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Effectiveness of Self Instructional Module (SIM) on knowledge regarding home care management among patients with chronic renal failure undergoing haemodialysis at Selected Hospital of Punjab

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Abstract: *The Research Design selected for the study was a quasi experimental with pre and post test without control group and experimental approach was undertaken in IVY Hospital Mohali, Punjab. Data were collected from 60 patients from Dialysis unit by convenient sampling technique to assess the knowledge regarding home care management of chronic renal failure patients. The data was collected by using structured questionnaire and was analyzed by applying descriptive and inferential statistics. A finding reveals that out of 60 samples 82% of chronic renal failure patients were in the age group of above 45 years, 68% were males and 88% were married. Most of the patients had done up to secondary education, maximum 67% patients had above 15,000 family monthly incomes and 33% were vegetarian. Regarding occupation 45% patients were private employed, 80% patients were lived in urban and 57% patients received information regarding management of chronic renal failure from friend and relatives. The pre test and post test mean knowledge score was assessed and it was 14.40 and 25.15 respectively. According to level of knowledge, highest respondents in the pre test were scored average (71.6%), and in the post test highest patients were scored excellent (63.3%).It shows that SIM was effective. Stated research hypothesis is accepted ($p<0.001$) because paired't' test shows highly significant difference between pretest and post test. There was no significant association found between post test knowledge score of patients when compared with age, gender, marital status, qualification, family monthly income, dietary habits, occupation, area of residence, source of information regarding management of chronic renal failure patients. Thus the research hypothesis is rejected.*

Keywords: *IVY Hospital, Assess, Self Instructional Module, Patients, Home Care Management.*

I. Introduction

The Kidneys are one of the vital organs in the human body. Kidneys perform vital functions like excretion of waste products, maintenance of water balance, thus maintaining the homeostasis. In addition, kidneys perform many other functions such as Production of Erythrocyte, Endocrine function, Regulation of Blood Sugar and regulation of Blood Calcium level. Because the kidney performs a wide variety of functions, the effects of loss of Renal function not only in kidney but also in other organ systems **(Sembulingam, 2006).** Man can live with one kidney, but life becomes disastrous when both kidneys stop functioning. Proper functioning of kidneys is essential for having a good quality of life (**Smeltzer, 2008).**

In India nearly 90,000 persons develop End-stage renal disease (ESRD) every year – chronic glomerulonephritis (3.7%), diabetic nephropathy (24%), chronic tubule-interstitial disease (37%) and nephro-sclerosis (13%) constitute the most frequently underlying diseases. Polycystic kidney diseases represent 4% of the incidence and multi-system and miscellaneous condition (8%) **(Chung, 1996)**. Renal Failure, also known as Kidney failure is diagnosed when the kidneys are no longer functioning adequately to maintain the normal process. This results in dysfunction in almost all other parts of the body as result of imbalance in fluid electrolytes, calcium levels, as well as RBC production and decreased elimination of waste products resulting in uremia and azotemia **(Linda, 1984).**

Third National Health and Nutrition Examination Survey (NHANES) and the Kidney Early Evaluation Programme (KEEP) collected data from US population showed that 11-15.6% of US adults have CKD .The NHANES1994-1998 and 1999-2004 data shows an increase in prevalence from 10.03% to 13.07%. In the absence of a proper registry and paucity of population-based studies, exact prevalence of CKD in India is not known. Based on data from major tertiary care centres, the presumptive estimates of incidence of CKD in India are 100 per million populations **(Prem, 2010)**. The symptoms of renal failure depend on its severity, or the degree of reduction in glomerular filtration rate, and on the rapidity with which the reduction in GFR develops. In slowly progressive states, most patients remain virtually asymptomatic until far-advanced renal failure ensues (the acute discovery of chronic disease). The constellation of uremic symptoms that eventually develops,

reflects malfunction of several organ systems, most notably the neuromuscular, cardiovascular, and gastrointestinal systems **(Anthony, 2004).**

Acute Dialysis is indicated when there is a high and rising level of serum potassium, fluid over load, or impending pulmonary oedema, increasing acidosis, pericarditis, and severe confusion. Chronic Dialysis indicated in chronic renal failure or ESRD and fluid over load not responsive to diuretics and fluid restrictions **(Priscilla, 2008).**

Chronic renal disease is an important health problem because renal replacement therapy is considered to be expensive; the high mortality rate involved due to this condition and the effect on patient's quality of life. It places a heavy financial burden on the government and society. Because of its costs and the complexity of its treatment, proper care is available to very few patients in India. One lac patients suffer from chronic kidney disorders in India and only 20% can afford the treatment, annually and 7000 patients take dialysis. Globally over 1.5 million chronic kidneys disorders are survive with either haemo or peritoneal dialysis.

