IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 14, Issue 4 Ser. 1 (Jul. – Aug. 2025), PP 55-59
www.iosrjournals.org

A study to assess the effectiveness of health teaching on knowledge of renal diet among the patient in dialysis unit at Synod Hospital, Durtlang

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Abstract:
Background: *A renal diet is the special diet planned for Chronic Kidney disease or people who are at risk to have kidney problems. The World Health Organization states that a renal diet, sometimes referred to as a kidney-friendly diet, is a dietary regimen intended to assist safeguard the kidneys and prevent the course of Chronic Kidney Disease*
Materials and Methods : *In this pre experimental one group pre-test post-test design 50 patients in dialysis unit were selected to assess the knowledge regarding renal diet and effectiveness of health teaching. A pre-test was done by means of questionnaire which was followed by health teaching and post-test using the same questionnaire.*
Results: *From the study conducted it revealed that majority 45(90%) received adequate knowledge, while 5(10%) gained moderate knowledge. The mean score before the exam was 10.52, while the mean score after the test was 13.98. The paired t-test value between pre-test and post-test scores was statistically significant at the p< 0.05 level of significance. The analysis of association found that age, gender, class, marital status, occupation, food preferences, lifestyle habits and chronic disease were all significant.*
Conclusion: *The findings revealed that there is significant association between knowledge and variables.*
Keyword: *Assess, effectiveness, audio visual aids, health teaching, haemodialysis*

Date of Submission: 01-07-2025 Date of Acceptance: 09-07-2025

I.Introduction

A renal diet is a diet for maintaining levels of fluid, electrolytes, blood urea nitrogen, body mass index, creatinine and minerals balance for person with Chronic Kidney disease or who are undergoing Dialysis.[1]

Chronic Kidney Disease leads to slowly loss of kidney function . It is a structural or functional malformation of the kidney. It is impaired with or without decrease GFR. When Chronic Kidney Disease proceed into ESRD Dialysis or Kidney transplant is required to stay alive. Chronic Kidney Disease is vigorous condition that have an effect on >10% of the general populations worldwide, add up to to >800 million individuals. Chronic Kidney Disease is more prevailing in older people, women, racial minorities and in people having diabetes mellitus and hypertension.[1]

There are two comprehensive type of Dialysis: Haemodialysis, peritoneal dialysis and Continuous Renal Replacement Therapy. Haemodialysis is a process that remove extra fluid and waste product from the blood because the kidneys are no longer able to work efficiently.[1]

Objectives of the study

1. To assess the knowledge regarding renal diet among dialysis patient.
2. To assess the effectiveness of health teaching on knowledge of renal diet among dialysis patient in dialysis unit at synod Hospital, Durtlang.
3. To find out association between demographic variables and dialysis patients.

Hypothesis

H_1: There is a significant difference in knowledge regarding renal diet before and after the implantation of health teaching.
H_2: There is significant association between the pre-test knowledge of renal diet with selected demographic variables.

Projected outcome

- The study will enable to assess the level of knowledge of renal among dialysis patients.
- The study will provide and improve their knowledge regarding renal diet.
- This study will show the effectiveness of health teaching provided.

II. Material And Methods

Research approach: Quantitative research approach
Research design: Pre-experimental one group pre-test post-test design
Study setting: The study was conducted at Dialysis unit Synod Hospital, Durtlang, Aizawl, Mizoram.
Duration of the study: One week
Sample size: 50 Haemodialysis patients**.**
Sample technique: Purposive sampling (Non-probability sampling technique**).**

Sampling criteria:

Inclusion criteria

1. Age 21 and above
2. Who can read, write and understand English and Mizo
3. Patient who are present during the time of data collection

Exclusion criteria

1. Who are not willing to participate in the study
2. Who are illiterate
3. Who have vision and hearing impairment
4. Patient who are unresponsive and unconscious
5. Haemodialysis done on emergency

Description of tools

The tool consist of two parts

- PART 1: Demographic profile/perfoma

It consist of patients' age, gender, educational status, marital status, occupation, dietary preferences/practice and lifestyle habits.

- PART 2: Knowledge questionnaire on renal diet

It consist of seventeen(17) objectives type question on knowledge regarding renal diet.

Procedure of data collection

Study was performed by using pre experimental design(one group pre-test poste-test design). Health teaching was given on patients and knowledge was by using questionnaire at Dialysis Unit on…..sample was collected after taking verbal consent from the participants and explaining the purpose of the study.

