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A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Dietary Modification Among Chronic Kidney Disease Patients Undergoing Haemodialysis

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ABSTRACT

BACKGROUND: Chronic kidney disease is a dangerous sickness affecting a number of people around the world. Movement of CKD is specifically identified with various fatal consequences, including an expanded rate of metabolic bone disorders, anemia, and cardiovascular disorders. Dietary modification is fundamental for keeping up a dialytic stability stable dialysis. Such patients require adequate calorie and protein admissions and satisfactory measures of salt, sodium, potassium, phosphorus, and water.

OBJECTIVES: The aim of the study to evaluate the effectiveness of structured teaching programme on knowledge regarding dietary modification among chronic kidney disease patients undergoing hemodialysis. Perceptions of nourishing status are important to keep up the wellbeing status of dialysis patients. Likewise, training plans ought to be set up to intervene the supplement admissions and distinguish the patient's troubles and provide practical knowledge.

METHODS: This study was performed in patients on maintenance hemodialysis who visited the hemodialysis unit of Sri Guru Harkrishan Sahib Hospital. The research approach used in this study was an evaluative approach. Purposive sampling technique was used to select the sample. The size was 30 chronic kidney disease patients undergoing hemodialysis.

RESULTS: The study shows the significant difference between pre-test and post-test knowledge scores of patients. Conclusion: it concluded that knowledge regarding dietary modification impacts the patient's health.

*KEYWORDS***:** Kidney Disease, Chronic Renal Failure, Hemodialysis, Dietary Modification.

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INTRODUCTION

Kidneys are the principal organ of the genitourinary system which releases the waste things from the body. These beans shaped organs are organized in the retroperitoneal space on either side of the vertebral segment. The organs of the body that are related to the formation and discharge from the body are called urinary organs. Kidney just controls the urine creation and its excretion. The vital function of the kidney is the release of waste things from the body through urine these substances fuse urea, creatinine, uric corrosive and bilirubin. The capacity of the kidney can't replace by hemodialysis. It is utilized as an artificial kidney which expels metabolic waste items from the blood. Hemodialysis is viewed as an existence managing treatment for intense and chronic kidney failure.[1] Dietary modification is a vital part of the moderate treatment of patients experiencing constant kidney infection which must envision and be coordinated with pharmacological treatment. Dietary change assumes an essential part to keep up an ideal nourishing state, prevent and correct the signs/symptoms and complexities associated with chronic renal insufficiency, and exceptionally accommodating to postpone the start of hemodialysis. In addition, dietary alteration empowers a decrease in the medication stack and can take into safe and successful utilization of lower doses of hemodialysis, even the glomerular rate keeps on decreasing. Conservative treatment strategies and hemodialysis can enhance personal satisfaction and barely diminish the health services cost. Recently, it has reported that appropriate nourishment and way of life, for example, the DASH eating regimen can lessen the rate of chronic kidney disease.[2] The etiological factors of malnutrition in chronic disease are very fatal. Poor nutritional status can be lead to diet restrictions in the pre-dialysis period, loss of appetite and higher catabolism in hemodialysis. Diet prescribed for hemodialysis patients is often not accepted by the patients due to its limitations. Furthermore, social factors impact the dietary plan of patients. Patients can't work as a necessity of dialysis forces the patient. In consequences, the patient suffers from financial insufficiencies which affect the choice of diet.[3] Dietary modification help to back off the development of chronic kidney failure. A few of sustenance's are extraordinary for your kidneys than others. Select your sustenance stuff and set it up with less sodium. It's imperative to buy new sustenance all the more routinely. Sodium is a bit of salt that is added to variously stuffed sustenance's, use flavours, herbs, and sans sodium seasoning rather than salt. Continuously check the sustenance realities name on food packets for sodium. The renal die titian will take patients nutritional history, look at their blood results to choose whether changes are required and after that develop an appropriate eating regimen. Loss of appetite is a basic reaction and may show the necessity for dialysis and totally supplemental refreshments or food. The eating routine will be independently altered for you, thinking about restorative and social factors, and also your own specific sustenance inclinations.[4]

