

The present study indicates that a significant relationship exists between anxiety, depression, quality of life and psychological well being, in diabetic patients having haemodilysis. The findings also suggest that diabetic patients having haemodilysis had high levels of anxiety (56.8 %), depressive symptoms (54.39 %) and also had impaired quality of life (58%).

Symptom experience and uncertainty are the factors that span the complex nature of depression in diabetic patients with haemodilysis[12]. A high index of depression and anxiety in the study sample may therefore be associated with the uncertainty, which has been constant due to the unpredictable and inconsistent symptom onset, continual questions about recurrence or exacerbation, and unknown future due to living with debilitating condition. Uncertainty has been consistently associated with higher levels of emotional distress, reduced quality of life, and poor psychosocial adjustment[13].

Diabetic patients with haemodilysis commonly experience lethargy which again may be associated with an increase in anxiety and depression[14].

The results of the present study also indicate that patients with haemodilysis have reduced quality-of-life which is consistent with the published literature[15].

Majority exhibited symptoms of low energy, fatigue and role limitations due to physical illness which were significantly more impaired in patients with haemodilysis as compared to patients without haemodilysis. Patients with chronic renal failure perceived themselves as being unwell and having a reduced quality of life.

The findings of the present study suggest a significant inverse relationship between depression, anxiety and quality of life. These findings are consistent with findings proposed by several other studies which indicate that depressed and anxious diabetic patients with haemodilysis have lower quality of life as compared to non depressed diabetic patients without haemodilysis.

In the present study there existed a significant positive relationship between depression and anxiety. Several other studies have also suggested relationship between depressive and anxiety symptoms in diabetic patients with haemodialysis[10].

In type II diabetes the End Stage Renal Disease is comparably better following renal transplantation compared with dialysis therapy[16]. The enhanced quality of life permitted by a kidney transplant is possibly the reason to prefer this option for newly evaluated diabetic patients with End Stage Renal Disease who are younger than the age of 60. More than half of diabetic recipients of a kidney transplant in most instances live at least 3 years.

The findings of the present study also indicate that there exists a significant positive relationship between quality of life and psychological well being in diabetic patients with haemodilysis. The quality of dialysis, such as stable dialysis, is also concerned with Quality of Life (QOL). QOL tends to decline over time, with the perception of the quality of physical health deteriorating more than mental health[16]. However, many patients continue to feel hopeless, anxious, and worry about finances, loss of sexual function, family burden, and loss of independence.

The findings of the present study indicate that there is a significant inverse relationship between depression and psychological well-being. Findings are also consistent with previous studies which investigated the relationship between depression and psychological well being factor among the five factors of quality of life[17]. The results also suggest that there exists a significant inverse relationship between anxiety and psychological well being. Previous studies have also suggested that anxiety disorders have a negative impact on social role and mental functioning and psychological well-being[18].

Studies of clinical and educational interventions suggest that those interventions which improve patient's health status and perceived ability to control their disease results in improved quality of life[19]. People with diabetes have a worse quality of life than people with no chronic illness, but a better quality of life than people with most other serious chronic diseases. In patients with type 2 diabetes, screening should be performed at diagnosis and yearly thereafter so they can have better quality of life.

The social and psychological welfare and the quality of life of the patient receiving dialysis are favorably influenced by early and continued involvement of a multidisciplinary renal team. Both the psychological and physical factors are associated with each another and they affect the prognosis. But these factors impair the quality of life of diabetic patients with haemodilysis as compared to those patients who are suffering from diabetes and are not on dialysis.

The role of social support should therefore be taken into account in future in the management of diabetic patients with or without haemodilysis. The issue of the safety of antidepressant treatment in subjects with renal failure is frequently debated but the antidepressant therapy initiated with caution can affect on the quality of life of the patients having haemodilysis and can improve their well being.

Managed care programs must recognize the importance of the continued involvement of the renal team in the care of these patients to provide both physical and psychological support.

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