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A study to assess the effectiveness of structured teaching programme on knowledge regarding selected post dialysis complications and its prevention among clients undergoing haemodialysis at dialysis units of selected hospitals Bagalkot

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Abstract

Background of the study

Background and Objectives: End Stage Renal Disease (ESRD) once considered as fatal condition that has been treatable since the introduction of haemodialysis. Dialysis clients are prone to develop all types of infection, mainly due to dysfunction of the host defines. Hence, there is need for creating greater awareness among Clients, educate clients in all aspects regarding prevention of infection. Hence, the Present study was undertaken to evaluate the effectiveness of structured teaching programme regarding prevention of infection.

This study examines knowledge selected post dialysis complications and its prevention care among clients undergoing haemodialysis and whether level of knowledge varies by content area.

Method: Pre-experimental research design with one group pre testpost test without control group was used. The 50 study subjects were selected through convenient sampling technique. Data was collected by means of a Structured Closed Ended knowledge Questionnaire by interview schedule. Data was analyzed by using descriptive and inferential statistical in terms of mean, frequency distribution, percentage 't' test and chi-square test.

Results: In pre-test.out of 50 subjects 10 (20%) had good knowledge followed by 28 (56%) had average knowledge followed by 12 (24%) subjects with poor knowledge no subjects had very poor knowledge regarding selected post dialysis complications and its prevention. However after STP in post-test, 26% subject with excellent, 66% subjects with good, 6.% with average and no subjects had poor knowledge regarding selected post dialysis complications and its prevention

In pre-test, out of 50 subjects 10(20%) had good knowledge followed by 28(56%) subjects had average knowledge followed by 12(24%) with poor knowledge and no subjects had very poor knowledge regarding selected post dialysis complications and its prevention. The overall findings reveal that the post-test knowledge score (30.42 ± 4.04) was more when compared to the pre-test knowledge score (18 ± 6.93). Hence it indicates that the structured teaching programme was effective in enhancing the knowledge of clients.

As the calculated t value (19.11) was much higher than table 't' value (2.010) for Degree of Freedom 29 and at 5% level of significance, the hypothesis H_1 - is accepted, hence structured teaching programme is proved to be effective. In post-test there was no significant association between post -test knowledge scores and socio demographic variables.

Keywords: Knowledge, clinical features, complications, coronary artery disease, adults

Introduction

The human body is made up of trillions of cells. A cell is a basic unit of life. Human body comprises of several systems like cardiovascular system, skeletal system, musculo skeletal system, reproductive system, respiratory system, G I system etc. One of the major systems of our body is Urinary system. Urinary system is responsible for excretion of body waste from our body. The urinary system consists of two kidneys, ureters, and urethra.

The kidneys are one of the vital organs of our body. 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. They are an essential part of the urinary system, each kidney excretes urine into a ureter, itself a paired structure that empties into the urinary bladder and also serve homeostatic functions such as the regulation of electrolytes,

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Maintenance of acid-base balance, and regulation of blood pressure. They serve the body as a natural filter of the blood, and remove wastes which are diverted to the urinary bladder. In producing urine, the kidneys excrete wastes such as urea and ammonium; the kidneys also are responsible for the reabsorption of water, glucose, amino acids and produce hormones including calcitriol, renin, and erythropoietin [1].

In some instances the kidney may lose its normal function may be because of age, injury, infections etc at this time the patient may be diagnosed with acute or chronic renal failure, acute renal failure can be treated with medications. Chronic kidney disease is a condition that affects function of the kidneys and may progress over time to kidney failure. When the kidney fail dialysis or kidney transplanted is needed to support life [2].

Dialysis is typically needed when about 90 percent or more of kidney function is lost. This usually takes many months or years after kidney disease is first discovered. Hemodialysis is a method for removing waste products such as creatinine and urea, as well as free water from the blood when the renal failure. Hemodialysis is one of three renal replacement therapies (the other two being renal transplant; peritoneal dialysis [3].

