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IMPACT OF PATIENT COUNSELLING IN QUALITY OF LIFE OF CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING HEMODIALYSIS -A PROSPECTIVE STUDY

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ABSTRACT

Background: Chronic Kidney Disease is a condition which is characterised by worsening, progressive and irreversible loss of patient's kidney function (3 months or longer) which ultimately leads to dialysis or transplantation. Quality of Life is a broad multidimensional concept that can be affected by one's disease or treatment. The main aim is to assess the impact of patient counselling in quality of life of chronic kidney disease patients undergoing hemodialysis.

Methodology: A prospective observational study was conducted in the nephrology department in a tertiary care setting. The study was carried out for a period of six months and a total of 81 subjects were included in the study. Data was collected from November, 2022- April, 2023. Patients who satisfied both inclusion and exclusion criteria were selected for the study.

Results: Majority of the patients belonged to the age group of 58-67 years (37%). Hypertension (42.16%) was the most common comorbidity. Majority of patients were having 3 comorbidities (43.21%). Most common complication was found to be anemia (27.95%). Structured questionnaire scores before (45%) and after (55%) patient counselling were compared and results were statistically significant. KDQOL SF-36 TM questionnaire scores before (37%) and after (63%) patient counselling were compared and results showed significant improvement after patient counselling.

Conclusion: Patient counselling provided by the pharmacist must be implemented to gain more understanding about the disease, the need for strict monitoring and for better understanding of treatment options available and lifestyle modifications to be included in their daily life activities and thereby delay the disease progression and improve their quality of life.

Keywords: Chronic Kidney Disease, Hemodialysis, Comorbidities, Quality of Life

INTRODUCTION

Chronic kidney disease (CKD), also called chronic renal insufficiency (CRI) is defined as a progressive loss of kidney function occurring over several months to years [1]. It is characterized by the presence of kidney damage or an estimated glomerular filtration rate (eGFR) less than 60 ml/min persisting for 3 months or more, irrespective of the cause, resulting in the need for renal replacement therapy (dialysis or transplantation) [2].

Etiological factors associated with CKD are Diabetic nephropathy, Hypertension, Glomerulonephritis, Polycystic kidney disease, kidney infections and obstructions. Non-modifiable and modifiable risk factors lead to the progression of CKD, the former includes advancing age, family history and gender, and the latter includes poor diet, poor adherence to medications and treatments, low physical activity, poor health literacy, obesity and comorbidities such as hypertension, diabetes. Comorbidities associated with CKD are broadly classified into concordant physical health condition, discordant physical condition and mental health conditions.

Complications associated with hemodialysis are broadly classified into three categories: Patient-related complications, Vascular access related complications and technical complications. Patient related complications include nausea and vomiting, itching, muscle cramps, anemia and hypotension; vascular access related complications include low AV fistula flow, thrombosis; technical complications include air embolism, power failure, neutropenia.

QoL and well-being of hemodialysis patients are affected by psychological distress. Advanced CKD stages are associated with the high prevalence of previously undiagnosed psychological and psychiatric disorders such as depression, anxiety, delirium.

Hemodialysis affects the professional, social and the economic status of CKD patients [3]. The provision of social support to patients with CRF is associated with the reduction of depressive symptoms, the positive perception of their illness and their general satisfaction of their life [4]. The marital relationship, in combination with gender, age, employment and education level plays an important role for these patients [5].

Regular and individualised patient counselling with proper education will help to achieve better QoL.

MATERIALS AND METHODS

The study designed was single centered, hospital based, prospective observational study. All patients reported with Chronic kidney disease and undergoing hemodialysis (3 months and above) admitted to the Department of Nephrology and who satisfied the inclusion and exclusion criteria was the study population. The proposed study was conducted in a tertiary care setting for a duration of 6 months. The sample size is calculated using the formula.

$$n = \frac{Z_{\alpha/2}^2 pq}{d^2}$$

The sample size was calculated and found to be 81. Inclusion criteria were: IP / OP patients in Nephrology Department, patients having Chronic kidney disease and undergoing hemodialysis, both male and female patients, those who give consent voluntarily to participate in the study, adult patients of age 18-70 years who are undergoing hemodialysis.

OBJECTIVES

1. To identify the co-morbidities in hemodialysis patients.
2. To assess the complications associated with hemodialysis.

3. To identify the patient mental health and quality of social life.
4. To conduct patient counselling and analyse its outcome.

