



# Assessment of Knowledge on Hemodialysis among Renal Patients

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## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

## **Article Information**

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## **ABSTRACT**

Patient knowledge about hemodialysis is important for effective self-management behaviors. The aim of the present study was to assess the knowledge on hemodialysis among renal patients in selected hospitals of Bhopal. The research design selected for this study was descriptive in nature. The target population for this study was renal patients and the method of sampling was purposive sampling. The sample size was 50. A self-structured questionnaire was used to assess the knowledge and the study findings revealed that knowledge of renal patients regarding hemodialysis was inadequate.

**Keywords:** Hemodialysis; knowledge; renal patients.

## **1. INTRODUCTION**

Healthy kidneys clean blood and remove extra fluid in the form of urine. They also make substances that keep body healthy. Dialysis replaces some of these functions when kidneys

no longer work. There are two different types of dialysis hemodialysis and peritoneal dialysis [1].

An artificial kidney is used to remove waste, excess chemicals, and fluid from the blood during hemodialysis. The doctor will need to get

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access to blood arteries in order to get blood into the replacement kidney. Basic arm or leg surgery is used to accomplish this. A fistula [2] is formed by joining an artery to a vein beneath the skin to establish a larger blood channel.

Hemodialysis is usually done three times a week at a dialysis centre for around four hours at a time. People who have hemodialysis at home may need to perform it 4-7 times per week for shorter durations of time each time [3].

Chronic Renal Failure (CRF) is an irreversible loss of renal function in which the body's capacity to maintain metabolic, fluid, and electrolyte balance fails, resulting in uremia and the necessity for hemodialysis to keep the internal milieu stable and avoid uremia. In the early stages of renal impairment, hemodialysis, fluid restriction, diet modification, and medication can be used to control symptoms, but as renal function declines, these therapies become ineffective [4].

CRF is a condition in which the body's ability to maintain metabolic, fluid, and electrolyte balance deteriorates over time, resulting in uremia. It's one of the most critical problems confronting health-care organisations, and it has the potential to kill everyone on the planet. Chronic renal failure can strike at any age, with the average age of ESRD prevalence being 58.8 years, according to a 2006 research. Patients with chronic renal failure may benefit from hemodialysis as a treatment option. Patients who receive hemodialysis have a greater probability of surviving. Hemodialysis is a waste-filtering treatment for removing excess fluids and electrolytes from the body. Hemodialysis is the process of extracting blood from the body and filtering it via a dialyzer, or artificial kidney, before returning the filtered blood to the body [5-8]. The kidney's capacity to remove waste materials and body fluids is harmed as a result of dialysis. To be healthy, dialysis patients must consume a well-balanced, nutritious diet. Dialysis patient treatment includes dietary monitoring and nutritional assessment by a qualified dietician or doctor. Dialysis patients must consume the right quantity of calories, protein, water, vitamins, and minerals. Excess fluid and other metabolic wastes are too much for dialysis patients' kidneys to manage. Patients on dialysis usually consume insufficient macro and micronutrients [9-10]. The nutritional profile of the food ingested by these people must be correctly balanced. Dialysis patients are prone to deficiency, with

over 40% suffering from varying degrees of protein energy malnutrition. Nutritional guidance is essential for dialysis patients so that they understand the value of different foods, the types of nutrients they should include in their diet, and the foods they should avoid. As a result, the present study adds to our understanding of how dialysis patients may improve their knowledge and attitude about their dietary habits, leading to better health and management [11-12].

### **1.1 Statement of the Issue**

A research was conducted to analyse renal patients' awareness about hemodialysis in Jabalpur's chosen hospitals (M. P.).

### **1.2 Objectives of the Study**

1. To assess the knowledge of renal patients regarding Hemodialysis.
2. To associate their knowledge with selected demographic variables.

### **1.3 Hypothesis**

There will be a significant association between knowledge of renal patients regarding Hemodialysis with selected demographic variables.

### **1.4 Operational Definition**

Knowledge-Knowledge refers to the verbal responses of the renal patients regarding Hemodialysis -a medical procedure to remove fluid and waste products from the blood and to correct electrolyte imbalances.

Renal patients patients undergoing treatment for chronic or acute renal failure conditions

### **1.5 Assumptions**

1. Renal patients will have some knowledge regarding hemodialysis.
2. Demographic variables may or may not influence the knowledge of renal patients.

## **2. METHODOLOGY**

This study was conducted using a descriptive research design.

### **2.1 Setting**

The research was carried out at the Sanjeevan Hospital and Research Center, Jabalpur.

## 2.2 Population

Renal patients who were attending OPD's of the hospital at the time of data collection.

## 2.3 Sampling

Purposive sampling was used to collect data.

## 2.4 Sample size

The sample size was 50.

## 2.5 Criteria for Sample Selection

### 2.5.1 Inclusion Criteria

- The renal patients who were willing to participate.
- The renal patients who were in the Sanjeevan Hospital and Research Center, Jabalpur at the time of data collection.

### 2.5.2 Exclusion Criteria

- The renal patients who were not willing to participate.

