International Journal of Nursing Research (IJNR)

International Peer Reviewed Journal

Review article

Effect of planned teaching programme on knowledge and practices in relation to diet and fluid management among hemodialysis patients of selected hospitals

Natasha Jadhav
Clinical Instructor, Bharati Vidyapeeth college of Nursing, Navi-Mumbai, India

Abstract

Background and Aim: The role of nutrition in improving health conditions in patients undergoing hemodialysis is known. It is unknown whether education can play important role in improving knowledge and dietary practices in the patients undergoing hemodialysis. **Patient and Methods:** A total of 30 patients were enrolled from dialysis units of MGM hospital and Medical College Kamothe and MGM New Bombay Hospital, Vashi. **Results:** The study observed that planned teaching programme significantly improved knowledge score and dietary practices score in the patients. **Conclusion:** Education can be an important tool to improve the patients' knowledge.

Keywords: Planned teaching programme, fluid management, hemodialysis.

***Corresponding author: Ms. Natasha Jadhav**, Clinical Instructor, Bharati Vidyapeeth college of Nursing, Navi-Mumbai, India. Email: natasha.jadhav@gmail.com

1. Introduction

Chronic renal disease is a major health issue in various parts of the world. The number of patients with end-stage renal disease (ESRD) is increasing in both developed and developing countries, greatly expanding the need for chronic dialysis and renal transplantation [1-4]. In the year 2000, approximately 205,000 and 240,000 patients with ESRD were maintained on chronic dialysis in Japan and in the United States respectively; each accounting for roughly 20 and 24% of the estimated world chronic dialysis patients [5-8]**.** Although some dialysis patients live longer than 5 to 10 years and are able to work and also contribute to the society in which they live, others fare poorly die within 2 to 3 years [9-13]. Many time dialysis patients die due to lack of knowledge and practices in their dietary regulations along with other factors [14-16].

A study conducted on fluid retention was associated with cardiovascular mortality in patient undergoing long term haemodialysis at Harold Simmons centre for kidney disease research and epidemiology, Los Angeles. The investigators examined 2 year mortality in 34,107 haemodialysis patients across the United States who had an average weight gain of at least 0.5 kg above their end-dialysis dry weight by the time the subsequent hemodialysis treatment started. The findings of the study showed that hemodialysis patients, greater fluid retention between two subsequent hemodialysis treatment sessions was associated with higher risk of all-cause and cardiovascular death [17].

A study conducted on Nutritional Therapy for Patients Undergoing Haemodialysis showed that protein energy malnutrition frequently appeared in haemodialysis patients, and it had been established as a risk factor for morbidity and mortality. The nutritional therapy for hemodialysis patients may be necessary to consider in patients with either protein energy malnutrition or over-nutrition [18].

A study conducted a study on importance of diet in patients with chronic renal failure undergoing haemodialysis. The study showed that a low protein has been traditionally advocated in patient with chronic renal failure, in order to slow its progression and also the additional restrictions regarding sodium, potassium and phosphate may further impact on nutrition status [19].

With the current available information, it is understood that incidence and prevalence of renal failure undergoing haemodialysis is increasing worldwide and it is also necessary to know regarding diet and fluid management at home. Keeping it in view, the study investigator justified the need to improve patients' knowledge by developing planned teaching programme on diet and fluid management for patient undergoing maintenance haemodialysis.

Statement of the Problem

Effect of planned teaching programme on knowledge and practices in relation to diet and fluid management among hemodialysis patients of selected hospitals. The study was conducted to find about diet and fluid management practices and impact of teaching on knowledge in relation to diet and fluid management.

2. Subjects and Methods

The study was a quasi experimental pre-test and post test design. A total of 30 patients were enrolled from dialysis units of MGM hospital and Medical College Kamothe and MGM New Bombay Hospital, Vashi. All the patients were enrolled in the study after fulfilling inclusion criteria including undergoing maintenance haemodialysis for more than 3 months, age group between 18-69 years, willingness to participate in study, ability to understand teaching programme and comprehend Hindi, English or Marathi, ability to be accessed through telephone or mobile phone, and able to provide consent. Critically ill patients were excluded from the study. The study was conducted after approval from institutional ethics committee.

