

A descriptive study to assess the level of activities of daily living among patients with chronic kidney disease undergoing hemodialysis at NMCH, Jamuhar, Rohtas, Bihar.

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Abstract— A study to assess the activities of daily living among CKD patients under hemodialysis at selected hospital of Bihar.

Background and Objectives:

Haemodialysis patients with chronic renal disease frequently see a marked decline in their everyday activities. This is because the treatment is long-term, necessitates lifestyle modifications, and is costly. These elements may have an impact on a person's well-being, daily life activities, and adherence to their treatment plan. Developing successful patient care and intervention methods requires an understanding of the distribution of activities of daily living and their relationship to clinical and demographic characteristics.

Methods: A descriptive cross-sectional study was conducted out on 60 CKD patients undergoing haemodialysis at NMCH, Jamuhar, Rohtas, of Bihar. The Katz Index scale was used to activities of daily living, classifying patients into full function, moderate impairment, and severe functional impairment. Structured interviews were used to gather sociodemographic information.

Results:

The majority of participants (60%) were over 50, 70% were men, and 80% were married. According to the Katz Index, 20% had severe functional impairment, 35% had moderate impairment, and 45% had full functional status. ADL level was found to be significantly correlated with age, gender, educational attainment, and place of residence.

Conclusion:

Based on the study's findings, those receiving hemodialysis frequently experience psychological distress, which is significantly impacted by their age, income, and length of treatment and requires targeted support.

Index Terms— CKD, hemodialysis, activities of daily living.

I. INTRODUCTION

Chronic kidney disease (CKD) is defined by kidney damage or an estimated glomerular filtration rate (eGFR) below 60 mL/min/1.73 m², lasting for three months or more.¹ More than 850 million people around the world have CKD, and by 2040, it will be the fifth biggest cause of years of life lost.² The frequency of chronic kidney disease (CKD) and end-stage kidney disease has been expanding, resulting in a higher need for renal replacement therapy involving kidney transplantation.³ Hemodialysis effectively treats permanent kidney failure by filtering blood, but repeated sessions trigger complications including intradialytic hypotension, muscle cramps, vascular access infections, cardiovascular events, anemia, chronic fatigue, inflammation, and diminished quality of life among CKD patients.⁴ Elderly adults with chronic renal disease have substantial impairments to their everyday activities both before and after starting

dialysis. Dialysis frequently increases reliance and nursing facility hazards, while advanced CKD accelerates the decrease of basic and instrumental ADLs through frailty and comorbidities.⁵ Dialysis lowers quality of life since it necessitates two to three weekly appointments that last three to six hours, in addition to food and hydration restrictions. Patients frequently struggle with activities of daily living and lose their jobs after beginning.⁶ Comorbidity and fragility are linked to decreased survival rates in older adults receiving in-center hemodialysis (ICHD). After beginning, daily activities drastically decrease, hastening the loss of independence.⁷

II. MATERIALS AND METHODS

This descriptive cross-sectional study included 60 adults with chronic kidney disease receiving hemodialysis at selected hospitals in Bihar. Data collection focused on both activities of daily living and socio-demographical. Activities of daily living was asses by using Katz Index scale, which measured it and categorizes each into full functioning, moderate impairment and severe impairment. To complement these assessments, investigators conducted structured interviews to obtain detailed sociodemographic information, including age, gender, education,

occupation. This approach allowed the study to capture a clear picture of the psychological burden experienced by hemodialysis patients alongside key personal and social factors that may influence their mental health.

III. RESULTS

This descriptive cross-sectional study comprised sixty adult patients with chronic renal disease receiving hemodialysis. The functional state and sociodemographic profile as determined by the Katz Index are shown below. Males made up 68.3% of the participants, while females made up 31.7%. Participants' ages ranged from 25 to 75, with 40% of them being in the 46–60 age range. In terms of education, 26.7% were illiterate and 33.3% had finished secondary school. According to the occupational breakdown, 33.3% worked in unskilled labor and 41.7% were retired or jobless. 45% of the patients had full functioning, 33.3% had moderate impairment, and 21.7% had severe impairment in activities of daily living, according to an evaluation using the Katz Index. The percentage of complete functioning was somewhat higher in men than in women. Higher degrees of ADL impairment were linked to getting older, having less education, and being unemployed.

Figure 1 Sociodemographic Profile and Katz Index Category (n = 60)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	25–45	18	30.0
	46–60	24	40.0
	>60	18	30.0
Gender	Male	41	68.3
	Female	19	31.7
Education	Illiterate	16	26.7
	Primary	12	20.0
	Secondary	20	33.3
	Graduate & above	12	20.0
Occupation	Unemployed/Retired	25	41.7
	Unskilled Labor	20	33.3
	Skilled/Service	15	25.0
Katz ADL Category	Full Functioning	27	45.0
	Moderate Impairment	20	33.3
	Severe Impairment	13	21.7

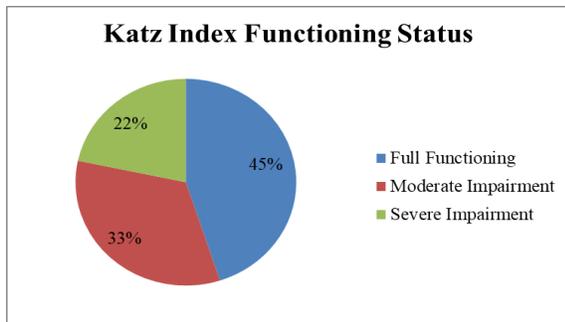


Figure 1. Distribution of activities of daily living (Katz Index) functional status among hemodialysis patients (n = 60)

IV. DISCUSSION

The results show that among CKD patients receiving hemodialysis, according to the Katz Index, 45% of hemodialysis patients at particular Bihar hospitals maintained complete independence in activities of daily living (ADL), but 55% had moderate to severe impairment, indicating a significant functional burden in this population, according to this descriptive cross-sectional study. In line with typical hemodialysis demographics in India, where chronic diseases like diabetes cause earlier disease onset in working-age individuals, the majority of participants (68.3%) are male and 40% are middle-aged (46–60 years). Vulnerability is probably made worse by lower levels of education (26.7% illiterate) and unemployment (41.7%), which restrict access to health literacy and supportive services that are necessary for handling dialysis-related fatigue and mobility issues.

V. CONCLUSION

Due to decreased physical capacity, exhaustion, and musculoskeletal issues, many patients with chronic kidney disease (CKD) receiving hemodialysis frequently have limitations in activities of daily life. To pinpoint particular needs and direct management, early evaluation of functional limits is crucial. While lifestyle change counseling promotes regular physical activity and good habits, integrating physiotherapy can enhance mobility, strength, and endurance. Hemodialysis patients can greatly improve their total functional independence, quality of life, and treatment adherence with customized, patient-specific therapies that emphasize exercise, nutrition, and psychological

support. This can lead to improved clinical and psychosocial results.

VI. CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this research.

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