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An Exploratory Study to Assess the Effectiveness of Structured Teaching on Renal Care among Patients Undergoing Dialysis in the Medical Wards of Tertiary Level Hospital in Pune

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ABSTRACT

Patients with chronic kidney disease (CKD) are faced with demanding treatments and need to have knowledge when taking care of their health and treatments. This study was aimed to assess the knowledge of dialysis patients regarding renal care.Structured teaching regarding renal care was given and then assessment of the knowledge gained in this teaching session was analyzed. Phase I, the knowledge of the dialysis patients was assessed with the help of a structured questionnaire in renal care. In phase II of the study, the knowledge gained was assessed with by giving a post test with the same set of questionnaire after a gap of 3 days. The major findings of the study were that major deficit of knowledge was in the area of fluid management and least in diet. The knowledge score was analyzed with the help of t-test in all the five areas of renal care (fistula. drug, diet, skin and fluid management). The difference in the mean pre and post test scores were statistically significant. Maximum knowledge gain was in the area of fluid management and least gain was in the area of skin care. On the basis of the findings of the present study, Most of the patients lack in knowledge in regard to renal care. So it was concluded that there is lack of formal effective educational interventions existing in the present setting in regard to renal care of patients undergoing dialysis.

KEYWORDS

Renal care, Dialysis, Chronic kidney disease

INTRODUCTION

Need of the study

According to WHO, globally, chronic kidney disease is the 12th killer disease, killing almost 850,000 deaths/year and 115,010,107 disability adjusted life years[1]. In Indian scenario, 25-40% of the population develops chronic kidney disease and poses a threat to the health care system. Dialysis changes the life it saves. It creates problem as it prolongs life. So knowledge of renal care will help in giving quality life to the patients[2].

Patients on dialysis have a greater chance for increased survival time owing to the advances in treatment modalities; therefore more comprehensive information in order to understand the aspects of renal care is very important. In order to provide combined therapeutic approach to treatment, information should be given to the patients in such a way that promotes maximum understanding and acceptance.

A study conducted in the year 2009 on 96 patients on dialysis revealed that the results in respect to the diet domain showed that, only 40% of patients indicated being aware of high-phosphate foods. In other survey findings, 68% of subjects thought the diet was difficult to understand. Regarding education, 53% of subjects reported wanting more education and 29% had knowledge about the target phosphate levels[3].

Objectives

The objectives of the study are:-

(i) To assess the level of knowledge in renal care among patients undergoing dialysis.

(ii) To plan a lesson for structured instructional teaching session on renal care for renal dialysis patients.

(iii) To impart a structured teaching on renal cares to the dialysis patients.

(iv) To assess the effectiveness of the structured teaching on renal care among patients undergoing dialysis.

The ethical aspects of the study were kept in mind before conducting the study.

MATERIALS AND METHODS

The research approach adopted for the study is exploratory survey, which is directed towards obtaining more information on areas in which very little information is available. Using questionnaire is considered appropriate for the study as it saves time. The research design adopted for this study is pre test and post test design. In the present study the ***independent variable*** was the structured teaching on renal care for dialysis patients. The ***dependent variable*** was the scores on knowledge test. The sampling was selected employing the convenient sampling techniques. The 50 dialysis patients who came first were taken as sample.

A Structured questionnaire was prepared for assessing the knowledge of dialysis patients in respect to renal care (Skin care, Diet, Drug, fluid management, Fistula care). Close ended questions were used to assess the knowledge.

RESULTS

Analysis and interpretation of data are based on the data obtained through a structured 'pencil and paper' knowledge questionnaire .**Determination of learning needs-** The learning needs of the dialysis patients are described on the basis of existing knowledge based on pre test in different content areas i.e fistula care, skin care, diet, drug and fluid management[4].

