

Research Article

Self Care Knowledge among Chronic Kidney Disease Patients Undergoing Maintenance Hemodialysis

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Keywords

- Chronic kidney disease
- End stage renal disease
- Fistula
- Hypertension
- Hemodialysis

Abstract

Background: Chronic kidney disease is a common and rapidly increasing public health problem all over the world, both in developed and developing countries. Majority of the patients with chronic kidney disease on maintenance hemodialysis are not aware of self care management such as fistula care, diet, weight monitoring, blood pressure monitoring and exercise as well as complications.

Objective: To evaluate self care knowledge among patients with chronic kidney disease undergoing maintenance hemodialysis.

Methods: A descriptive exploratory design was used including 100 patients undergoing hemodialysis at National Kidney Center, Balaju Kathmadu from 29th Sep to 30th October 2011. Semi structured interview schedule was developed and data collected using face to face interview method.

Results: Male predominance was seen with 63%, 78% were literate and 88% were married. Average episode of the dialysis was 21.6 ± 2.2 with a mean duration of 2.42 ± 2.20 years. Majority of the patients (54%) had poor and 46% had good knowledge about self care management. Mean knowledge score on weight monitoring was 90%, fistula care was 86.36%, diet was 80%, and blood pressure monitoring and exercise were 75%. No association was seen between respondent's level of self care knowledge regarding haemodialysis and demographic variables. Similarly no association was seen regarding hemodialysis related variables.

Conclusion: Patients with chronic kidney disease on maintenance hemodialysis require knowledge on fistula care, exercise, diet, blood pressure and weight monitoring. An educational program for hemodialysis patient on self care definitely reduces the morbidity.

INTRODUCTION

Chronic Kidney Disease (CKD) is a common and rapidly increasing public health problem all over the world, both in developed and developing countries. The incidence of End Stage Renal Disease (ESRD) is estimated to be 100 per million populations in South Asian countries Pakistan, India and Banglades [1]. The largest number of ESRD patients is maintained on maintenance hemodialysis in Japan. Similarly in US also the number of population with ESRD is more than 200,000 [2].

In Nepal, renal disease ranks as sixth among the non

communicable disease. It was estimated that approximately 2.6 million populations could be suffering from some degree of kidney illness and approximately 2,600 people might have suffered from chronic renal failure. Approximately 600 to 1,000 patients with chronic kidney failure attend the hospitals every year for hemodialysis [3].

Majority of patients with CKD on maintenance hemodialysis are not aware of self care management and its complications. This study was planned to assess self care knowledge of hemodialysis patient regarding fistula care, diet, weight monitoring, blood pressure monitoring and exercise.

METHODS

A descriptive design was used to find out knowledge of CKD patients on self care that were undergoing maintenance hemodialysis at National Kidney Center, Balaju Kathmadu from 29th Sep to 30th October 2011. The clinical clearance was taken from the Ethical Clearance Committee of National Kidney Center. Non-probability, purposive sampling technique was used to select 100 hemodialysis patients. Critically ill CKD patients were excluded. Semi structured interview schedule was developed. The response were leveled as poor if less than 50 percentile (<71% score) and good if more than 50 percentile (> 71%). Informed consent was obtained from each respondent prior to data collection. The information given by respondents was kept confidential by given code number instead of patient name in entering the data in the computer and not revealing their individual identity in reporting findings. All data were collected from patient using face to face interview method. Data was analyzed using SPSS version 16. Descriptive statistics and chi square test/fisher exact test was used to find out the association between different variable and level of self care knowledge on hemodialysis.

RESULTS

In this study, the age range was 18 to 86 years with a mean age of 50+1.85 years. Thirty five percent were age group of 60 and above years. Sixty three percent were male while 37% were female. Out of 100 respondents, 78% were literate and 88% were married. Average episode of the dialysis was 216±2.2 and a mean duration was 2.42±2.20 years.

In our study, more than half of the respondents (54%) had poor and 46% had good knowledge about self care. Over all mean knowledge score was 83%. Regarding mean knowledge score on weight monitoring was 90%, fistula care was 86.36%, and diet was 80%, blood pressure monitoring and exercise were 75% (Table 1). Regarding the sources of information, majority of respondents (94%) got information from doctors and nurses and minority 57% from other sources such as family members.

There was no association between respondents level of self care knowledge regarding haemodialysis and demographic variables such as age (p=0.74), gender (p=0.95), educational status (p=0.13), marital status (p=0.42), type of family (p=0.25) at 0.05 level of significance (Table 2). Also there was no association between level of self care knowledge of the respondents regarding haemodialysis and episode of hemodialysis (p=0.53), duration of hemodialysis (p=0.69) at 0.05 level of significance (Table 3).

