

## Research Article

# POST DIALYSIS COMPLICATIONS AND ITS PREVENTION AMONG PATIENTS UNDERGOING HAEMODIALYSIS

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### ABSTRACT

The urinary system helps remove waste and maintain balance in the body. It includes the kidneys, ureters, bladder, and urethra. When the kidneys fail, treatments like haemodialysis are needed to support life. Learning about this system and its care is important. Patients and families who understand it can make better health decisions and live healthier lives. The study aims to assess the knowledge of patients on post-dialysis complications and their prevention, find the association between their knowledge and selected demographic factors, and provide an information booklet to improve awareness and prevention. A descriptive design with a quantitative approach was used. Data were collected from 60 haemodialysis patients at SIMS & RH using convenient sampling. A pre-test was conducted with a structured questionnaire, followed by an information booklet. Data were analyzed using descriptive and inferential statistics. The mean pre-test score was 17.65 (SD = 5.032) with a mean percentage of 58.83%. Chi-square analysis showed no significant association between knowledge levels and demographic variables. There was no significant association between patients' knowledge on post-dialysis complications and their demographic variables.

**Keywords:** Chronic kidney disease, complications, End stage renal disease, Dialysis, Glomerular filtrationrate

### INTRODUCTION

The human body is made up of trillions of cells, which are the basic units of life. These cells from different systems such as the cardiovascular, skeletal, musculoskeletal, respiratory, gastrointestinal, reproductive, and urinary systems. Among them, the urinary system plays a vital role in removing waste from the body. It consists of two kidneys, ureters, the bladder, and the urethra.

The kidneys are vital organs that filter blood, remove wastes, and maintain fluid, electrolyte, and acid-base balance. They also regulate blood pressure and produce important hormones like calcitriol, renin, and erythropoietin. While a person can survive with one kidney, failure of both kidneys can be life-threatening. Loss of kidney function may occur due to age, injury, or infections. Acute kidney failure may be treated with medications, but chronic kidney disease often progresses to kidney failure, requiring dialysis or a kidney transplant. Dialysis is usually required when more than 90% of kidney function is lost. Haemodialysis, one of the most common renal replacement therapies, removes waste products like urea, creatinine, and excess fluid from the blood. Since its development in the 1960s, haemodialysis has improved with better machines and techniques, making treatments more effective and even possible at home. However, it remains a complex and time-consuming therapy that needs cooperation between patients, families, and the healthcare team, including doctors, nurses, technicians, dietitians, and social workers.

Because patients face many challenges during dialysis, proper education about preventing post-dialysis complications is essential.

It helps reduce morbidity and mortality rates and improves patients' quality of life.

### OBJECTIVES

1. To assess the knowledge regarding selected post dialysis complications and its prevention among patients undergoing haemodialysis.
2. To find out the association between levels of knowledge regarding selected post dialysis complications and its prevention with their selected demographic variable among patient undergoing haemodialysis.
3. To develop and distribute an information booklet on knowledge regarding selected post dialysis complication and its prevention.

### METHODOLOGY

Descriptive research approach was used in the present study. Descriptive approach describes situation, as they exist in the world and provides an accurate account of characteristics of individuals, situation, or groups. The research design selected for the present study was descriptive cross sectional survey decision.

The study was conducted at Shridevi Institute of Medical Sciences and Research Hospital, Tumakuru. The Sample size consist of 60 patients who are undergoing haemodialysis and Non-probability Convenient sampling technique was adopted for the present study. A structured knowledge questionnaire was found appropriate.

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## DESCRIPTION OF THE BLUEPRINT

A blueprint for knowledge questionnaire on selected post dialysis complication and its prevention was prepared (Annexure – XIII). This consisted of item pertaining to the one aspect.

That is; Knowledge regarding selected post dialysis complication and its prevention There were 30 items (100%) on the aspect of knowledge on selected post dialysis complication and its prevention.

