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# KNOWLEDGE AND ATTITUDE OF THE PATIENTS UNDERGOING HEMODIALYSIS REGARDING THEIR DIETARY MANAGEMENT

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## ABSTRACT

Background: Dietary modification is a critical component of the treatment of Chronic Kidney Disease patients undergoing Hemodialysis. It reduces the excess load on functioning of the kidney and improves the quality of life of such patients. Aim: To assess the knowledge and attitude of the patients undergoing hemodialysis regarding their dietary management at KGMU, Lucknow. Material and methods: A quantitative research approach and non-experimental descriptive design was adopted for this study. Data from 70 participants were collected by purposive sampling technique using self-structured knowledge and attitude scale. Result: Majority of the patients had average knowledge (52.86 %) and a neutral attitude (80%) towards their dietary modifications. A moderate positive co-relation (r=0.25) was found between knowledge and attitude .The association of selected sociodemographic variables with knowledge and attitude was found to be significant at $p<0.05$. Conclusion: The study concluded that maximum participants had average knowledge and neutral attitude regarding their dietary management. Information booklet can improve knowledge on necessary dietary management for patients undergoing hemodialysis.

**KEYWORDS:** Knowledge, Attitude, Hemodialysis, Dietary Management.

## 1. INTRODUCTION

Chronic Kidney Disease (CKD) also known as Chronic Renal Failure is a condition characterized by gradual loss of kidney function. When damaged kidneys cannot excrete end products of metabolism, these substances accumulate in the serum as toxins. The resulting symptoms, collectively known as uremic symptoms or uremic syndrome, affect every body system. The more toxins that accumulate, the more severe the symptoms. Diet is an important factor for patients on hemodialysis because of the effects of uremia. Goals of nutritional therapy are to minimize uremic symptoms and fluid and electrolyte imbalances; to maintain good nutritional status through adequate protein, calorie, vitamin, and mineral intake; and to enable the patient to eat a palatable and enjoyable diet. Restricting dietary protein decreases the accumulation of nitrogenous wastes, reduces uremic symptoms, and may even postpone the initiation of dialysis for a few months. Restriction of fluid is also part of the dietary prescription because fluid accumulation may occur, leading to weight gain, heart failure, and pulmonary edema. With the initiation of hemodialysis, the patient's dietary intake usually still requires some restriction of dietary protein, sodium, potassium, and fluid intake.[1]

## 2. MATERIAL AND METHODS

A descriptive study was conducted to assess the knowledge and attitude of patients undergoing hemodialysis regarding their dietary management at KGMU, Lucknow with the view of develop an Information Booklet. The objectives were to assess the knowledge and attitude of patient undergoing hemodialysis regarding their dietary management, to find out the correlation between knowledge and attitude of patient undergoing hemodialysis regarding their dietary management, to ascertain the relationship between knowledge and attitude with selected socio-demographic variables of patient undergoing hemodialysis and to develop an information booklet on dietary management of patient undergoing hemodialysis.

**Research Design & Approach:** A qualitative research approach and non-experimental descriptive design was adopted for the study.

**Target Population:** Patients undergoing Hemodialysis in KGMU, Lucknow.

**Sampling Technique:** Non-probability Purposive sampling technique.

**Inclusion criteria**: The study included people who are:
- Aged 18 years or more
- Undergoing hemodialysis
- Admitted in KGMU, Lucknow

**Exclusion Criteria:** The study excluded people who:
- Cannot read English or Hindi language.
- Are not willing to participate.
- Have altered sensorium (confused, drowsy) or are critically ill.

**Description of the tool:** The tool had 3 sections.

**Section A: Socio Demographic Variables:** It contains 10 items as Age, Gender, Religion, Education, Marital status, Type of Residence, Occupation, Monthly family income, Duration of illness, Number of admission.