The subjects' practices and knowledge in relation to diet and fluid management among hemodialysis patients were recorded on Day 1. It was followed by recording of 24 hours diet and fluid recall through telephonic interview among haemodialysis patients (Day 2). Similar findings were recorded post-planned teaching programme (Day 10-11 for rcording of practices and knowledge and Day 11-12 for recording of diet).

The data was collected using face to face interview technique to assess the knowledge and reported practices in relation to diet and fluid management among haemodialysis patients and telephonic interview technique to collect record of 24 hours diet and fluid recall.

Data Collection Instruments

The data collection instruments consisted of **Tool I,** a structured interview schedule to assess the knowledge and reported practices in relation to diet and fluid management among haemodialysis patients; **Tool II, a** semi structured telephonic interview schedule to collect 24 hours record of diet and fluid recall among Haemodialysis patients, and **Tool III,** a checklist to analyze adequacy and inadequacy of record of 24 hours diet and fluid recall collected through Telephone among Haemodialysis patients.

Tool 1. Structured interview schedule

A structured interview schedule was used to collect the demographic data, and to assess the knowledge and practices in relation to diet and fluid management among haemodialysis patients. The structured interview schedule had 3 sections: ***Section I*** This section was prepared to collect socio demographic data of the haemodialysis

patients. It included 7 items for socio economic, and demographic data collection such as age, gender ,education, occupation, residence, marital status, monthly family income, source of income for haemodialysis and 4 items for clinical condition of haemodialysis patients which include number of haemodialysis, history of co morbidities, length of haemodialysis treatment ,stage of chronic renal failure*;* ***Section II***. There were 17 items to assess the knowledge in relation to diet and fluid management; ***Section III****.* This section had two parts prepared to collect reported practices which include section III a and section III b*;* ***Section IIIa*** containing 30 items to assess dietary practices among haemodialysis patients*, and* ***Section IIIb*** containing 20 items to assess the reported practices in relation to diet and fluid management.

Tool 2. Semi structured telephonic interview schedule

Semi structured telephonic interview schedule was used to collect the record of 24 hours diet and fluid recall among haemodialysis patients. The tool had 10 items to collect the 24 hours diet and fluid recall among haemodialysis patients.

Tool 3. Evaluation Checklist

Evaluation Checklist to evaluate record of 24 hours diet and fluid recall collected through semi structured telephonic interview schedule among haemodialysis patients. There were 8 items to evaluate adequacy and appropriateness of diet and fluid recall of 24 hours.

Reliability of the Tools

The reliability of the structured interview schedule was also done by test re-test method. The analysis was done using Karls Pearson's coefficient of correlation .The result of analysis showed that the tool was under acceptable range of reliability and can be used for the study.

3. **Results**

The majority of subjects were in the age group of 50-59 years (43.3%). Most of the subjects were males (56.7%). In accordance to professional qualification, majority of the subjects were illiterate (43.3%), and majority of the subjects were unemployed (66.7%).

Pre-test findings showed that 60% of the subjects had poor knowledge while 40% subjects had average knowledge in relation to diet and fluid management. The majority of subjects (56.7%) had average practices in relation to diet and fluid management.

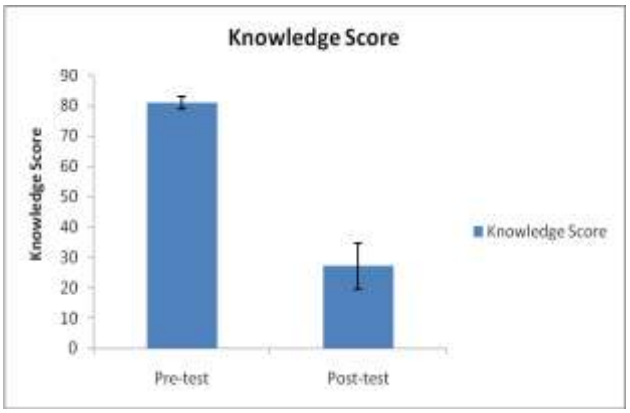
Planned teaching programme significantly improved knowledge in relation to diet and fluid management

Following planned teaching programme, it was observed that the programme significantly improved the subjects' knowledge in relation to diet and fluid management (80.97±2.16 vs. 27.13 ±7.49; $P<0.05$) (figure 1).

