"Impact of Self-instructional module on knowledge regarding care of dialysis patients with renal insufficiency among nursing officers in selected hospitals of Bhopal, M.P."

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Abstract-

The present study has been undertaken to assess knowledge score regarding care of dialysis patients with renal insufficiency among nursing officers by self-instructional module in JK hospital, Kolar road, Bhopal, M.P. The research design adopted for the study was pre- experimental in nature. 40 nursing officers were selected by non-probability convenient sampling technique. The tool for the study was self-structured knowledge questionnaire which consists of two parts-PART- I consisted questions related to Socio-demographic data; PART-II consisted of self -structured knowledge questionnaire to assess the knowledge score regarding care of dialysis patients with renal insufficiency among nursing officers. The data was analyzed by using descriptive and inferential statistical methods. The most significant finding was that 10% of nursing officers were having average knowledge regarding care of dialysis patients with renal insufficiency whereas 90% had good knowledge after post-test.

Keyword- Impact, self-instructional module, knowledge and care of dialysis patients with renal insufficiency.

1. Introduction

The kidneys filter your blood by removing waste and excess fluid from your body. This waste is sent to the bladder to be eliminated when you urinate. Dialysis performs the function of the kidneys if they've failed. According to the National Kidney Foundation, end-stage kidney failure occurs when the kidneys are performing at only 10 to 15 percent of their normal function. Dialysis is a treatment that filters and purifies the blood using a machine. This helps keep your fluids and electrolytes in balance when the kidneys can't do their job. Dialysis has been used since the 1940s to treat people with kidney problems.

Renal insufficiency is poor function of the kidneys that may be due to a reduction in blood-flow to the kidneys caused by renal artery disease. Normally, the kidneys regulate body fluid and blood pressure, as well as regulate blood chemistry and remove organic waste. Proper kidney function may be disrupted, however, when the arteries that provide the kidneys with blood become narrowed, a condition called renal artery stenosis. Some patients with renal insufficiency experience no symptoms or only mild symptoms. Others develop dangerously high blood pressure, poor kidney function, or kidney failure that requires dialysis. Renal artery disease can usually be diagnosed via duplex ultrasound scanning and other non-invasive tests. These include CT angiography and MR angiography. However, the definitive test is contrast angiography, a test that involves the injection of dye. If a severely blocked renal artery is discovered during an angiogram, treatment to open the artery may be performed during the same procedure. Patients with renal insufficiency who have mild or moderate symptoms can be treated with medication and monitored regularly through blood pressure measurements and blood tests to monitor kidney function.

2.NEED FOR STUDY

In persons with kidney disease, the kidneys are damaged and cannot filter blood properly, causing waste to build up in the body. Kidney disease increases the risk for stroke or cardiac arrest. End-stage renal disease (ESRD) is complete, permanent kidney failure that can be treated only by a kidney transplant or dialysis. Major risk factors for kidney disease include diabetes mellitus, hypertension, and a family history of kidney failure. Over 661,000 people in the United States have kidney failure, of whom 468,000 are on dialysis and 193,000 have a functioning kidney transplant. The number of deaths attributable to CKD in India rose from 0.59 million in 1990 to 1.18 million in 2016. Data on incidence and prevalence of kidney failure remain estimates because there are no kidney failure registries. The Million Death Study estimated the number of kidney failure deaths to be 136,000 in 2015. A 2018 estimate put the number of patients on chronic dialysis in India at about 175,000, giving a prevalence of 129 per million population. A systematic review estimated that about two thirds of all patients with kidney failure died without receiving dialysis in 2010.

3.OBJECTIVE OF THE STUDY

1. To assess the pre-test and post-test Knowledge score regarding care of dialysis patients with renal insufficiency among nursing officers.
2. To assess the Impact of self-instructional module on knowledge regarding care of dialysis patients with renal insufficiency among nursing officers.
3. To find out the association between the pre-test knowledge score regarding care of dialysis patients with renal insufficiency among nursing officers with their selected demographic variables.

4.HYPOTHESES:

RH$_0$: There will be no significant difference between pre test and post-test knowledge score on care of dialysis patients with renal insufficiency among nursing officers.

RH$_1$: There will be significant difference between pre test and post-test knowledge score on care of dialysis patients with renal insufficiency among nursing officers.

RH$_2$: There will be significant association between the pre-test score on care of dialysis patients with renal insufficiency among nursing officers with their selected demographic variables.

5. ASSUMPTION

1. Nursing officers may have deficit knowledge regarding care of dialysis patients with renal insufficiency.
2. Self-instructional module will improve knowledge of nursing officers regarding care of dialysis patients with renal insufficiency.