**Section B: Knowledge Assessment Tool on Hemodialysis (KATH):** The tool contains 16 self-structured objective items.
- Good: >11
- Average: 6-11
- Poor: <6

**Section C: Attitude Assessment Scale on Hemodialysis (AASH):** The tool contains self-structures 5-point Likert Scale containing 20 items.
1=Strongly Disagree 2=Disagree 3=Uncertain 4=Agree 5= Strongly Agree
- Positive: >74
- Neutral: 47-73
- Negative: <47

**Reliability:** Reliability of the structured questionnaires was computed by applying split half (odd-even) method and was calculated by Karl Pearson's co-efficient correlation and Spearman Brown Prophecy formula and was found r'=0.77. Hence the tool was reliable.

**Data Management and Analysis:** Data will be analyzed by descriptive and inferential statistics (frequency distribution, mean, standard deviation, and chi-square).

**Ethical considerations:** Approval from KGMU Research Ethical Committee was taken. Anonymity of the subjects and confidentiality of information was maintained. Informed written consent from subjects was obtained.

## 3. RESULTS

### 3.1 Finding related to sample characteristics

Maximum patients were in the age group of 41-50 years (28.57%), 72.85% were males, 32.85% had education upto matric, 85.71 % were Hindu, 80% were married, 54.28% were living in urban areas, 30% were self-employed, 38.57% had monthly family income of < 5000 and 5000-15000, 61.42% had >2 years of duration of illness and 55.71% had been admitted to the hospital >8 times.

### 3.2 Findings related to knowledge and attitude of patients undergoing hemodialysis regarding their dietary management

Maximum patients undergoing hemodialysis had average level of knowledge (52.86%), 47.14% had good level of knowledge regarding their dietary management. (Fig. 1)

Maximum patients undergoing hemodialysis had a neutral attitude (80%), 20% had a positive attitude towards their dietary management. (Fig. 2)


**Fig. 1: Percentage Distribution of Patients undergoing Hemodialysis according to Levels of Knowledge regarding their Dietary Management.**

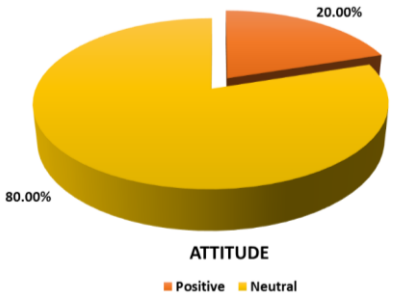


**Fig. 2: Percentage Distribution of Patients undergoing Hemodialysis according to Attitude regarding their Dietary Management.**

### 3.3 Findings related to correlation of knowledge and attitude

A moderate positive co-relation (r=0.25) was found between knowledge and attitude of patients undergoing hemodialysis regarding their dietary management. (Table 1)

**Table 1: Mean, Standard Deviation and Co-efficient of Correlation between Knowledge and Attitude Scores of Patients undergoing Hemodialysis regarding their Dietary Management.**

| | Knowledge and Attitude Score | | r |
|---|---|---|---|
| | Mean | SD | |
| **Knowledge** | 11.1 | 2.75 | |
| **Attitude** | 68.75 | 6.05 | 0.25 |

### 3.4 Findings related to association of knowledge and attitude with socio-demographic variables

The association of selected sociodemographic variables with knowledge and attitude was found to be significant at $p<0.05$. (Table 2 & table 3)

**Table 2: Frequency, Mean, Standard Deviation and Chi-square of Patients undergoing Hemodialysis and their association of level of knowledge with socio-demographic variables N=70.**

