Original Research Article

The Effect of Video Assisted Teaching Programme on Selfcare Management Regarding the Knowledge among Patients with Chronic Renal Failure Receiving Regular Haemodialysis

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Abstract

Renal failure is a serious medical condition affecting the kidneys. When a person suffers from renal failure, the kidneys are not functioning properly. Renal failure can be a progressive disease. This study was aimed to evaluate the effectiveness of VATP on the knowledge regarding selfcare management among patients with chronic renal failure receiving regular hemodialysis, and to find the association between their posttest knowledge level and their selected socio-demographic variables. The research design selected for the present study was one-group pre-test and post-test pre-experimental design, Convenience sampling technique was used to select 40 patients with chronic renal failure receiving regular hemodialysis. Data was collected by using a structured interview schedule from the respondents. VATP was administered after conducting pre-test and post-test was conducted after 7 day of the intervention. Data was analyzed by using descriptive and inferential statistical techniques. The mean percentage of post-test knowledge score (85.00%) was higher than that of pre-test knowledge score (34.83%). The t value computed [t (39) = 20.63 P< 0.05} showed a significant difference, which showed that the VATP was effective in enhancing the knowledge among the patients with chronic renal failure on selfcare management of chronic renal failure.

Keywords: Renal failure, Effectiveness, Knowledge, Self-care management, Video Assisted Teaching Program.

1. INTRODUCTION

BACKGROUND

According to World Health Organization in 1948, Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Kidneys are the master chemists of our body. Kidneys supervise the condition of the blood, segregating damaging substances from valuable ones, proceeding not merely as waste disposal units but like complicated sieves too that salvage valuable substances that slip through the holes. The kidneys preserve the inner environment necessary for life.

Chronic renal failure causes hypertension, hypokalemia, decreased urination, anemia, nausea and vomiting, muscle cramps, insomnia, loss of appetite, ankle edema and constipation. These clinical manifestations of disease may not occur in every patient and may develop later during the progression of the disease. Therefore, monitoring and identifying the causative factors and considered an important part of the medical management of chronic renal failure.

Need for study:

Hemodialysis is used for patients who are ill and require short term dialysis (day to week) and for patients with advanced CKD and ESRD which require long term or permanent renal replacement therapy. Hemodialysis prevent death but not cure renal disease and does not compensate for the loss of endocrine or metabolic activities of kidney. More than 90% of patients requiring long term renal replacement therapy are on chronic hemodialysis that involve treatments three times

a week with average treatment duration of 3 to 4 hours in out-patient setting. Hemodialysis can also be performed by the patient and caregiver. With home dialysis, treatment time and frequency can be adjusted to meet optimal patient's needs.

A cross-sectional survey conducted to assess the risk factors of chronic kidney disease among 30 primary health care centers (PHCs) in hail province region of Saudi Arabians. The data were collected from 5000 Saudi people through interview. The result found that over all prevalence of risk factors for chronic kidney disease in Hail was 75%. The prevalence rates of cardio risk factors such as vascular disease was 5.3 %, continuous use of non – steroidal anti-inflammatory drugs 10.7%, herbal preparation 13.5% and cigarette smoking was 31%. The co relation of high creatinine levels (>1.4mg/dl) have shown statistically significant difference with hypertension (p=0.000), diabetes mellitus (p=0.000), obesity (p=0.013), cardiovascular disease (p<0.05) and smoking (p=0.02). They concluded that there are many risk factors significantly contributing to development of chronic kidney disease in Saudi Arabia.

Statement of problem:
"A Study To Evaluate The Effectiveness Of Video Assisted Teaching Programme Regarding Selfcare Management On The Knowledge Among Patients With Chronic Renal Failure Receiving Regular Haemodialysis In Haemodialysis Unit At Sri Chamarajendra Hospital, Hassan."