Haemodialysis is the most common method used to treat advanced and permanent kidney failure. Since the 1960s, when hemodialysis first became a practical treatment for kidney failure, we've learned much about how to make hemodialysis treatments more effective and minimize side effects. In recent years, more compact and simpler dialysis machines have made home dialysis increasingly attractive. But even with better procedures and equipment, hemodialysis is still a complicated and inconvenient therapy that requires a coordinated effort from your whole health care team, including your nephrologist, dialysis nurse, dialysis technician, dietitian, and social worker. The most important members of your health care team are you and your family. By learning about your treatment, you can work with your health care team to give yourself the best possible results, and you can lead a full, active life [3].

Chronic hemodialysis patients are at high risk for infection because the process of hemodialysis requires vascular access for prolonged periods of time. In an environment where multiple patients receive dialysis concurrently, there are repeated opportunities for person-to-person transmission of infectious agents [4].

A patient starting on dialysis will have to receive teaching about the procedure, purpose of the treatment, medications, side effects of treatment, care of the vascular access, diet and fluid restrictions, fluid overload, prevention and management of complications, psychosocial concerns and financial considerations [5].

Infections continue to be a major cause of morbidity and mortality in patients with end-stage renal disease. While rates of all-cause hospitalization of prevalent end-stage renal disease patients receiving haemodialysis reported by the United States Renal Data System fell from 1993 to 2007, rates of hospitalization for infections rise by 26% [6].

The need for good education and preparation of the individual and the family at all stages of chronic renal failure, and potentially heading towards end stage renal failure, cannot be underestimated [7].

Objectives of the study

1. To assess the existing knowledge regarding selected

post dialysis complications and its prevention among clients undergoing haemodialysis.

2. To determine the effectiveness of structured teaching programme on knowledge regarding selected post dialysis complications and its prevention among clients undergoing haemodialysis.
3. To find out the association between post-test knowledge scores of selected post dialysis complications and its prevention with their selected socio-demographic variable among clients undergoing haemodialysis.

Methodology

Research Approach

An evaluative approach was used to evaluate the effectiveness of structure teaching programme.

Research Design

The Research Design adopted for this study was pre experimental one group pre-test-post-test without control group design..

Population

- **Target population-** The target population of the study is the undergoing haemodialysis clients at Bagalkot, Karnataka.
- **Accessible population-** The accessible population of the study is the clients undergoing haemodialysis at dialysis units in Shri. B.V.V. Sangha's Hanagal Shri Kumareswar Hospital and Research Centre and District Hospital Bagalkot.

Sample

The sample for the present study composed 50 clients undergoing haemodialysis at dialysis units of selected hospitals Bagalkot.

Sampling Technique

The convenient sampling technique was used.

Sample Size

This study composed of 50 clients undergoing haemodialysis at dialysis units of selected hospitals.

Variables under the Study

- **Dependent Variable;** In this study, it refers to the knowledge of clients undergoing haemodialysis regarding prevention of selected post dialysis complications.
- **Independent Variable:** In this study it refers to the structured teaching programme on knowledge regarding selected post dialysis complications and its prevention among clients undergoing haemodialysis.
- **Socio-demographic Variables:** In this study socio-demographic variables refer to age, gender, religion, education, occupation, income, Area of residence, duration of illness, attending any health education programme related to selected post dialysis complications and its prevention.

Setting of the Study

The present study was conducted at Shri. B.V.V. Sangha's Hanagal Shri Kumareswar Hospital and Research Centre and District Hospital Bagalkot.

The study setting was selected according to the availability of clients undergoing haemodialysis and investigators convenience.

The tool contains 2 main sections. They are

1. General information of dialysis- 8 items with maximum score of 8 marks.
2. Hypotension- 4 items with maximum score of 4 marks.
3. Anaemia-5 items with maximum score of 5 marks.
4. Vascular site infection-6 items with maximum score of 6 marks
5. Prevention of selected post dialysis complications-13 items with maximum score of 13 marks.

So these aspects were included with an aim to assess the knowledge of selected post dialysis complications and its prevention among clients undergoing haemodialysis.