BRIEF PROCEDURE OF THE STUDY

A prospective observational study was conducted in the Department of Nephrology at Pushpagiri Medical College Hospital, Thiruvalla on the topic: "IMPACT OF PATIENT COUNSELLING IN QUALITY OF LIFE OF CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING HEMODIALYSIS –A PROSPECTIVE STUDY." It is a 6-month study conducted after getting ethical committee approval. The selection of patients was based on the inclusion and exclusion criteria. All patients were provided with a brief introduction regarding the study and the confidentiality of the data. A written Informed Consent was obtained from the patient or care-giver. A predesigned proforma was used for the collection of patient data and a KDQOL SF-36 questionnaire was used to find out the severity of the patient's condition. A structured questionnaire for patient counselling was also used and then patient counselling was done and leaflets were also provided. After a 3-month period, a follow up was done using the KDQOL SF-36 and structured questionnaire and the scores obtained before and after patient counselling were compared and the results were analysed.

RESULTS AND DISCUSSION

1. Distribution of gender

In our study, 81 patients were analyzed out of which 51 patients (62.96%) were males and 30 patients (37.04%) were females. This result is similar to that of the study conducted by Javedh Shareef *et al* (2014) [6] where majority of patients were males (76.7%) as compared to females.

2. Distribution of age

Patients between age group of 18-70 years were selected for the study. Highest percentage of hemodialysis patients were found to be of the age group of 58-67 years. This result is similar to that of the study conducted by Javedh Shareef *et al* (2014) [6] where majority of patients belonged to the age group of 50-69 years.

3. Distribution of marital status

Among the study population, 79 patients (97.53%) were married. This result is similar to that of the study conducted by Javedh Shareef *et al* (2014) [6] where majority of patients are married (93.3%) as compared to unmarried population.

4. Distribution of employment status

Majority of the patients in our study were unemployed (86.42%) than employed (13.58%). This result is similar to that of the study conducted by Stavroula Gerogianni *et al* (2016) [3] where majority of patients are unemployed (90.91%).

5. Distribution of social status

In our sample size population, majority of patients did not smoke or consume alcohol (61.73%). This result is similar to that of the study conducted by Javedh Shareef *et al* (2014) [6] where majority of population did not have any social habits as compared to smokers and alcoholics.

6. Distribution of comorbidities

Most common comorbidity observed in study population is Hypertension (42.16%). This result is similar to that of the study conducted by Mukhtar Ansari *et al* (2019) [7] where the most prevalent comorbidity was found to be hypertension (57.4%) as compared to other comorbidities.