Review of Literature
A cross-sectional study was conducted on 50 patients of CKD admitted at GG Hospital, during a period of one year to identify the underlying causes and to assess complications of CKD. Data were collected by means of interviewing the patients and serological investigations. This study revealed that 24% of the patients had hyperglycemia and 36% had impaired glucose tolerance, almost all biochemical markers were elevated. 86% had high blood urea. All the patients had serum creatinine level above the normal range of age and sex. Seventy-two percent of the patients had hyponatremia, 4% had hypernatremia, 22% had hypokalemia, 40% of the patients had hyperkalemia, 38% of the patients had hypocalcemia and 6% had hypocalcemia. Findings of this study suggested that estimation of biochemical profile must be prescribed for all CRF patients, so that, complication could be identified at the earliest and could be intervened to prevent morbidity and mortality.

A cross-sectional study was conducted on 51 patients undergoing hemodialysis at a Public Nephrology Hospital in a city in northeastern Brazil to identify the relationship between socioeconomic variables and disease process. Data collected by using questionnaire covering socio-demographic information of 15 outcome indicators knowledge: disease process. Data revealed that there was a statistically significant but weak correlation between age and the indicators specific process of the disease (r=0.28), cause and contributing factors(r=0.36) signs and symptoms of the disease (r=0.30) signs and symptoms of complication of the disease (r=0.37), precautions to prevent complication of the disease(r=0.35) number of years of schooling and the indicators specific process of the disease(r=0.29) cause and contributing factors (r=0.28), and signs and symptoms of the disease (r=0.34). There were significant and moderate correlations of age and the indicator psychosocial effect of the disease in the individual(r=0.41) in the family (r=0.44) and benefits of disease control (r=0.48) sex was related only to the indicator specific process of the disease (p=0.03). This study concluded that, there was no relationship between some indicators of the outcome knowledge: disease process with the socio-demographic variables in patients undergoing hemodialysis, a fact that underscore the importance of implementing nursing intervention that consider the particularities of the individuals.

AIMS OF THE STUDY:
1. To determine the existing knowledge regarding self-care management among patients with chronic renal failure receiving regular haemodialysis.
2. To evaluate the effectiveness of video assisted teaching program regarding self-care management on the knowledge among patients with chronic renal failure receiving regular haemodialysis.
3. To find the association between the post-test level of knowledge among patients with chronic renal failure receiving regular haemodialysis and their selected socio demographic variables.

HYPOTHESES
H₁: There will be a significant difference between mean pre-test and post test knowledge scores regarding self-care management among patients with chronic renal failure receiving regular hemodialysis.
H₂: There will be a significant association between post-test level of knowledge among patients with chronic renal failure receiving regular hemodialysis and their selected socio-demographic variables.

2. MATERIALS AND METHODS
RESEARCH DESIGN
The research design is the plan, structure and strategy of investigation for answering the research question. It is the plan or blueprint the researcher selects to carry out the study. The research design selected for the present study was one-group pre-test and post- test pre-experimental design. In this design pre-test is conducted followed by Video Assisted Teaching Program on the same day and the post-test is conducted for the same group after 7 days.

Sampling	Pre-test	Treatment	Post-test
Non-Random convenience sampling technique is used to select of the sample	Assessment of the knowledge	Conduction of Video Assisted Teaching Program	Assessment of the Knowledge
	O_1	X	O_2

O_1: Pre-test to assess the level of knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis.

X: Video assisted teaching program regarding self-care management among patients with chronic renal failure receiving regular hemodialysis conducted after pretest.

O_2: Post-test to assess the post-test level of knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis.

DATA COLLECTION AND PROCEDURE
Permission from the concerned authority
Formal administrative permission was obtained from the hospital director, district surgeon Sri Chamarajendra hospital, Hassan.

The main study was conducted from 03-06-2020 to 03-07-2020 at hemodialysis unit at Sri Chamarajendra hospital, Hassan.

Pre-test (O1)
The investigator conducted the pre-test to assess the knowledge regarding self-care management among 40 patients with chronic renal failure receiving regular hemodialysis in hemodialysis unit at Sri Chamarajendra hospital, Hassan. The purposes and objectives of the study were explained to patients with chronic renal failure and confidentiality was assured. Informed consent to participate in the study was obtained. Approximately 60 minutes were required for the data collection.

