HAEMODIALYSIS PATIENTS: DEPRESSION, PERCEPTION OF SERIOUSNESS OF ILLNESS, ADHERENCE TO TREATMENT AND QUALITY OF LIFE

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ABSTRACT

Objective: To examine the association between depression, perception of seriousness of illness, adherence to treatment and quality of life among haemodialysis patients.

Study Design: It was a Mix Method study. Self-report questionnaires included personal profile; beck depression inventory, illness perception and adherence scale, and quality of life index-dialysis (III) were used.

Place and Duration of study: Study was carried out at Pakistan Kidney Patients Association (PKPA) Rawalpindi, Pakistan. Duration of study was from Nov 2017 to May 2018.

Patients and Methods: Data was collected via one to one interview from 200 haemodialysis patients through consecutive and purposive sampling technique.

Results: IBM SPSS version 22.0 was used for data analysis. Depression had shown negative correlation with quality of life (r=-0.72**) and adherence to treatment (r=-0.42**). Moreover, duration of dialysis had also shown negative correlation with adherence to treatment (r=-0.13**). Positive relationship of quality of life with adherence to treatment (r=0.74**), perception of seriousness of illness (r=0.56*) and duration of dialysis was found (r=0.34*). Positive significant correlation had been found between perception of seriousness of illness and adherence to treatment (r=0.72*) and duration of dialysis (r=0.25*).

Conclusion: An adverse effect of haemodialysis triggers the perception of seriousness of illness of patient which needs to be treated before getting worst in form of depression. To avoid challenging mental health condition, proper psychological and pharmacological interventions must be designed.

Keywords: Depression, Haemodialysis, Psychosocial Issues.

INTRODUCTION

Last stage of chronic kidney diseases is a very serious and long-standing health condition in which the kidney of the patient is malfunctioned and requires artificial ways of emission in order to keep the patient alive. The most common way to deal with this chronic health condition is by performing peritoneal dialysis twice or thrice a week, normally known as haemodialysis[1]. Haemodialysis is a dialysis procedure in which the dialysis machine acts like an artificial kidney which externally purify the blood just like the natural internal process[2]. Moreover, the patients of End Stage Renal Disease (ESRD) have to undertake the dialysis in order to live and survive otherwise the only option to save these patients is kidney transplant. ESRD is a very critical and life threatening condition in which patients' kidney does not function properly and the natural functioning may lower by 10 to 15%[3].

When a person experience ESRD it extends to all aspects of their lives. ESRD is a long term and incapacitating condition that not only disturbs one's physical and psychological wellbeing but also affects the emotional and interpersonal relationships of a person. It also disrupts patient in a way that vulnerability of their health conditions raises with severe outcomes[4]. Eventually, the chronic nature of this disease may influence the psychological health of the patient and results in depression, stress, anxiety and social isolation which deteriorate their quality of life, physical health makes their disease even worse[5]. Like any other chronic disease, people who are suffering

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with kidney ailments experience adjustment problems in their life style such as strict diet plan, restraints on fluid intake, continuous appointments of dialysis as well as managing their free time and leisure activities in order to deal with this critical disease. Furthermore, the restraints these patients suffer may affect their perception about their disease, cause stress and despair, impact their quality of life and consequently inhibition of coping by non-adherence of treatment and medication[6,7].

A number of researches have shown that patients who are on haemodialysis experience very serious stressors due to their agonizing kidney treatment procedures[8]. These stressors may comprised of physical stressors such as exhaustion, pain and itching; psychological and social factors such as perceived body image, lack of self-esteem and confidence, dependence on other people, economic restraints, uncertainty and insecurity about future, marital issues and feeling of worthlessness and guilt as well as following a restricted diet plan. These aspects change the perception and behavior of the patients which compromises their treatment[9]. In order to establish a theoretical framework, the concept of perception of illness related to coping strategies and behaviors can be comprehended using Self-Regulation Model (SRM) by Leventhal. Based on Leventhal's Self-Regulation Model, many researches have shown that positive beliefs and perception about the treatment is directly related to the better results of treatment. This means that when a patient is more hopeful and their perception is more positive about the controllability and perceived positive outcomes, it will lead to actual better results of treatment[10].

The primary objective of treatment of chronic disease such as ESRD is not merely to increase their lifetime and physical health but also to make them emotionally stable by providing them contentment and better quality of life[11]. Among all the psychological issues in haemodialysis patients the most common is depression which not only increases the cases of hospitalization and mortality rate in patients but also is subject for their suicidal ideation and non-adherence to treatment[12]. Moreover, depression is also a strong and direct predictor of poor quality of life[11] which may also related to higher cases of co-morbidity of heart diseases, hepatitis, diabetes and hypertension.