Operational Definitions:

- **Effectiveness:** It means the outcome through SIM which will improve the knowledge among patients regarding home care management of CRF.
- **Self-instructional module:** In this study, it refers to a systematically written education material designed for the haemodialysis patient on home care management.
- **Knowledge:** In this study, knowledge refers to acquiring information about home care management of chronic renal failure patient undergoing haemodialysis.
- **Home-care management:** In this study**,** homecare management includes various aspects like diet, fluids, skin care, physical activity, exercise, periodical health check-ups, and medications, care of vascular access, stress management, blood pressure control and prevention of complications.
- **Patient:** A person aged between 18 to 60 years who has sustained enough kidney damage to require renal replacement therapy on a permanent basis.
- **Haemodialysis**: It is a method for removing waste products such as creatinine and urea, as well as free water from the blood when the kidneys are in failure state with the help of a mechanical device.

II. Review of Related Literature

Agarwal & Srinivas (2009) conducted a study about "Chronic Kidney Disease in India: Challenges and Solutions" at department of nephrology at AIIMS, New Delhi. They found that chronic diseases have become a major cause of global morbidity and mortality even in developing countries. The approximate prevalence of chronic kidney disease is 800 per million populations and the incidence of end-stage renal disease is 150-200per million populations. The most common cause of chronic kidney disease in population based studies is diabetic nephropathy.

Lacson et al. (2009) reported a study about change in vascular access and mortality in maintenance hemodialysis patients at Fresenius medical care, North America. A prospective observational study with 79,545 patients had 43% fistula,29%catheter, and 27%graft.Mean age was 62 +/- 15 years, 54% were men, 51% were white, and 53% had diabetes. Compared with fistulas, unadjusted hazard rates of death were higher for grafts (1.22) and catheters (1.76; $P < 0.001$). Compared with patients who continued using a catheter, those who converted to either a graft or 16 fistula had an high risk of 0.69%, whereas those who converted from a graft or fistula to a catheter had increased hazards rates to 2.12 (both $P < 0.001$). The findings shows that catheter have the worst associated mortality risk. Changing from a catheter to a fistula or graft is associated with significantly improved survival.

Mahon (2009) National Health and Nutrition examination Survey (NHANES) at US, estimated that 4.7% of adults had CKD stage -3. It was estimated that up to 11% of the general population has some degree of CKD. Out of 112,215 registered patients United Kingdom showed a prevalence of 4.9%. It is also found that 5.9% million people may have stage-1 CKD with normal kidney function. In another study conducted by the Australian Diabetes, Obesity and Life style (AUSDIAB) out of 10,949 patients, 11.2% of CKD stages 3-5 were found.

Jha (2009) a study about current status of end-stage renal disease care in South Asia. The study shows that age-adjustment incidence at 232 cases per million populations per year. And also 1.5 million people of south Asia, a large number live in extreme poverty in rural urban areas and have limited access to health care. End stage renal disease is a devastating medical, social and economic problem.

Farshad et al. (2009) a cohort study in Tehran to estimate the prevalence and determine the associated factors of chronic kidney disease in a representative sample of 10,063 aged over 20 years. The Glomerular Filtration Rate (GFR) was estimated from abbreviated predication equation provided by the Modification of Diet in Renal Disease(MDRD) .The study revealed that overall prevalence of CKD with the abbreviated MDRD equation was 18.9% , age adjusted prevalence of CKD was 14.9% .Factors associated to CKD include age,

female gender , BMI, hypertension, and dyslipidemia. The study concluded that CKD with its high prevalence poses a definite health threat in Iran.

Abolfazil Rahimi (2008) a quasi experimental study about the effect of continuous care model on depression, anxiety, and stress in patient on hemodialysis, at Ekbatan hemodialysis center in hamadan, Iran. A questionnaire was used to collect demographic information. The short-form Depression Anxiety Stress Scales (DASS score-21) was used to assess psychosocial factors. Then, in the second phase of the research (3 months), the application of the Continuous Care Model started. Total 36 patients were participated in this study. The subjects were categorized as exhibiting normal (DASS score = 0-9), mild (DASS score = 10-12), moderate (DASS score = 13-20), severe (DASS score = 21-27), or extremely severe (DASS score = 28-42) depressive symptoms. The sample consisted of 47.2% men, 52.8% women, 13.9% single, and 83.3% married, with 41.7% percent in the age range of 40 to 59, 19.4% in the range of 20-39, and 33.3% in range of 60 and older. The findings of the study show that compromised quality of life continues to be a significant problem for patients receiving haemodialysis. Social support is a widely assessed variable that influences functioning for individuals on dialysis therapy. Possible sources of social support include spouse, family, and medical staff.

Thomas (2008) conducted a study to assess the knowledge on self care management among the patients with diabetes at risk of chronic kidney disease. In this study 15 patients at high risk of progressive kidney disease were interviewed. A descriptive research design was utilized. The most important finding from the interview was that although most people had some understanding of possible risk of kidney disease, they had little idea of exactly how they could control the condition themselves.

Eyre, Attaman & Haraldsson (2008) conducted a study on positive effect of protein restriction in patient with chronic kidney disease. A retrospective study with 122 renal patient were participated in this study.61 patient were treated with low protein diet there was less mean weight loss in the low protein diet group the year before dialysis(0.14kg/month control group 0.36kg/month p,.05).The mean rate of progression during the 6months before dialysis was lower in the low protein group(4.1 ml/min/year) than in the control group (13.4 ml/min/year o<.001).The low protein diet group had fewer days of hospitalization at the start of dialysis than the control group(8.2 vs 15.4 days p<.01).The findings of the study shows that low protein diet can reduce patient morbidity, preserve renal function, relieve uremic symptom and improve nutritional status.