Administration of Video Assisted Teaching Program (X)
The Video Assisted Teaching Program regarding self-care management of chronic renal failure was conducted after pre-testing on the same day.

Post test (O2)
The post test was conducted on the 7th day after pre-testing and administration of video assisted teaching program by using same structured interview schedule. Each subject took approximately 50 minutes to complete the post-test. All the participants cooperated well with the investigator in both pre-test and post-test.

SAMPLE:
Samples refer to the entire set of individuals or objects in which the researcher is interested in the study. Population in the present study included all Patients with chronic renal failure receiving regular hemodialysis in hemodialysis unit at Sri Chamarajendra Hospital, Hassan.

TOOLS:
Format to collect socio-demographic data of patients
It consists of 10 items related to socio-demographic data of the subjects such as age, gender, religion, marital status, educational status, occupation, family monthly income, duration of hemodialysis, therapy frequency of hemodialysis, exposure to informational resources.

Structured interview schedule to assess the knowledge of patients with chronic renal failure regarding self-care management
It consists of 30 multiple choice type items on knowledge regarding self-care management of chronic renal failure patients. It includes five aspects:
Aspect-1: General information. (05 items)
Aspect-2: Causes clinical manifestations diagnosis, complications and treatment of chronic renal failure. (10items)
Aspect-3: Diet for patients with chronic renal failure. (05 items)
Aspect-4: Exercise for patients undergoing hemodialysis. (05 items)
Aspect-5: Care of fistula. (05items)

RESEACH APPROACH
Research approach refers to the approach or methodology that has been adopted to conduct the research. The research approach employed in the present study is Quantitative Evaluative Research Approach.

SETTING
"Setting" refers to the area where the study was conducted. It is the physical location and condition in which data collection takes place during a study. The criteria for selection of the setting included the availability of subjects, feasibility of conducting the study, getting permission from the concerned authority, etc. This study was conducted at hemodialysis unit in Sri Chamarajendra Hospital, Hassan.

CRITERIA FOR SELECTION OF SAMPLE
A) Inclusion criteria: This study included the patients with chronic renal failure receiving regular hemodialysis at hemodialysis unit in Sri Chamarajendra hospital, Hassan. Who were.
1. Present at the time of data collection
2. Willing to participate in study

B) Exclusion criteria: This study excluded, those patients with chronic renal failure receiving regular hemodialysis, who were
1. Not able to understand Kannada.
2. Critically or severely ill.

ANALYSIS STRATEGIES: The data was analyzed in terms of objectives of the study. The plan for data analysis was as follows.

Descriptive statistics:
1. Frequency and percentage distribution were used to analyze the demographic data of patients with chronic renal failure receiving regular hemodialysis in hemodialysis unit at Sri Chamarajendra hospital, Hassan
2. Range, Mean, mean percentage, standard deviation and coefficient of variation were used to assess the level of knowledge regarding self-

care management of chronic renal failure among patients with chronic renal failure.

Inferential statistics
1. Paired "t" test was used to assess the effectiveness of video assisted teaching program
2. Chi-square test was used to find association between the post-test level of knowledge of chronic renal failure patients with their selected socio-demographic variables.