KNOWLEDGE

Table 1 Description of knowledge score in the various aspect of Renal care

Learning needs	Max possible score	Mean Score	Mean percentage score	Rank
Fistula	6	3.08	0.51	IV
Drug	6	1.68	0.28	II
Diet	30	20.1	0.67	V
Fluid Mgt	3	0.6	0.20	I
Skin care	11	4.78	0.43	III
Total	56	30.24	2.09	

Table 1 revealed that there was knowledge deficit in all the five areas. The maximum knowledge deficit existed in the area of fluid management (0.20) followed by drug (0.28) and skin care ranked third while fistula care ranked fourth. In the area of

diet patients had better knowledge (0.67).Hence supportive educative nursing system is required for helping these patients cope up with the illness and its management.

Table 2 Evaluation of structured teaching in all the five areas of renal care

Content area	Mean Scores (Pretest)	Mean score (Post test)	Actual Gain Score
Fistula Care	3.08	5.4	2.32
Drug	1.68	4.3	2.62
Diet	20.1	23.12	3.02
Fluid Management	0.6	1.74	1.14
Skin Care	4.78	6.74	1.96

The data presented in the table-2 revealed that the maximum gain (3.02) had been in the aspect of diet. The second highest gain had been in the area of drug (2.62).Very close to this area of fistula care (2.32).The next gain was by Skin Care (1.96).The minimum gain had been in the area of fluid management (1.14) as indicated by the actual gain score.

The mean pretest and post test score, actual gain score for each area were calculated. It is said that actual gain score takes into account the amount of knowledge that the subjects had prior to their exposure to the structured teaching.

Table 3 Comparison of pre and post test Total knowledge score in study group **N=50**

Total Knowledge Score	Pre test	Post test	t Value	P Value
	Mean ± SD	Mean ± SD		
	30.62 ± 3.61	41.28 ± 4.01	18.04*	<0.0001

t (49)>2.17 p<.0001

The data presented in table 3 showed that the obtained t value was not only significant at 0.001 but also at 0.0001 levels. The computed t value, t (49) =18.04, P <0.0001 indicated a significant difference between the mean pretest knowledge and post test knowledge score. Therefore it can be said that the difference observed in the mean pretest and post test knowledge score was true difference and not by chance. Hence the researcher hypothesis that there will be increase in knowledge after the structured teaching was accepted.

Relation between the patient's knowledge score and the selected factors

Table 4 Correlation between duration on dialysis and pre and post test Total knowledge score in study group

Correlation between duration of dialysis	r Value	Calculated Value
Pre test knowledge score	0.36	<0.05
Post test knowledge score	0.14	>0.05

The variable which has been computed here is duration of dialysis in respect to knowledge of renal care. There is a positive correlation between the two as

depicted by the r Value (0.36) in pretest and r Value (0.14) in post test which is depicted in table 4.

This concluded that duration on dialysis has a positive influence on the knowledge on renal care. Patients who were on dialysis since many years were better equipped with self care management.

DISCUSSION

The present study was an attempt to develop and test the effectiveness of the structured teaching session on renal care for the management of dialysis patients in the tertiary level hospital in Pune.

Knowledge score were analyzed in terms of mean and SD in all the five aspects of care i.e., fistula care, diet, drug, fluid management and skin care. Later further analysis was done in terms of mean, SD between pretest and post test scores to find the change in knowledge of the subjects. The t value was computed to find out the statistical significance between the mean scores of each aspect of care and also the pre and post test score.

Description of knowledge scores - In phase I the mean knowledge score was 30.62, against a maximum possible score of 56, indicating a deficit of knowledge of dialysis patients related to renal care i.e., fistula care, skin care, diet, drug, fluid management. In phase II the mean post test knowledge score (41.28) was much higher than the mean pretest score (30.62). SD of pretest and post test was 3.61 and 4.01, respectively indicating that the structured teaching session was effective in the group. Maximum deficit was found in the area of knowledge of fluid management in dialysis patients.