| Socio-demographic variables | Frequency (n) | | Knowledge Score | | p-value <0.05 |
|---|---|---|---|---|---|
| | Good | Average | Mean | SD | |
| 1. Age in (years) | | | | | |
| • 18-30 | 9 | 9 | 11.16 | 2.47 | |
| • 31-40 | 8 | 8 | 11.56 | 2.44 | 0.39* |
| • 41-50 | 12 | 8 | 11.5 | 2.76 | |
| • >50 | 5 | 11 | 10 | 3.48 | |
| 1. Gender | | | | | |
| • Male | 25 | 26 | 11.27 | 3.01 | 0.60* |
| • Female | 8 | 11 | 11.15 | 2.63 | |
| 2. Educational qualifications | | | | | |
| • Illiterate | 3 | 3 | 10.5 | 2.73 | |
| • Primary | 9 | 2 | 10.81 | 2.56 | |
| • Matric | 12 | 11 | 11.34 | 2.93 | 0.41* |
| • Senior secondary | 8 | 9 | 10.88 | 2.53 | |
| • Graduation & above | 8 | 5 | 11.76 | 3.16 | |
| 3. Religion | | | | | |
| • Hindu | 39 | 31 | 11.16 | 2.78 | |
| • Muslim | 3 | 7 | 10.6 | 2.59 | 0.28* |
| • Christian | 0 | 0 | 0 | 0 | |
| • Others | 0 | 0 | 0 | 0 | |
| 4. Marital status | | | | | |
| • Unmarried | 5 | 6 | 10.81 | 2.60 | |
| • Married | 25 | 31 | 11.32 | 2.62 | 0.84* |
| • Widow/ widower | 0 | 1 | 6 | 0 | |
| • Divorced/ separated | 1 | 1 | 11 | 0 | |
| 5. Type of residence | | | | | |
| • Urban | 16 | 22 | 10.84 | 2.88 | |
| • Rural | 16 | 16 | 11.54 | 2.61 | 0.50* |
| 6. Occupation | | | | | |
| • Government job | 4 | 4 | 9.8 | 3.04 | |
| • Private job | 7 | 8 | 12 | 3.10 | |
| • Self-employed | 10 | 11 | 11.14 | 3.00 | 0.98* |
| • Housewife | 6 | 7 | 12.07 | 2.28 | |
| • Unemployed | 5 | 8 | 10.9 | 2.17 | |
| 7. Monthly family income | | | | | |
| • <5000 | 12 | 15 | 11.19 | 2.40 | |
| • 5000-15000 | 15 | 12 | 11.88 | 2.70 | 0.44* |
| • 15001-25000 | 2 | 6 | 8.37 | 2.61 | |
| • >25000 | 3 | 5 | 10.37 | 2.50 | |
| 8. Duration of illness | | | | | |
| • <1 year | 4 | 9 | 10.92 | 2.49 | |
| • 1-2 years | 4 | 10 | 10.07 | 2.55 | 0.10* |

| | | | | | |
|---|---|---|---|---|---|
| • > 2years | 24 | 19 | 11.92 | 2.82 | |
| 9. No. of in-patient admissions | | | | | |
| • <3 times | 7 | 9 | 11.31 | 2.57 | |
| • 3-5 times | 3 | 4 | 10.14 | 2.79 | 0.19* |
| • 6-8 times | 1 | 7 | 9.12 | 2.62 | |
| • >8 times | 21 | 18 | 11.65 | 2.75 | |

*= Significant at p<0.05

**Table 3: Frequency, Mean, Standard Deviation and Chi-square of Patients undergoing Hemodialysis and their association of attitude with socio-demographic variables N=70.**