6.METHODOLOGY:

A quantitative evaluative approach was used and research design pre experimental one group pre-test post-test research design was used for the study. The samples consisted of 40 nursing officers selected by Non probability convenient sampling technique. The setting for the study was JK hospital, Kolar road, Bhopal, M.P. Data was collected with the help of demographic variables and administering a self-structured knowledge questionnaire by the investigator before and after self-instructional module. Post-test was conducted after 7 days of pretest. Data were analysis using descriptive & inferential statistics.

7.ANALYSIS AND INTERPRETATION

SECTION-I Table -1 Frequency and percentage distribution of samples according to their demographic variables.
n = 40

S. No	Demographic Variables	Frequency	Percentage
1	**Age in Years**		
a.	18-24	14	35.0
b.	25-31	16	40.0
c.	32-38	10	25.0
d.	≥39	0	0.0
2	**Gender**		
a.	Male	18	45.0
b.	Female	22	55.0
c.	Transgender	0	0.0
3	**Professional qualification**		
a.	GNM	16	40.0
b.	Post B.Sc. Nursing	7	17.5
c.	B.Sc. Nursing	17	42.5
d.	M.Sc. Nursing	0	0.0
e.	Ph.D. Nursing	0	0.0
4	**Clinical Experience (in months)**		
a.	12-36	26	65.0
b.	37-60	11	27.5
c.	61-84	3	7.5
d.	≥85	0	0.0
5	**Sources of information regarding RTI's**		
a.	Internet	11	27.5
b	Journal	0	0.0
c	Books	24	60.0
d.	Workshop/Conference	0	0
e.	In-service education	5	12.5

SECTION-II- Table- 2.1.1- Frequency and percentage distribution of Pre-test scores of studied subjects:

Category and test Score	Frequency (N=40)	Frequency Percentage (%)
POOR(01-06)	34	85
AVERAGE (7-12)	6	15
GOOD (13-18)	0	0.0
TOTAL	40	100.0

The present table 2.1.1 concerned with the existing knowledge regarding care of dialysis patients with renal insufficiency among nursing officers was shown by pre-test score and it is observed that most of the 34 (85%) nursing officers were poor (01-06) knowledge and some 7 (15%) nursing officers have average category (7-12).
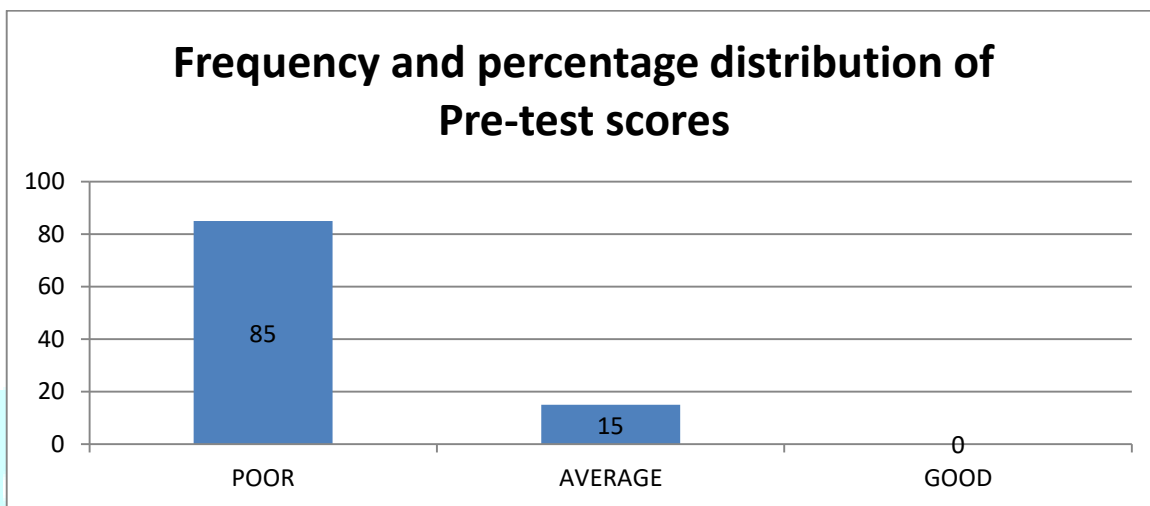

FIG.-2.1.1- Frequency and percentage distribution of Pre-test scores of studied subjects

Table-2.1.2. - Mean ($\overline{X}$) and standard Deviation (s) of knowledge scores:

Knowledge Pre –test	Mean ($\overline{X}$)	Std Dev (S)
Pre-test score	1.19	0.37

The information regarding mean, percentage of mean and standard deviation of test scores in shown in table 2.1.2 knowledge in mean pre-test score was 1.19 ± 0.37 while in knowledge regarding care of dialysis patients with renal insufficiency among nursing officers in J.K. hospital, Kolar road, Bhopal.