Description of Tool

The instrument was divided into two parts:

Part-I

It consists of 9 items regarding the demographic information of the subjects such as age, gender, religion, education, occupation, income, residential address, duration of illness, attending health education programme relationship with the haemodialysis clients and source of knowledge regarding selected post dialysis complications and its prevention of undergoing haemodialysis clients.

Part-II

Section A: The first section includes of eight questions, each questions were carries 1 mark. It consists of knowledge questions regarding general aspects of information of dialysis like meaning, Definition, causes, types of kidney failure, symptoms. Investigation, functions of kidney, treatment, complications of haemodialysis.

Section B: The second section includes of four questions, each questions were carries 1 mark. It consists of knowledge questions regarding the first major complication hypotension like meaning, normal value, cause, symptom, treatment, complication.

Section C: The third section includes of five questions, each questions were carries 1 mark. It consists of knowledge questions regarding anemia meaning, normal hemoglobin. types, investigation. Treatment, complication in haemodialysis clients.

Section D: The fourth section includes of six questions, each questions were carries 1 mark, It consist of

complications regarding vascular sit infection.

Section E: the fifth section includes thirteen questions, each questions were carries 1 mark. it consist of prevention of selected complications

Scoring:

Level of knowledge	Range Score	Percentage (%)
Excellent	29-36	81-100
Good	22-28	61-80
Average	15-21	41-60
Poor	8-14	21-40
Very poor	0-7	0- 20

Reliability of the Tool

The obtained value of ‘r’ was 0.89, indicating that the tool was highly reliable.

Results

The collected information was organized and presented in 3 sections as follows:

Section I: Findings related to socio-demographic variables.

Section II: Assessment of knowledge on selected post dialysis complications and its prevention among clients undergoing haemodialysis.

Section III: Assessment of the effectiveness of the STP on knowledge regarding selected post dialysis complications and its prevention among clients undergoing haemodialysis at dialysis units selected hospitals of Bagalkot.

Part-I: Comparison level of knowledge undergoing haemodialysis clients in pre-test and post-test.

Part-II: Area wise effectiveness of STP on knowledge regarding selected post dialysis complications and its prevention.

Part-III: Testing of Hypothesis.

Section IV: Association between post test knowledge scores of clients undergoing haemodialysis with their selected socio-demographic variables.

Section I: Description of socio-demographic characteristics of sample.

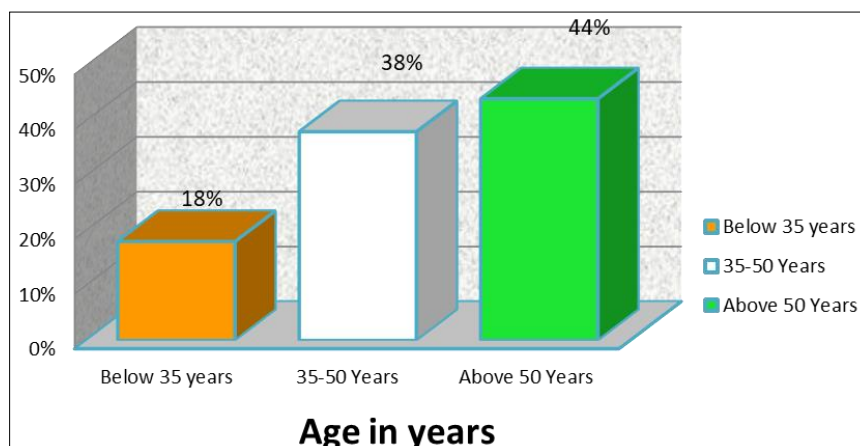


Fig 1: Percentage wise distribution of clients according to age.

