A Study to Assess the Knowledge Regarding Post-Dialysis Home Care Among Patients Undergoing Haemodialysis in a Selected Hospital at Mangalore with a View to Prepare an Information Booklet

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ABSTRACT:

Descriptive research was performed to evaluate patients' awareness of post-dialysis home care receiving haemodialysis at a designated Mangalore's hospital. A purposive sampling strategy selected a total of 30 samples receiving hemodialysis. Data had been gathered utilizing an organized knowledge survey of 30 items, subsequently accompanied by the distribution of an information booklet on post-dialysis home care. The findings of investigation demonstrated average knowledge score (x= 15.8) about post-dialysis home care was moderate. The mean score ranged from 10-21.The mean knowledge score of patients undergoing haemodialysis was 15.8±2.92 and mean percentage (52.66%).No significant correlation was observed between patients' mean knowledge scores along with their age (χ^2=0.2), gender (χ^2=0.433), education (χ^2=0.02), occupation (χ^2=0.2), family income (χ^2=3.27) and number of years on haemodialysis (χ^2=0.2) at 0.05 level. Therefore, it underscores necessity to create health educational materials to enhance patients' awareness regarding post dialysis home care. The study concludes educating patients and supplying accurate information can aid in preventing issues.

INTRODUCTION

The kidneys are essential organs in the human body. The main purpose of kidneys helps to expel waste products & excess fluids from body. Waste materials and surplus fluid are excreted via urine.[1]

Kidney failure, often referred to as renal failure or renal insufficiency, being a medical illness characterized by compromised kidney function, resulting in kidneys' inability to effectively filter metabolic wastes from bloodstream. Kidney failure is primarily characterized by a reduction in glomerular filtration rate, the velocity at which blood is filtered through kidney's glomeruli. In event of renal failure, intervention is required to substitute the functions typically performed by kidneys. The available therapy modalities are dialysis or kidney transplantation. [2]

Haemodialysis, generally referred to as kidney dialysis or just dialysis, constitutes a procedure for purifying the blood of individuals with impaired kidney function. This form of dialysis makes it easier to remove waste materials like creatinine & urea extracorporeally, as well as excess water from the bloodstream during renal failure. Haemodialysis serves as one of the three types of renal replacement therapy,

(other two being kidney transplantation & peritoneal dialysis). Haemodialysis may be administered as either an outpatient or inpatient treatment. Routine haemodialysis had been administered at dialysis outpatient facility might include hospital unit with specialized design or a separate, dedicated clinic. Home haemodialysis had been performed seldom.[3]

Educating patient & caregivers on diet, medication, and subsequent medical care is essential. The patient must comprehend medications & prevalent side effects and complications associated with haemodialysis. Some of the problems of haemodialysis are hypotension, loss of blood muscle cramps, as well as hepatitis. Hypotension arises from fast depletion of vascular volume. Patient may feel light headedness, vomiting, nausea, visual abnormalities, seizures, & chest pain. Hepatitis B exhibits a significant frequency among dialysis patients, although Hepatitis C accounts for bulk of cases in this population.[4]

By giving patients with the knowledge, they require to take complete charge of their care, make decisions on their own, and improve their own outcomes, patient education initiatives aim to bring about long-lasting behavioral changes. A crucial component of nursing is patient education, which nephrology nurses can use to plan, organize, carry out, as well as analyze a successful, customized patient education programme. [5]

Objectives of the study

1. To assess the knowledge level regarding post dialysis home care among patients undergoing haemodialysis by using a structured knowledge questionnaire.
2. To prepare and validate an information booklet on post dialysis home care among patients undergoing haemodialysis in a selected hospital.
3. To find out the association between mean knowledge score and selected demographic variables (age, gender, education, occupation, family income, duration of haemodialysis).

