

A Study Of Complications Seen In Patients Going Through The Procedure of Hemodialysis

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Abstract-

BACKGROUND

Patients with acute or chronic irreversible renal failure, an electrolyte or fluid imbalance, or end-stage renal disease (ESRD) are treated with hemodialysis. Patients receiving hemodialysis therapy may have problems.

This study aims to evaluate participants' awareness of difficulties experienced by hemodialysis patients.

OBJECTIVE

The study found that inter-dialysis problems are a common occurrence. The research evaluated numerous hemodialysis complications.

SUBSTANCE AND METHODOLOGY

The effects of problems during hemodialysis on 57 individuals receiving hemodialysis were examined. Three categories of difficulties were identified: those relating to patients, vascular access, and machinery.

Data was gathered, and the proper statistical analysis was performed. Patients who experienced difficulties during hemodialysis therapy should have a thorough medical history taken.

RESULT

100% of the individuals in our research cohort have problems during hemodialysis. Patient-related complications made up the majority of the complications found in the study (94,7%), with hypertension being the most prevalent (28%) and hypotension coming in second (24,5%). Technical complications (1,7%) and vascular access-related complications (3,5%) were very uncommon.

CONCLUSION

During hemodialysis, the patients have a large variety of problems. Although often, careful patient monitoring and

assessment during hemodialysis therapy can prevent life-threatening complications. It will support early detection and management without stopping life-saving measures.

AIM OF THE STUDY A study to assess the knowledge of complications encountered in patients undergoing hemodialysis procedure.

OBJECTIVES

Analysis of the complications in patients undergoing hemodialysis treatment. To identify the patients related, vascular access related, machine related complications. To identify various complications during hemodialysis treatment.

MATERIALS 3.4

I. STUDY METHODOLOGY

STUDY AREA-

The study was conducted at the hemodialysis unit in the department of nephrology. Sree Balaji Medical College and Hospital, Chrompet, Chennai. 3.4.1 **TYPE OF STUDY-** Observational study. 3.4.

SAMPLE SIZE- Fifty-seven patients.

3.6 STUDY DESIGN: Purposive sampling technique was regarding complications encouraged in patients undergoing hemodialysis.

3.7 INCLUSION CRITERIA: Patient's age >18 years to <67years. Patients on at least twice weekly hemodialysis patients. Patients have various complications during hemodialysis. 3.8

EXCLUSION CRITERIA: Patients with active infection. Peritoneal dialysis patients. 3.9 **ASSESSMENT TECHNIQUE:** The entire procedure was explained to the subject or relatives before starting the data collection.

DATA COLLECTION:

Patients with CKD treated with hemodialysis, who comes under inclusion criteria are selected. Complications in patients undergoing hemodialysis treatment have been collected. Demographic data of the subjects: specifically, age, sex, height, weight, BMI, diagnosis, vascular access, frequency of dialysis etc. Patients related, vascular access related, machine related complications were examined and assessed

3.10 METHODOLOGY:

This research planned to explore the numerous issues that might arise during hemodialysis. Three categories of difficulties were identified: those relating to people, those relating to vascular access, and those relating to machines.

Completed data were analyzed properly using statics. Patients experiencing difficulties during HD therapy should have a thorough medical history taken.

