

Chapter 5

Discussion, Conclusions, Limitations, Implications, and Recommendations

This chapter describes the findings of the study, discussion, conclusions, limitations, implications and recommendations.

5.1 Major Findings of the Study

5.1.1 Background variables.

- The sample size was 110 and it constituted 60.91% males and 39.09% females. Among them, 84.55 % were married and living with their spouses.
- .Majority of the hemodialysis patients was in the age group of 50-69 years (63.64 %) and as per the educational background 31.82 % were graduates or above and only 7.27% were illiterates. The data also revealed that 43.64 % of the care takers were also graduates and above.
- Majority of the patients (71.82%) managed the dialysis expenses without any external support. Majority of them (69.09%) belonged to nuclear families.
- For 29.09% of HD patients diabetes was the primary cause of kidney failure while hypertension for 20.91% and both diabetes and hypertension for 11.82%.
- The hemodialysis schedule followed by 50% of the patients were twice a week. The standard thrice a week regimen is followed by 46.36%.
- Among the dialysis patients 27.27% have been on dialysis treatment for 1-6 months, 26.36% for 6-12 months, 29.09% for 12-36 months and 10% for 5years or more.

- The general nutritional status of the patients showed 77.27% with BMI in the normal range of 18.5 to 25.

5.1.2 Knowledge of HD patients related to kidneys, kidney disease and treatment.

- In pre test 65.45% had only average and below average knowledge about functions of kidneys while during post test 77.09% had good and above knowledge regarding the same.
- In pre test 41.82% had average and below average knowledge about common causes of kidney failure while 90% had good and above during post test.
- About food items allowed for HD patients pre test knowledge of 75.45% of HD patients were average and below average while during post test 54.55% were having very good and above knowledge.
- Regarding symptoms develop in inadequate dialysis 52.73% had average and below average knowledge in pre-test while during post test 94.54% had good and above knowledge
- Majority (97.27%) of HD patients were having good and above post test knowledge about signs and symptoms of CKD stage V while in pre test only 2.73 % were in the same level.
- In pre test 45.45 % had average and below average knowledge regarding changes occurring in body when kidneys fail while during post test 94.55% were having good and above knowledge about the same.
- About overall knowledge related to kidneys, kidney disease and treatment, during pre test only 60.91% of the patients were having good and above

knowledge while 98.18% were having the same level of knowledge in post test.

5.1.3 Knowledge of HD patients in relation to selected components of HRQoL.

- During pre test 69.18% were having only average and below average knowledge level related to causes of breathing difficulty while during post test 91.81% achieved good and above knowledge about the same.
- During pre test only 43.64% were having good and above knowledge level related to causes of excessive thirst and dry mouth while during post test 96.36% were having good and above knowledge
- Majority(69.09%) of patients were having poor knowledge related to causes of cramps during and after dialysis in pre test while 89.09% were having good and above knowledge during post test
- About causes of weakness after dialysis 59.09% were having only average and below knowledge during pre test while during post test 95.49 % were having good and above knowledge.
- About causes of clotting or problem with access site 66.36% were having only average and below knowledge during pre test while during post test 91.82% were having good and above knowledge regarding the same.
- During pre test only 59.09% of HD patients were having good and above knowledge regarding causes of dryness and itching of skin while during post test 80% were having good and above knowledge related to the same.

5.1.4 Health Related Quality of Life in HD patients in relation to selected components during pre test and post test.

- Majority of HD patients had excessive thirst and dry mouth (87.27% in pre test and 83.64% in post test), weakness after dialysis (88.18% in pretest and 85.45% in post test), restricted mobility (92.73% in pretest and 89.09% in post test),
- Majority of HD patients had body pain (81.82% in pretest and 80.91% in post test), cramps (79.5% in pre test and 75.45% in post test), loss of taste appetite (70.91% in pre test and 56.36%), and breathing difficulty (63.64% in pretest and 49.09 % in post test)

5.1.5 Practices of HD patients in relation to selected components of H R Q o L

- During pre test 71.43% of HD patients were having average and below average knowledge regarding practices related to breathing difficulty while during post test 83.34% achieved good and above knowledge regarding the same.
- During pre test only 13.54% of them were having good and above knowledge related to excessive thirst and dry mouth while during post test 96.74% were having good and above knowledge.
- During pre test only 14.47% of HD patients were having good and above knowledge regarding practices related to dry skin and itching while during post test 53.95% were having good and above knowledge.
- During pre test only 24.51 % of HD patients were having good and above knowledge regarding practices related to restricted mobility while during post test 63.27% were having good and above knowledge.

