

A Study to Assess the Effectiveness of Structured Teaching Program Regarding Stress Management on Level of Knowledge Among Patients Undergoing Hemodialysis in a Selected Tertiary Care Hospital, Coimbatore.

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ABSTRACT

Background of the study: Kidney diseases are silent killers which largely affect the quality of life. Fluid Restriction is one of the most frequently experienced stressors among patients receiving haemodialysis. **Objective:** To assess the effectiveness of structured teaching program regarding stress management on level of knowledge among patients undergoing haemodialysis. **Method:** Quantitative research, pre-experimental one group pre test post test design was adopted. 30 study participants were selected by non-probability purposive sampling technique. Demographic and Clinical variables and Self-Structured questionnaire were used to collect the data. **Result & Discussion:** The result revealed that, the calculated value of paired 't' test regarding stress management on level of knowledge was 13.85 greater than the table value 1.69 at $p < 0.05$. **Conclusion:** The study concluded that the structured teaching program was effective in enhancement of knowledge regarding stress management on haemodialysis patients. **Key words:** Effectiveness, Structured teaching program, Stress management, Level of knowledge, Haemodialysis.

1. INTRODUCTION

Kidney diseases are silent killers which largely affect the quality of life. It is the progressive loss in renal function over a period of months or years. It is a widespread medical condition that is progressive in nature. Kidney disease is a global health problem affecting over 750 million people worldwide. The burden of kidney disease varies substantially across the worldwide, as does its detection and treatment (Deridra, 2019). Prevalence of Chronic Kidney Disease (CKD) was higher in women and girls (9.5) than in men and boys (7.3). In 2017, 69.75 million cases of were recorded worldwide, for a global prevalence of 9.1%, where 1.2 million people died. The all-age mortality rate from CKD increased 41.5% in globally. Diabetic Nephropathy accounted for nearly 3rd of Disability-Adjusted Life Years (DALYs) from CKD. (PradeepArora, MD 2020). Among Indian population, 150-230 persons suffer from End stage Renal Disease in every million people and about 2,20,000-2,75,000 new patients need RRT every year. In Tamilnadu 65,000 patients suffer from chronic kidney disease and around 15,000 patients require advanced care every year (Balajee, 2019). Hemodialysis is a life saving therapy for patients with CKD. It is a technique in which a machine filters waste in patient's blood when the kidney fails. It usually done 3-4 times a week, for 4 hours. Dialysis establish maintenance of homeostasis in persons suffering a rapid loss of kidney function. (Murdeshwar H N, 2021). The prospective cross-sectional study was managed on 95 haemodialysis patients, aimed to sleeplessness in patient with ESRD. The results revealed that during earlier stage of patients undergoing hemodialysis are experienced poor sleep quality, Restless Leg Syndrome and Excessive day time sleep (Chandran N et.al, 2020). The patient training is considered as an important nursing role in all areas including public awareness of hospital roles, causes and symptoms of disease, treatment and self- care and to provide adequate knowledge to the patients

regarding stress management and help them to manage their stress. These roles have been emphasized by the **American Nursing Association (ANA)**.

Statement of the Problem

A study to assess the effectiveness of structured teaching program regarding stress management on level of knowledge among patients undergoing haemodialysis in a selected tertiary care hospitals, Coimbatore.

Objectives

1. To assess the stress management on level of knowledge among patients undergoing hemodialysis.
2. To assess the effectiveness of structured teaching program regarding stress management on level of knowledge among patients undergoing haemodialysis.
3. To associate the pre-test level of knowledge among patients undergoing hemodialysis with selected demographic and clinical variables.

Operational Definitions

Effectiveness:

It refers to extent in which the change is observed at the level of knowledge regarding stress management among patients undergone haemodialysis after the interventions and it was measured in terms of significant variation between the pre and post test scores by self-structured knowledge questionnaire.

Structured teaching program:

A systematically developed program using instructional aids, designed to provide interventions for improving the level of knowledge regarding stress management among patients undergoing haemodialysis.

Stress management:

It refers to the relaxation skill works before undergoing haemodialysis such as diaphragmatic breathing exercise for 3 to 10 times up to 10 minutes, progressive muscle relaxation including each muscle group for 4 to 10 seconds up to 15 minutes, and mindful meditation like Benson's relaxation technique for the duration of 10 to 20 minutes and Anapanasati meditation for 5 minutes.

Knowledge:

It refers to the level of knowledge regarding the stress management among the patients undergoing haemodialysis can be measured by self-structured knowledge questionnaire.