Quasi-experimental employing both pre-and post-tests for single group conducted at Mangalore on efficacy of a self-care management programme conducted by nurses among haemodialysis patients. The study's goal was to close this information gap by evaluating how well a nurse-led program worked for haemodialysis patients' self-care management. The purposive sample strategy was used to choose fifty hemodialysis patients. A pre-test knowledge questionnaire with 28 items was given to subjects, along with demographic proforma. Based on a structured information pamphlet, the nurse-led program included instruction on managing haemodialysis self-care. Following a seven-day intervention, a post-test was conducted to evaluate program's efficacy. The results of study demonstrated a noteworthy variation in knowledge scores following intervention ($t_{cal}= 27.087, p<.05$), which was attributed to efficacy of nurse-led programme. The patients' knowledge of haemodialysis was significantly correlated with their educational status ($p <.05$). According to the study's findings, end-stage renal disease signifies a chronic ailment which results in a low quality of life and numerous serious complications. It is also incurable.[6]

MATERIALS & METHODS

This research, which had been carried out in a particular Mangalore hospital, employing a descriptive survey methodology. Utilizing purposive sampling strategy, 30 samples receiving haemodialysis were chosen. After distributing an informative booklet about post-dialysis home care, a structured knowledge questionnaire had been implemented to gather data.

STATISTICAL ANALYSIS

Descriptive as well as inferential statistics had been employed in analysis of data gathered.

1. Frequency & percentage analyses would be performed on demographic data.

2. The degree of knowledge haemodialysis patients possess about post-dialysis home care would be examined using frequency, mean, percentage, &SD, & results might be displayed within tables as well as diagrams.
3. The correlation within average knowledge score & specific demographic factors is going to be assessed using chi-square test.

RESULT

The following headings are used to analyze and present the obtained data:

Section I: Description of demographic variables

In this study 30 samples were selected, out of that 43.3% had been between ages of 60-70 & 63.3% of them had been male 43.3% were Muslims, majority 86.7% were married, 33.3% had higher primary education, 60% of the patients who were undergoing hemodialysis were unemployed,46.7% had monthly income of Rs. 10001-15000.Majority of patients undergoing haemodialysis (93.3%) dint have family history of kidney disease. More than half of patients undergoing haemodialysis (56.7%) were on haemodialysis since 2-3 years. Most of the patients 56.7% were undergoing haemodialysis thrice a week.

Section II: "Assessment of knowledge level regarding post dialysis home care among patients undergoing haemodialysis

Table 1: Frequency and percentage distribution of samples according to their"level of knowledge. n = 30

Grading of knowledge	Range	Percentage	Frequency	Percentage
Very good	26 – 30	84 – 100	0	0.00
Good	18 – 25	57 – 83	10	33.34
Average	11 – 17	34 – 56	19	63.33
Poor	1 – 10	0 – 33	1	3.33

Maximum score=30

The facts displayed in Table 1 as well as Figure 1 make it apparent 33.34% of patients had good knowledge, 63.33% possessed average knowledge & merely 3.33% possess poor knowledge.
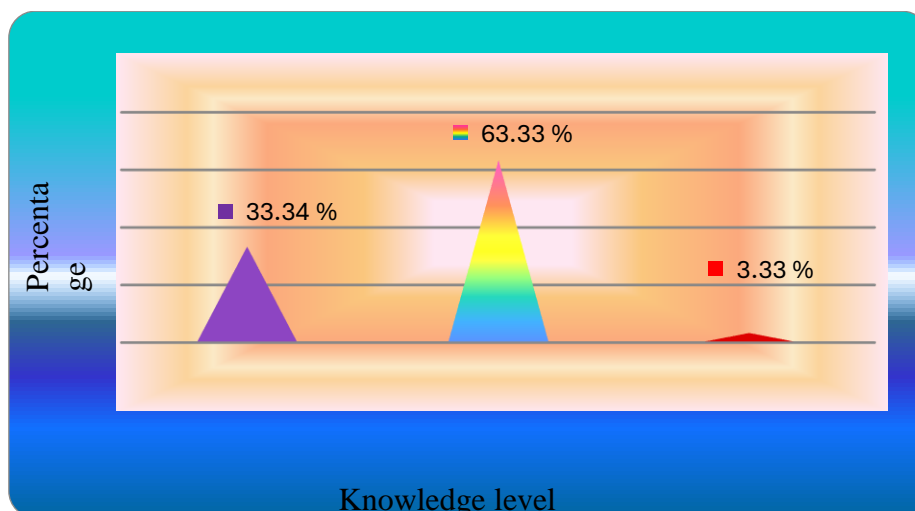