5.1.6 Analysis of Mean knowledge Scores of HD patients .

- post test knowledge score of HD patients were more than the mean pre test knowledge score and the p value is < 0.05 .
- The planned Mean teaching has significant effect on the knowledge in relation to selected components of HRQoL among hemodialysis patients.

5.1.7 Analysis of HRQoL Related to Selected Components During Pre Test and Post Test.

- For majority of items there is significant reduction in post test ranks compared to pre test ranks
- The planned teaching has significant effect on HRQoL in relation to selected components among hemodialysis patients.

5.1.8 Distribution of patients based on self expressed practices related to HRQoL during Pre-test and Post Test.

- There was statistically significant improvement in self-expressed practices in majority of the items related to selected components of HRQoL ($p < 0.05$).
- In relation to clotting or problems with access site and sexual dysfunction there was no statistically significant difference.
- The planned teaching has significant effect on practices related to selected components of HRQoL among hemodialysis patients

5.1.9 Description of views of Hemodialysis patients about the instruction manual.

- More than 80% strongly agreed that the manual is easy to handle, language simple to understand and felt that it covered all their symptoms.

- According to 80% of the patients the pictures made the text illustrative, 82.73% said that suggestions were easy to follow and 88.18% would recommend it to other patients.

5.2 Discussion

In the present study, majority of the hemodialysis patients were in the age group of 50-69 years (63.64 %) and 60.91% were males. This is consistent with study conducted by Morais et al⁴⁸ in the hemodialysis unit of Brazil where the mean age of the group was 47.0 ± 16.9 years, and 63.6% were men.

Regarding the primary cause of CKD, for 29.09% of HD patients diabetes was the primary cause of kidney failure while hypertension for 20.91% and both diabetes and hypertension for 11.82%. These findings are consistent with the reports of Dash and Agarwal⁶ and Shelar⁴. Dash and Agarwal in their study covering 48 hospitals distributed all over India reported that diabetes was the most frequent cause (30–40%), followed by hypertension (14–22%), chronic glomerulonephritis (16–20%), chronic interstitial disease (5.4–12.7%), hereditary disease (8.4%), and obstruction including calculus (2.9%)⁶. According to Shelar, National CKD registry of India in January 2010 estimated that 40% of CKD cases are due to diabetes⁴.

Regarding knowledge of HD patients in relation to selected components of HRQoL, Overall knowledge related to kidneys, kidney disease and treatment, during pre test only 60.91% of the patients were having good and above knowledge while 98.18% were having the same level of knowledge in post test. Post test knowledge score of HD patients were more than the mean pre test knowledge score and the p value is < 0.05.

The planned teaching has significant effect on the knowledge in relation to selected components of HRQoL among hemodialysis patients. These findings are consistent with that

was found in Fathima⁶⁸ who carried out an evaluative research with one group pre-test post-test design at Vijaya Hospital, Chennai on care givers of hemodialysis patients on management of vascular access site, worsening signs of kidney failure and activities of daily living. The data collected after one week showed that the overall knowledge score increased from 50.35 in pre-test to 86.25 in post-test. The t' value was highly significant proving the effect of education in improving care related knowledge

A study undertaken by Schlatter et al⁶⁹ to determine the effect of a patient education intervention on decreasing serum phosphorus levels, increasing calcium levels, and increasing knowledge in hemodialysis patients with abnormally high phosphorus levels (n = 29). There was a weak relationship between a decrease in phosphorus and an increase in knowledge about phosphorus (r = 0.21). However, calcium levels improved significantly after the teaching intervention (p = 0.003). Mean overall scores for knowledge about phosphorus control increased significantly (p = < 0.01). The findings of this study demonstrated that an education session can have an effect on patients' knowledge and compliance and is consistent with the findings of the present study.

Health Related Quality of Life in HD patients in relation to selected components during pre test and post test. In the present study, there was statistically significant effect between pretest and post test in dryness and itching of skin (p=0.000) this finding contradict the findings of Akhyani et al⁵²

The findings in the study conducted by Akhyani, et al⁵² on maintenance hemodialysis, to evaluate the frequency of pruritis in hemodialysis patients and to correlate its presence with relevant clinical and laboratory parameters revealed that pruritis was found in 41.09% of patients. In 22 patients (31.4%), pruritis intensified during and after dialysis.