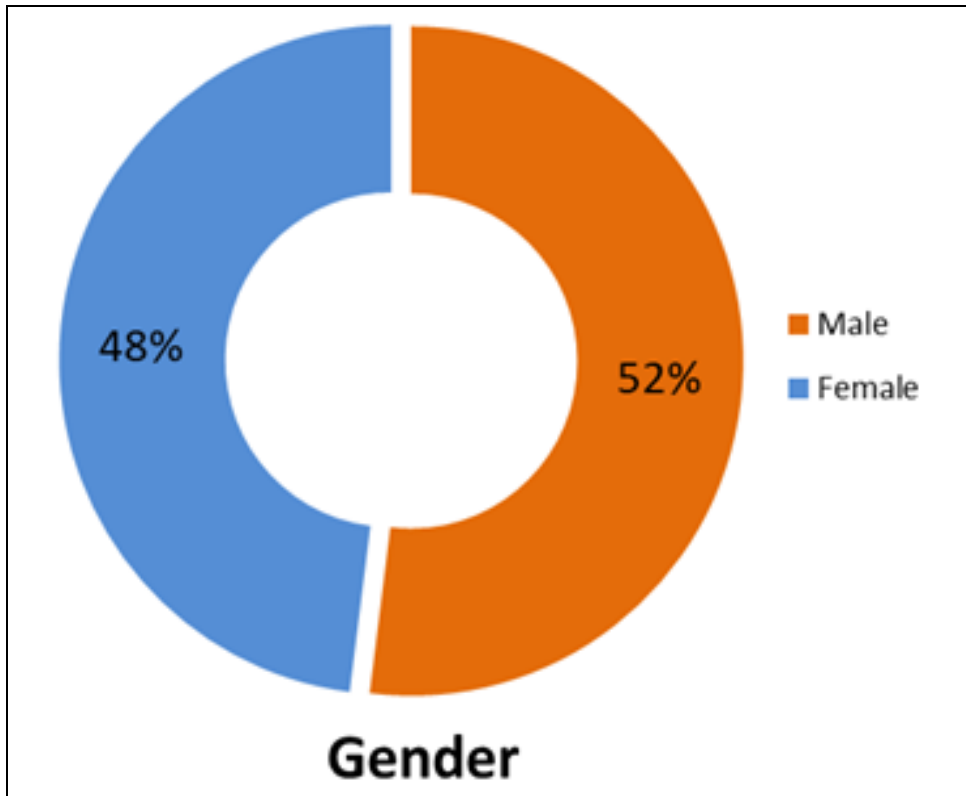


Fig 2: Percentage wise distribution of clients according to gender.