Haemodialysis:

It is one of therapeutic procedure to remove nitrogenous waste products from the blood by using a dialysis machine and dialyzer among chronic renal failure patients.

Hypotheses:

H1- There will be a difference between pre-test and post-test level of knowledge regarding stress management among patients undergoing haemodialysis.

H2- There will be a significant association between the pre-test level of knowledge on stress management

with selected demographic and clinical variables.

2. MATERIALS AND METHODS

2.1 Research Approach and Design

The quantitative research approach is one group in which pretest will be conducted initially, then intervention will be given after that posttest will be conducted to assess the level of knowledge regarding stress management among patients undergoing hemodialysis.

2.2 Independent Variable

The independent variable in the study, Structured teaching program regarding stress management

Dependent Variable

The dependent variable in the study was Level of knowledge..

Setting of the Study

The study will be conducted among sanitary workers on PSG Super Specialty Hospitals, Coimbatore.

Population and Sampling

The patient who have admitted for the haemodialysis at PSG Super Specialty Hospital, Coimbatore.

2.6 Sampling Technique and Sample Size

Non probability purposive sampling technique

2.7 Sample Selection Criteria

Inclusion Criteria

The study includes 'haemodialysis patients' who are;

- in the age group of 35 to 65 years.
- diagnosed with chronic renal disease requiring haemodialysis

Exclusion Criteria

Undergoing peritoneal dialysis

2.8 Instruments and Tools for Data Collection

Tool consists of two sections

Section A:

The demographic variables including age, gender, educational status, occupational status, marital status, type of family. The clinical variables including sessions for haemodialysis per week/ month, co - morbidities (Diabetes, Hypertension, Cardiovascular disease, any others).

Section B:

It is a Self structured questionnaire. The questionnaire includes 20 multiple choice questions which has three choices with one correct answer. Each correct answer will be scored as one and wrong answer will be scored as zero

Table-1: Scoring Interpretation of the tool

S.No.	Scores	Percentage	Interpretation
1.	14 - 20	>75	Adequate knowledge
2.	8 - 13	50 - 75	Moderately Adequate Knowledge
3.	1 - 7	<50	Inadequate Knowledge

2.9 Validity and Reliability of Tool

The content validity of the tool and the intervention

2.10 Data Collection Procedure

Data collection period was from 23.08.2021 to 28.08.2021. After getting the ethical clearance from IHEC, (Institutional Human Ethical Committee) the permission was obtained from PSG Hospital, Principal of PSG College of Nursing and Head of the Department of Nephrology Dr.G.Venu PSG Hospitals. The study was conducted in dialysis unit, PSG Hospitals, Coimbatore. On the first day, 30 dialysis patients were selected for the study. After selecting the study participants informed consent was obtained from them (explain every steps of consent form). The second day level of knowledge was assessed by using self-structured questionnaire. On third day the interventions such as diaphragmatic breathing exercise for 3 to 10 times for 10 minutes , progressive muscle relaxation including each muscle group for at least 4 to 10 seconds for 15 minutes and mindful meditation like Benson's relaxation technique for duration of 10 to 20 minutes and Anapanasati Meditation for 5 minutes through demonstration method. The seventh day posttest regarding stress management on level of knowledge was assessed by using same self - structured knowledge questionnaire. The collected data was analyzed by using descriptive and inferential statistics.

3. RESULTS:

The results of the study were categorized into 4 tables given below,

Table 3. Frequency and percentage distribution of study participants based on pre test and post test level of knowledge regarding stress management among patients undergoing haemodialysis.

n=25

S.NO	LEVEL OF KNOWLEDGE											
	PRETEST						POST TEST					
	Adequate knowledge		Moderately Adequate knowledge		Inadequate Knowledge		Adequate knowledge		Moderately Adequate knowledge		Inadequate Knowledge	
	f	%	f	%	f	%	f	%	f	%	f	%
1.	10	33.33	15	50	5	16.67	29	96.67	1	3.33	0	0

Table 2. Comparison of pre test and post test level of knowledge regarding stress management among patients undergoing hemodialysis by using paired‘t’ test.

H1: There will be a significant difference between pre test and post test level of knowledge regarding stress management among patients undergoing hemodialysis.

n=25				
Groups	Mean \pm Standard deviation	Unpaired ‘t’ test	d.f	Table value
Pre test	9.97 \pm 3.03	13.85*	29	1.69
Post test	18.26 \pm 1.33			

* Significant at $p < 0.05$

3.1 Association between the pretest level of knowledge regarding stress management among patients undergoing haemodialysis with the selected demographic and clinical variables by using Chi square test.

