APTI ijopp

Impact of patient education on health related quality of life of dialysis patients

Ramani G.K.[1*], Dholakiya R.B.[2], Patel G.F[3]
Shree Dhanvantary Pharmacy College, KIM
Near railway station, Kudsad Road, Kim-394110
Author for Correspondence: gaurang.ramani@gmail.com

Abstract
The Dialysis patients require life time treatments which may cause side effects that impair their quality of life. Studies have shown that when pharmacists were involved in the care of dialysis patients, significant improvements in patients' HRQoL were achieved. This study aimed to assess the impact of patient education on HRQoL of Dialysis patients. This was a prospective, open comparative study. This study was approved by the ethics committee of KIMS Hospital, Bangalore. Patients were kept under observation for a period of one month. We assessed the HRQoL before and after providing them patient education. We provided patient education regarding the disease, medication, storage of medication, OTC drugs, diet, exercise, dressing, emotion sharing, and problems occurring during and after dialysis. The HRQoL of the patients was assessed using SF-36 Questionnaire. After the patient education the improvement in HRQoL of dialysis patients was significant ($p<0.05$). At the end of study patients had significantly ($P<0.05$) higher HRQoL score as compared to their scores before receiving patient education. Our study concludes that patient education can play an important role in the improving the HRQoL of patients on Dialysis.
Key words**:** *Dialysis, HRQoL, OTC drugs*

INTRODUCTION

The incidence and prevalence of chronic renal failure (CRF) and consequently end –stage renal disease (ESRD) has steadily increased in the last two decades.[1]
Chronic kidney disease (CKD) is a worldwide public health problem with significant co morbidity and mortality. Improving quality of life and survival of CKD patients necessitates a large number of preventive and therapeutic interventions. To resolve these issues several organizations have developed guidelines.[2]
One of the main reasons for the rapid growth in Health Related Quality of Life (HRQoL) measurement is the reorganization of the importance of a better understanding of the impact concerning the health care interventions on the life of the patient.[12] Over this period, the treatment of patients in end stage renal disease or on dialysis has also changed dramatically with development of newer, but expensive renal replacement techniques, while there is a greater acceptance of higher risk patients, like diabetics, elderly and those with many cardiovascular problems.[3]
Chronic renal failure is the progressive, irreversible deterioration of renal function usually resulting from long standing disease. It some time derives from Acute Renal Failure (ARF) that does not respond to treatment.[4]
In medicine, Dialysis is the removal of toxic substances from the blood by diffusion through a semi-permeable membrane in an artificial kidney machine, used in cases of kidney failure when a transplant is not available. It is a life support treatment and does not treat any kidney diseases.[5]
In last two decades, quality of life has become an increasingly important outcome measure in medicine[3]. One of the main reasons for the rapid growth in Health Related Quality of Life (HRQoL) measurement is the reorganization of the importance of a better understanding of the impact concerning the health care interventions on the life of the patient.[6]
As per World Health Organization (WHO, 1947) the Health Related Quality Of Life is defined as "a complete state of physical, mental, and social well-being and not merely the absence of disease or infirmity".[3] This definition identified key dimensions of health that should be included, such as physical, social, and psychological domains. Identification of these domains expanded the construct of HRQoL and led to a set of principles which guided its measurement.[7]
The Short Form health survey SF-36 [Short Form with 36 questions] with 36 questions is a well-documented

Indian Journal of Pharmacy Practice
Received on 17/06/2009
Accepted on 20/09/2009

scoring system that has been widely used and validated as a HRQoL assessment tool for the general population as well as patients on Dialysis. SF-36 consists of 36 questions, 35 of which are compressed into eight multi-item scales: (*1*) physical functioning; (*2*) role-physical; (*3*) bodily pain; (*4*) general health; (*5*) vitality; (*6*) social functioning; (*7*) role-emotional; and (*8*) mental health. Hence, in the SF36 scoring system, the scales are assessed quantitatively, each on the basis of answers to two to ten multiple choice questions, and a score between 0 and 100 is then calculated on the basis of well-defined guidelines, with a higher score indicating a better state of health[7].

MATERIALS AND METHODS

The study was conducted at the dialysis centre of KIMS hospital and Research Center, a 1000 bedded hospital in Bangalore, Karnataka. It was a hospital based prospective study designed as an open comparative study. Informed consent forms were obtained from the patients recruited for this study. 53 patients of either sex who were above the age of 18 years and with co morbidities were provided with patient education to assess the impact of patient counseling on the Health Related Quality of Life in dialysis patients. The patient education consisted of tips regarding the disease, medication, storage of medication, OTC drugs, diet, exercise, dressing, emotion sharing, and problems occurring during and after dialysis.

Demographic and lab data were recorded for all patients from the patient's case sheet, direct patient and their care givers' interviews, and dialysis charts. It included age, sex, marital status, education, occupation, income level, diagnosis. To assess the HRQoL we used a SF-36 questionnaire. This is a WHO validated questionnaire. In our study we used English and Kannada version of SF-36 questionnaire. We converted this questionnaire in to Kannada version and validated as per the standard procedure mentioned in Linguistic Validation of SF-36. The baseline SF-36 scores were obtained from the patients before they were given patient education. After collection of the SF-36 scores on day 1, they were given patients counseling. After 15 days of them being recruited for the study, they were counseled again regarding their dialysis, disease, medication, and the life style modifications required to improve their HRQoL. The follow up SF-36 scores were then collected after a month from the patients.