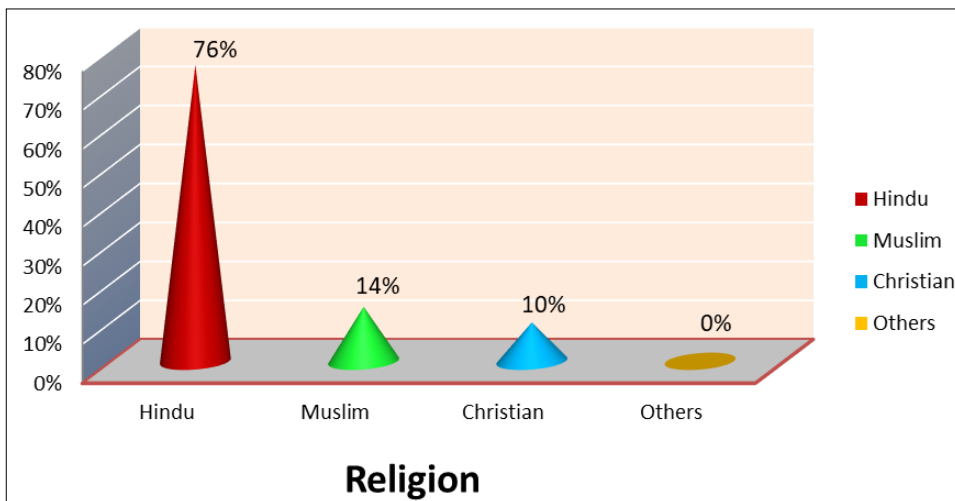


Fig 3: Percentage wise distribution of clients according their religion

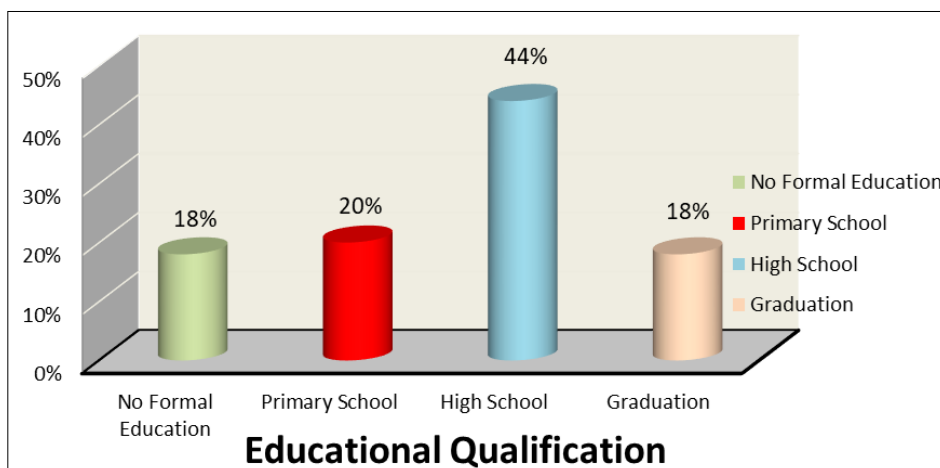


Fig 4: Percentage wise distribution of clients according to educational status.

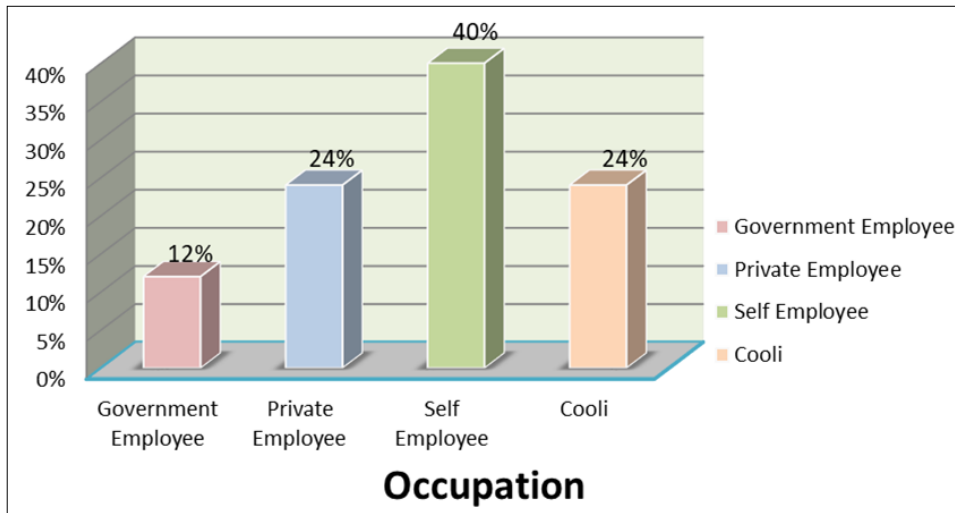


Fig 5: Percentage wise distribution of clients according to occupational status.