It was also observed that the teaching programme significantly improves dietary practices score in relation to diet and fluid management (24.66 ±2.29 vs. 11.4±3.01; $P<0.05$) (figure 2).

The study also demonstrated that there was no association between demographic variables and knowledge and practice score ($P>0.05$) (table 1 and table 2).

Figure 1. The bar diagram shows knowledge was significantly improved after planned teaching programme.



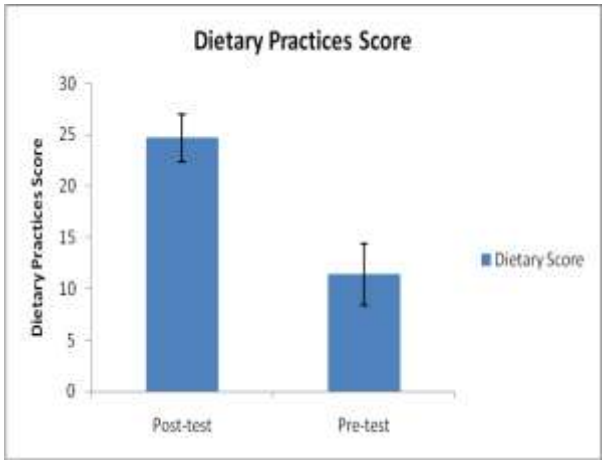


Figure 2. The bar diagram shows dietary practices score was significantly improved after planned teaching programme.

Table 1. Association between post-test knowledge in relation to diet and fluid management among haemodialysis patients and selected demographic variable

Demographic Characteristics	Post-test Knowledge Score				df	$\chi 2_{cal}$	$\chi 2_{tab}$	p value
	Very Good		Excellent					
	f	%	f	%				
Age								
30-39	0	0.00	2	6.67	3	7.041	0.07	> 0.05
40-49	0	0.00	8	26.67				
50-59	0	0.00	13	43.33				
60-69	2	6.67	5	16.67				
Gender								
Male	2	6.67	15	20.00	1	1.639	3.84	> 0.05
Female	0	0.00	13	46.67				
Education								
Illiterate	2	6.67	7	23.33	4	3.636	9.49	> 0.05
primary	0	0.00	4	13.33				
Secondary	0	0.00	2	6.67				
Higher Secondary	0	0.00	3	10.00				
Graduate	0	0.00	6	20.00				

Table 2. Association between post-test observed practices in relation to diet and fluid management among haemodialysis patients and selected demographic variable

Demographic Characteristics	Post-test Practices Score				df	χ^2_{cal}	χ^2_{tab}	p value
	Very Good		Excellent					
		%	f	%				
Age								
30-39	2	6.67	0	0.00	3	4.938	0.071	>0.05
40-49	7	23.33	1	3.33				
50-59	7	23.33	6	20.00				
60-69	3	10.00	4	13.33				
Gender								
Male	10	33.33	7	23.33	1	0.334	3.84	> 0.05
Female	9	30.00	4	13.33				
Education								
Illiterate	7	23.33	2	6.67	4	2.1	9.49	> 0.05
primary	0	0.00	4	13.33				
Secondary	1	3.33	1	3.33				
Higher Secondary	3	10.00	0	0.00				
Graduate	4	13.33	2	6.67				

4. Discussion

1. The majority of subjects were in the age group of 50-59 years (43.3%). Most of the subjects were males (56.7%). In accordance to professional qualification majority of the subjects (43.3%) was illiterate and majority of the subjects were unemployed (66.7%).
2. The post-test showed that the maximum subjects had excellent knowledge and had very good knowledge in relation to diet and fluid management.
3. The majority of subjects (56.7%) had average practices in pre-test in relation to diet and fluid management. The post-test shows that the maximum subjects had (70 %) v good practices in relation to diet and fluid management.
4. Statistical analysis showed that there is a significant difference in the pre-test and post-test knowledge scores of haemodialysis patients in relation to diet and fluid management were the p value is 0.005. Hence the planned teaching was effective on knowledge in relation to diet and fluid management.
5. Statistical analysis showed that there is a significant difference in the pre-test and post-test practice scores of the haemodialysis patients in relation to diet and fluid management. p value is <0.005.

