

The Impact of Pharmaceutical Care Services in Haemodialysis Patients in South India

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Abstract: A chronic kidney disease (CKD) involves progressive, irreversible loss of the kidney function. It is defined as either the presence of kidney damaged or glomerular filtration rate (GFR) less than 60ml/minute for 3 month or longer. Our study aims that to improve self care and quality of life of haemodialysis patients through patient counselling in terms of diet, medications, life style modifications and regarding the balanced nitrogen diet. It also concentrates in terms of the pharmaceutical care plan for a better clinical outcome. It is a prospective interventional study which was conducted for 6months in a tertiary care hospital. Dietary and life style modifications were accepted by minimum of people. Physicians also recommended the suggestions which are provided by pharmaceutical care. The experience from this study showed that clinical pharmacists can directly help physicians in the clinic or medication selection and detection of adverse reactions. Pharmacist participation in dialysis care teams showed a positive influence on physician prescriptions and patient treatment outcomes.

Keywords: CKD-Chronic kidney disease, ESRD-End Stage Renal Disease, GFR-Glomerular Filtration Rate.

I. INTRODUCTION

A chronic kidney disease (CKD) involves progressive, irreversible loss of the kidney function. It is defined as either the presence of kidney damaged or glomerular filtration rate (GFR) less than 60ml/minute for 3 month or longer. Globally End stage renal disease (ESRD) is rapidly becoming one of the largest problem. ESRD is described as an irreversible loss of kidney function to the point that the kidney fail to support life [2,3]. The burden of chronic kidney disease (CKD) in India cannot be assessed accurately. The approximate prevalence of CKD according to a study in 2009 is 800 per million populations (pmp), and the incidence of end-stage renal disease (ESRD) is 150–200 pmp [1].

According to the registry of the Chronic Kidney disease in India 2010, there are about 7.85 million chronic renal failure patient, the mean age of the patient is about 50 years, in those 70.2% were male, and 18.3% of the known cases are in Haemodialysis. This usually happens when only 10 to 15 percent kidney function left. The symptoms such as nausea, vomiting, swelling and fatigue. In hemodialysis, a dialysis machine and a special filter called an artificial kidney, or a dialyzer, are used to purify blood[5]. To get blood into the dialyzer, the clinician needs to make an access, or entrance, into blood vessels[7]. This is done with minor surgery, usually to arm. In a dialysis center, hemodialysis is usually done 3 times per week for about 4 hours at a time. People who choose to do hemodialysis at home may do dialysis treatment more frequently, 4-7 times per week for shorter hours each time [6].

One of the measures your dialysis care team may use is called urea reduction ratio (URR). Another measure is called Kt/V (pronounced kay tee over vee). To ensure that you are getting enough dialysis:

- *your Kt/V should be at least 1.2 or
- *your URR should be at least 65 percent [4,7].

Quality of life is defined as the concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationship, personal belief and their relationship to the salient feature of their environment [7].

Our study aims that to improve self care and quality of life of haemodialysis patients through patient counseling in terms of diet, medications, life style modifications and regarding the balanced nitrogen diet. It also concentrates in terms of the pharmaceutical care plan for a better clinical outcome.

Objectives of my study include:

- ✓ To evaluate the effectiveness of pharmaceutical care on quality of life in haemodialysis patients .
- ✓ To evaluate the effectiveness of patient counseling on quality of life of patients on haemodialysis
- ✓ To find out the association between the quality of life and their selected demographic variable.

II. MATERIALS & METHODS

Study Site: The study will be conducted on haemodialysis patients of YSR Hospital in Ananthapur

Study Duration: the study is planned to conduct 6 months from November 2014 to May 2015

Study Design: prospective interventional study aims to improve quality of life in haemodialysis patients

Study Criteria:

Inclusion criteria:

Subject who will be diagnosed as chronic kidney disease and on haemodialysis

Patients of either of sex

Patients who are willing to participate in the Patient counseling

Exclusion criteria:

Patients who are not willing to participate in the study

Those are critically ill and debilitated.

Those are HIV or Hepatitis-C infection

Patients preparing for renal transplantation

Patients with acute renal failure

Patients who voluntary withdraw from dialysis

Study procedure:

By using a structural questionnaire referred by WHO was used to give counselling to the patients. We took 3 visits as baseline, first visit & second visit. By using Microsoft excel only the data was calculated.