Conclusions

The conclusions drawn from the findings of the study are as follows:-

1. Majority of the hemodialysis patients suffered from the symptoms/ problems identified in this study, referred to as selected components of HRQoL.
2. The knowledge of the subjects in relation to kidneys, kidney failure, its treatment, causes and management of symptoms/problems were average and below average in most of the items as revealed by pre-test..
3. The planned teaching carried out reinforced by the instruction manual has achieved in improving the knowledge, practices and HRQoL in majority of the items related to selected components as evident in post test.
4. The statistical analysis shows Chi- square value significant at 0.05 level ('p' value 0.001) in the comparison made between knowledge in pre test and post test done on frequency and percentage and mean of knowledge score in all the 12 items. In the past related to practices, the gain in knowledge is significant in Chi- square test at 0.05 level ('p' value < 0.001) on all items except that related to dialysis access and sexual dysfunction. This could probably due to inadequate sample size as practice related responses were elicited from only those who experience those symptoms/ problems. HD patients who had dialysis access problems were only 30 and 'sexual dysfunction were only 57.
5. The ranking of symptoms/ problems experienced by the HD patients during pre test and post test show reduction in symptoms when analyzed using Wilcoxon signed rank method. Correlation between knowledge and medical characteristics showed no positive relationship when analyzed using Pearson Chi- square.

7. This study show evidence that teaching hemodialysis patients about their symptoms/ problems will help in improving their awareness, reducing the symptoms and improve HRQoL.

Limitations

1. Interview technique for eliciting information has its own limitation of subjectivity.
2. Patients learn from other sources also so the effect of planned teaching cannot be isolated.
3. Teaching sessions were interrupted/ extended for assessment of vital signs, rounds of health team of patients.

Implications

The purposes of nursing include preserving the integrity and optimizing the potentials of an individual and helping him to achieve self-care abilities to carry out his daily activities of living. This could be achieved through patient education in hemodialysis patients. This would give him a sense of well being and would boost him to do better. All these would lead to better health related quality of life. The study attempted to impart information to hemodialysis patients, found significant improvement in knowledge during post test and also observed a reduction in symptom frequency and intensity when analyzed using Wilcoxon on sign ranks test .It may be concluded from the study findings that HRQoL of the subjects have improved.

Nursing practice

This research study has identified 12 symptoms/ problems involving all body systems commonly occurring in HD patients, investigated the effect of remedial measures to manage them by teaching them in terms of improvement in knowledge, self-expressed practices and HRQoL related to selected components and found it

effective. These study findings can help the nurses in the dialysis units to use the information in their assessment format for thorough assessment of the patients. It would also help in formulating nursing diagnoses in order to carry out effective, individualistic care.

The practices for management of symptoms/problems studied would help the nurses to educate the patients undergoing hemodialysis to minimize their problems/symptoms. Emergency hospitalizations of the patients could be averted by teaching them these preventive measures and additional financial burden on them could be avoided. Being able to provide comprehensive care to the patient would give satisfaction to the patients, families, and to the nurses themselves.

Nursing education

The study and the findings can be guidelines for the nurse educators to teach students in giving comprehensive nursing care to hemodialysis patients. The text books on nursing gives a general approach to the care of hemodialysis patients. This study highlights the specific symptoms/ problems affecting HD patients which are more contemporary and relevant. It provides a structure for more appropriate and individualistic nursing care plans.

Nursing research

The purpose of research is to generate knowledge so as to improve the practice in terms of cost and effectiveness. The study has brought out specific knowledge about the problems and management of HD patients which will add to the body of knowledge of dialysis nursing to improve HRQoL of hemodialysis patients and eventually to reduce the cost of treatment.

Similar evidence based approach could be tested in peritoneal dialysis patients and other chronic illnesses like asthma, COPD, arthritis etc. for promoting self care.

Nursing administration

Patient care depends on the availability and the educational preparation of nurses.. This depends on nursing administrator who plans the staffing with suitable, adequate personnel to carry out the care. This study highlights the need for thorough assessment and patient education and hence special education for dialysis nurses and maintaining adequate nurse patient ratio are emphasized. Ongoing education program for nurses using evidence based approach is mandatory. A well planned dialysis nursing service is essential to achieve this.

Recommendations

The present study findings revealed that the planned teaching and the instruction manual was effective and there was a significant increase in knowledge, in HRQoL and practices of Hemodialysis patients. The following points are recommended

1. Similar studies may be conducted on a larger sample size of hemodialysis patients.
2. A longitudinal study may be done to study the change in morbidity and mortality rates of hemodialysis patients consequent to patient education.
3. An exploratory study may be undertaken to explore problems like sexual dysfunction and other problems of HD patients
4. An exploratory may be done on pediatric population undergoing hemodialysis
5. Similar studies may be conducted for patients with other chronic illnesses like asthma, COPD, arthritis ,diabetes etc
6. Similar studies may be conducted on peritoneal dialysis patients

7. A similar study may be done on care takers of cognitively impaired hemodialysis patients.
8. Dialysis nurses may be encouraged to take up research projects on problems they encounter during the course of their practice.
9. Similar study may be done in different settings (government versus private, urban versus rural) so that findings can be compared.