Figure 1: Pyramid diagram showing distribution of samples   according to the level of knowledge

Table 2: Range, mean, SD and mean percentage of knowledge score of haemodialysis patients regarding post dialysis home care. n=30

Variable	Range	Mean	SD	Mean percentage
Knowledge score	10- 21	15.8	2.92	52.66

Maximum score=30

According to data in Table 2, the mean knowledge score had been 15.8 within SD 2.92, with a range of 10–21.52.66 percent had been average.

Table 3: Area-wise mean and mean percentage of knowledge score of haemodialysis patients regarding post dialysis home care. n=30

Area	Max. score	Mean	Mean%
Renal failure	3	1.66	55.33
Haemodialysis	3	1.7	56.67
Diet	3	1.9	63.33
Fluid and weight gain	4	2.26	75.33
Exercise, activity and rest	3	1.73	57.67
Care of vascular access	3	1.73	57.67
Skincare	2	0.96	32.00
Lifestyle changes	3	1.26	42.00
Medications and follow up	2	1.1	36.67
Prevention of complications	4	1.46	48.67

The data in Table 3 & Figure 2 illustrate average as well as average percentage of haemodialysis patients' awareness of post-dialysis home care. Data indicates an average level of knowledge across most domains, with lowest mean score of 32 percent observed in skincare knowledge. Field with highest mean knowledge percentage75.33% was fluid & weight gain.
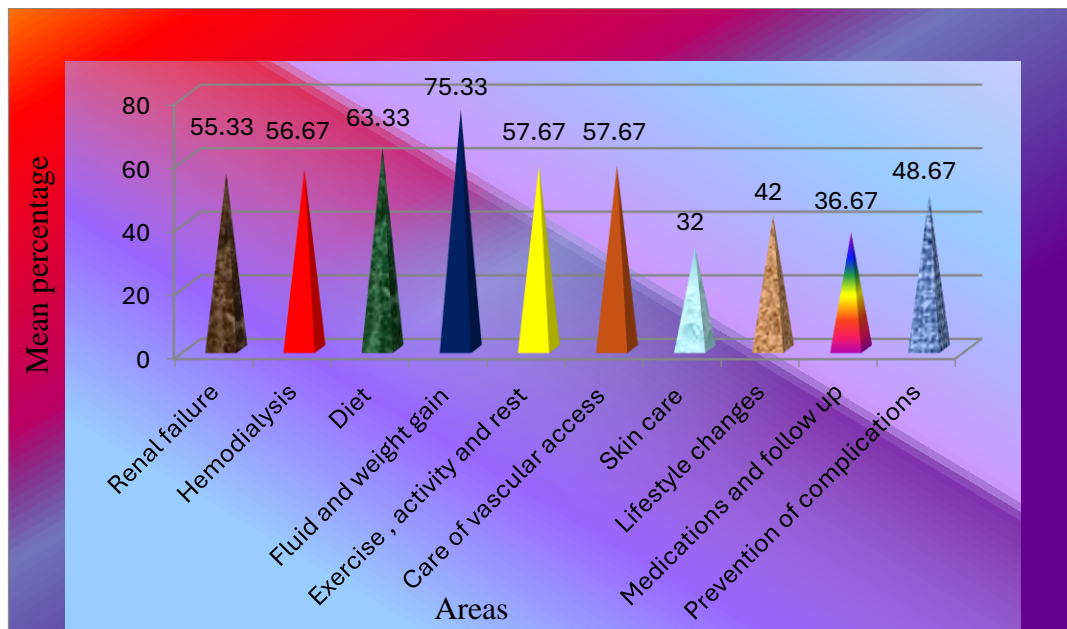

Figure 2: Pyramid diagram showing area-wise mean and mean percentage of knowledge regarding post dialysis home care among patients undergoing haemodialysis

Section IV: Association between mean knowledge score with selected demographic variables

This section examines interaction among a few chosen demographic factors & mean knowledge score.