Table 5 The results of the structured teaching in renal care

S No	Content area	Pretest Mean	Pretest SD	Post test Mean	Post test SD	t value	Table value of t	P value
1	Fistula care	3.08	1.69	5.4	0.81	8.89	8.62	<.0001
2	Drug	1.68	1.08	4.3	1.46	11.95	3.95	<.0001
3	Diet	20.1	2.41	23.12	2.10	6.47	4.32	<.0001
4	Fluid Management	0.98	0.79	1.74	0.75	6.97	6.00	<.0001
5	Skin Care	4.78	1.15	6.72	1.68	6.81	1.39	<.0001
6	Total score	30.62	3.61	41.28	4.01	18.04	2.17	<.0001

Comparison of Knowledge score of pre test and post test (Table 5)

The mean post test knowledge score was found to be significantly higher than the mean post test score, t(49)=18.04, p <.0001, suggesting the effectiveness of the structured teaching session in renal care among dialysis patients. These findings in the study were much in congruence with the results seen on the study done by Ali Ghafari[1] which shows that total scoring shows 75% had little information; 19% had

moderate information and 6% of patients were well informed. All the information levels increased after the intervention.

The actual gain score computed between mean pre and post knowledge score in the five learning need areas indicated gain in knowledge in all the content areas.

Relationship between mean pre test and post test knowledge score of dialysis patients in relationship to years of dialysis-This study found statistically significant association between years of dialysis and knowledge on renal care. The pre test and post test r –value was 0.36 and 0.14 respectively at the level of significance, p <0.5 which depicts positive correlation.

On comparing the knowledge score of subjects in regard to renal care knowledge deficit was profound in the area of fluid management and relatively more in the area of diet. But it was evident that the structured teaching was effective in imparting knowledge in renal care (fistula care, skin care, diet, drug and fluid management) to dialysis patients. Years of dialysis had an effect on the knowledge score of the patients as proved in a correlation calculation.

CONCLUSION

On the basis of the findings of the present study, the following conclusions can be drawn:-

- Most of the patients lack in knowledge in regard to renal care. Lack of formal effective educational interventions existing in the present setting in regard to renal care of patients undergoing dialysis.
- The study could not find out a proportionate relationship between knowledge and other variables such as age etc.

Limitation-The study was confined to a small number of literate subjects, which limits the generalization.

- Though measures were taken to measure the retention of the knowledge gained but the time frame was too short due to time constraints. If the knowledge gained can be assessed after a gap of 1 month, the effectiveness of the teaching session can be measured more effectively.
- The study did not attempt to measure the change in the attitude and practices pertaining to renal care, after the knowledge gain.

Recommendations

- The study can be replicated on a larger sample of patients to increase its generalizability.
- A follow up study can be carried out to find out the change in the attitude and behaviour of dialysis patients with regard to renal care, after the knowledge gain.

REFERENCES

1. Alfa Abu K Ali, Burkart John, Piraino, Pulliam Joe and Mujais. Approach to fluid management in peritoneal dialysis: A practical algorithm.Kidney International 2002;62:S8- S16.

2. Cavanaugh Kerri L, Patient dialysis knowledge is associated with permanent arteriovenous access use in chronic Haemodialysis. Clinical journal of the American Society of Nephrology;2009;18:950-956

3. Chronic Kidney Disease: Need for a national action plan [editorial] Indian Journal of Medicine Respiratory2007April;498-507

4. Joan D. Mayers, Dietary restrictions in maintenance hemodialysis: experiences of English speaking West Indian adults. Nephrology Nursing Journal, June, 2000

5. Polit and Beck. Nursing Research: Generating and assessing evidence for Nursing Practice. New Delhi: Lippincott Williams & Wilkins; 2008.

6. Lewis Sharon, Heitkemper Margaret,Dirksen Sharon, O'Brian Patricia, Bucher Linda.Medical surgical Nursing:Assessment and management of clinical problems.New Delhi: Mosby Publication;2007

7. Sutton D, Hollingdale R, Hart K: Questionnaire to evaluate and elucidate patients' perceptions of renal dietary advice. Journal of Renal Care;.2008; 34(3):143-50

8. Sathvik BS, Mangasuli Seema, Narahari MG, GurudevKC, ParthasarathiG. Medication knowledge of hemodialysis patients and influence of clinical pharmacist provided education on their knowledge. Indian Journal of Pharmaceutical sciences2007,69(2):232-239.

9. Varughese Santosh, G.T. John, Alexander S, Deborah M.N, Nithya N, Ahamed Ietal. Pre-tertiary hospital care of patients with chronic kidney disease in India. Indian J Med Res