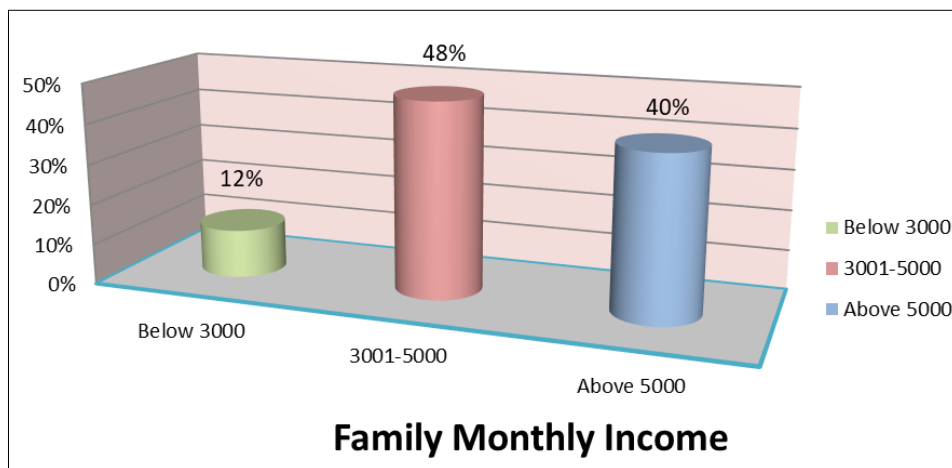


Fig 6: Percentage wise distribution of clients according to family monthly income.

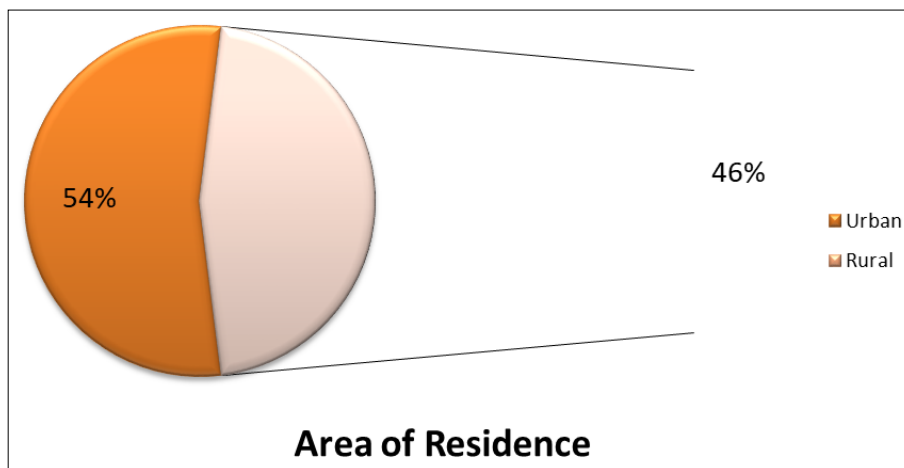


Fig 7: Percentage wise distribution of clients according to their Area of Residence.

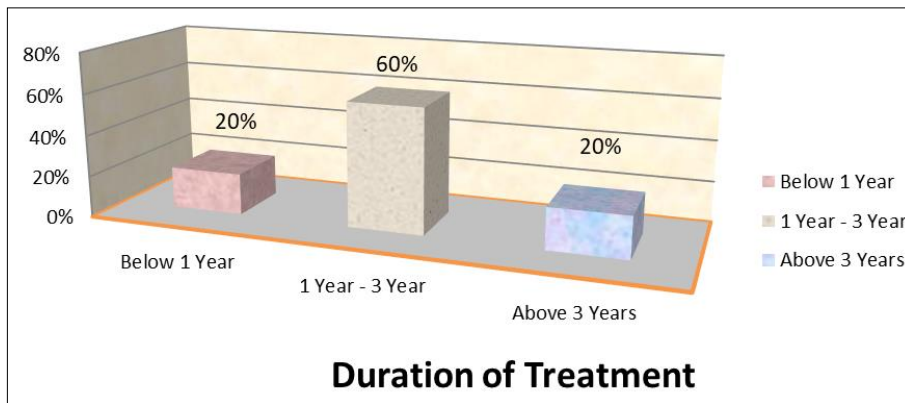


Fig 8: Percentage wise distribution of clients according to duration of treatment.