| Socio-demographic variables | Frequency (n) | | Attitude Score | | p-value |
|---|---|---|---|---|---|
| | Positive | Neutral | Mean | SD | <0.05 |
| 1. Age in (years) | | | | | |
| • 18-30 | 2 | 16 | 66.61 | 6.45 | |
| • 31-40 | 6 | 10 | 71.5 | 6.82 | 0.21* |
| • 41-50 | 4 | 16 | 69.4 | 5.17 | |
| • >50 | 2 | 14 | 67.5 | 5.28 | |
| 1. Gender | | | | | |
| • Male | 10 | 41 | 68.24 | 5.70 | 0.89* |
| • Female | 4 | 15 | 70 | 6.94 | |
| 2. Educational qualifications | | | | | |
| • Illiterate | 1 | 5 | 70.66 | 8.52 | |
| • Primary | 1 | 10 | 67.63 | 5.29 | 0.46* |
| • Matric | 6 | 17 | 69.22 | 4.75 | |
| • Senior secondary | 5 | 12 | 67.5 | 7.36 | |
| • Graduation & above | 1 | 12 | 69.69 | 5.43 | |
| 3. Religion | | | | | |
| • Hindu | 12 | 48 | 68.5 | 5.50 | |
| • Muslim | 2 | 8 | 69.3 | 9.03 | 1* |
| • Christian | 0 | 0 | 0 | 0 | |
| • Others | 0 | 0 | 0 | 0 | |
| 4. Marital status | | | | | |
| • Unmarried | 1 | 10 | 64.09 | 6.44 | |
| • Married | 11 | 45 | 70.08 | 5.52 | |
| • Widow/ widower | 0 | 1 | 0 | 0 | |
| • Divorced/ separated | 0 | 2 | 65.5 | 7.78 | 0.71* |
| 5. Type of residence | | | | | |
| • Urban | 9 | 29 | 69.23 | 7.01 | |
| • Rural | 5 | 27 | 68.5 | 4.61 | 0.40* |
| 6. Occupation | | | | | |
| • Government job | 1 | 7 | 66.14 | 6.22 | |
| • Private job | 4 | 11 | 68.66 | 5.24 | |
| • Self-employed | 1 | 20 | 67.95 | 5.65 | 0.42* |
| • Housewife | 2 | 11 | 70.5 | 6.37 | |
| • Unemployed | 3 | 10 | 69.30 | 7.83 | |
| 7. Monthly family income | | | | | |
| • <5000 | 4 | 23 | 68.25 | 5.83 | |
| • 5000-15000 | 6 | 21 | 69.88 | 6.47 | |
| • 15001-25000 | 2 | 6 | 116.4 | 6.48 | 0.85* |
| • >25000 | 2 | 6 | 121.25 | 5.96 | |
| 8. Duration of illness | | | | | |
| • <1 year | 0 | 11 | 67.83 | 4.10 | |
| • 1-2 years | 5 | 9 | 69.57 | 7.14 | 0.10* |
| • > 2years | 14 | 31 | 68.81 | 6.26 | |
| 9. No. of in-patient admissions | | | | | |
| • <3 times | 3 | 13 | 68 | 6.23 | |
| • 3-5 times | 0 | 7 | 67.42 | 5.31 | 0.19* |
| • 6-8 times | 2 | 6 | 69.33 | 5.95 | |
| • >8 times | 6 | 33 | 68.84 | 5.71 | |

*= Significant at p<0.05

## 4. DISCUSSION

In the present study, maximum patients undergoing hemodialysis had average level of knowledge (52.86%), 47.14% had good level of knowledge, 80% had a neutral attitude whereas 20% had positive attitude towards their dietary management. A moderate positive co-relation (r=0.25) was found between knowledge and attitude of patients undergoing hemodialysis. The association of selected sociodemographic variables with knowledge and attitude was found to be significant at p<0.05.

These results were similar to the study done by **Isarannavar SG, et al.,**[2] which found that 66.6% of dialysis patients had average knowledge and 53% of dialysis patients had a good attitude regarding their dietary management.

A study done by **K. Srinivassan,**[3] had contradictory findings that 66.66% of patients had moderately adequate knowledge, 20% had highly adequate knowledge and 13.33% had inadequate knowledge about dietary management for chronic renal failure. There was significant association between level of knowledge on dietary management with their selected demographic variables like age (15.74), gender (10.07), type of family (12), religion (16.82), and education (23.44).

## 5. CONCLUSION AND RECOMMENDATIONS

All hemodialysis patients must receive a care plan and individualized dietary information in writing. Assessment of nutritional and fluid status and knowledge about nutritional management of dialysis clients play a central role in everyday nephrological practice.[4] The study concluded that maximum participants had average knowledge and neutral attitude regarding their dietary management. Hence there was a need to increase more awareness and develop a positive attitude on the necessary dietary management for patients undergoing hemodialysis. Providing information booklet can be beneficial.

It is recommended that this study could further be replicated on a larger sample using different research designs and at different settings for better generalization of the results. Effective interventions could be planned for follow-up care patients undergoing hemodialysis.

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