Statistical analysis

Data was analyzed based on the objectives of the study. Analysis was done using descriptive and inferential statistics. Analysis was done under 4 sections

- Section I: frequency and percentage distribution among dialysis patients according to their demographic variables
- Section II: Frequency and percentage distribution of level of knowledge regarding renal diet among dialysis patients.
- Section III: Effectiveness of planned teaching programme regarding renal diet among dialysis patients.
- Section IV: Association between demographic variables and pre-test knowledge of renal diet among dialysis patients.

III. Results

Section I: Frequency and percentage distribution among dialysis patients according to their demographic variables.

Table 1: Frequency and percentage distribution among dialysis patients according to their demographic variables, n=50

Demographic variables	*Group*	*Frequency(f)*	*Percentage(%)*
Age	**a.21-30** **b.31-40** **c.41-50**	**6** **7** **3**	12% 14% 6%

	d.>50	**34**	68%
Gender	**a.Male** **b.Female** **c.Others**	**33** **17** **0**	66% 34% 0%
Class	**a.Primary level** **b.Middle level** **c.High school/Higher secondary** **d.Post graduate**	**11** **11** **25** **3**	225 22% 50% 6%
Marital status	**a.Married** **b.Unmarried** **c.Divorced/widow**	**35** **8** **7**	70% 16% 14%
Occupation	a.Employed b.Unemployed c.Pensioner	19 29 2	38% 58% 4%
Dietary preferences/practice	a.Red meat only b.White meat only c.Vegetarian d.Seafood e.All the above	0 0 0 0 50	0 0 0 0 100%
Lifestyle/habits	a.Smoking b.Alcohol consumption c.Tobacco products d.All of the above e.None of the above	21 6 9 11 3	42% 12% 18% 22% 3%
Chronic diseases	a.Hypertension b.Diabetes mellitus c.(a)&(b) d.Others e.None	19 13 12 1 5	38% 26% 24% 2% 10%

The data presented in Table 1 reveals that, out of 50 dialysis patients, with regard to age majority 34(68%) were above 50 years old. With regards to gender majority 33(66%) were male. With regards to class majority 25(50%) studied till high school or higher secondary. With regards to marital status majority 35(70%) were married. In terms of occupation majority 29(58%) were unemployed. In terms of dietary preferences all the participants i.e 50(100%) can eat all the given options. In context of lifestyle habits majority 21(42%) were smoker. With regards to chronic illness majority 19(38%) have hypertension.

Section II: Frequency and percentage distribution of knowledge regarding renal diet among dialysis patients.

Table 2: Frequency and percentage distribution of knowledge regarding renal diet among dialysis patients, n=50.

Level of knowledge	Before		After	
	f	%	f	%
Adequate	22	44%	45	90%
Moderate	28	56%	5	10%
Inadequate	-	-	-	-

Data on Table 2 reveals that before giving health teaching 22(44%) have adequate knowledge while 28(56%) of the participants have moderate knowledge. After giving health teaching 45(90%) of the participants have adequate knowledge and 5(10%) of the participants have moderate knowledge.

Section III: Effectiveness of planned teaching programme regarding renal diet among dialysis patients.

Table 3: Effectiveness of planned teaching programme regarding renal diet among dialysis patients.

Knowledge	*Mean*	*SD*	*Mean difference*	*df*	*t-test value*	*tab value*	*p value*	*Remarks*
Before	10.52	2.57	3.48	49	12.35	2.02	0.0001	S
After	13.98	1.89						

Findings shows that before health teaching the mean score was 10.52 and after health teaching the mean score was 13.98 with a mean difference 3.48. The obtained value (t=12.35) was larger than the tabulated value (t=2.02) and hence found to be statistically significant at 0.05 level of significance

Section IV: Association between demographic variables and pre-test knowledge of renal diet among dialysis patients

Table 4: Association between demographic variables and pre-test knowledge of renal diet among dialysis patients.