Table 1: Distribution of hemodialysis patients based on comorbidities

COMORBIDITIES	PERCENTAGE (%)
HYPERTENSION	42.16%
DM	30.81%
DLP	10.81%
CAD	8.65%
HYPOTHYROIDISM	5.41%
STROKE	2.16%

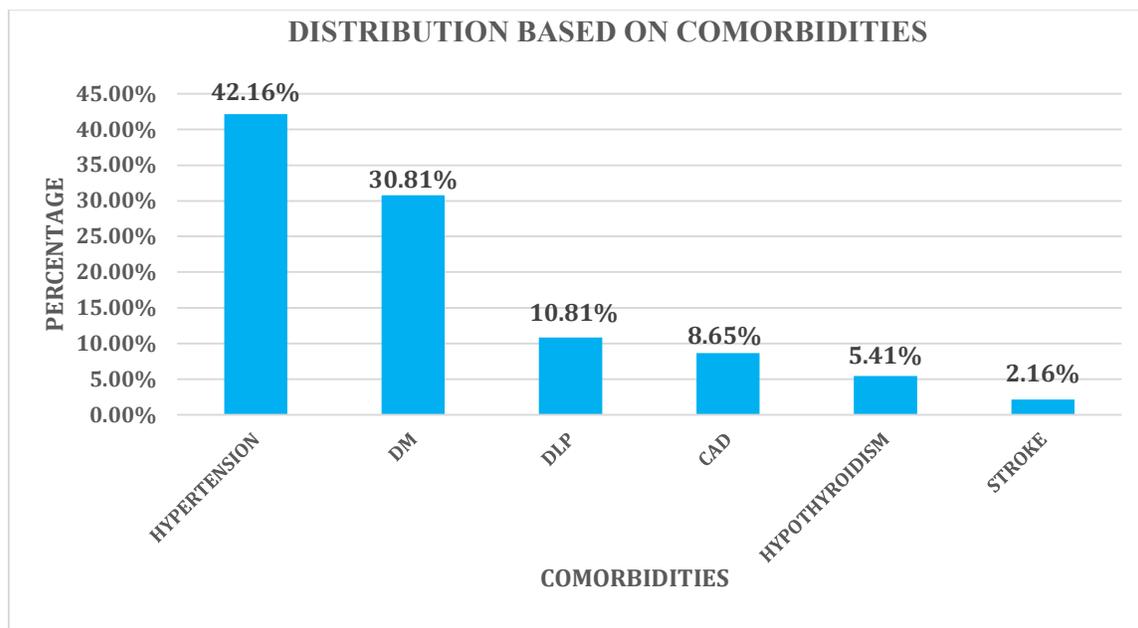


Figure 1: Distribution of hemodialysis patients based on comorbidities

7. Distribution of complications associated with hemodialysis

Patient related complications (79.50%) constituted the major type of complication observed in our sample and among which anemia was found to be the most prevalent

as compared to others. This result is similar to that of the study conducted by Syed Marghoob Hasan *et al* (2017) [8] where the most common group of complications were patient-related complications (63%).

Table 2: Distribution of hemodialysis patients based on complications

COMPLICATIONS	PERCENTAGE (%)
ANEMIA	27.95%
CRBSI	13.04%
SHORTNESS OF BREATH	12.42%
ITCHING	11.18%
MUSCLE CRAMPS	9.32%
FEVER & CHILLS	7.45%
HYPOTENSION	5.59%
THROMBOSIS	4.97%
HEADACHE	3.11%
NAUSEA&VOMITING	2.48%
LOW AVF BLOOD FLOW	1.24%
STEAL SYNDROME	0.62%
AIR EMBOLISM	0.62%

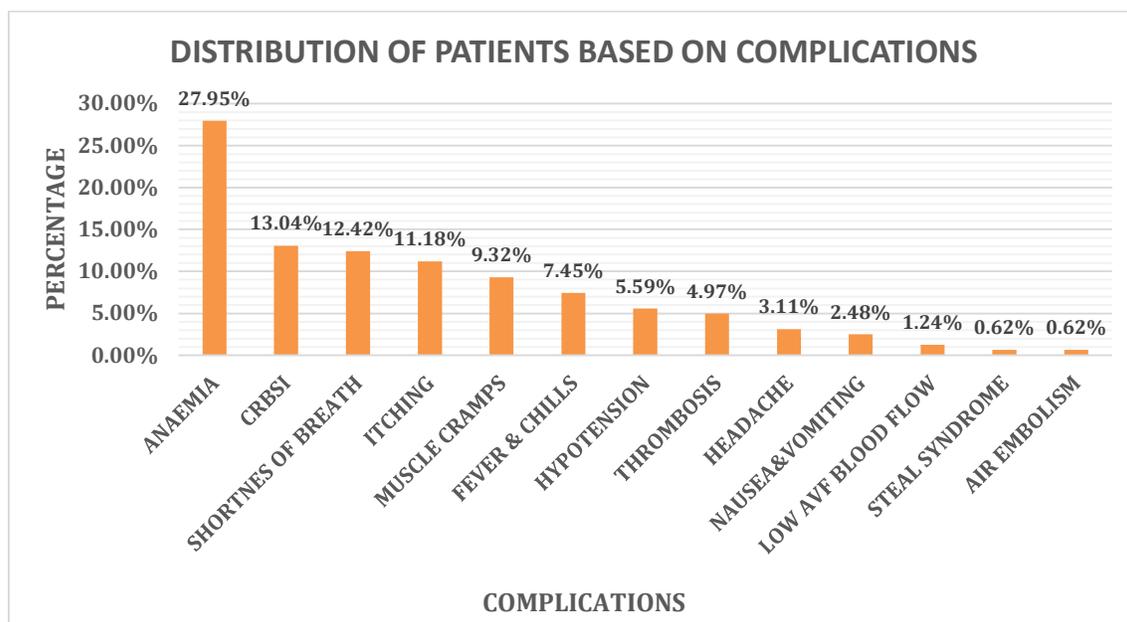


Figure 2: Distribution of hemodialysis patients based on complications

8. Distribution based on questionnaire scores

In this study, structured questionnaire scores of hemodialysis before (45%) and after (55%) patient counselling was compared and results were statistically significant (p=0.000). The knowledge on disease, diet, lifestyle showed an improvement after patient counselling (Table 3, Figure 3). The results of KDQOL SF-36TM scale scores of hemodialysis patients before (37%) and after (63%) patient counselling were found to be statistically significant (p=0.000)