SCHEMATIC REPRESENTATION:
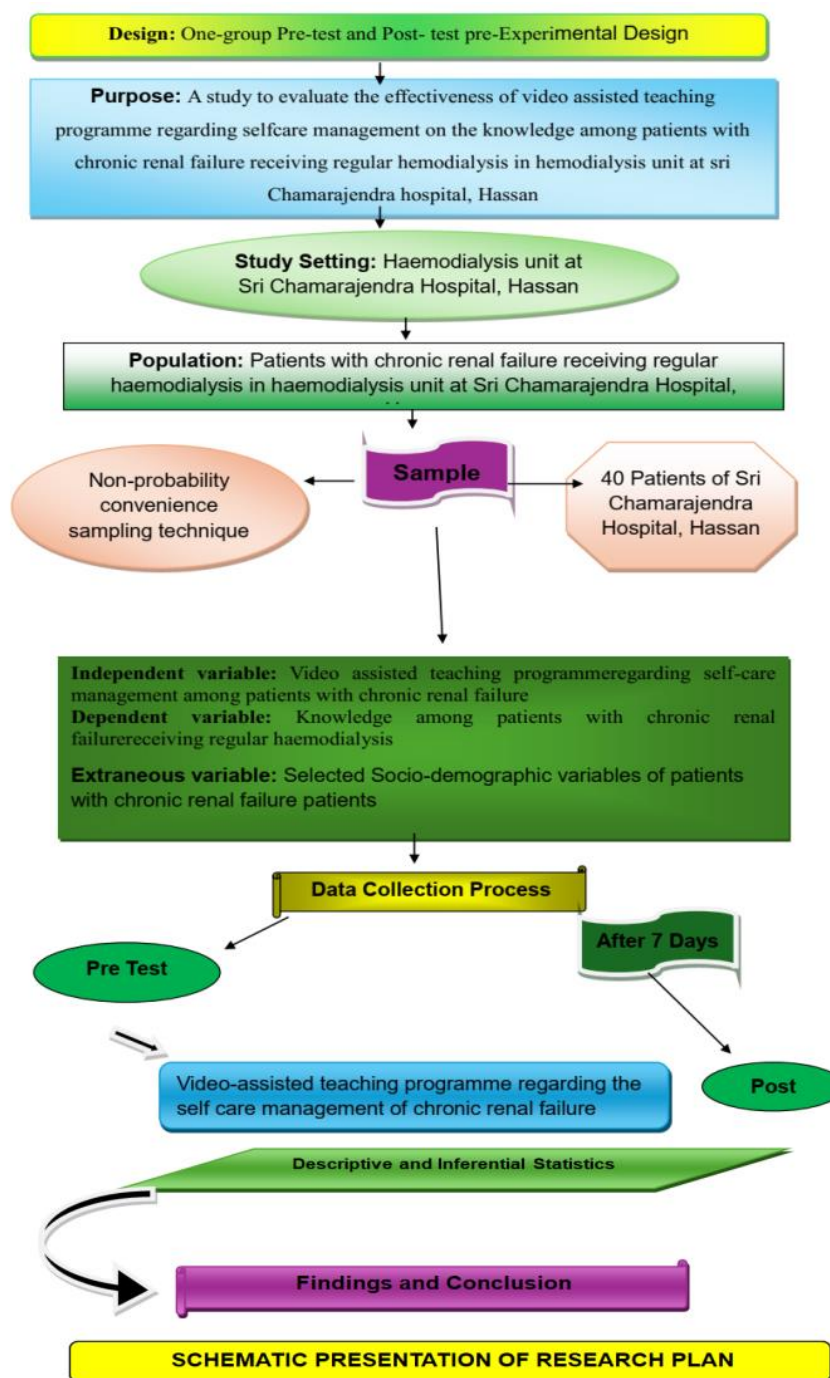
3. RESULTS

The results of data analysis are presented under the following headings.

Section I: Analysis of Socio-demographic characteristics of study participants under the study.

Section II: Analysis of pre-test and post-test knowledge scores of study participants.

A) Analysis of pre-test knowledge scores of study participants.
B) Analysis of post-test knowledge scores of study participants.
C) Comparison of pre-test and post-test knowledge of study participants.

Section III: Analysis of association between pre-test knowledge scores and selected demographic variables of study participants.

