To Evaluate the Knowledge and Practice Regarding Home Care Management among Patient on Hemodialysis with Information Education Communication (IEC) Module in Selected Hospitals of Pune City

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Abstract

Background: Hemodialysis is the medical procedure to remove extra fluid and harmful waste products from blood and to correct electrolyte imbalance of patient whose kidney can no longer do it. It is done using a hemodialysis machine and dialyzer also called as "artificial kidney. Haemodialysis is one of three renal replacement therapies. The important role play by the kidneys in the body are in the regulation of body electrolytes; controlling the acid base balance. The primary function of excretory system is to maintain body's state of homeostasis by carefully regulating the fluid and electrolytes, removing wastes. Irregularity in the functioning of kidneys and lower urinary tract is common and may occur at any age with varying degrees of severity**.** Dialysis is needed if kidneys no longer remove enough wastes and fluid from your blood to keep healthy.

Purpose and Objective: The purpose of the study was to evaluate effectiveness of information education communication module on knowledge and practice regarding home care management among patient on hemodialysis. 1. To assesses the level of knowledge and practice of hemodialysis patient regarding home care management. 2. To evaluate the effectiveness of information education communication (IEC) module regarding home care management of hemodialysis patient. 3. To associate the knowledge and practice of patient on hemodialysis regarding home care management with the selected demographic variables.

Methodology: A quasi-experimental non-randomized pre-post-test control group design was used involving 40 patients of haemodialysis with AV fistula. After obtaining informed and written consent from the patient, samples were selected using Non-Probability Purposive sampling technique and allocated into two groups of 20 patients each in experimental and control group. Self-Structured questioner was used for data collection. The data was analysed by using descriptive and inferential statistics. The statistics used were frequency, mean, percentage, standard deviation and Fishers exact statistic.

Results: The descriptive analysis was done to evaluate effectiveness of information education communication on knowledge and practice regarding home care management among patient on hemodialysis which shows that information education communication module is effective for enhancement of knowledge and practice regarding home care management in experimental group than in control group. In experimental group, the mean knowledge score was from 8.35(pre-test) to 13.15(post-test) with SD from 1.42(pre-test) to 0.99(post-test) and The mean practice score was from 12.15(pre-test) to 13.8(post-test) with SD from 1.04(pre-test) to 0.52(post-test).The demographic variable for knowledge and practice regarding home care management among patient on hemodialysis are not significantly associated.

Conclusion: This concluded from the result of the study that information education communication (IEC) module is having significant effect on knowledge and practice regarding home care management. The demographic variable for knowledge and practice regarding home care management among patient on hemodialysis are not significantly associated.

Key words: *Haemodialysis, IEC module, Knowledge, Practice, Home Care Management.*

Introduction or Back Ground

The major organs of the urinary system and chief function that regulate the volume and composition of extra cellular fluid (ECF) and excess products from the body is kidney. The important role plays by the kidneys in the body are in the regulation of body electrolytes; controlling the acid base balance. The kidneys also operate endocrine functions. [1] Healthy kidneys filter blood and remove extra fluid in the form of urine. It also makes substances that keep body healthy. Dialysis carries out some of these functions when kidneys no longer work. There are two different types of dialysis - haemodialysis and peritoneal dialysis. Dialysis is needed if kidneys no longer remove enough wastes and fluid from your blood to keep healthy. This commonly happens when we have only 10 to 15 per cent of kidney function left. [2] Chronic renal failure (CRF) is the progressive and irreversible destruction process of renal function in which body's ability to maintain water and electrolytes and keep their balance would be devastated and uremia would occur consequently. The end stage renal disease (ESRD) treatment is kidney transplantation. However, considering that accessibility of renal transplantation is not easy in most parts of the world, the patient should be treated with dialysis until kidney transplantation time. Annually, more than 60 thousand people in the world loss their life due to renal failure. [3] As part of its agenda to achieve Universal Health Coverage (UHC) by 2022, the Indian government has committed to establishing at least one eight-station dialysis unit in each of its 688 districts, and is contributing free haemodialysis to people living below the poverty threshold. The government's ability to meet this commitment will depend not only on increasing its financial capacity, but also on the implementation of frugal innovations, enhanced early screening interventions and better access to home-based peritoneal dialysis. Better access to peritoneal dialysis would probably mitigate the substantial non-medical costs associated with travel and lost productivity to attend haemodialysis units. [4] Home treatment of hemodialysis requires that patient and family must have training and on-going support from health care providers who are master in treating patients with home hemodialysis. This usually includes a nephrologist (kidney specialist) and specially trained nurses. Patients treated with home hemodialysis can often empower to live independent lives and may have improved survival outcomes compared with those treated in a dialysis centre. This is due, in part, to home hemodialysis patients having more frequent or longer dialysis treatments than those treated in a dialysis centre. [5]