Alebiosu et al. (2006) which revealed that the commonest cause of CKD were chronic Glomerulonephritis, hypertensive nephrosclerosis and diabetes mellitus contributing to 85% of morbidity and mortality. 70.8% of the patient was able to remain on dialysis for less than 1 month, 12.7% for between 3 and 6 months, 5.1% for 15 between 7.12% months and only 1.9% remained on dialysis for over 12 months. Low compliance was due to lack of funds, inaccessibility to dialysis illiteracy and lack awareness about the disease and treatment.

Agarwal (2005) determines the prevalence of CRF in the South Zones of Delhi. Multi stage cluster sampling methods used. The data were collected using questionnaires, CRF was conformed through physical examination, a dipstick urine test for albumin and sugar and a blood test for serum creatinine and the persons were also asked to attend renal clinic for further investigation, the prevalence rate found in south zones of Delhi was 7852/million.

Driksen et al. (2004) shows the age related incidence in India rose from 58 per million per year in those aged 20-49 and 588 per million per year in those aged 80 or over. Only 54% (113) of patients were referred to nephrologists; 120 patients (57%) needed dialysis or died within three months of presenting without receiving dialysis and 187 (89%) died or needed dialysis within three years. After those unsuitable for further treatment had been excluded, 78 patients per million populations per year aged fewer than 80 needed to start long term renal replacement treatment.

III. Research Methodology

For the purpose of the study, a questionnaire was designed (Appendix-1). The questionnaire was pre-tested before using it with the survey population. All the respondents were given the same questionnaire irrespective of their status. The questionnaire was distributed to any of the respondents who willingly agreed to participate in the study. The respondents were also interviewed to fill the gaps.

Research Approach

For the present study quantitative approach was used as it aimed to assess the effectiveness of self instructional module on home care management on knowledge of chronic renal failure patients according to selected demographic variables.

Research design

A quasi-experimental (One group pre test and Post test design) without control group design was used to assess the effectiveness of self instructional module on home care management on knowledge of chronic renal failure patients.

O1 X O2

O2 – O1 = E

The symbols used were as follows

O1– Assessment of the knowledge of patients of chronic renal failure undergoing haemodialysis regarding home care management.

X – Implement of self instructional module.

O2– Assessment of the knowledge of patients of chronic renal failure undergoing haemodialysis regarding home care management after the implementation of self instructional module.

E – Effectiveness of the self instructional module.

Research Setting

The study was conducted at IVY hospital of Mohali, Punjab

Target Population

All chronic renal failure patients, who were undergoing haemodialysis at IVY hospital of Mohali, Punjab.

Sample and Sample Size

Chronic renal failure patients, who were undergoing haemodialysis at dialysis unit on outpatient department basis at IVY hospital of Mohali, Punjab. The sample size was 60 patients.

Sampling Technique

Convenient sampling technique was used for the selection of patients.

Inclusion criteria

- Patients who were undergoing haemodialysis at IVY hospital.
- Haemodialysis patients who were willing to participate in the study.
- Haemodialysis patients who could understand/read/write Punjabi/Hindi or English

Exclusion criteria:

- Patients less than 18 and more than 60 years of age.
- Indoor patients undergoing haemodialysis.

Selection and development of tool:

As the study is to assess the effectiveness of self instructional module on knowledge regarding home care management among patients with chronic renal failure undergoing haemodialysis at IVY hospital of Mohali, Punjab. Therefore the tool was prepared to assess the knowledge of patients. The tools used for this study are:

- Demographic data sheet
- Structured questionnaire
- Self instructional module

Preparation of tool

The steps selected for the preparation of the demographic sheet, knowledge assessment tool and self instructional module were:

- Review of literature
- Preparation of the blue print
- Consultation with experts in the field of nursing, medicine and surgery.

Description of Tool

The tools developed for the study includes demographic data sheet and knowledge assessment tool. The tools were developed by extensive literature search and seeking expert opinion in the field of nursing, medicine and surgery. The description of the tools is as follows:

Demographic data sheet

A sheet contains items related to socio demographic and professional data of the subject such as age, sex, marital status, qualification, monthly income of family, dietary habits, occupation, area of residence, and source of information was given to the subjects during 1st phase and 3rd phase of data collection.

Knowledge assessment tool

A structured questionnaire was used. It was implemented during phase 1st and phase 3rd of data collection. Tool contained 30 items, each correct response carried one mark and each wrong response carried zero mark.

Table: 3.1: Criteria measures for the knowledge of chronic renal failure patients regarding home care management**.**

Knowledge level	Score	Percentage (%)
Very poor	0-6	>20%
Poor	7-12	21-40%
Average	13-18	41-60%
Good	19-24	61-80%
Excellent	25-30	81-100%

SIM: It contains information regarding home care management of CRF patients.