## 2.6 Description of the Instrument

A self-structured questionnaire was used to conduct the study. The tool consisted two parts.

Part I Demographic variables such as age, education, occupation, income, and area.

Part II Consisted of a self-structured questionnaire to assess the knowledge on Hemodialysis which consisted of 30 multiple choice questions.

## 2.7 Scoring

Each question had four options from which the sample had to choose one correct answer. The right answer was scored as one and the wrong option was scored as zero.

The scoring was interpreted as below:

- Adequate knowledge- 76% - 100%
- Moderate knowledge- 51% - 75%
- Inadequate knowledge- 0% - 50%

The data collection was done for a period of one week. Before commencing the study, the permission was obtained from the hospital administration. The investigator established rapport with the study subjects and the purpose of the interview was explained to each subject with informed consent and then the data was collected.

The demographic variables and knowledge of women were analyzed by using descriptive measures. Association between knowledge and the selected demographic variables of renal patients were analyzed by using inferential measures.

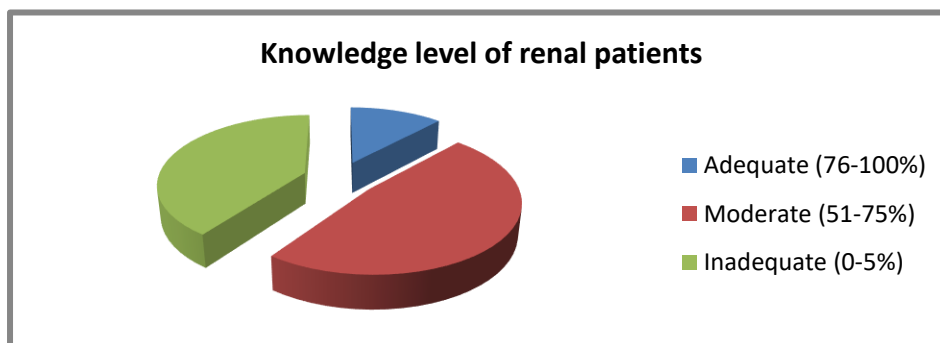
The level of significant used was 0.05%.

**Table 1. Distribution of samples by demographic variable N=50**

| Demographic data  | Frequency | Percentage |
|-------------------|-----------|------------|
| <b>Age</b>        |           |            |
| 25-30 years       | 02        | 04         |
| 31-35 years       | 20        | 40         |
| 36-40 years       | 28        | 56         |
| <b>Education</b>  |           |            |
| Matric            | 05        | 10         |
| Inter             | 17        | 34         |
| Graduate          | 25        | 50         |
| Un-educated       | 03        | 06         |
| <b>Occupation</b> |           |            |
| Private           | 18        | 36         |
| Government        | 32        | 64         |
| <b>Income</b>     |           |            |
| Rs. 5000 – 10000  | 17        | 34         |
| Rs. 10000-15000   | 14        | 28         |
| Above Rs. 15000   | 19        | 38         |
| <b>Area</b>       |           |            |
| Rural             | 20        | 40         |
| Urban             | 30        | 60         |

**Table 2. Distribution of Renal patients by knowledge level N=50**

| Knowledge level    | No. | %  |
|--------------------|-----|----|
| Adequate (76-100%) | 06  | 12 |
| Moderate (51-75%)  | 24  | 48 |
| Inadequate (0-5%)  | 20  | 40 |



**Fig. 1. Pie diagram showing distribution of renal patients by knowledge level**

### 3. RESULTS AND DISCUSSION

Table I reflects the demographic variables of women such as age, education, occupation, income, area. The samples selected eventually to the respective age groups as: 25-30 years were 4%, 31-35 years were 40% and 36-40 years were 56%. With regard to education 10% were matriculated, 34% completed Inter, 50% completed graduation and 06% were uneducated. With regard to their occupation 36% were working in private sector and 64% were working in government. With regard to their income, 34% were getting between Rs. 5000/month to 10,000/month, 28% were getting Rs. 10,000/month to 15,000/month, 38% were getting above Rs. 15,000/month. With regard to area 40% were living in rural area and 60% were in urban area.

#### 3.1 Distribution of Women by Knowledge Level

The study findings revealed that there was no significant association between knowledge and selected demographic variables such as age, education, occupation, income, area. There was significant association between knowledge with age and educational status.

### 4. CONCLUSION

The renal patient's understanding of hemodialysis was inadequate. Renal patients must be educated about hemodialysis through

community-based meetings. The goal of this study was to see how well hemodialysis patients knew about nutritional control and how they felt about it. The following conclusion was reached as a result of the discovery. During the researcher's fieldwork, it was discovered that the majority of hemodialysis patients were uninformed of their nutritional management. As a result, the dietary guide was successful in improving their dietary management knowledge and attitude.

### 5. IMPLICATIONS

#### Nursing practice:

The study findings will help renal patients regarding Hemodialysis and they can utilise this knowledge for self-care at home.

#### Nursing education:

The student nurses may be motivated to educate the renal patients regarding Hemodialysis.

### CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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