Demographic variables	*Group*	*Adequacy of knowledge*				*df*	χ^2	*tab value*	*Remarks*
		Inadequate	*Moderate*	*Adequate*	*Total*				
Age	a.20-30 years	0	5	1	6	6	172.08	12.59	S
	b.31-40 years	0	4	3	7				
	c.41-50 years	0	1	3	4				
	d.51 and above	0	18	15	33				
Gender	a.Male	0	18	14	32	4	39.92	9.49	S
	b.Female	0	10	8	18				
	c.Other	0	0	0	0				
Class	a.Primary	0	3	8	11	8	56.1	15.51	S
	b.Middle	0	7	4	11				
	c.High school/higher secondary	0	16	9	25				
	d.Graduate	0	2	1	3				
	e.Post graduate	0	0	0	0				
Marital status	a.Married	0	19	16	35	4	36.79	9.49	S
	b.Unmarried	0	6	2	8				
	c.Divorced	0	3	4	7				
Occupation	a.Employed	0	7	12	19	4	99.81	9.49	S
	b.Unemployed	0	19	10	29				
	c.Pensioner	0	2	0	2				
Dietary preference/practice	a.Red meat	0	0	0	0	8	28	15.51	S
	b.White meat	0	0	0	0				
	c.Vegetables	0	0	0	0				
	d.Seafoods	0	0	0	0				
	e.All of the above	0	28	22	50				
Lifestyle habits	a.Smoking	0	12	9	21	8	31.44	15.51	S
	b.Alcohol	0	5	1	6				
	c.Toabcco	0	4	5	9				
	d.All of the above	0	4	7	11				
	e.None of the above	0	3	0	3				
Chronic illness	a.Hypertension	0	9	10	19	8	79.63	15.51	S
	b.Diabetes Mellitus	0	6	7	13				
	c.Hypertensiom and Diabetes	0	8	4	12				
	d.Others	0	0	1	1				
	e.None	0	4	1	5				

Findings presented in Table 4 shows that chi square (χ^2) computation between the level of knowledge among dialysis patient according to their demographic variables before health teaching. All the calculated value for (χ^2) was greater than the tabulated value at 0.05 level of significance which indicated there is a significant association between level of knowledge among dialysis patient before giving health teaching.

To find out the association chi-square was worked out. To examine the association hypothesis H_2 which stated that there is a significant association between the pre-test knowledge of renal diet with selected demographic variables**.**

IV. Discussion

In the present study, the total number of participants were 50 participants, majority 68% (50 years and above), 14% (31-40), 12% (21-30 years) and lowest 6% (41-50 years). In a study conducted by Dr Hari Mohan Singh and Dr Vijesh Patel out of 30 samples, maximum 46.66% were between 50-70 years.[2]

In the present study out of 50 dialysis aptient majority 66% were male and 34% were female. In a study conducted by Sharma, Kalra among 105 CKD patients majority 54.3% were female and 45.7% were male.[3]

The present study revealed that majority 36% of the participants have hypertension, 26% have Diabetes Mellitus and 345 have other chronic illness. According to study conducted by Sharma, Kalra among 105 CKD participant 56.2% have hypertension, 61.9% have diabetes mellitus and 20% have other chronic illness.[3]

The results revealed that before giving health teaching majority (44%) of the participants have adequate knowledge and 28% of the participants have moderate knowledge After giving health teaching majority of the participants (90%) have adequate knowledge and 10% have moderate knowledge. The findings are consistent with a similar study conducted by Dr. Hari Mohan Singh, Mr. Vijesh Patel among 30 selected samples undergoing haemodialysis at selected hospital where data shows that majority 70% had average knowledge, 23.35 had good knowledge and 7% had poor. knowledge regarding renal diet. After structured post-test questionnaire majority 80% of dialysis patient had good knowledge and 20% had average knowledge regarding renal diet.[2]

In the present study assessment of the effectiveness of the planned teaching programme was analyzed using t test. Finding showed that the obtained value(t=12.35) was larger than the tabulated value t=2.02 and hence found to be statistically significant at 0.05 level of significance. This findings are consistent with the findings of the study conducted by Nishitha, KG Rajaran, Y Raveendra, Ginkala N, D Marilyn Flinsi. The calculated paired t-value was 13.4 which is more than the table value(1.684)at 0.05 level of significance.[4]

In the present study the findings show that there was significant association between the level of knowledge regarding renal diet among dialysis patient before giving health teaching with their age(χ^2=172.08), gender (x2=39.92), class (x2=56.1), marital status (x2=36.79), occupation(x2=99.81), dietary preferences(x2=28), lifestyle habits (x2=31.44) and chronic illness (x2=15.51) at o.o5 level of significance. Consistent to this a similar study conducted by K.Srinivassan show that was significant association between level of knowledge regarding dietary management among Chronic Kidney Disease patient undergoing Haemodialysis with their selected demographic variables.[5]

Findings of the study had shown that the mean of post-test score was significantly higher that the pre-test knowledge regarding health teaching on renal diet. Therefore, the study concluded that the planned teaching programme was effective in enhancing the knowledge regarding health teaching on renal diet among haemodialysis patients.

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