Hence, it is confirmed from the tables of section-II that there is a significant difference in mean of test scores which partially fulfill the first second objective of the present study.
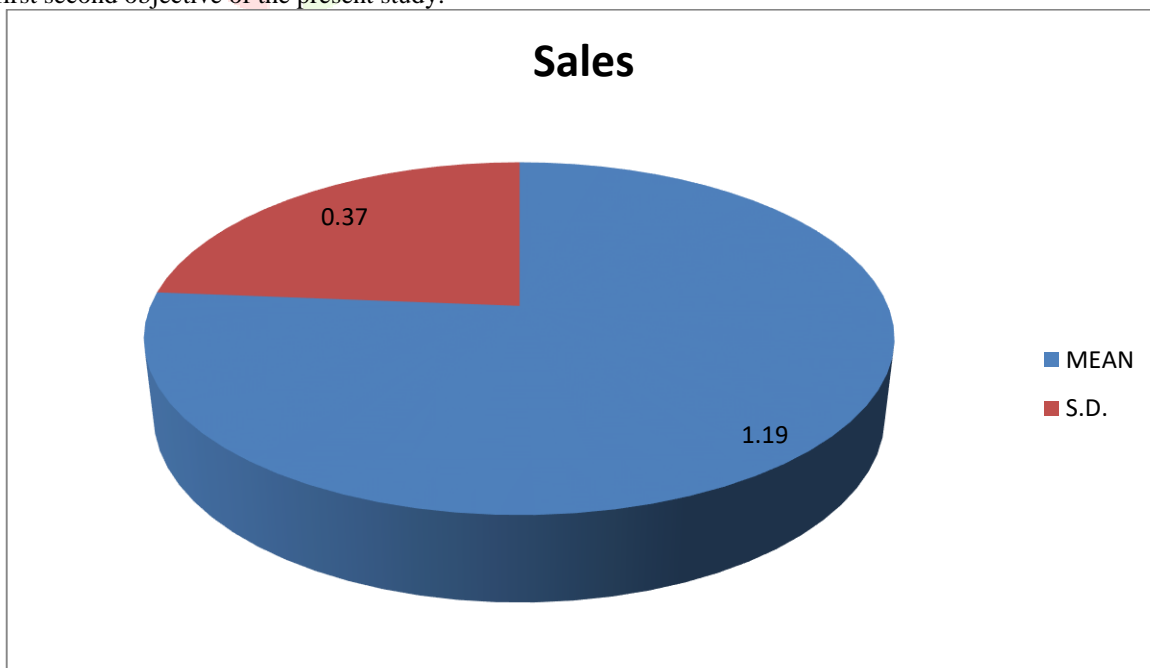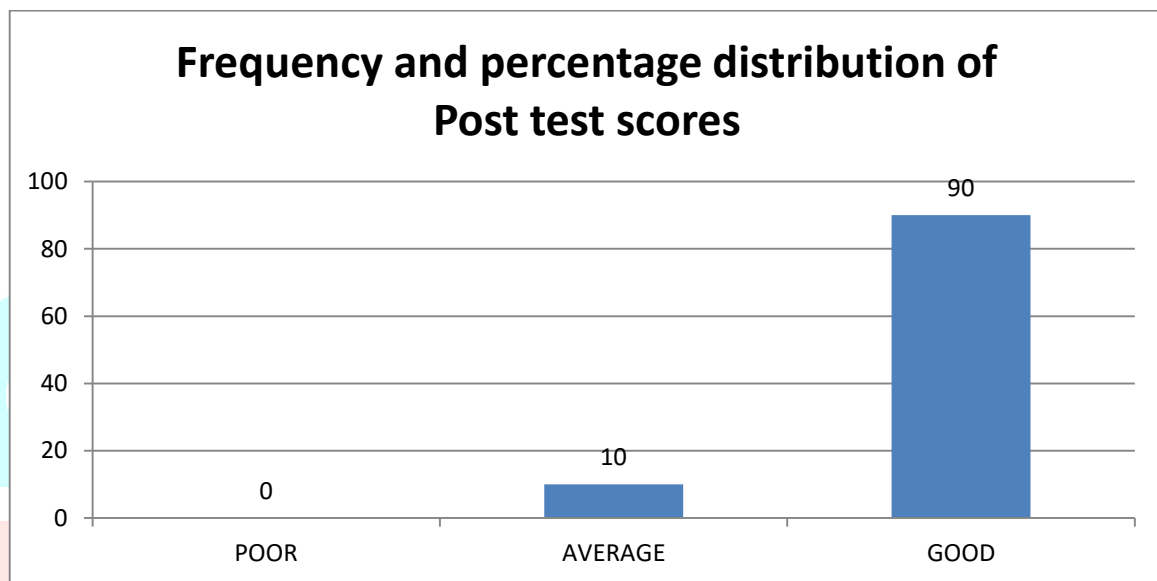