Validity of Tool

Validity of tool was determined by experts' opinion and suggestion on the relevance of items. Developed tool was circulated among expert and modified according to their opinions.

Translation of Tool

Tools were translated in Hindi and Punjabi by the experts and again it was translated in English by the experts.

Reliability of Tool

Reliability of tool was computed by split half method and calculated by Karl Pearson's co-relation coefficient formula. The reliability of the tool was r = 0.92.

Pilot Study

The pilot study was carryout in Amar Hospital, Patiala on 10% of the sample size (6 samples) prior to conduction of main research. The pilot study was carryout in the month of December 2013 to ensure the reliability of the tool and feasibility of the study. In pre test mean knowledge score of patients were 12.33 (41.1%) but after implementing self instructional module the mean knowledge score was 22.33 (74.4%). The effectiveness of self instructional module in mean knowledge was 33.3%.

Data collection Method:

Demographic data sheet, structured questionnaire and self instructional module were used.

Steps of data collection

It include 3 phases Phase

- The 'Knowledge Assessment Tool' was administered to patients. Time taken by each respondent for filling the questionnaire was average 25-30 minutes.
- A developed self instructional module was implemented to patients.
- A post test was conducted by investigator on 7th day by using same 'Knowledge Assessment Tool'.

Aim of Study

The aim of the study is to improve the knowledge level of chronic renal failure patients regarding home care management undergoing haemodialysis.

Objectives of the Study

- To assess the knowledge of chronic renal failure patients regarding home care management before and after the implementation of SIM.
- To find out the difference between pre-test and post-test knowledge score.
- To find out the association between post-test knowledge score and selected demographic variables.

Hypotheses of the study

- HA1:There will be a significant difference between pre-test and post-test knowledge scores of the chronic renal failure patients regarding home care management at $p<0.001$ level.
- HA2: There will be a significant association between post-test knowledge score and selected demographic variables of the chronic renal failure patients regarding home care management at $p<0.05$level.

Delimitations

The study is delimited to the haemodialysis patients:

- Who are willing to participate in the study.
- Who are undergoing haemodialysis treatment at the time of study.
- Who can understand/read /write Punjabi/ Hindi or English.

Statement of the Problems

"Effectiveness of self instructional module (SIM) on knowledge regarding home care management among patients with chronic renal failure undergoing Haemodialysis at selected hospital of Punjab."

IV. Analysis & Interpretation

Organization of data for analysis

The analyzed data was organized according to the objectives and was presented under the following sections:

- **Section I:** Description of demographic characteristics of chronic renal failure patients.
- **Section II**: Assessment of knowledge of chronic renal failure patients regarding home care management before and after the implementation of SIM.
- **Section III**: To find out the difference between pre-test and post-test knowledge score.
- **Section IV:** To find out the association between post-test knowledge score and selected demographic variables.

SECTION-I

Demographic Characteristics of Patients with Chronic Renal Failure

Table-4.1 Frequency and Percentage wise distribution of sample according to their demographic variables

Socio Demographic Variables		Frequency (No-60)	Percentage (100%)
Age(in years)	<25	0	0
	26-35	4	6
	36-45	7	12
	Above 46	49	82
Gender	Male	41	68
	Female	19	32
Marital status	Single	0	0
	Married	53	88
	Divorce	7	12
	Widower	0	0
	Illitrate	0	0
Qualification	Primary	9	15
	Secondary	30	50
	Higher secondary	19	32
	UG and PG	2	3
Monthly income of family (in Rupees)	<5,000	0	0
	5001 to 10,000	1	2
	10,001 to 15,000	19	31
	Above 15,000	40	67
Dietary habits	Vegetarian	20	33
	Non-vegetarian	22	37
	Eggetarian	18	30
Occupation	Private employee	27	45
	Government employee	14	23
	Businessman	8	13
	Daily wager/ Labourer	3	5
	Agriculture	1	2
	Home maker	7	12

Area of residence	Urban	48	80
	Rural	12	20

Source of information regarding mgt. of chronic renal failure patients	Mass media	18	30
	Friend and relative	34	57
	Educational program	6	10
	No information	2	3