Critical health conditions like Chronic kidney disease (CKD) and End stage renal disease (ESRD) have recently turn out to be mainstream worldwide health issue even in Pakistan. The primary issues related to these diseases are the expenses of the treatment which may cause huge financial restraints especially in country like Pakistan where majority of people are unable to pay for these expensive treatments[3,13]. As a result, these factors may cause a significant increase in morbidity rate and death toll[14].

Pakistan Kidney Patients Association (PKPA) is a charitable dialysis center where patients with kidney diseases are treated. It has been working for this noble cause since 2009 and almost 40 to 50 patients receive dialysis treatment from the organization on daily basis. It has been found that there is an increase in figure of patients developing chronic kidney disease leading to end stage renal disease on monthly basis at PKPA. Number of patients all over the country came here for their treatment. Purpose of the this study was to investigate the association between depression, perception of seriousness of illness, adherence to treatment and quality of life among haemodialysis patients of PKPA.

MATERIAL AND METHODS

It was a mix method study, carried at Pakistan Kidney Patients Association (PKPA), Rawalpindi from 1st November 2017 to 30th May 2018. Permission was taken from the institutional ethical review committee. Purposive and consecutive sampling technique was used for data collection. Participants with age limit 18 and above who formally signed consent form, registered and diagnosed by nephrologists, were treated through the process of dialysis at least six months of duration, prior of the current study and were able to verbally communicate were included.

Patients with other cognitive inabilities and co-morbidities were excluded from the study.

Data was collected from 200 haemodialysis patients via one to one interview. The first part included personal profile of patient as well as current perception of health status of the patient including duration of illness, type of treatment. Adherence to treatment was measured by scale of four items on extent of adherence to diet and fluid restrictions, medication and dialysis sessions. A six-item brief perceived seriousness scale was used to measure perceived seriousness of own illness; perceived seriousness of own illness as related to other illnesses, perceived personal control over illness, expectancy of health status in the coming 6 months, and the impact of the illness and treatment on their daily life (a=0.76). The two measures of adherence and perceived seriousness Likert scales were used that is developed by researchers of Jordan[3].

Another part consisted of self-administered Ferrans and Powers Quality of Life Index-Dialysis Version III (QLI-DVIII) to measure the QOL, consists of 4 major domains i.e., health and functioning, socioeconomic, psychological, and spiritual and family (a=0.85)[15,16].

The last part of the questionnaire comprised Beck Depression Inventory (BDI-II). It measured the intensity of depression manifested through the person's behavior (a=0.82)[17].

Data was analysed by using the IBM Statistical Package for Social Sciences version 24.0. Descriptive statistics including mean scores and standard deviation were used to organize and summarize the data. Inferential statistics such as Pearson correlation coefficient (r) were employed to determine the correlations between study variables i.e., depression, perception of seriousness of illness, adherence to treatment and quality of life. *p*-value ≤0.05 was considered significant.

RESULTS

The sample of the current study involved 200 patients of Haemodialysis from PKPA. Personal Profile of the participants is presented in table-I. Mean age of the HD patients was 45 ± 15.21 years, 58% were males and more than half of the participants were married (74%). Mean duration of treatment via dialysis, per year wise was estimated 4.46 ± 0.95 yrs.

The mean estimated score of QOL is 19.81 ± 3.99 which indicates moderately reduced level of Quality of life. Health and functioning subscale (21.76%) are responsible for the total effect on the overall score of QOL. The occurrence of depression among HD patients conferring to BDI-II were 68.42% (table-II).

Bivariate correlation was applied to test hypotheses and objectives of the study. Table-III

Table-I: Pe rsonal profile of HD patients (N=200).

Characteristics	Category	n	Percentage (%)
Gender	Female	84	42
	Male	116	58
Marital Status	Single	30	15
	Married	148	74
	Divorced	10	5
	Windowed	12	6
Educational Level	None	16	8
	School	80	40
	Higher Education	104	52
Monthly Income	Less than 10K-PKR†	148	74
	10K-20K	32	16
	Above 20K	20	10
Duration of Illness	Less than year	94	47
	More than 3 years	106	53
Family History of Kidney Problem	Yes	84	42
	No	116	58

Table-II: Description of quality of life, depression, adherence to treatment and perceive seriousness of illness (n=200).

Variables	Mean ± SD
Total score QOL	19.81 ± 3.99
Subscale QOL	
Health and Functioning	21.76 ± 4.89
Socioeconomics	18.88 ± 5.23
Psychosocial and Spiritual	20.90 ± 6.14
Family	18.63 ± 5.02
Depression Scale	27.89 ± 1.39
Adherence to treatment	2.88 ± 0.78
Perceived seriousness of illness	3.32 ± 0.34

QOL: Quality of life; M=Mean; SD: Standard deviation.

below demonstrates that depression was negatively correlation with quality of life (r=-0.72, *p*=0.001) and adherence to treatment (r=-0.42, *p*=0.001). Whereas, duration of dialysis had also shown negative correlation with adherence to treatment (r=-0.13, *p*=0.003). Results further demonstrated positive relationship of quality of life with adherence to treatment (r=0.74, *p*=0.001), perception of seriousness of illness (r=0.56, *p*=0.01) and duration of dialysis (r=0.34, *p*=0.03). Significant positive correlation has been found between perception of seriousness of illness and adherence to treatment (r=0.72, *p*=0.003) and duration of dialysis (r=0.25, *p*=0.04). However, frequency of dialysis had also shown positive correlation between depression (r=0.51, *p*=0.02) and duration of illness (r=0.14, *p*=0.02).