Hence the planned teaching was effective in relation to diet and fluid management. Statistical analysis shows that there is no association between the post test knowledge in relation to diet and fluid management and selected demographic variables.

6. Statistical analysis shows that there is no association between the post test practices in relation to diet and fluid management and selected demographic variables.

Conclusion

Planned teaching programme can be an important tool in improving knowledge and dietary practices in the patients undergoing hemodialysis.

Recommendations

On the basis of the findings of the study, following is recommended:

1. A similar study may be conducted on a larger population for generalization of findings.
2. A study may be conducted to assess the existing knowledge and practices of staff nurses in relation to diet and fluid management among haemodialysis patients.
3. A longitudinal study may be conducted to find out the effectiveness of planned teaching in relation to diet and fluid management among haemodialysis patients.
4. Similar study can be conducted on peritoneal dialysis patients.
5. Similar study may be done in different settings like government versus private, urban versus rural, so that findings can be compared.
6. A study can be conducted on attitude of haemodialysis patients regarding dietary regulations.

Limitations

1. The study findings cannot be generalized as the subjects size was only 30.
2. The study was limited to haemodialysis patients who were undergoing haemodialysis in dialysis unit on OPD basis for more than 3 months at MGM hospital and medical college Kamothe and MGM New Bombay Hospital, Vashi.
3. The study was limited to only the patients who can understand English or Hindi or Marathi.

The study was limited to haemodialysis patients who can be accessed through telephone or mobile

Reference

[1] Kurokwa K. Current issues and future perspectives of chronic renal failure. American society of Nephrology. 2002;(13):53-6.

[2] Caress A. Chronic Renal Failure .Nursing Times 1998;48-49.

[3] Safdar N ,Baakza H ,,Kumar H ,Naqvi S. Non–compliance to diet and fluid restrictions in haemodialysis .Journal of Pakistan Medical Association 1995 Nov ;45(11):293-5

[4] Bichu S. End Renal Failure Bombay Hospital Journal. 2003; 45(4):539-541.

[5] Smeltzer, Suzzane C. Brunner and Siddhartha's Textbook of Medical surgical & Nursing. Lippincott publications, Philadelphia 2006;2:1521.

[6] Sanches. Institute of nutrition and food technology and department of physiology, Granada, Magnesium zinc status in patient with chronic renal failure: influence of a nutritional intervention. 2009;22(22):72-80.

[7] Eyre S, Attan P, Haraldsson B. Department of molecular and clinical medicine, Sweden positive effect of protein restriction in patient with chronic kidney disease. 2008 ;18(3):269-80.

[8] Kamyar Kalantar- Zadeh, Harold simmons centre for kidney disease research and epidemiology .1 december 2008.

[9] Kumagai H. Nutrition therapy for patients undergoing hemodialysis. A New era.contributing to Nephrology. 2007 ;(155) : 59-71.

[10] Teta D, Phan O, Halabi G, Blancheteau A, Cheseaux

M, Roulet M.Article in French chronic renal failure;what diet?. 2006 , 1:2(55) 566-569.

[11] Samson HA, Weiner oxford Dictionary, New York.

[12] Basavanthappa BT. Nursing theories. 1st ed. New Delhi: Jaypee publications; 2007

[13] Polit D, Beck C. Nursing Research. Generating and Assessing for Evidence for Nursing Practice. Lippincott Williams and Wilkins. 2008.

[14] Basvanthappa BT, Nursing research, 2nded, Jaypeebrothers publication; 2007.

[15] Belguzar Kara, Kayser Caglar, Selim Kilic Department of Medical Nursing, School of Nursing, Gulhane Military Medical Academy, Ankara, Turkey.

[16] Rambod M, Peyravi H, Shokrpour N, Sareban MT.Journal of Health Care Management (Frederick). 2010 ;29(4):359-64.

[17] Amani A Khalil, Mohammad Waleed Darawad .Clinical Nursing Department, College of Nursing-University of Jordan, Amman.

[18] Denhaerynck K, Manhaeve D, Dobbels F, Garzoni D, Nolte C, De Geest S American Journal of Critical Care. 2007 ;16(3):222-35.

[19] Durose CL, Holdsworth M, Watson V, Przygrodzka F.Journal of American Diet Association. 2004;104(1):35-41.