Figure 4.1

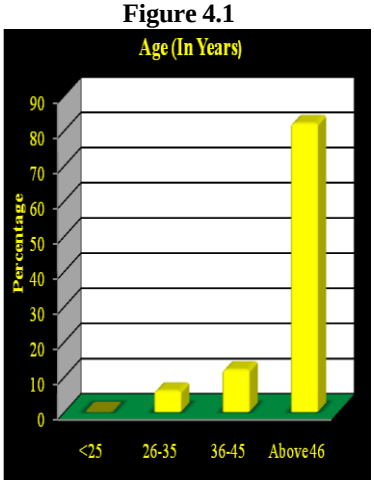


Figure 4.2

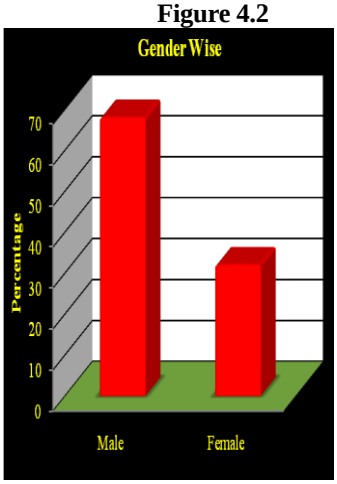


Figure 4.3

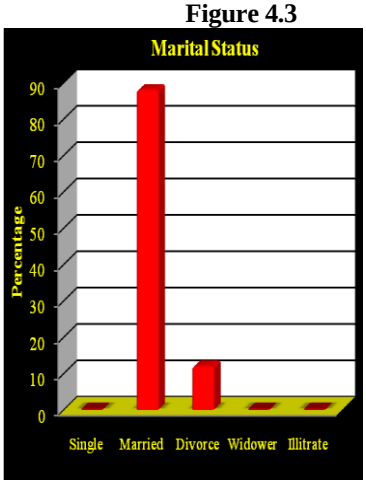
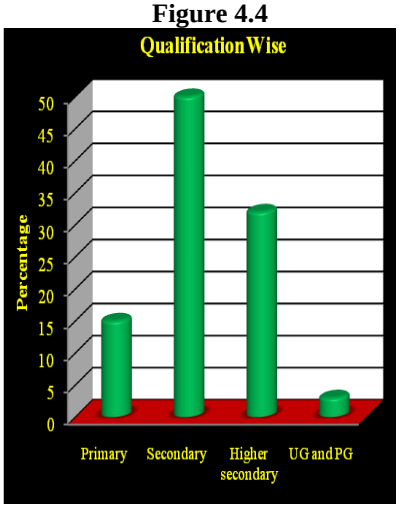


Table 4.1 reveals that the subjects were studied by distributing them into various categories according to their age, gender, marital status, qualification, monthly income of family, dietary habits, occupation, and area of residence and source of information regarding management of chronic renal failure. This table depicts that the highest 82% (49) patients were in the age group of above 45 years followed by 12% (7) were in the age group of 36-45 years, 6% (4) were in the age group of 26-35. Regarding gender of patients 68% (41) were males and only 32% (19) were females. Regarding marital status of patients almost 88% (53) were married and 12% (7) divorced. Regarding qualification 50% (30), 32% (19), 15% (9) and 3% (2) had done secondary, higher secondary, primary and graduation and post graduation education respectively. Maximum number of 67% (40) patients had above Rs. 15,000 family monthly income, 31% (19) and 2% (1) had Rs.10,001 to 15,000 and 5001 to 10,000 respectively. Regarding dietary habits 37% (22) patients were non vegetarian, 33% (20) were vegetarian and only 30% (18) were eggetarian patients. Regarding occupation maximum number of 45% (27) patients were private employed, 23% (14) were government employed, 13% (8) were businessman, 12% (7) were home maker, 5% (3) labourer and 2% (1) were agriculturist. Regarding area of residence 80% (48) patients were lived in urban 20% and only (12) in rural area. Regarding source of information regarding management of chronic renal failure 57% (34) patients received from friend and relatives, 30% (18) from mass media, 10% (6) from educational program and 3% (2) had no information.

Figure 4.4



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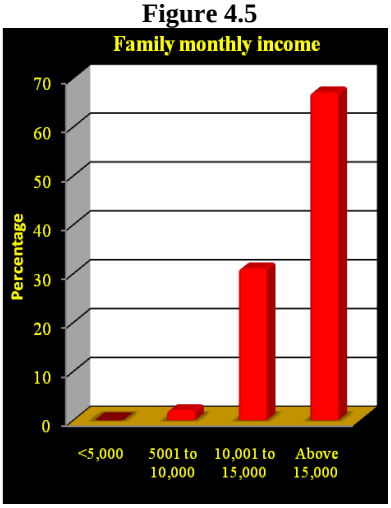
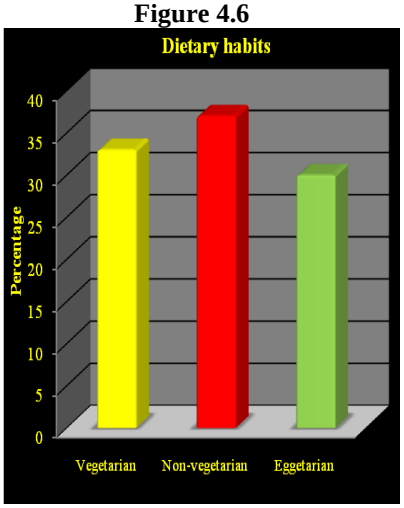


Figure 4.6



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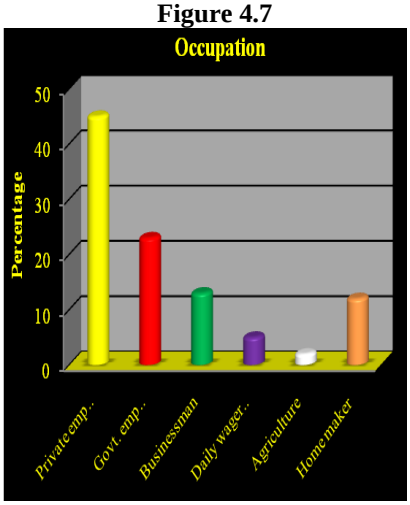