II. RESULTS

4.1 The research population's age distribution

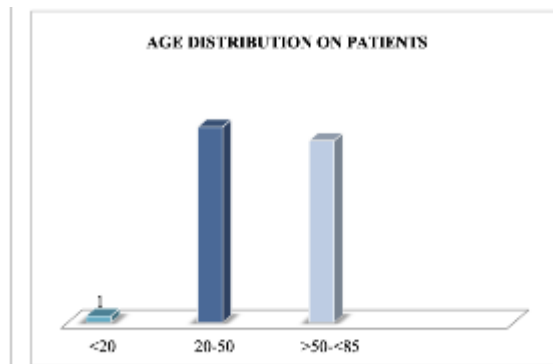


Figure 4.1 Age Distribution On Patients

4.2 Gender distribution in the study population

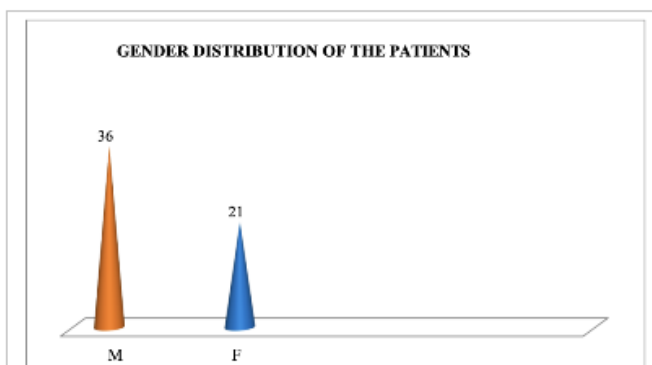


Figure 4.2 Gender Distribution Of The Patients

4.3 Percentage distribution of the study population

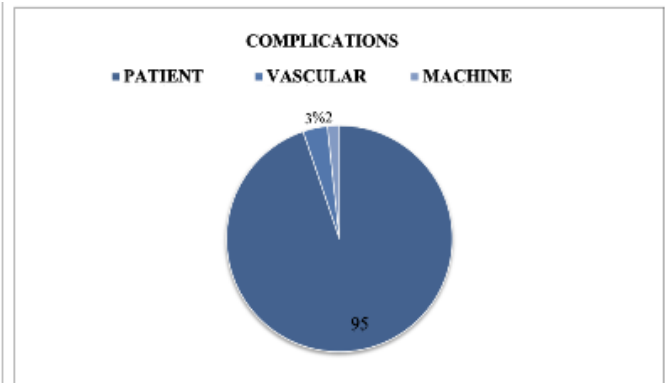


Figure 4.3 Percentage of complications

The graph here is depicting the patient’s percentage under patients related complications were 95%, vascular related complication was 3%, and machine related complications were 2

4.4 BMI distribution of the study population

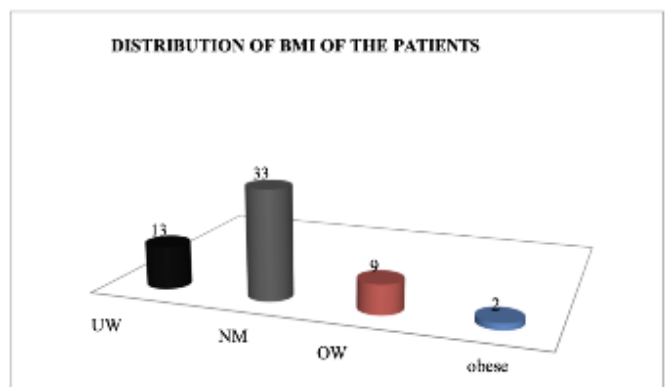


Figure 4.4 Distribution Of BMI Of The Patients

This graph here depicts the patients BMI underweight were 13 no. of patients, normal patients were 33, overweight were 9 and obese were 2.

4.5 Vascular Access distribution of the study population

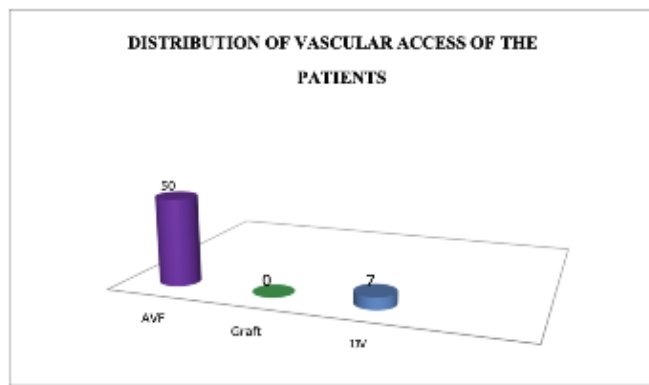


Figure 4.5 Distribution Of Vascular Access Of The Patients

The graph here is depicting the patients vascular access AV Fistula were 50 no. of patients, graft was 0, IJV were 7.

4.6 Causes distribution of the study population

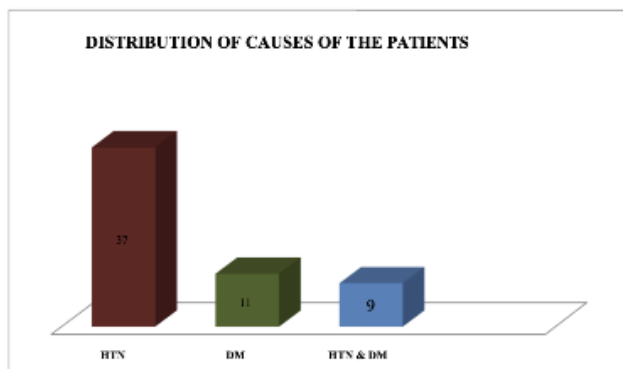


Figure 4.6 Distribution Of Causes Of The Patients

The graph here is depicting the patients' causes; HTN was 37 no. of patients, DM were 11 and HTN&DM were 9 no. of patients.