Table-III: Correlation between depression, perception of seriousness of illness, adherence to treatment and quality of life (n=200).

	QOL	Depression	Adherence	Perception of Sol	Dod
QOL	-	-	-	-	-
Depression	-0.72**	-	-	-	-
	0.000	-	-	-	-
Adherence	0.47**	-0.42**	-	-	-
	0.001	0.000	-	-	-
Perception of SoI	0.56*	-0.15**	0.72*	-	-
	0.01	0.00	0.003	-	-
Duration of dialysis	0.34*	-0.06	-0.13*	0.25*	-
	0.03	0.29	0.03	0.04	-
Frequency of dialysis	0.14	0.51*	-0.11	-0.12	0.14*
	0.05	0.02	0.06	0.07	0.02

**Correlation is significant at the 0.01 level (1- tailed), *Correlation is significant at the 0.05 level (1- tailed), QOL= Quality of Life, DoI= Duration of dialysis.

DISCUSSION

The purpose of the present study was to identify the association between depression, perception of seriousness of illness and adherence to treatment and quality of life among Pakistan Kidney Patients Association patients who are on haemodialysis. The results revealed a moderate decrease in level of QOL among patients with end stage renal disease. Moreover, the reduction in the amount of QOL was exceedingly affected by HD Patients' health and functioning subscale, also reported by a previous study conducted on similar sample type-III. A number of studies documented that haemodialysis patients experience many physical issues and illness itself has a very strong and significant effect on patients' physical, mental and psychosocial wellbeing. Empirical evidence of current study had also shown positive association between QOL and adherence to treatment which mean HD patients with better treatment plan or have regular follow upof their health issues have much better life style, it further can be improved by providing more caring environment and change in lifestyle[15-18].

Furthermore, the study had shown a positive association between QOL and perceived seriousness of illness. It suggests that HD patients with optimistic beliefs related to their health issues have shown more adherences towards treatment. Moreover, it had been found that HD patients with exaggerated perception of seriousness of their illness, have greater tendenciestoad here to their therapeutic regimen and able to ground better life style by improving quality. The prevalence rate of depression among ESRD patients was found to be 68.42% which was lacking in the previous study conducted in Lahore, Pakistan[4,19] and which was found to be 56.1% among haemodialysis patients of Pakistan[8]. The results further have shown inverse association of depression and QOL which means increase in amount

of depression among HD patients would eventually worsen the quality of and vice versa. It was also supported by the previous literature where the variations in patients' normal functioning and physical abilities are contributing factors towards poor QOL and this happensas a result of drastic change in lifestyle of haemodialysis patients[11,20].

The present study established a notion parallel to previous literature that the chronic nature of disease in haemodialysis patient not only affects the physical aspects of a person's life but also affect their social interactions. Such patients feel limited in their psychosocial dimension, avoid attending social gatherings and feel reluctant to meet friends and family and this playa significant role in onset of depression and poor QOL[21].

Further results demonstrated negative association between depression and adherence to treatment that is found previously in a study conducted on haemodialysis patients in Jordon[3]. Occurrence of depression among HD patients significantly contributes to the adverse illness perceptions and related treatment, hence results in non-adherence to treatment. Current study and previous literature, collectively had suggested that depression lessen the attitude of adherence to treatment that results in deteriorative effects on QOL. The perception of seriousness of illness also developed as a factor contributed to depression, adherence to treatment and QOL[22].

A positive association had been found between depression and frequency of dialysis. As dialysis is a very prolonged, agonizing and complicated process therefore, the patients who are undergoing through dialysis show more depression[23]. Moreover, a positive correlation was found in QOL and duration of dialysis which indicated that more the proper treatment is given to patients more their QOL would get better. The outcomes of the present research have significant implications for the documentation of elements that are related with good QOL and adherence to treatment in haemodialysis patients.

CONCLUSION

It ought to conclude that haemodialysis leave a variety of adverse reactions on the mental health of the patient having ESRD. A significant correlation among depression, perception of seriousness of illness and adherence to treatment directed that, a rational method needs to be adopted to get maximum benefit and full recovery of the patient, so that they lead a better healthier life. Moreover, a part from pharmacological interventions, management plans needs to be formulated for psychological and social wellbeing of patients. It is recommended that the staff should be trained with basic skills of developing the ability to recognize behavioral problems and to report concerned authorities timely.

CONFLICT OF INTEREST

This study has no conflict of interest declared by any author.

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