To determine association, they employed Chi-squared test.

Null hypothesis had been developed as follows to test for statistical significance:

H$_0$: There would be insignificant correlation among mean knowledge score & selected demographic variables.

Table 4 clearly shows no significant correlation between a few demographic factors, including gender, education, age, family income, occupation, & length of haemodialysis. All of these locations had values that were less than table value (3.84≤0.05): 0.20,0.433,0.020,0.20,3.27, & 0.20. Consequently, study hypothesis was disproved and null hypothesis was kept.

Table 5: "Chi-square test to find out association between mean knowledge score and selected demographic variables. n=30

Sl. No.	Variables	≤Mean	≥ Mean	χ^2value	Inference
1	Age (in years)				
	a. ≤ 48	5	7	0.200	Not significant
	b. ≥ 49	9	9		
2	Gender				
	a. Male	8	11	0.433	Not significant"
	b. Female	6	5		
3	Educational "status				
	a. < high school	8	6	0.020	Not significant
	b. ≥ Pre- university	6	5		
4	Occupation				
	a. employed	5	7	0.200	Not significant
	b. unemployed	9	9		
5	Family income per month (in Rs.)				
	a. ≤ 15000	5"	11	3.270	Not significant
	b. ≥ 15001	9	5		
6	Number of years on haemodialysis				
	a. ≤ 1 year	5	7	0.200	Not significant
	b. 2 - ≥ 5 years	9	9		

$$\chi^2=3.84, \text{ p} ≤0.05$$

DISCUSSION

The goal of this investigation was to evaluate patients' degree of understanding about post-dialysis home care undergoing haemodialysis at specific hospital.

The collection as well as analysis of data had been performed following investigation's goals.

Mean knowledge score of patients undergoing haemodialysis was 15.8±2.92 & mean percentage (52.66%).

Conclusions of this investigation align with research on assessment of nutritional knowledge on dietary sources of phosphorus, potassium, protein, as well as fluid restriction in haemodialysis patients that was carried out in Iran. The participants' average age was 47.5±14.9 years. Overall, only 16 percent of patients had strong dietary knowledge, 58 percent had moderate knowledge, and 26% had low information.

Furthermore, patients with more education had a much higher level of nutritional understanding than those with only a primary education or less. Knowledge of dietary sources of potassium and phosphorous had a considerably lower mean score than the other sections (P<0.001).[7]

A study on senior hemodialysis patients' lack of self-care expertise in USA also supports these findings. One hundred forty-two patients over 65 were included in the sample. Just 14 percent of patients correctly answered all three questions, despite 75 percent of them believing they were well-informed. On a self-care knowledge test consisting of three questions, the average number of right answers was just 1.67. According to the study's findings, older, less educated patients with weakened cognitive abilities knew the least.[8]

An Egyptian investigation that examined the impact of nutrition treatment programmes regarding dietary practices as well as knowledge of geriatric patients receiving routine hemodialysis supports findings to this study. The study sample included 90 elderly adults who were receiving nutrition therapy while receiving regular hemodialysis. Elderly patients' eating patterns and understanding were improved by the successful implementation of the diet therapy program. As opposed to 18.9 & 23.3 percent, respectively, before intervention, patients' overall knowledge & practice demonstrated statistically significant gains following the intervention (61.1 and 67.8 percent, respectively) (p <0.001). The study came to the conclusion that older individuals receiving regular haemodialysis should have their nutrition therapy programs prioritized.[9]

CONCLUSION
Findings of the investigation shows that knowledge in majority of subject areas is average. The category with highest mean percentage of knowledge includes fluid & weight increase, while one with lowest score involves skincare knowledge. The knowledge related to diet, exercise, activity, rest, care of vascular access, lifestyle changes, medications, and follow-up was average. Therefore, to improve the knowledge in these areas, information booklet was provided. The investigation's results demonstrated that some demographic factors along with knowledge score were unrelated. Thus, patients undergoing haemodialysis need study education to improve their knowledge which in turn will improve their compliance with therapeutic regimen and promote quality of life.

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