(Table 4, Figure 4). Several items of KDQOL SF-36TM questionnaire like SF-12, burden of kidney disease, symptoms and effect of kidney disease showed significant improvement after providing patient counselling. Similar results were evident in the study conducted by Sobana Tamilselvan et al (2021) [9] with significant improvement in domains like physical functioning, general health, emotional well-being, social functioning, symptoms/problem list and effects of kidney disease.

Table 3: Structured questionnaire scores before and after patient counselling

PATIENT COUNSELLING	SCORES	PERCENTAGE (%)
BEFORE	22.20	45%
AFTER	26.77	55%

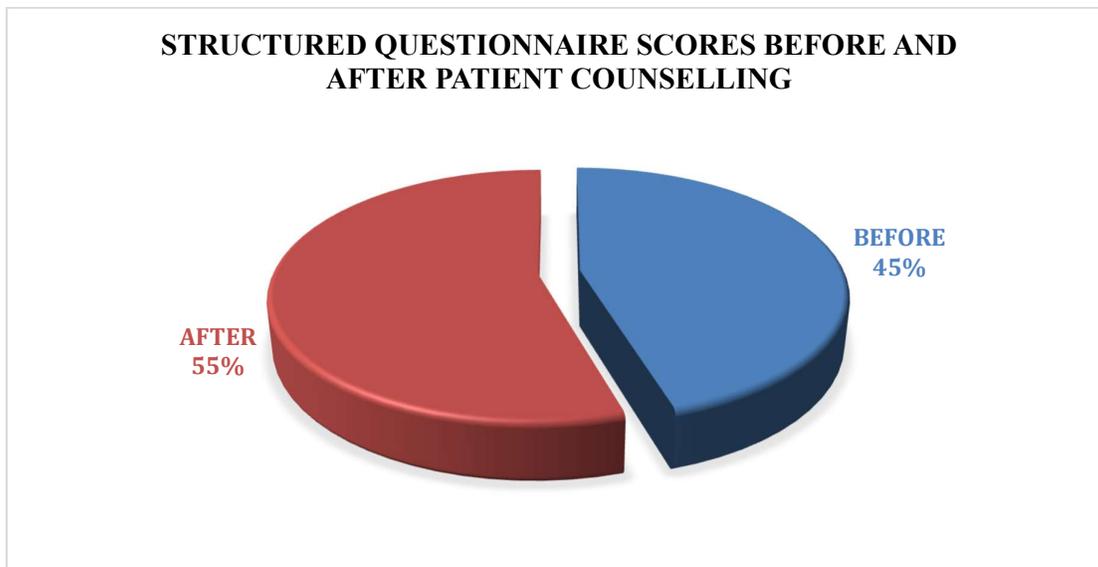


Figure 3: Structured questionnaire scores before and after patient counselling

Table 4: Total KDQOL SF-36 score before and after patient counselling

PATIENT COUNSELLING	SCORES	PERCENTAGE (%)
BEFORE	43.35	37%
AFTER	73.45	63%

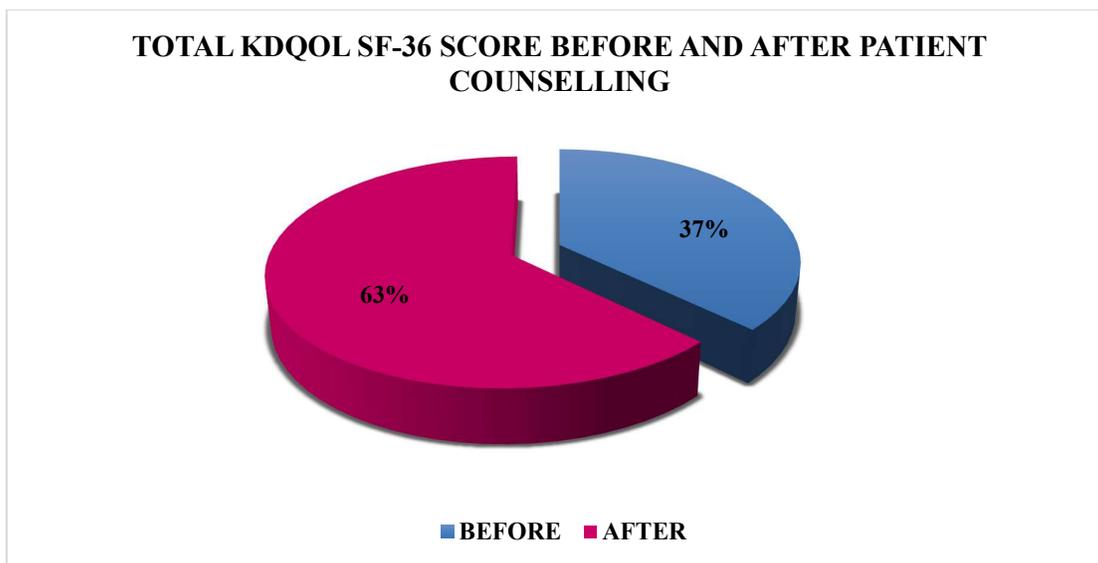


Figure 4: Total KDQOL SF-36 score before and after patient counselling

CONCLUSION:

Chronic kidney disease patients undergoing hemodialysis experience many threats to their quality of life associated with their comorbidities, complications and as a result of

social and mental burdens of hemodialysis treatment.

The study findings suggest that majority of the patients who were in the age group of 58-67 years had higher prevalence of chronic kidney disease and underwent hemodialysis.

It was evident from the study that CKD was high in males than in females. Hypertension and diabetes mellitus were the most common comorbidities associated with CKD and majority of the patients were having 3 comorbidities. Anemia and CRBSI were the most common complications among the patients. Based on the scores obtained before and after patient counselling using the structured questionnaire and the KDQOL SF-36TM questionnaire, it was concluded that the patient's knowledge on disease, diet and lifestyle as well as the SF-12, the burden of kidney disease, symptoms and the effect of kidney disease scores respectively had improved significantly after patient counselling. Patient counselling provided by the pharmacist must be implemented to make hemodialysis patients gain more understanding about