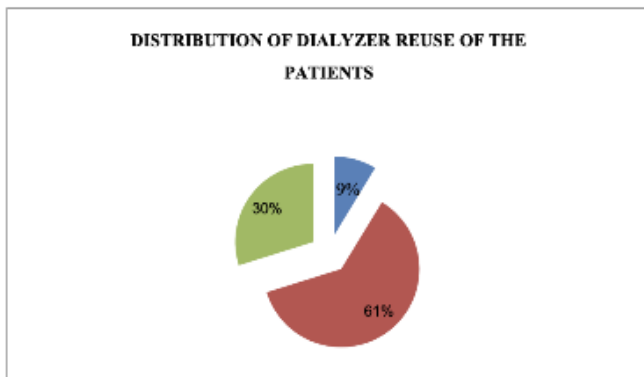


Figure 4.7 Distribution of Dialyze Reuse Of The Patients

The graph here depicts the patient's dialyzer reuse single use were 9%, 1-5 the use 61% of complications and 6-10th use were 30% of complication.

3.1 Age percentage of the patients

Table 3.1 Age Percentage
AGE

| VARIABLE | FREQUENCY NUMBER | PERCENTAGE (%) |
|----------|------------------|----------------|
| >20 | 1 | 2% |
| 20-50 | 29 | 51% |
| >50-<85 | 27 | 47% |

In our study population 57 no of patients, the table here is depicting the patients age >20 was 1 no of patients and 2%, 20-50 patients were 29no of patients and 51%, >50-<85 were 27 no of patients and 47%

3.2 Gender percentage of the patients

Table 3.2 Gender Percentage
GENDER

| VARIABLE | FREQUENCY | PERCENTAGE |
|----------|-----------|------------|
| MEN | 36 | 63% |
| WOMEN | 21 | 37% |

In our study population 57 no of patients, the table here is depicting the patients gender men were 36 no of patients and 63%, women were 21 no of patients and 37%

3.3 BMI distribution of the patients.

BMI

| VARIABLE | FREQUENCY (N) | PERCENTAGE |
|--------------|---------------|------------|
| UNDER WEIGHT | 13 | 22.8% |
| NORMAL | 33 | 57.9% |
| OVER WEIGHT | 9 | 15.8% |
| OBESE | 2 | 3.5% |

Table 3.3 BMI Percentage

In our study populations 57 no of patients, the table here is depicting the patients BMI underweight were 13 no of

patients and 22.8, normal weight was 33 no of patients and 57.9%, overweight was 9 no of patients and 15.8%, obese were 2 no of patients and 3.5%.

3.4 Causes distribution of the patients

| VARIABLE | FREQUENCY (N) | PERCENTAGE |
|----------|---------------|------------|
| HTN | 37 | 64.9% |
| DM | 11 | 19.3% |
| HTN& DM | 9 | 15.8% |

Table 3.4 Causes Percentage

In our study population 57 no of patients, the table here is depicting the patients causes HTN were 37 no of patients and 64.9%, DM were 11 no of patients and 19.3%, HTN and DM were 9 no of patients and 15.8%

3.6 Frequency of hemodialysis percentage

| VARIABLE | FREQUENCY (N) | PERCENTAGE |
|------------|---------------|------------|
| TWICE WEEK | 29 | 50.8% |
| TRICE WEEK | 28 | 49.1% |

Table 3.6 Frequency Of Hemodialysis

In our study population 57 number of patients, the table here is depicting the patient’s frequency no of patients twice week were 29 no of patients and 50.8, trice week were 28 no of patients and 49.1%

3.7 Reuse percentage of patients

| VARIABLE | FREQUENCY (N) | PERCENTAGE |
|--------------------------|---------------|------------|
| SINGLE USE | 5 | 8.7% |
| 1-5 TH USE | 35 | 61.4% |
| 6 – 10 TH USE | 17 | 29.8% |

Table 3.7 Frequency Of Reuse

In our study population 57 no of patients, the table here is depicting the patients reuse, single use was 5 no of patients and 8.7%,1-5 th use were 35 no of patients and 61.4%, 6-10th use were 17 no of patients and 29.8%, 3.8 Complications percentage of the patients

III. COMPLICATION

In our study populations 57 no of patients, the table here is depicting the patients' complications, Patients related complications were 54 no of patients and 94.7%, vascular related complications were 2 no of patients and 3.5%, technical complications were 1 no of patients and 1.7%

DESCRIPTIVE STATISTICS

Table3.9 Descriptive Statistics

| | N | Mean | Std. De- viation |
|---------|----|-------|---------------------|
| AGE | 57 | 49.18 | 14.113 |
| SEX | 57 | 1.40 | .495 |
| UFR | 57 | 3.30 | .999 |
| Valid N | 57 | | |