Figure 4.8

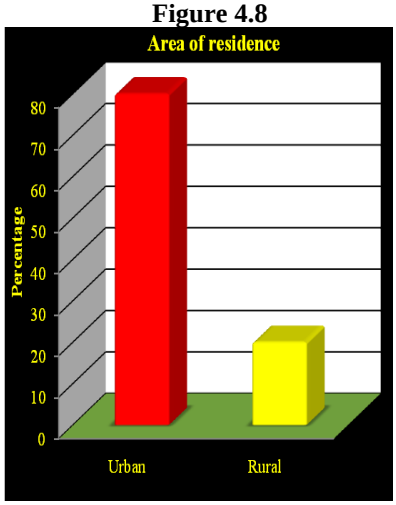
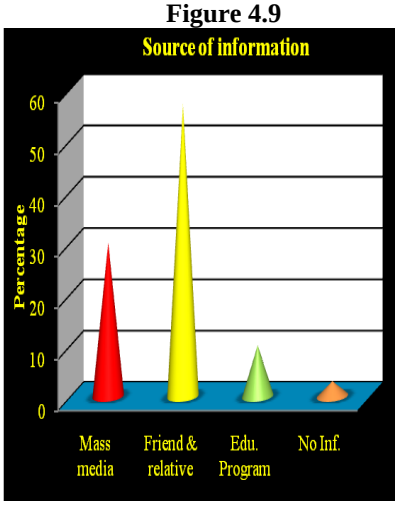


Figure 4.9



Section-II

Objective I: To assess the knowledge of chronic renal failure patients regarding home care management before and after the implementation of SIM.

Table No. 4.2 Mean, SD and mean percentage of Pre-Test and Post-Test knowledge scores of Patients regarding home care management of chronic renal failure.

Knowledge Score	Mean	SD	Mean %
Pre test	14.40	2.676	48.00
Post test	25.15	2.476	83.83

Table 4.2 Shows mean, SD and mean percentage of pretest and post test knowledge scores of patients regarding home care management of chronic renal failure. In pretest the mean Score was (14.40+2.676) which is 48% of the total mean scores, reveals that the patients under the study had average knowledge regarding home care management of chronic renal failure. In post test, the mean score was (25.15+2.476) which is 83.83% of the total mean scores, it reveals that the patients under the study had excellent knowledge regarding home care management of chronic renal failure after implementation of self instructional module.

Table 4.3 Frequency & Percentage wise distribution of pre & post test knowledge scores of chronic renal failure patients regarding home care management according to their level of knowledge

Score Level	Pre-Test		Post-Test	
	Frequency (No-60)	Percentage (100%)	Frequency (No-60)	Percentage (100%)
Very Poor (0-6)	0	0	0	0
Poor (7-12)	15	25	0	0
Average (13-18)	43	72	0	0
Good (19-24)	2	3	22	37
Excellent (25-30)	0	0	38	63

Maximum Score=30, Minimum Score=0

Table 4.3 reveals that in the pretest, highest 72% (43) patient was average, 25% (15) patients had poor level of knowledge while 3% (2) patients had good knowledge score. In the post test, highest 63% (38) patients scored excellent while 37% (22) had good level of knowledge. Hence, it can be concluded that most of the patients had average pretest knowledge score. In post test, more than half of the patients had excellent level of knowledge. Thus it shows that self instructional module was effective, it helped the patients to increase their knowledge regarding home care management of chronic renal failure.

Figure 4.10

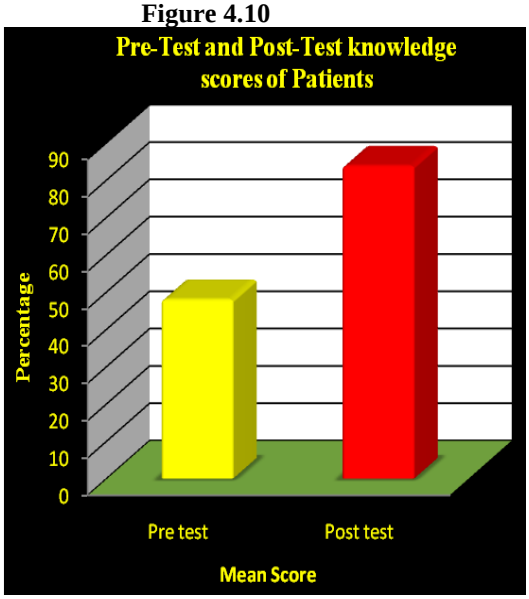
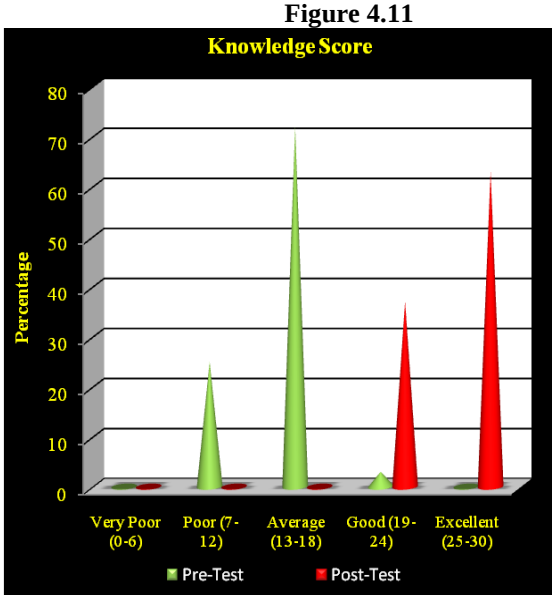