The total SF-36 scores were assessed from the Physical and Mental health scores.

Analysis

We used Paired –t test to analyze and compare the study data.

RESULTS AND DISCUSSION

The comparison of the Scores of different parameters before and after counseling

One of the main objective of the study was to measure the impact of patient education on the HRQoL in dialysis patients.

Measuring Quality of Life in Dialysis patients has special significance. Dialysis therapy has been associated with side effects and impairment of quality of life which are the major reason of reduced quality of life in dialysis patients.

The improvement seen can be explained as follows: at before counseling all patients had SF-36 score below 50. The lower score of SF-36 indicates lower HRQoL. While lab data also showing higher values which indicating that health is not well.

Our result shows the mean score and standard deviation [std dev] of lab data such as hemoglobin, serum creatinin, Blood urea, electrolytes (sodium, potassium, chloride), total counts of the pre and post dialysis weights and the mean score and std deviation of physical health, mental health and total SF-36 before and after counseling. The mean score and standard deviation for the same parameters after counseling shows significant difference ($P<0.05$). The data shows a significant improvement after counseling. The greater improvement seen in the test group can be attributed to the fact that they received pharmaceutical care in addition to a regular physicians care. Our data shows that when we correlate lab data and QoL its shows that both the lab data and the QoL have improved, so the lab data and the QoL can be correlated with each other.

These findings suggest that pharmacist who provides patient education can have a positive impact on the HRQoL of Dialysis patients.

CONCLUSION:

Health related QoL is increasingly viewed as a therapeutic outcome and is gradually gaining the same level of importance as clinical or physiological outcome parameters. This study aimed to assess the impact of patient education provided on HRQoL in dialysis patients. At before patient education all patients had very poor HRQoL. This was reflecting in their SF-36 score below 50.

At the end of the study period, the patients who had received extensive patient education regarding dialysis, life style, exercise and its management from a pharmacist showed a greater improvement in HRQoL. Our study confirm that improvement in knowledge of the

Table-1 Comparison of Different Parameters in Dialysis Patients.

Parameter	Duration	Mean	Std Dev	Mean Difference	T	P-value
Physical Health	On 1st day	40.97	20.25	-10.717	-4.857	<0.001*
	On 30th day	51.69	26.90			
Mental Health	On 1st day	45.83	18.10	-10.416	-4.630	<0.001*
	On 30th day	56.25	25.13			
Total SF36 Score	On 1st day	43.86	18.80	-11.518	-4.924	<0.001*
	On 30th day	55.38	26.09			
Hemoglobin	On 1st day	9.65	1.45	-0.672	-5.919	<0.001*
	On 30th day	10.32	1.73			
Creatinine	On 1st day	7.12	13.35	0.309	2.836	0.006*
	On 30th day	6.81	13.51			
Blood Urea	On 1st day	101.55	53.85	5.736	3.262	0.002*
	On 30th day	95.81	53.63			
FBS	On 1st day	178.10	35.74	13.524	4.118	0.001*
	On 30th day	164.57	27.00			
Sodium	On 1st day	142.63	6.39	-1.688	-3.218	0.002*
	On 30th day	144.31	6.25			
Potassium	On 1st day	4.81	0.63	-0.069	-1.649	0.106
	On 30th day	4.88	0.59			
Chloride	On 1st day	96.52	9.45	-1.688	-3.864	<0.001*
	On 30th day	98.21	8.81			
T.C	On 1st day	5276.09	1512.05	-150.000	-4.011	<0.001*

disease and its management, improves HRQoL, which in turn has a positive impact on treatment outcomes and QoL of Dialysis patients. This study also emphasis the potential of the pharmacist to plat an important role, as a patient educator, in the management of Dialysis patients.

ACKNOWLEDGEMENT

Authors specially acknowledge to Visveswarpura Institute of Pharmaceutical Science and KIMS Hospital and Research Centre, Bangalore for allow me to carry out ma research work. Also thanks to Mrs. Geetha K. for guiding me in my research work.

REFERENCES

1. Arogundade FA, Abd-Essamie MA, Barsoum RS. Health Related Quality of Life in Emotionally Related Kidney Transplantation: Deductions from a Comparative Study. Saudi J Kidney Dis Transpl 2005;16: 311-320.
2. Vanbelleghem H, Vanholder R; Levin NW, Becker G, Craig JC, Ito S, Lau J.et al. The Kidney Disease: Improving Global Outcomes Website: Comparison of Guidelines as a Tool for Harmonization. Kidney Int. 2007; 71(10):1054-1061.
3. Gokal HR. Nephrol 2002; 14 (Supplement 1): 170 - 173.
4. Shargel L. Chronic Renal Failure, Comprehensive Pharmacy Review. 2nd Edition, Philadelphia, Baltimore, Hong Kong, London, Munich. Harwal Publishing.1994. pp.819.
5. http://www.allwords.com/query.php?SearchType≥0&Keyword≥dialysis&goquery≥Find+it%21&Language≥ENG
6. Modi AC, Quittner AL. Validation of a Disease-Specific Measure of Health-Related Quality of Life for Children with Cystic Fibrosis. Journal of Pediatric Psychology 2003;28(8):535-546.
7. Kalantar-Zadeh K, Kopple JD, Block G, Humphreys MH. Association Among SF36 Quality of Life Measures and Nutrition, Hospitalization, and Mortality in Hemodialysis. J Am Soc Nephrol 2001; 12:2797-2806.