The calculated chi square value was higher in occupational status (12.16) and type of family (10.74) than the tabulated value (9.49) and (5.99) at the level of $p < 0.05$. It reveals that there was a significant association between the selected demographic variable regarding stress management on level of knowledge among patients undergoing haemodialysis. Hence H2 was retained for occupational status and type of family.

4. DISCUSSION:

The data presented in the table 3 elicits the frequency and percentage distribution of study participants the frequency and percentage distribution of study participants based on pre test and post test level of knowledge. In aspect of pre test 10 (33.33%) had adequate knowledge, 15 (50%) had moderately adequate knowledge and 5 (16.67%) had inadequate knowledge. In post test 29 (96.67%) had adequate knowledge, 1 (3.33%) had moderately adequate and none of them had inadequate knowledge.

The comparison between pre test and post test level of knowledge among the study participants by using paired‘t’ test. The mean and standard deviation of pretest was 9.97 \pm 3.03 and the post test was 18.26 \pm 1.33 respectively. The calculated value for paired‘t’ test was 13.85 at $p < 0.05$. Therefore, it has been proven that the structured teaching program was more effective among patients undergoing haemodialysis. Hence H1 was retained.

A similar study was conducted to evaluate the effectiveness of self instructional module on knowledge regarding home care management among patients with chronic renal failure undergoing haemodialysis at selected hospital. The pre test mean and standard deviation was 14.4 \pm 2.67 and the post test mean and standard deviation was 25.15 \pm 2.47 respectively. The calculated value for paired‘t’ test was 31.46 at $p < 0.001$. Therefore, it has been proven that the self instructional module on knowledge was more effective among patients undergoing haemodialysis.(Singh R et.al., 2016).

The calculated chi square value was higher in occupational status (12.16) and type of family (10.74) than the tabulated value (9.49) and (5.99) at the level of $p < 0.05$. It reveals that there was a significant association between the selected demographic variable regarding stress management on level of knowledge among patients undergoing haemodialysis. Hence H2 was retained for occupational status and type of family.

5. CONCLUSION:

The result of the study revealed that there was a significant difference regarding stress management on level of knowledge. Therefore, the research hypotheses were retained. Thus, structured teaching program was effective regarding stress management on level of knowledge. The goal for haemodialysis patients should be a healthy life style that can be maintained in a long term with “Exercises & diet”. It is all about making changes that will lasts a life time changes that are focused on smart and sensible modifications.

5.1 Nursing Implications

The present study has implications for nursing practice, nursing education, nursing administration and nursing research.

Nursing practice

- Nurses can implement stress management technique on their routine clinical practice.
- The study can be emphasized for the haemodialysis patients to reduce stress during dialysis.
- Haemodialysis patients should be educated about the importance and benefits of stress management techniques to manage their stress during dialysis.
- Nurse should conduct regular health program in the dialysis unit by nursing personnel to help the patients undergoing haemodialysis in reducing level of stress.

Nursing Education

The nursing students should,

- educate the haemodialysis patients regarding stress management by using calming techniques.
- learn the assessment of stress and provide calming techniques for reducing stress among patients undergoing haemodialysis as an independent nursing intervention.

Nursing Administration

- The nurse administrator could,
 - initiate calming techniques to reduce stress through developmental program like in-service education and continuing nursing education program.
 - motivate nurses to use relaxation techniques in their clinical practice in dialysis unit.

Nursing Research

- The study findings encourage, further research studies on to assess stress and effectiveness of stress management techniques on level of knowledge among patients undergoing hemodialysis.
- Extensive research can be conducted to create awareness to the hospitals and community regarding stress and its management.
- Disseminating the finding of the study through research reviews, publications in the journals etc.
- These study findings can be used as the baseline data for future studies.

5.2 Limitations of the study

- There was no difficulty faced at the time of data collection.

5.3 Recommendations

- The study can be conducted on a large population.
- A study can be done to assess the effectiveness regarding stress management on level of knowledge and attitude among patients undergoing haemodialysis.
- A study can be done to assess the depression, anxiety and stress among haemodialysis patients.
- A study can be done regarding the coping and deviation methods regarding stress regarding among haemodialysis patients.
- A study can be done to assess the quality of life and level of fatigue among haemodialysis patients.

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