Figure 4.11



Section-III

Objective II: To find out the difference between pre-test and post-test knowledge score

Hypothesis: H1: There will be a significant difference between pre-test and post-test knowledge scores of the chronic renal failure patients regarding home care management at p<0.001 level.

Table 4.4 Difference between Pre-Test & Post-Test Knowledge Score

Knowledge Score	MD	S.D	DF	t-value	Level of Significant
Pre-Test	14.40	2.676			
Post-Test	25.15	2.476	59	31.463	Highly Significant

Table Value: 3.46 **(P value <0.001 Highly Significant)**

Table 4.4 depicts paired 't' test was calculated to analyze the difference between pre and post test knowledge scores on home care management among patients with chronic renal failure undergoing haemodialysis shows highly significant difference between the value of pre and post test . It is interpreted that the difference observed in the mean score values of pre and post test were true differences and not by chance. **Hence hypothesis H1was accepted**

Section- IV

Objective: To find out the association between post-test knowledge score and selected demographic variables.

Hypothesis H2: There will be a significant association between post-test knowledge score and selected demographic variables of the chronic renal failure patients regarding home care management at p<0.05level.

Table 4.5 Association between Post-Test Knowledge Score and Selected Demographic Variables

Association between Post-Test knowledge Score & Selected Demographic Variable		Good	Excellent	Yates/ χ^2	P Value	DF	T value	Result
Age(in years)	26-35	2	2	1.910	0.385	2	5.991	Not Significant
	36-45	4	3					
	Above 46	16	33					
Gender	Male	16	25	0.072	0.788	1	3.841	Not Significant
	Female	6	13					
Marital status	Married	20	33	0.003	0.956	1	3.841	Not Significant
	Divorce	2	5					
Qualification	Primary	4	5	5.245	0.155	3	7.815	Not Significant
	Secondary	14	16					
	Higher secondary	3	16					
	UG and PG	1	1					

Monthly income of family (in Rupees)	5001 to 10,000	1	0	1.951	0.377	2	5.991	Not Significant
	10,001 to 15,000	6	13					
	Above 15,000	15	25					
Dietary habits	Vegetarian	10	10	3.149	0.207	2	5.991	Not Significant
	Non-vegetarian	8	14					
	Eggetarian	4	14					
Occupation	Private employee	13	14	4.110	0.534	5	11.07	Not Significant
	Govt. Employee	3	11					
	Businessman	2	6					
	Daily wager/ Labourer	1	2					
	Agriculture	0	1					
	Home maker	3	4					
Area of residence	Urban	16	32	0.543	0.461	1	3.841	Not Significant
	Rural	6	6					
Source of Inf. regarding Mgt. of chronic renal failure patients	Mass Media	7	11	5.482	0.140	3	7.815	Not Significant
	Friend & Relative	15	19					
	Edu. Program	0	6					
	No information	0	2					

(P value <0.05 highly significant)

Table 4.5 reveals that chi square was calculated to find out the association between the post test knowledge score and selected demographic variables of the patients. There was no significant association found between knowledge score of patients in post test when compared with age, gender, marital status, qualification, monthly income of family, dietary habits, occupation, area of residence, and source of information regarding management of chronic renal failure. **Hence, research hypothesis is rejected.**

V. Finding of the Survey

- Out of 60 samples 82% of chronic renal failure patients were in the age group of above 45 years, 68% were males and 88% were married.
- Most of the patients had done up to secondary education, maximum 67% patients had above 15,000 family monthly incomes and 33% were vegetarian.
- Regarding occupation 45% patients were private employed, 80% patients were lived in urban and 57% patients received information regarding management of chronic renal failure from friend and relatives.
- The pre test and post test mean knowledge score was assessed and it was 14.40 and 25.15.
- In level of knowledge, most of the respondents in the pre test were average and poor knowledge level (71.6%, 25%), in the post test majority of the patients were excellent and good (63.3%, 36.6%) respectively.
- The pre and post test knowledge scores on home care management among patients with chronic renal failure undergoing haemodialysis shows highly significant difference at $p<0.001$. There was no significant association found between knowledge score of patients in post test when compared with age, gender, marital status, qualification, monthly income of family, dietary habits, occupation, area of residence, and source of information regarding management of chronic renal failure.