Material and Methods

A Quasi Experimental study design with quantitative approach was used, as this study was aimed, the approach was found to be most appropriate. Non probability purposive sampling technique was use. An experimental group received intervention (IEC Module) and control group was given no intervention. This study was conducted in selected hospital of Pune city which consist 40 samples. The selection was based on easy accessibility, cooperation and availability of samples. Total 40 haemodialysis patients with AV fistula of selected hospital, Pune city who met the inclusion criteria were selected. A Self-Structured questioner was prepared as tool for the collection of data to evaluate knowledge and practice regarding haemodialysis home care management. The content validity was determined by the experts from Medical Surgical Nursing, Nephrology, dialysis technician, dialysis critical care specialist. The reliability of the tool was done by test-retest method and was found to be 0.89 by using Karl Pearson's correlation coefficient formula and the test was reliable and the tool was relevant. Pilot study was conducted on 10 samples at Nephrocare Health Service Private Limited (Sahyadri Super Specialty Hospital), Pune to fulfil the criteria. And it was found feasible to conduct as no major problem faced.

For the main study the formal permission was obtained by writing an application to the Hospital, at Nephrocare Health Service Private Limited (AEC Hospital) Pune. The actual study was conducted on 40 sample Data collection was done from 21st December 2019 to 29th December 2020.

Results

Findings: The analysis and interpretation of the data collected to determine the Effectiveness of IEC Module on knowledge and practice among patients with haemodialysis is carried out based on objectives set by the researcher taking the level of significance as 0.05. In experimental group, the mean knowledge score was from 8.35(pre-test) to 13.15(post-test) with SD from 1.42(pre-test) to 0.99(post-test) and The mean practice

score was from 12.15(pre-test) to 13.8(post-test) with SD from 1.04(pre-test) to 0.52(post-test).The demographic variable for knowledge and practice regarding home care management among patient on hemodialysis are not significantly associated.

DESCRIPTION ON FINDINGS OF THE EFFECTIVENESS OF IEC MODULE ON KNOWLEDGE OF HEMODIALYSIS PATIENT REGARDING HOME CARE MANAGEMENT FOR EXPERIMENTAL GROUP.