METHODS AND MATERIALS

A pre-experimental study was conducted at Sri Guru Harkrishan Sahib Multispecialty Hospital, Sohana, Punjab over a period of one year. Purposive sampling technique was used to select the sample. Data were obtained from 30 chronic kidney disease patients undergoing hemodialysis. A structured interview schedule was made to assess the knowledge regarding dietary modification among chronic kidney disease patients undergoing hemodialysis. A structured questionnaire was used as a tool for study. The tool was selected after reviewing the related literature and after the consultation with experts. Based on the study objectives, the instrument was divided into two sections; Section 1: Consists of socio-demographic Performa of chronic kidney disease patients undergoing hemodialysis. The first section of the tool consists of items related to data regarding personal and baseline characters of chronic kidney disease patients undergoing hemodialysis. It includes Name, Age in the year, Gender, Religion, Habitat, Patient"s Education, Family income per month in rupees, Type of family, previous experience of kidney disease, Source of information about dietary modification. Section 2: Consists of a structured interview schedule to assess the knowledge regarding dietary modification among chronic kidney disease patients undergoing hemodialysis. The tool consists of 28 items regarding dietary modification. The items were closed-ended questions, especially of multiple choice questions. The total score was 28. Each correct response carried out with one mark. The tool was prepared in English and translated in Punjabi. Patients who were detected with chronic renal failure, who were willing to share their nutritional pattern, available during the day of the study were included. Terminally ill Patients who were terminally ill were excluded. The responses of the participants were entered in MS Excel and analyzed by using SPSS package version 16.

RESULTS

Table 1 revealed that majority out of 30 patients (53.3%) of patients were in age group 41-60 Years, followed by age group of Up to 40 Year (30%) and 16.7% patients age group up to 61-80 years. Majority of the subjects were males i.e (60%) & rest 40% were females. Religion-wise distribution of samples shows that 53.3% of patients are Sikh, followed by, Hindu patients 40% followed by 6.7% Muslim, were Christian. Habitat wise the data shows that the majority of patients are urban than 56.7%, followed by rural patients 36.7% followed by semi-urban patients 6.7%. According to educational status, the data shows that 30.0% of patients have completed their education up to middle class, followed by 26.7% who have completed Higher Secondary Education 20.0% have completed Matric, 13.3% have completed graduation and 10% are educated to primary class. Majority of the patients have family monthly income Rs. 10001-15,000/- (53.3%), followed by patients family monthly income more than 15000 (26.7%). 76.7% of families of patients are a

nuclear family, 23.3% are joint families, none have extended type of family. Majority of patients that is 93.3% are no previous experience of kidney disease, but few patients that are 6.7% are the previous experience of kidney disease. Majority of patients have information on dietary modification from family & relatives (53.3%), through other sources (36.7%), followed by friends & peer group (10%), none had information from books and newspaper, Internet, Mass media, T.V.

Table-1 Frequency and percentage distribution of chronic kidney disease patients undergoing hemodialysis by their socio demographic variables N-30			
Variables	**Options**	**(f)**	**(%)**
	Up to 40 Year	9	30.0
Age in years	41-60 Years	16	53.3
	61-80 Years	5	16.7
Gender	a. Male	18	60.0
	b. Female	12	40.0
	a. Hindu	12	40.0
	b. Muslim	2	6.7
Religion	c. Sikh	16	53.3
	d. Christian	0	0.0
	e. Others	0	0.0
	a. Urban	17	56.7
Habitat	b. Semi-urban	2	6.7
	c. Rural	11	36.7
	a. Illitrate	0	0.0
	b. Primary	3	10.0
	c. Middle	9	30.0
Patient's education	d.10th	6	20.0
	e. 10+2	8	26.7
	f. Graduate and Above	4	13.3
	a. Below 5000	0	0.0
Family income per month in rupees	b.5001 to10000	6	20.0
	c. 10001 to 15000	16	53.3
	d. More than 15000	8	26.7
	a. Nuclear	23	76.7
Type of family	b. Joint	7	23.3
	c. Extended	0	0.0
Previous experience of kidney disease	a. No	28	93.3
	b. Yes,If any	2	6.7
	a. Family & relatives	16	53.3
	b. Friends & Peers	3	10.0
Source of information about Dietary modification	c. Books & Newspaper	0	0.0
	d. Internet, Mass media, T. V.	0	0.0
	e. Others	11	36.7