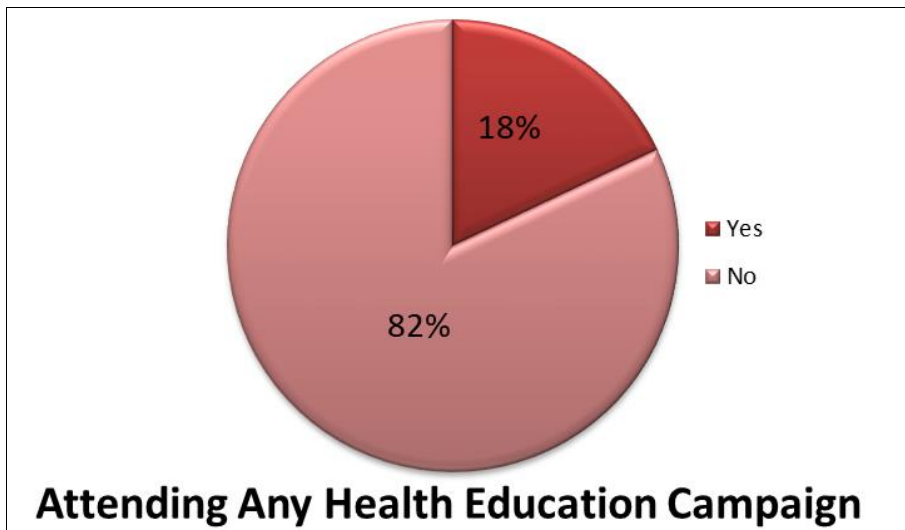


Fig 9: Percentage wise distribution of clients according to attending any health education Campion.

Section-II: Assessment of knowledge of clients regarding selected post dialysis complications and its prevention.

Table 1: Percentage wise distribution of study subjects according to levels of knowledge in pre test.N=50

Test	Levels of knowledge	Number(f)	Percentage (%)
Pre test	Excellent	0	0
	Good	10	20
	Average	28	56
	Poor	12	24
	Very poor	0	0

Section III: Assessment of the effectiveness of the STP on knowledge regarding selected post dialysis complications and its prevention.

Part-I: Comparison of knowledge level of undergoing

haemodialysis clients in pre-test and post-test.

1. Assessment of knowledge level of clients in pre-test and post test

Knowledge wise comparison of study subjects in pre test and post test reveals the following results. In pre-test. out of 50 subjects 10 (20%) had good knowledge followed by 28 (56%) had average knowledge followed by 12 (24%) subjects with poor knowledge no subjects had very poor knowledge regarding selected post dialysis complications and its prevention. However after STP in post-test, 26% subject with excellent, 66% subjects with good, 6.% with average and no subjects had poor knowledge regarding selected post dialysis complications and its prevention (Table 2, Fig: 10).

Table 2: Percentagewise distribution of study subjects according to levels of knowledge in pre test and post test n=50

Level of knowledge	Pre – test		Post-test	
	No.of respondents	Percentage	No.of respondents	Percentage
Excellent	0	0	13	26
Good	2	4	33	66
Average	4	8	3	6
Poor	18	36	1	2
Very poor	26	52	0	0
Total	50	100	50	100

Part-II: Area wise effectiveness of STP on knowledge regarding selected post dialysis complications and its

prevention.

Table 3: Area wise mean, S.D and mean percentage of the knowledge scores in pretest and post test. N=50

Knowledge area	Max. score	Pre-test (O ₁)		Post-test (O ₂)		Effectiveness (O ₂ -O ₁)	
		Mean±SD	Mean %	Mean±SD	Mean %	Mean±SD	Mean %
General Information about Dialysis	8	3.58±2.08	44.75%	6.6±0.74	82.5%	3.04±1.42	38%
Items on Hypotension	4	1.98±0.83	49.5%	2.96±0.69	74%	1.06±1.02	26.5%
Items on Anaemia	5	3.14±1.02	62.8%	4.42±0.72	88.4%	1.28±1.25	25.6%
Items on Vascular site Infection	6	3.24±1.24	54%	5.3±0.78	88.33%	2.14±1.52	35.66%
Items on Prevention of Selected Complications.	13	6.25±1.79	48.07%	11.14±1.11	85.69%	4.88±2.03	37.53%
Total	36	18.19±6.93	50.52%	30.42±4.04	84.5%	12.26±4.49	34.05%

Area wise comparison of mean and standard deviation of the knowledge scores of the pre test and post test reveals an increase in the mean knowledge score of the clients undergoing haemodialysis after STP.