III. RESULTS

Table.1: Effect of patient counseling on Dialysis patients about their dietary recommendations:

Diet	Baseline	First visit	Second visit
Acceptance	52(34.66%)	68(45.33%)	76(50.66%)
Non –acceptance	48(32%)	32(21.33%)	24(16%)
No response	50	50	50

Table-1 represents patient counseling effect on dietary recommendation. Those are like intake of calories, carbohydrates, protein, sodium, potassium & fluids. In this at baseline 34.66% were accepted, at first visit 45.33% & at second visit 50.66% accepted. So the response was good. But non acceptance was decreased from base line 32% to second visit 16%. And the nil response was still to be constant as 32.66%.

Table.2: Effect of patient counseling on dialysis patients about their lifestyle modifications:

Life style modifications	Baseline	First visit	Second visit
Acceptance	48(32%)	61(40.66%)	67(42.66%)
Non-acceptance	22(14.66%)	36(24%)	20(13.33%)
Non response	80(53.33%)	53(35.33%)	63(42%)

Table-2 represents Effect of patient counseling on life style modifications. Those modifications are weight changes, changes in energy, and changes in activities. Acceptance for life style modifications were increased from 32% to 42%. Non acceptance was decreased from 14% to 13%. No response was also decreased from 52% to 42%.

Table.3: Pharmacist recommendations:

Types of recommendations						
	Untreated indications	Dosage adjustment	Medication use with out an indication	ADR	Medication Selection	Failure to receive medications
No of recommendations	8 (12.1%)	5(9.1)	2(3.6)	6(10.9)	15(30.5)	6(10.9)
Acceptance	100	87.5	100	100	94.7	100

Improper lab data	others	total
5 (9.1)	2(3.6)	49(84.5)
85.7	100	

Table-3 represents pharmacist recommendations like untreated indications, dosage adjustment, medication usage with out indication , ADR, medication selection etc. Acceptance of physician response was good.

Table.4: Patient outcomes after giving pharmaceutical care services:

	Improved	maintained	regressive	total
Renal function	8	2	0	
Blood sugar	5	0	0	
Total cholesterol/ triglycerides	6	0	0	
Blood pressure	4	0	0	
Uric acid	5	0	0	
Adverse drug reaction	5	1	0	
Compliance	3	0	0	
others	13	0	0	
total	49(94.2%)	3(5.8%)	0	52(100%)

Table-4 represents the outcome of the patients according different variables.

By applying excel sheet data was extracted.

IV. CONCLUSION

The experience from this study showed that clinical pharmacists can directly help physicians in the clinic or medication selection and detection of adverse reactions. Pharmacist participation in dialysis care teams showed a positive influence on physician prescriptions and patient treatment outcomes.

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REFERENCES

- [1] Chisholm MA, Mulloy LL, Jagadeesan M, "Impact of clinical pharmacy service on renal transplant patients compliance with immunosuppressive medications". *Clinical Transplant* 15:330, 2001.
- [2] Chisholm MA,"Enhancing transplant patients' adherence to medication therapy", *Clinical Transplant* 16:30, 2002
- [3] Chisholm MA, Vollenweider LJ, Mulloy LL, et al: "Direct patient care services provided by a pharmacist on a multidisciplinary renal transplant team". *Am J Health Syst Pharm* 57:1599, 2000
- [4] Seigel J, DeVore VS, Bosley SM: "Managing the care of the diabetic transplant patient. *Pharm Pract Manag*" Q 17:36, 1997
- [5] Sarrafizadeh M, Waite NM, Hobson EH, et al: "Pharmacist facilitated enrollment in medication assistance programs in a private ambulatory care clinic". *Am J Health Syst Pharm* 61:1816, 2004
- [6] Strand LM, Morley PC, Cipolle RJ, et al: "Drug-related problems: their structure and function". *Ann Pharmacother* 24:1039,1990
- [7] ASHP "Guidelines on pharmacist – conducted patient education and counseling", *American journal of health system pharmacist*, 1997, 54;431-434
- [8] Karnofsky DA, Burchenal JH. "The clinical evaluation of chemotherapeutic agents in cancer in evaluation of chemotherapeutic Agents in cancer". Ed. Macleod CM. New York: Columbia University Press, 1949; 191-205
- [9] Abernethy Amy P, Shelby-James Tania, Belinda Fazekas S, Woods David, and Currow David C, The Australia-modified Karnofsky Performance Status (AKPS) scale: a revised scale for contemporary palliative care clinical practice, *BMC Palliat Care*. 2005;4:7.