Tables 2 describe the percentage distribution of scores reveals that in Pre test3.3% patients have the Poor knowledge, 96.7% of patients have Average knowledge and no single informant had high knowledge. The score of posttest indicated a marked increase in knowledge levels of patients that is 70% excellent knowledge, 30% average knowledge and it was also interesting to know that no single respondent in posttest obtained Poor knowledge.

Table-2 Frequency distribution of the level of knowledge of participants in pre-test & post-test

N-30

Criteria measure of knowledge score					
	Poor Knowledge	Average Knowledge	Excellent Knowledge	Mean	SD
Pre Test f (%)	1(3.3%)	29(96.7%)	0(%)	16.13	1.697
Post Test f (%)	0(0%)	9(30%)	21(70%)	23.83	1.341

Table 3 revealed Mean difference of (7.700), ± 1.822 of overall knowledge with paired „t‟ value (23.144). Thus it reveals that the mean post-test knowledge scores were significantly higher than the mean pretest knowledge scores of patients, „t‟ (23.144), p<0.05. Thus the research hypothesis (H0) was accepted. It shows that there is a significant difference between pretest and post-test knowledge scores of patients.

Table-3 Comparison of knowledge scores of patients before and after STP

N-30

Descriptive Statistics & T Test		Mean	S.D.	Mean Percentage	Mean Difference	Paired T Test	P value
Anatomy & physiology of kidney	Pre	2.27	0.691	75.56	0.667	5.135	0.0000^S
	Post	2.93	0.254	97.78			
Chronic kidney disease	Pre	0.63	0.490	63.33	0.167	1.542	0.1340^{NS}
	Post	0.80	0.407	80.00			
Dialysis	Pre	2.10	0.607	52.50	1.100	8.462	0.0000^S
	Post	3.20	0.610	80.00			
Phosphours	Pre	2.20	0.805	55.00	1.067	6.186	0.0000^S
	Post	3.27	0.521	81.67			
Potassium	Pre	2.03	0.615	50.83	1.200	7.761	0.0000^S
	Post	3.23	0.568	80.83			
Sodium	Pre	1.70	0.750	56.67	0.667	3.808	0.0007^S
	Post	2.37	0.490	78.89			
Protien	Pre	1.83	0.747	61.11	0.833	5.473	0.0000^S
	Post	2.67	0.606	88.89			
Fluid	Pre	2.57	0.817	64.17	0.900	4.506	0.0001^S
	Post	3.47	0.571	86.67			
Iron	Pre	0.80	0.761	40.00	1.100	7.940	0.0000^S

Table 4 describes the association between socio-demographic variables and post-test knowledge scores of dietary modification among chronic kidney disease patients undergoing hemodialysis. The chi-square for age ($\chi 2=0.905$), gender ($\chi 2= 0.690$), religion ($\chi 2= 0.905$), habitat ($\chi 2=1.787$), patient's education ($\chi 2=2.414$.), family Monthly income in Rs ($\chi 2=2.845$), type of family $\chi 2=3.399$), previous experience of kidney disease ($\chi 2= 0.074$) and sources of information about dietary modification ($\chi 2=1.787$). Hence there is no significant relationship between knowledge and their demographic variables.