**DESCRIPTION OF THE TOOL:** The structured knowledge questionnaire comprised of two sections:

**SECTION - I:** Demographic Proforma a Proforma for selected personal information was used to collect the sample characteristics. The characteristics included are age, gender, religion, education, occupation, income, Area of residence, duration of illness, years of undergoing dialysis, previous knowledge. (Annexure - XI). The respondents were asked to give relevant information in the space provided.

**SECTION - II:** Structured knowledge questionnaire. It consists of 30 items on Knowledge regarding selected post dialysis complication and its prevention. (Annexure - XI)

### SCORE INTERPRETATION

**Part-I** was interpreted by coding the demographic variables. For Part-II scores '1' was awarded to correct response and '0' for wrong response to all 30 items. Thus, a total of 1 scores were allotted under knowledge per answer. The samples were categorized under adequate knowledge, moderate knowledge, and inadequate knowledge, based on their scores. Adequate knowledge: > 75% Moderate knowledge: 51 - 75% Inadequate knowledge: ≤ 50%

### ETHICAL CONSIDERATION:

The research proposal was approved by the dissertation committee prior to pilot study. Permission was obtained from the head of the institution and also from the higher authority of SIMS & RH, Tumakuru. The objective and other details of this study were explained to the participants and consent was obtained to participate in the study. Assurance was given to the study participants on anonymity and confidentiality of the data collected from them.

### PRE-TESTING AND RELIABILITY OF THE TOOL:

For, Pre-testing, the tool was administered to patients who are undergoing haemodialysis at Dialysis unit of Shridevi Institute of Medical Sciences & Research Hospital, Tumakuru. Reliability, was established by split half method by using Spearman Brown prophesy formula. The reliability obtained was (r =0.87). Hence the tool was found to be valid, reliable, and feasible.

### DATA COLLECTION PROCEDURE

- ✓ Permission was obtained from the Medical Director of SIMS & RH, Tumakuru.
- ✓ Data were collected from 26/02/2024 to 26/03/2024.
- ✓ Convenient sampling technique was used to select 60 patients undergoing haemodialysis.
- ✓ The investigator introduced herself, explained the purpose of the study, and obtained informed consent from each participant.

- ✓ Data were collected in sessions according to the availability of patients.
- ✓ On the first day of each session, patients were given a knowledge questionnaire (took about 40 minutes to complete).
- ✓ Comfortable seating arrangements were provided.
- ✓ After data collection, an information booklet was distributed to the patients.
- ✓ The collected data were analysed using descriptive and inferential statistics.

## RESULTS

**SECTION I:** Description of demographic characteristics of patients undergoing haemodialysis.

**SECTION II:** Knowledge level of patients undergoing haemodialysis regarding the Selected post dialysis complications and its prevention

**SECTION III:** Association between Knowledge scores of patients undergoing haemodialysis regarding the Selected post dialysis complications and its prevention with selected demographic variables.

### KNOWLEDGE LEVEL OF PATIENTS UNDERGOING HAEMODIALYSIS REGARDING THE SELECTED POST DIALYSIS COMPLICATIONS AND ITS PREVENTION

**Table 1:** Overall knowledge scores of the patients undergoing hemodialysis.

Knowledge level	Frequency	%
a. Inadequate knowledge	23	38.3
b. Moderate knowledge	29	48.3
c. Adequate knowledge	8	13.3
<b>Total</b>	<b>60</b>	<b>100</b>

Table 1 depicts that majority 48.3% of the patients undergoing haemodialysis had moderate knowledge and 38.3% had inadequate knowledge and only 13.3% of the subjects had adequate knowledge regarding Selected post dialysis complications and its prevention.