VI. Discussion

This chapter relates to the findings of the present study to the previous studies.

The **objective 1** was concerned with pre and post test knowledge of patients related to home care management before and after implementation of SIM. The finding of the pre test knowledge score revealed that the most of 43 (71.6%) patients had an average knowledge, 15 (25%) had poor knowledge score and 2 (3.3%) patients had poor knowledge. After providing self instructional module, 38 (63.3%) patients were found with an excellent knowledge and 22 (36.6%) had good knowledge score. Dessai (2005) reported that out of 65 nurses 9(13.9%) had good knowledge, 48 (73.8%) had average knowledge and 8(12.3%) had poor knowledge in the pretest, where as in the post test, 61(93.8%) had good knowledge and 4(6.2%) had average knowledge. Hence SIM was effective in terms of gain in knowledge score.

Objective 2 was the difference between pre and post tests knowledge score. The mean post test knowledge score was 25.15 which were higher than that of mean pre test knowledge score of 14.40. The computed 't'value for knowledge score ($t = 31.463$ $P<0.001$) showed statistically highly significant. Rincy

(2005) concluded highly significant difference (t = 33.36, P<0.001) between mean pre test 21.075 and post test 38.625 knowledge score.

Objective 3 of the present study was to find out the association between post-test knowledge score and selected demographic variables like age, sex, marital status, qualification, monthly income of family, dietary habits, occupation, area of residence, and source of information. Study findings showed that the age had no impact on knowledge and the result found statistically not significant. This study was supported by Klang et al. (1988) where they reported that there was no significant difference in knowledge score in relation to age. In the present study, the gender had no impact on knowledge. The result was not found statistically significant, which shows that the self instructional module was more or less similarly effective for all the patients irrespective of their gender.

This study was supported by Dessai (2005) where he concluded there was no significant difference in knowledge score in relation to gender. Present study showed that qualification had no impact on knowledge of patients and the result of this study was not significant. Rincy (2005) had conducted a study 36 and the findings were contradictory to the findings of this study and he reported that qualification had impact on knowledge of patients. According to dietary habits it was concluded that the dietary habits had no impact on knowledge of the patients and also not found significant. These findings were contradictory by Vishwanath (2011) where he found that dietary habits had impact on knowledge of patients.

VII. Conclusion

On the basis of the results of data analysis, the following conclusion was reached:

The knowledge of the patients regarding home care management was average and good before imparting the self instructional module but the knowledge of patients was good and excellent after self instructional module. The post test mean knowledge score of the patients was higher than the pre test mean knowledge score. This indicates that self instructional module was effective and in knowledge assessment, all variables.ie. age, sex, marital status, qualification, family monthly income, dietary habits, occupation, area of residence, and source of information had no significant effect on knowledge of patients.

Implications

The findings of present study indicated that the patients had average and good knowledge so there is need for improving their knowledge. The study findings have certain important implications for nursing profession i.e. nursing education, nursing administration, nursing practice and nursing research.

Nursing Education

The nursing curriculum consist of knowledge related health information and appropriate strategy for imparting the knowledge. In the present era of primary healthcare, more emphasis is given for developing self care abilities of the individuals. Nursing education should emphasis more on patients to impart health information regarding prevention of many of the renal related problems and also develop self care abilities. This can be best done by equipping the nursing curriculum with dissemination of health information using various methods of educational technologies. Self instructional module can be used by the nursing personnel for educating patients in the haemodialysis unit.

Nursing Practice

Several implications can be drawn from the present study for nursing practice. As chronic renal failure places the patients in several restrictions and lifestyle changes, the educational materials can be helpful in community and hospital for controlling the complications of renal failure and haemodialysis, reducing mortality and morbidity and also can help the patients to be self responsible for their own care through expert nursing practice and teaching. It also could help the relatives to attend to the patient's needs intelligently. Thus it improves the quality of life for not only the individual patients, but also that of the family and community.

Nursing Administration

Generally in the dialysis unit, it is the nurse practitioners who take interest in providing information to patients and their relatives, all about chronic renal failure, its effects and outcomes and also the possible complications of haemodialysis. The nurse administrator must take up the challenges to organise continuous nursing education programmes for the nursing personnel and motivate them to prepare instructional materials like self instructional module and to conduct patient education programme beneficial to the patients and community.

Nursing Research

Today if we look at the world at large the non-communicable diseases are gaining foothold in all developing countries like India, leading to high morbidity and mortality. There is a need for early detection and prevention of complications of these diseases. Health research studies need to concentrate on behaviour on emanating newer methods of teaching, focusing on people's interest, its quality and cost effectiveness.

VIII. Recommendations

The following recommendations are made on the basis of the study:

- A similar study can be replicated on a larger sample with different demographic variables.
- A follow up study can be taken up to determine the effectiveness of self instructional module in terms of practice of self care by the heamodialysis patients.
- An extensive teaching strategy protocol can be developed in all aspects, separately. Example: diet in haemodialysis.
- A comparative study on the quality of life of ESRD patients and other chronic diseases like diabetes, hypertension. COPD can be considered.

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