Table-4 Association of Post-test knowledge scores of with selected socio-demographic variables

N-30

Variables	Options	Chi Test	P Value	df
Age in years	Age Group1	0.905	0.636[NS]	2
	Age Group2			
	Age Group3			
Gender	a. Male	0.690	0.406[NS]	1
	b.Female			
Religion	a. Hindu	0.905	0.636[NS]	2
	b.Muslim			
	c. Sikh			
	d.Christian			
	e. Others			
Habitat	a. Urban	1.787	0.409[NS]	2
	b. Semi-urban			
	c. Rural			
Patient's education	a. Illitrate	2.414	0.660[NS]	4
	b. Primary			
	c. Middle			
	d.10th			
	e. 10+2			
	f. Graduate and Above			
Family income per month in rupees	a. Below 5000	2.845	0.241[NS]	2
	b.5001 to10000			
	c. 10001 to 15000			
	d. More than 15000			
Type of family	a. Nuclear	3.399	0.065[NS]	1
	b. Joint			
	c. Extended			
Previous experience of kidney disease	a. No b.Yes,If any	0.074	0.786[NS]	1
Source of information about Dietary modification	a. Family & relatives	1.787	0.409[NS]	2

DISCUSSION

In the present study out of 30 samples, the percentage distribution of scores reveals that in Pre-test 3.3% of patients have the poor knowledge, 96.7% of patients have average knowledge and no single informant had excellent knowledge. This shows that patients had a lack of knowledge regarding dietary modification among chronic kidney disease patients. The lesson plan was prepared for dietary modification among chronic kidney disease patients. Structured teaching programme was administered to the patients soon after the pre-test. A.V Aids LCD projector and demonstration were used while administration of Structured Teaching Programme. The post-test knowledge scores of patients were assessed by using paired „t‟ test. The overall mean was 23.83 ±1.341 and the paired‟values is 23.144. Thus it reveals that the mean post-test knowledge scores were significantly higher than the mean pre-test knowledge scores of patients, „t‟= (23.144), p<0.05. It shows that there is a significant difference between pre-test and post-test knowledge scores of patients. The

effectiveness of structured teaching programme on dietary modification among chronic kidney disease patients undergoing hemodialysis was evaluated by comparing mean pre-test and mean post-test. Mean difference of 7.700 ± 1.822 of overall knowledge with paired "t" (23.144). Thus it reveals that the mean posttest knowledge scores were significantly higher than the mean pre-test knowledge scores of patients, "t"(23.144), $p<0.05$. This indicates that a structured teaching programme was effective. The chi-square for age ($\chi^2=0.905$), gender ($\chi^2= 0.690$), religion ($\chi^2= 0.905$), habitat ($\chi^2=1.787$), patient's education ($\chi^2=2.414$.), family Monthly income in Rs. ($\chi^2=2.845$), type of family ($\chi^2=3.399$), previous experience of kidney disease ($\chi^2= 0.074$) and sources of information about dietary modification ($\chi^2=1.787$). Hence there is no significant relationship between age, sex, religion, habitat, patient's education, family monthly income, type of family, previous experience of kidney disease, sources of information about dietary modification with post-test knowledge test scores of patients with among chronic kidney disease patients undergoing hemodialysis.

CONCLUSIONS

The percentage distribution of scores reveals that in Pretest 3.3% of patients have poor knowledge, 96.7% of patients have average knowledge and no single informant had excellent knowledge. The score of post-test indicated marked increase in knowledge levels of patients that is 70% excellent knowledge and 30% average knowledge it was also interesting to know that no single respondent in post-test obtained poor knowledge. No significant relationship was found in between the post-test knowledge scores of patients regarding dietary modification with Age, Gender, Religion, Habitat, Patient's education, Family income per month in rupees, Type of family, Previous experience of kidney disease, Source of information about dietary modification about dietary modification.

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