Table 1: Classification of study participants by socio-demographic variables; N=40

Sl. No	Socio Demographic Variables	Categories	Frequency	Percentage of Frequency
1	Age in years	21-30	1	2.5%
		31-40	8	20.0%
		41-50	15	37.5%
		51 and above	16	40.0%
2	Gender	Male	19	47.5%
		Female	21	52.5%
3	Religion	Hindu	21	52.5%
		Muslim	13	32.5%
		Christian	4	10.0%
		Others	2	5.0%
4	Marital status	Single	6	15.0%
		Married	23	57.5%
		Divorced	0	0.0%
		Widow/widower	11	27.5%
		Others	0	0.0%
5	Educational status	Non literate	16	40.0%
		Primary education	12	30.0%
		Secondary education	10	25.0%
		PUC	2	5.0%
		Graduation and above	0	0.0%
6	Occupation	Unemployed	16	40.0%
		Self employed	18	45.0%
		Private employee	4	10.0%
		Government employee	2	5.0%
7	Family income per month in rupees	5000/- and below	13	32.5%
		5001-10000/-	15	37.5%
		10001-15000/-	9	22.5%
		15001 and above	3	7.5%
8	Duration since heamo-dialysis therapy started	Less than 1 year	4	10.0%
		1-5 year	22	55.0%
		6-10 year	10	25.0%
		11-15 year	4	10.0%
		More than 15 year	0	0.0%
9	Frequency of haemodialysis	Daily	0	0.0%
		Thrice a week	14	35.0%
		Twice a week	18	45.0%
		Once a week	8	20.0%
		Once in two weeks	0	0.0%
10	Exposure to informational resources	Mass media	4	10.0%
		Newspaper	6	15.0%
		Healthcare professional	24	60.0%
		Relatives and friends	2	5.0%
		None	4	10.0%

Table 1 it represents demographic characteristics of patients with chronic renal failure receiving hemodialysis regularly.

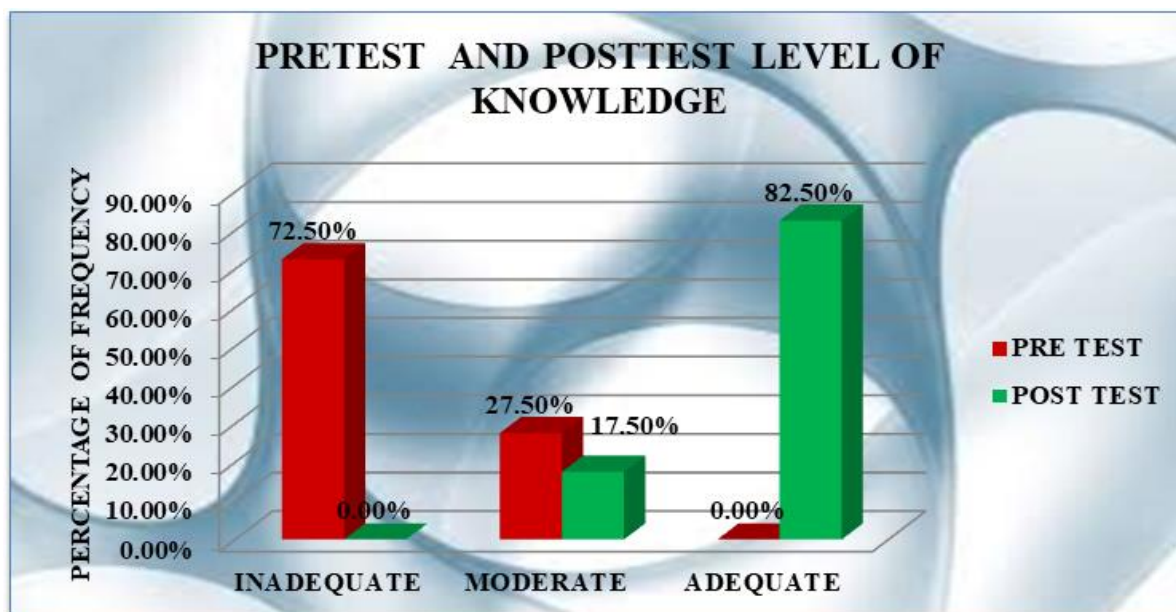**Table-2: Comparison between pre-test and post-test levels of knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis, (N=40)**