FIG.-2.1.1. - Mean ($\overline{X}$) and standard Deviation (s) of knowledge scores

Table-2.2.1- Frequency and percentage distribution of Post test scores of studied subjects:

Category and post-test Score	Frequency (N=40)	Frequency Percentage (%)
POOR(01-06)	0	0.0
AVERAGE (7-12)	4	10.0
GOOD (13-18)	36	90.0
TOTAL	40	100.0

The present table 2.2.1 concerned with the existing knowledge regarding care of dialysis patients with renal insufficiency among nursing officers was shown by post test score and it is observed that most of the 36(90.0%) nursing officers were **GOOD** (13-18) knowledge and other 4 (10.0%) nursing officers have category which are **AVERAGE** (07-12) posttest knowledge score in the present study.

FIG.-2.2.1- Frequency and percentage distribution of Post test scores of studied subjects

Table-2.2.2. - Mean ($\overline{X}$) and standard Deviation (s) of knowledge scores:

Knowledge Test	Mean ($\overline{X}$)	Std Dev (S)
Post-test score	2.90	0.30

The information regarding mean, percentage of mean and standard deviation of post test scores in shown in table 2.2.2 knowledge in mean post test score was 2.90±0.30 while in knowledge regarding care of dialysis patients with renal insufficiency among nursing officers in J.K. hospital, Kolar raod, Bhopal.

Hence, it is confirmed from the tables of section-II that there is a significant difference in mean of test scores which partially fulfill the first second objective of the present study.
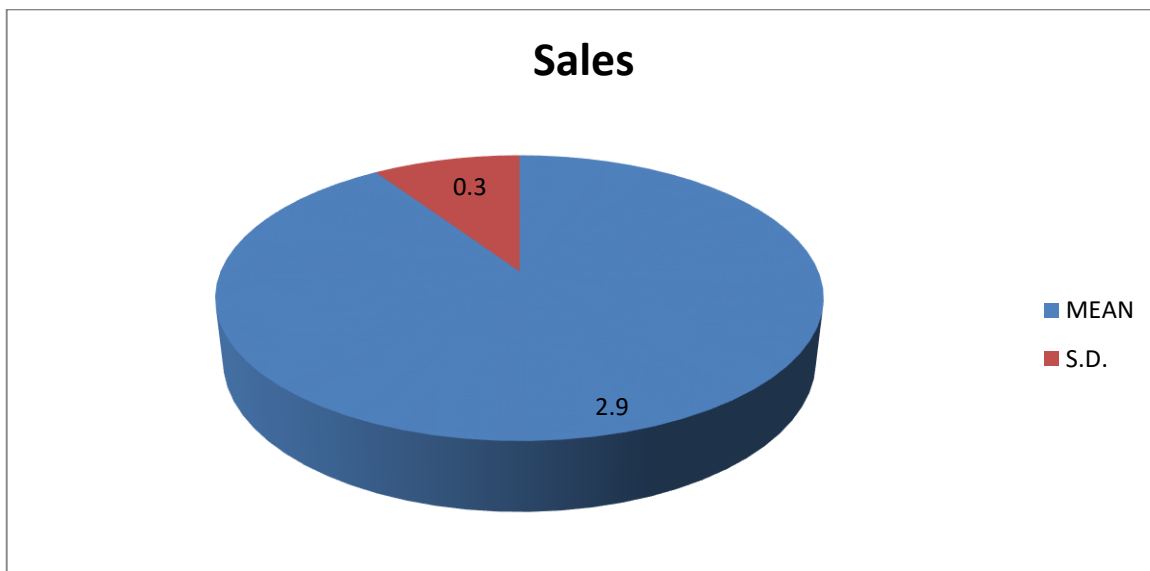
FIG.-2.2.2. - Mean ($\overline{X}$) and standard Deviation (s) of knowledge scores:

TABLE 2.2.3: Effectiveness of self-instructional module by calculating Mean, SD, Mean Difference and 't' Value of Pre-test and Post-test knowledge.