PERCENTAGE OF COMPLICATIONS

P Values of the Study

Table 3.11 P Values of the Study

| Variables | Value |
|--|---------------------|
| Age | 50.491 ^a |
| Vascular access | 2.850 ^a |
| Vascular access & UFR Cross Tabulation | .854 |

SUMMARY OF CASE PROCESSING – Cross tabulation

Table 3.13 BMI Complication Cross Tabulation

| | | COMPLICATION | | | Total |
|-------|---|--------------|---|---|-------|
| | | 1 | 2 | 3 | |
| BMI | 1 | 13 | 0 | 0 | 13 |
| | 2 | 32 | 1 | 0 | 33 |
| | 3 | 7 | 1 | 1 | 9 |
| | 4 | 2 | 0 | 0 | 2 |
| Total | | 54 | 2 | 1 | 57 |

SUMMARY OF CASE PROCESSING

| | Cases | | | | | |
|-------------------------------|-------|----------|---------|----------|-------|----------|
| | Valid | | Missing | | Total | |
| | N | Per-cent | N | Per-cent | N | Per-cent |
| VASCULAR ACCESS *COMPLICATION | 57 | 100.0 % | 0 | 0.0% | 57 | 100.0 % |

VASCULAR ACCESS * COMPLICATION CROSSTABULATION COUNT

| | COMPLICATION | | | Total |
|-----------------|-------------------------------|--------------------------------|-------------------------------|-----------|
| | Patients Related Complication | Vascular Related Complications | Machine Related Complications | |
| VASCULAR ACCESS | 48 | 1 | 1 | 50 |
| | 6 | 1 | 0 | 7 |
| Total | 54 | 2 | 1 | 57 |

VASCULAR ACCESS * UFR CROSSTABULATIONCOUNT

Table 3.16 Vascular Access UFR Cross Tabulation Count

| | | UFR | | | | | Total | |
|-----------------|---|----------|----------|----------|-----------|-----------|----------|-----------|
| | | 0 | 1 | 2 | 3 | 4 | | 5 |
| VASCULAR ACCESS | 1 | 1 | 2 | 6 | 14 | 25 | 2 | 50 |
| | 3 | 0 | 0 | 2 | 2 | 3 | 0 | 7 |
| Total | | 1 | 2 | 8 | 16 | 28 | 2 | 57 |

IV. DISCUSSION

5.1 According to the inclusion criteria, 57 hemodialysis patients were included in the research. The average age was 49.18 years, with ages ranging from 19 to 85. 37% of the participants in our research were female, whereas 63% were men. 22.8% of the patients (out of 57) were underweight, 57.9% were normal weight, 15.8% were overweight, and 3.5% were obese. In the study population,

hypertension (64.9%), diabetes mellitus (19.3%), hypertension, and diabetes (15.8%) were the main causes of CKD. In the study population, 49.1% of patients had hemodialysis three times per week, whereas 50.8% received it twice weekly. The examination of intradialytic weight increase revealed that 50.8% were >3%, 40.3% were 1.5-3, and 8.7% were 1.5%. In the participants in our research, 12.3% of patients were using an internal jugular vein catheter, and 87.7% of patients had an arteriovenous fistula. Reuse included 8.7% single uses, 61.4% 1–5 uses, and 29.8% 6–10 uses. We have noted it based on issues with our investigation. 94.7% of the difficulties were caused by individuals, 3.5% by vascular issues, and 1.7% by equipment issues. Our research reveals that back discomfort (3.5%), nausea (14%), fever (1.7%), rigors (17.5%), fatigue (10.5%), hypertension (28%), cramps (8.7%), hypotension (24.5%), and breathlessness (5.2%) are all common health problems. migraines (7%), 3.5% fluid overflow Problems with the flow (1.7%), needle (1.7%), and RO water line (1.7%). Age-complication cross-tabulation p value, vascular access p value, and vascular access and UFR cross-tabulation p value all had null significant p values.

V. CONCLUSIONS

6.1 To lessen the occurrence of situations that pose a danger to life. It will support early detection and treatment without stopping life-saving measures. To evaluate, we must conduct long-term research with more patients.

Prospective research was conducted to determine the diagnostic validity of the study of problems experienced by individuals receiving hemodialysis. In our research, 57 patients in total were recruited, and the problems related to hemodialysis were tracked.

Hypertension (64.9%), diabetes mellitus (19.3%), and a combination of hypertension and diabetes mellitus (15.8%) were the most frequent causes. Based on problems, we identified 1.7% that were linked to machines, 3.5% that were connected to vascular access, and 94.7% that were related to people. During hemodialysis, patients have problems. We must watch and keep track of any complications that arise during hemodialysis in our research cohort, as well as the importance of the results.

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