Level of Knowledge	Percentage of Knowledge Scores	No. of study participants		Percentage of frequency	
		Pre-Test	Post Test	Pre-Test	Post Test
Inadequate	≤50%	29	0	72.5%	0.0%
Moderately Adequate	50-75%	11	7	27.5%	17.5%
Adequate	>75%	0	33	0.0%	82.5%
Total		40	40	100.0%	100.0%

Figure 2: Bar diagram comparing pre-test and post-test level of knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis

Figure 2 compares the pre-test and post-test level of knowledge among study participants. In the pre-test, 72.50% of the respondents had inadequate knowledge while 27.5% of the respondents had moderate knowledge and none of them had adequate knowledge. But in the post-test, most (82.5%) of them had adequate knowledge, 17.50% of them had moderate knowledge and none of them had inadequate knowledge.

1.3: Equations:
N = (z α + z β) 2 / (δ/σ) 2 =37.37

4. DISCUSSION
First objective of the study was:
1. To determine the existing knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis.

The present study showed that, in the pre-test, majority (72.5%) of the chronic renal failure patients had inadequate knowledge regarding self-care management of chronic renal failure: 27.5% had moderate knowledge; the mean knowledge score of respondents in the pre-test was 34.83%.

Second objective of the study was:
2. To evaluate the effectiveness of video assisted teaching program regarding self-care management on the knowledge among patients with chronic renal failure receiving regular hemodialysis.

In the present study, in pre-test, 72.50% of the respondents had inadequate knowledge while 27.5% of the respondents had moderate knowledge and none of them had adequate knowledge. But in the post-test, most (82.5%) of them had adequate knowledge, 17.50% of them had moderate knowledge, and none of them had inadequate knowledge. The mean post-test knowledge score (85%) of respondents was significantly higher than the mean of pre-test scores (34.83%) and the computed paired 't' test value (t$_{39}$=20.63, p<0.050) for overall test was greater than the table value (t (0.05, 39df) =2.04) at 0.05 level of significance.

Third objective of the study was:
3. To find the association between posttest knowledge scores chronic renal failure patients and their selected socio-demographic variables.

The results of the present study showed that, post-test knowledge level of respondents are not significantly associated with age, gender, type of family,

religion, place of residence, educational qualification of parents, family monthly income, previous exposure to dengue infection, previous exposure to source of information related to dengue fever and its prevention.

5. CONCLUSION

The following conclusions were drawn from the study.

- The knowledge of the chronic renal failure patients receiving regular haemodialysis regarding selfcare management was inadequate before the administration of video assisted teaching programme.
- There was a significant difference between mean pre-test and post-test knowledge score of chronic renal failure patients receiving regular haemodialysis regarding selfcare management. Hence it was concluded that, video assisted teaching programme regarding self-care management of chronic renal failure was effective in enhancing knowledge and improving knowledge among patients with chronic renal failure receiving regular haemodialysis.
- Socio-demographic data of the respondents, viz. Age in years, religion, marital status, education status, occupation, Duration since haemodialysis therapy, Frequency of haemodialysis, Exposure to informational resource related to selfcare management of chronic renal failure were not associated with post-test knowledge scores. But Gender and Family income per month in rupees were associated with post-test knowledge level.

Nomenclature:

O_1: Pre-test to assess the level of knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis.

X: Video assisted teaching program regarding self-care management among patients with chronic renal failure receiving regular hemodialysis conducted after pretest.

O_2: Post-test to assess the post-test level of knowledge regarding self-care management among patients with chronic renal failure receiving regular hemodialysis.

N=Estimated Sample Size

For $\alpha = .05$, $z\,\alpha = 1.96$; for $\beta = .20$, $z\,\beta = 0.84$.

δ =clinically significant difference=2

σ=standard deviation of the differences=4.36

ETHICAL STATEMENT:

Permission has been obtained from the Govt, College of Nursing, Hassan and the research was conducted, the informed consent was obtained from the respondents prior to the research study.

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