DISCUSSION

A study done on "Hemodialysis for end stage kidney disease" at Nepal Medical College and Teaching Hospital, Jorpati Kathmandu revealed that around 85.0% patients were unaware about the kidney disease [4]. Studies have shown that lack of awareness about the disease, late referral and financial constraints plays significant role in this regard [5]. In this study, the mean age of hemodialysis client was 50.13 ± 1.85 years, with a higher age group of 60 years or above. The findings of this study are supported by the study done in Dharan by Sultania et al., [6], which showed that the mean age of hemodialysis client was 49±2 year, 38% were ≤45 year and 46% were ≥ 60 year.

In present study, number of male respondents (63%) was higher than the female respondents (37%). Similar findings were reported in a study done by Ainah et al which showed 55% male and 37.6% were female [7]. Another study at Bir hospital Kathmandu conducted by Hada et al., [1] showed predominance of male (65%) over female (35%). This may be probably because the prevalence of renal diseases is more common in males as compared to females or health seeking behavior of males was higher than females.

In regarding the episode and duration of the hemodialysis service taken, average episode of the dialysis was 216±2.2. And duration of hemodialysis was 2.42±2.20 years. Similarly, a study entitled "adequacy of hemodialysis in Nepalese patient undergoing maintenance hemodialysis" conducted in BPKIHS Dharan, showed that mean duration of hemodialysis of 13.5±8.5 years [6]. The short duration of hemodialysis may be due low socioeconomic status of the patients.

Regarding the knowledge level of hemodialysis client according to the age, there is no significance between level of knowledge and age group (P=0.74) of the respondents. Contradiction finding were reported in London Knowledge expectations on dialysis treatment were related to patient age; patients under 63 years (50 % of patients) had greater knowledge expectations than the elderly patients (p = 0.038) [8].

In our study, there was no association between level of knowledge of the respondent's on hemodialysis and educational status (p= 0.13), marital status (0.42) of the respondents. Similar finding were reported in US, examining educational level, there was a statistically significant difference in satisfaction scores based on educational level (F= 3.50, p=0.03) [9]. Concerning fistula care and level of knowledge of the respondents, the mean

Table 1: Knowledge Score of the Respondents' Related to Self Care Knowledge on the Hemodialysis

Variable	Mean score	SD	Range	Maximum possible score
Fistula care	19 (86.36%)	2.2	9(13-22)	22
Diet	53.8 (80%)	3.1	15(46-61)	66
Weight monitoring	2.7(90%)	0.4	2(1-3)	3
Blood pressure monitoring	1.5(75%)	0.1	1(1-2)	2
Exercise	3.0(75%)	0.28	2(2-4)	4
Total	81(83%)	4.3	19(71-90)	97

Total Knowledge range: 71-90

Table 2: Association between the Respondents' Level of overall Self Care Knowledge and Selected Demographic Variables.

Variable	Level of knowledge		P- value
	Poor	Good	
Age			
Less than 50 years	20	32	0.74
More than 50 years	20	28	
Gender			
Male	34	29	0.95
Female	20	17	
Educational status			
Illiterate	8	14	0.13
Literate	46	32	
Marital status			
Unmarried	8	4	0.42
Married	46	42	
Type of family			
Nuclear	27	16	0.25
Joint	27	30	

Table 3: Association between Respondents' level of overall self care Knowledge and Duration and Episode of Hemodialysis.

Variable	Level of knowledge		P-value
	Poor	Good	
Episode			
Less than 200	34	30	0.53
More than 200	20	16	
Duration			
Less than 2 years	35	25	0.69
More than 2 years	19	21	

χ^2 test is computed for P-value

score was 86.36%. These findings are in contradiction to the findings of the prospective cohort study which was conducted among 470 hemodialysis patients in US on knowledge about the effective self management measures to care their fistula site. The median score was 65% and lower scores were associated with older age and fewer years of education [10]. Regarding self care knowledge on weight, mean self care knowledge score on weight monitoring was 90%. In a study done in Iran, most of the patients adhered to dietary and medication regimens and educational level of the patients was associated with adherence to fluid restriction [11]. Self care knowledge of patients on maintenance hemodialysis was higher regarding weight monitoring and lower regarding blood pressure monitoring and exercise. Patients were found to have poor knowledge regarding salt and fluid

restrictions. Insufficient knowledge on fluid and salt intake leads to cardiovascular complications and higher mortality.

CONCLUSION

Patients of chronic kidney disease on maintenance hemodialysis require knowledge on fistula care, exercise, diet, blood pressure and weight monitoring. An educational program for hemodialysis patient on self care definitely reduces the morbidity as well as mortality.

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