Knowledge Score of Nursing officers	Mean ($\overline{X}$)	S. D. (s)	Std. Error of Mean	D. F.	t-value	Significance
Pre-test	1.19	0.37	0.07	39	-24.12	P<0.0001[*]
Post-test	2.90	0.30				

When the mean and SD of pre-test and post-test were compared and 't' test was applied. It can be clearly seen that the 't' value was -24.12 and p value was 0.0001 which clearly show that self-instructional module was very effective in increasing the knowledge of nursing officers.

SECTION-III Association of knowledge scores between test and selected demographic variables:

Table- 3.1 Association of age with pre-test scores:

Age (in years)	Test scores			Total
	POOR (1-6)	AVERAGE (7-12)	GOOD (13-18)	
18-24	12	2	0	14
25-31	12	4	0	16
32-38	9	1	0	10
39-45	0	0	0	0
Total	33	7	0	40
X=1.13 p>0.05(Insignificant)				

The association of age test scores is shown in present table 3.1. The probability value for Chi-Square test is 1.13 for 2 degrees of freedom which indicated insignificant valve (p>0.05). Hence, it is identified that there is a insignificant association between age and test scores.

Table- 3.2 Association of gender with pre-test scores:

Gender	Test scores			Total
	POOR (1-6)	AVERAGE (7-12)	GOOD (13-18)	
Male	14	4	0	18
Female	19	3	0	22
Trans-gensder	0	0	0	0
Total	33	7	0	40
X=0.50 p>0.05 (Insignificant)				

The association of gender and test scores is shown in present table 3.2. The probability value for Chi-Square test is 0.50 for 1 degrees of freedom which indicated insignificant value (p>0.05). Hence, it is identified that there is a significant association between gender and test scores.

Table-3.3. Association of Professional qualification with pre-test scores:

Professional qualification	Test scores			Total
CLASS	POOR (1-6)	AVERAGE (7-12)	GOOD (13-18)	
GNM	14	2	0	16
Post B.Sc. Nursing	6	1	0	7
B.Sc. Nursing	13	4	0	17
M.Sc. Nursing	0	0	0	0
Ph.D. Nursing	0	0	0	0
Total	33	7	0	40
X=0.75 p>0.05 (Insignificant)				

The association of professional qualification test scores is shown in present table 3.3. The probability value for Chi-Square test is 0.75 for 2 degrees of freedom which indicated insignificant valve (p>0.05). Hence, it is identified that there is a insignificant association between professional qualification and test scores.

Table- 3.4 Association of clinical experience with pre-test scores:

Clinical experience	Test scores			Total
CLASS	POOR (1-6)	AVERAGE (7-12)	GOOD (13-18)	
12-36	21	5	0	26
37-60	9	2	0	11
61-84	3	0	0	3
≥ 85	0	0	0	0
Total	33	7	0	40
X=0.69 p>0.05 (Insignificant)				

The association of clinical experience test scores is shown in present table 3.4. The probability value for Chi-Square test is 0.69 for 2 degrees of freedom which indicated clinical experience and test scores. Hence, it is identified that there is a insignificant association between clinical experience and test scores.

Table- 3.5 Association of source of information regarding care of dialysis patients with renal insufficiency with pre-test scores:

Source of Information	Test scores			Total
	POOR (1-6)	AVERAGE (7-12)	GOOD (13-18)	
Internet	9	2	0	11
Journal	0	0	0	0
Books	20	4	0	24
Workshop/ Conference	0	0	0	0
In-service education	4	1	0	5
Total	33	7	0	40
X=0.03 p>0.05 (Insignificant)				

The association of source of information test scores is shown in present table 3.5. The probability value for Chi-Square test is 0.03 for 2 degrees of freedom which indicated source of information and test scores. Hence, it is identified that there is insignificant association between sources of information and test scores.

8.RESULTS

The result of this study indicates that there was a significant increase in the post-test knowledge scores compared to pre-test scores of care of dialysis patients with renal insufficiency. The mean percentage knowledge score was observed 1.19 ± 0.37 in the pre-test and after implementation of self-instructional module post-test mean percentage was observed with 2.90 ± 0.30.

9.CONCLUSION

Thus, after the analysis and interpretation of data we can conclude that the hypothesis RH1 that, there will be significance difference between the pre-test knowledge score with post-test knowledge score at the (P<0.05) is being accepted.
Furthermore, self-instructional module regarding care of dialysis patients with renal insufficiency among nursing officers may consider as an effective tool when there is a need in lacking, bridging and modifying the knowledge.

10.LIMITATIONS-

- The study was limited to J.K. hospital, Kolar raod, Bhopal.
- The study was limited to 40 nursing officers.

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