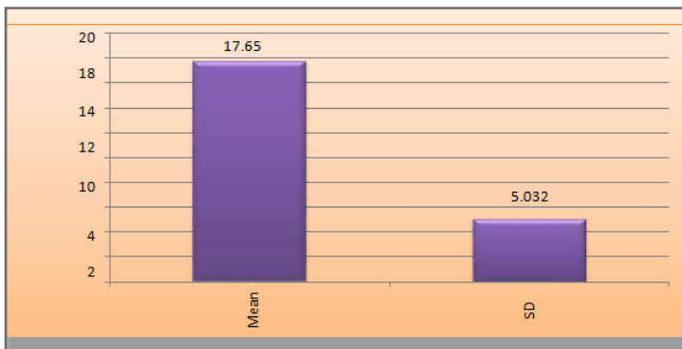


**Figure-1:** Overall pre-test knowledge level of patients undergoing haemodialysis

**Table – 2:** Analysis of Knowledge scores of patients undergoing haemodialysis

	Number of Items	Maximum Score	Mean	Mean%	Median	SD
Knowledge score	30	30	17.65	58.83	18	5.032

Table 2 depicts that the mean knowledge scores of respondents were found to be 17.65 (58.83%) with standard deviation 5.032 which shows that patients undergoing hemodialysis had moderate knowledge regarding Selected post dialysis complications and its prevention.



**Figure-2:** Analysis of Knowledge scores of patients undergoing haemodialysis

## DISCUSSION

### Description of Demographic Characteristics of Patients Undergoing Hemodialysis

In the study, most patients were aged 61 years and above, followed by those between 45–60 years, while fewer were between 31–45 years. The majority were males and most of them were married. With regard to religion, most patients belonged to Hinduism, while others were Muslims, Christians, or from different religions. In terms of education, nearly half had completed higher secondary education, some had primary education, a few had graduation and above, and some had no formal education. Regarding income, most patients earned between ₹15,001–25,000 or ₹8,000–15,000, while fewer earned higher amounts. In relation to occupation, many were private employees or daily wage workers, some had their own business, a few were government employees, and others were unemployed. Most patients had been on dialysis for 1–2 years, while others had been undergoing it for longer or shorter periods. More than half of the patients lived in urban areas, while some lived in rural and semi-urban areas. Only a few had previous knowledge about post-dialysis complications, while the majority did not. During dialysis, most patients were accompanied by their spouse, some by siblings or children, and a few by parents or others.

### Knowledge level of patients undergoing haemodialysis regarding the Selected post dialysis complications and its prevention.

The findings of the study revealed that majority 48.3% of the patients undergoing haemodialysis had moderate knowledge and 38.3% had inadequate knowledge and only 13.3% of the subjects had adequate knowledge regarding Selected post dialysis complications and its prevention. The mean knowledge scores of respondents were found to be 17.65 (58.83%) with standard deviation 5.032 which shows that patients undergoing hemodialysis had moderate knowledge regarding Selected post dialysis complications and its prevention.

**Section III:** Association between Knowledge scores of patients undergoing haemodialysis regarding the Selected post dialysis complications and its prevention with selected demographic variables.

$\chi^2$  value computed between the knowledge level of patients undergoing haemodialysis admitted in dialysis unit on Selected post dialysis complications and its prevention and selected demographic variables. Variables such as age, gender, marital status, religion, education, monthly income, occupation, Duration of dialysis, place of residence, previous knowledge and relationship with accompanied person were not significant at 0.05 level. Thus, it can be inferred that there is no significant association between knowledge level of the patients undergoing haemodialysis and selected demographic variables.

## CONCLUSION

1. The pre-test shown that patients undergoing hemodialysis had moderate knowledge regarding Selected post dialysis complications and its prevention.
2. The demographic variables such as age, gender, religion, education, marital status occupation, income, Area of residence, duration of illness, years of undergoing dialysis, previous knowledge shown there is no significant association between knowledge level of the patients undergoing hemodialysis and selected demographic variables.
3. The information booklet was developed based on knowledge of selected post dialysis complication and its prevention. The information booklet was distributed to patient undergoing hemodialysis which was aimed to provide knowledge on selected post dialysis complication and its prevention.

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