their disease condition, the need for strict monitoring and proper assessment of the comorbidities and complications associated with CKD, for better understanding of treatment options available and lifestyle modifications to be included in their daily life activities and thereby delay the disease progression and improve their quality of life.

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CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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ETHICAL CONSIDERATIONS

The study was conducted after getting approval from Institutional Ethical Committee. The approval numbers are - PCP/IEC-02B/5/PD -2022, PCP/IEC-02B/6/PD -2022, PCP/IEC-02B/7/PD -2022, PCP/IEC-02B/8/PD -2022.

REFERENCES

- [1] Joseph T. DiPiro. Pharmacotherapy 6th edition. 799.
- [2] Chapter 1: Definition and classification of CKD. *Kidney Int Suppl* (2011). 2013;3(1):19-62.
- [3] Gerogianni S, Babatsikou F, Gerogianni G, Koutis C, Panagiotou

- M, Psimenou E. Social life of patients undergoing haemodialysis. *Int J Caring Sci.* 2016;9(1): 122-34.
- [4] Kimmel PL, Patel SS. Quality of life in patients with chronic kidney disease: focus on end-stage renal disease treated with hemodialysis. *Semin Nephrol.* 2006;26(1):68-79.
- [5] Pruchno R, Wilson-Genderson M, Cartwright FP. Depressive symptoms and marital satisfaction in the context of chronic disease: a longitudinal dyadic analysis. *J Fam Psychol.* 2009;23(4):573-84.
- [6] Shareef J, Kripa GS, Baikunje S. Impact of pharmacists' counseling on quality of life in patients undergoing hemodialysis in a tertiary care teaching hospital. *World Journal of Nephrology and Urology.* 2015;3(4):143-50.
- [7] Ansari M, Al-Adeem M, Alshakka M. Comorbidity among Patients with Kidney Diseases in Hail Region, Saudi Arabia. *Int J Diabetes Clin Res.* 2019;6(1):104.
- [8] Hasan SM, Kumar HD, Prasher PK, Goel R. A study of complications encountered in patients undergoing hemodialysis procedure. *Int J Adv Res.* 2017; 5(11):877-84.
- [9] Tamilselvan S, William DB, Jagadeesan S, Suresh A. Impact of pharmacist-given patient-counseling on health-related quality of life (HRQOL) of Haemodialysis patients. *J Evolution Med Dent Sci* 2021. 2021;10(12):856- 60.