In the area of knowledge on “General aspects regarding haemodialysis”, pre-test mean knowledge score was 3.58 with SD±2.08 which was 44.75% of total score, where as post-test mean knowledge score was 6.6 with SD±0.74 which was 82.5% of total score. The effectiveness of STP on General aspects regarding haemodialysis, mean score was 3.04 with SD±1.42 which is 38% of total score.

In the area of knowledge on “hypotension”, pre-test mean knowledge score was 1.06 with SD±1.02 which is 49.5% where as post-test mean knowledge score was 2.96 with SD±0.69 which is 74%. The effectiveness of STP on hypotension, mean score was 1.06 with SD±1.02 which is 26.5% of total score.

In the area of knowledge on “anaemia”, pre-test mean knowledge score was 3.14 with SD±1.02 which is 62.28% of total score where as post-test mean knowledge score was 4.42 with SD±0.72 which is 88.4% of total score. The effectiveness of STP on health facilities for undergoing haemodialysis clients, mean score was 1.28 with SD±1.25 which is 25.6% of total score.

The overall findings reveal that the post-test mean knowledge score 30.42 with SD±4.04 which is 84.5% of total score was more when compared to the pre-test mean knowledge score 18.19 with SD±6.93 which is 50.52% of total score. The overall effectiveness of STP on selected post dialysis complications and its prevention, mean score was 12.26 with SD±4.49 which is 34.05% of total score. Hence it indicates that the STP was effective in enhancing the knowledge of undergoing haemodialysis clients regarding selected post dialysis complications and its

Table 5: Association between post test knowledge scores and selected socio demographic variables

SL. No	Socio demographic variables	Df	Chi-square value	Table value	Level of significance	Significant
1	Age	1	2.14	3.84	0.05	Not significant
2	Gender	1	0.045	3.84	0.05	Not significant
3	Religion	1	0.0006	3.84	0.05	Not significant
4	Educational status	1	0.12	3.84	0.05	Not significant
5	Occupation	1	0.87	3.84	0.05	Not significant
6	Family income	1	1.13	3.84	0.05	Not significant
7	Area of Residence	1	1.81	3.84	0.05	Not significant
8	Duration of Treatment	1	1.04	3.84	0.05	Not significant
9	Attending Any Health Education Campaign	1	0.52	3.84	0.05	Not significant

Chi square was calculated to find association between post knowledge scores of clients undergoing haemodialysis with their selected socio demographic variables by using 2×2 contingency table.

There is no significant association was found between the post-test knowledge scores of post dialysis complications

and its prevention (Table 2).

Part-III: Testing of Hypothesis

To evaluate the effectiveness of structured teaching programme module, a research hypothesis was formulated.

H₁: There will be significant differences between pretest and post test knowledge scores of post dialysis complication and its prevention among clients undergoing haemodialysis.

Paired ‘t’ test was used to find out the significance of the differences between the pre test knowledge and post test knowledge scores of the clients undergoing haemodialysis.

Table 4: Significant difference between the pretest knowledge and post test knowledge scores of clients undergoing haemodialysis.

Test	Mean	Std. Error	Mean Diff	SD Diff	Paired t-value	Table value
Pre-test (x ₁)	18.2	0.63	12.18	1.67	19.11	2.010
Post-test(x ₂)	30.38					

As the calculated t value (19.11) was much higher than table ‘t’ value (2.010) the hypothesis: H₁ -there is a significant difference between the pretest knowledge and post-test knowledge scores of the clients undergoing haemodialysis care is accepted. Findings revealing the presence of significant difference between pre-test and post-test knowledge scores, hence the structured teaching programme on prevention of selected post dialysis complications which is prepared by the researcher was proved to be effective (Table 3).

Section IV: Association between post test knowledge scores and selected socio demographic variables

and its prevention among clients undergoing haemodialysis and their socio-demographic variables such as age, gender, religion, education, occupation, family monthly income, area of residence, duration of treatment, attending any health education programme, Thus H₂ stated is rejected. (Table 4)

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