N=20

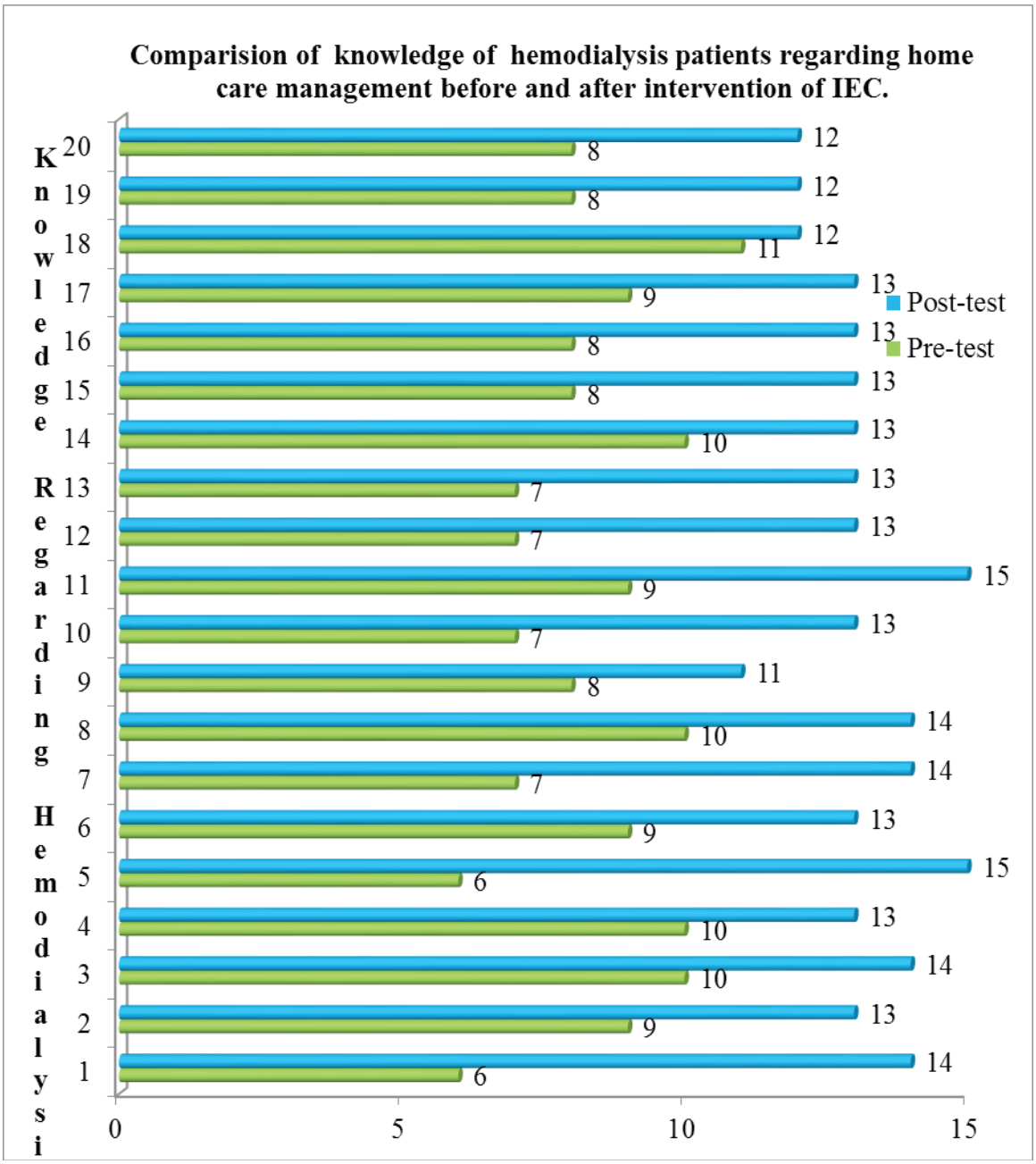

Figure 1 : Bar diagram showing Pre-test and post-test knowledge comparison of hemodialysis patients regarding home care management for experimental group.

Table No: 1 Descriptive statistics for effectiveness of IEC Module on knowledge of hemodialysis patients regarding home care management for experimental group.

N=20

Knowledge level	Frequency		Percentage		Calculated t-value	p-value
	Pre-test	Post-test	Pre-test	Post-test		
Poor	0	0	0	0		
Average	20	0	100	0		
Good	0	20	0	100	11.37	0.00001
	Pre-test		Post-test			
Mean	8.35		13.15			
SD	1.42		0.99			

The above table provides data about the effectiveness of IEC Module on knowledge of hemodialysis patients regarding home care management. The mean knowledge level was from 8.35(pre-test) to 13.15(post-test) with SD from 1.42(pre-test) to 0.99(post-test). As the calculated t-value is 11.37 and p-value= 0.00001, where $p<0.05$, Significant at 0.05 level of significance. Hence, statistically there is effectiveness of IEC Module on knowledge of hemodialysis patients regarding home care management.

N=20

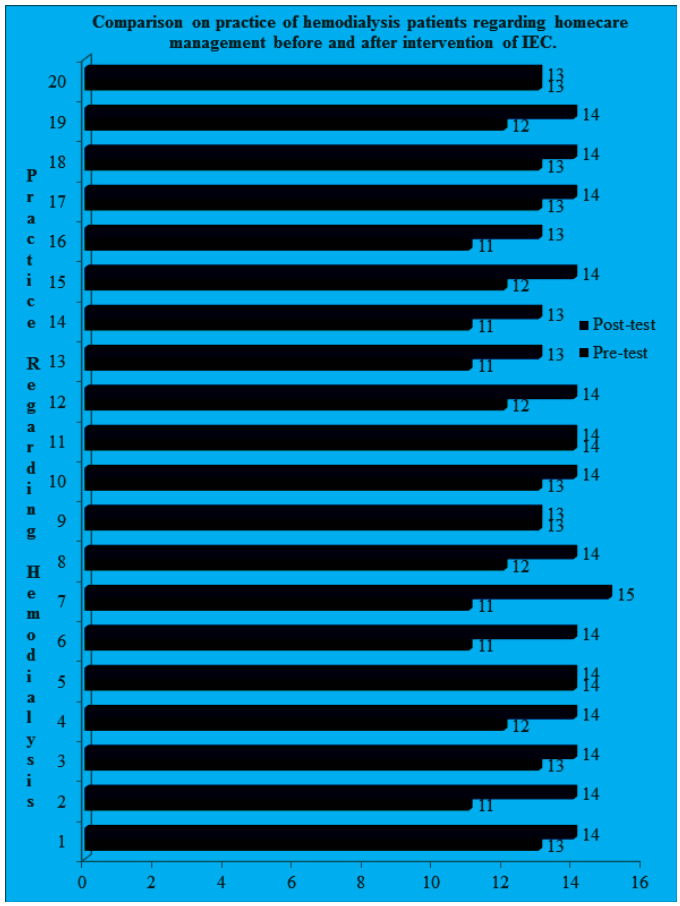

Figure 2 : Bar diagram showing Pre-test and post-test practice comparison of hemodialysis patients

regarding home care management for experimental group.

Table No: 2 Descriptive statistics for effectiveness of IEC Module on practice of hemodialysis patients regarding home care management for experimental group

N= 20

Practice level	Frequency		Percentage		Calculated t-value	p-value
	Pre-test	Post-test	Pre-test	Post-test		
Poor	0	0	0	0		
Average	0	0	0	0		
Good	20	20	100	100	8.39	0.00001
	Pre-test		Post-test			
Mean	12.2		13.8			
SD	1.04		0.52			

The above table provides data about the effectiveness of IEC Module on practice of hemodialysis patients regarding home care management. The mean practice level was from 112.2 (pre-test) to 13.8(post-test) with SD from 1.04(pre-test) to 0.52(post-test). As the calculated t-value is 8.39 and p-value= 0.00001, where $p<0.05$, Significant at 0.05 level of significance. Hence, statistically there is effectiveness of IEC Module on practice of hemodialysis patients regarding home care management.

Discussion

The above finding of the study is supported by a similar study was conducted by Hepsiba Beula Rajam on to evaluate the effectiveness of information education and communication on knowledge regarding management of dialysis among patients with chronic renal failure published in 2016. A quasi experimental design with pre-test post-test used to collect data. The sample size was 60 among which 30 samples for experimental group and 30 samples for control group. Samples were selected by using convenient sampling technique. To assess the knowledge of the patient structured interview questionnaire was prepared. Pre-test was conducted then as intervention information, education and communication was used for management of dialysis for 45 minutes. After intervention post-test was conducted. The result of the study shows that among experimental group, the pre-test mean score of knowledge was 11.5. Standard deviation 3.6 and post-test mean was 25.6, standard deviation was 2.5 and the mean difference was 14.5. The obtained 't' value 18.35 was significant at $p<0.001$ level. Among control group, the pre-test mean score of knowledge was 8.5, standard deviation 2.8 and post-test mean was 10.6, standard deviation 2.8 and the mean difference was 2.1. the obtained 't' value 2 was not significant. Hence the hypothesis was not accepted. The researcher concluded that IEC Module are effective and shows that knowledge regarding management of dialysis among patients with chronic renal failure is improving. **(6)**

Conclusion

The findings of the study show that there is significant difference between pre-test and post-test score of knowledge and practice in the experimental group. The finding reveals that the Information Education Communication (IEC) Module brought a significantly effect on knowledge and practice regarding hemodialysis home care management.

Conflict of Interest – Nil

Source of Funding- Self

Ethical Clearance – Obtained from Institutional Research Committee of Symbiosis College of Nursing

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