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NUTRITIONAL STATUS OF CHRONIC KIDNEY DISEASE PATIENTS ON MAINTENANCE HEMODIALYSIS IN A TERTIARY HOSPITAL

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General Objective:

To assess the nutritional status of chronic kidney disease patients on maintenance hemodialysis at a tertiary hospital

Specific Objectives:

1. To describe the demographic profile of chronic kidney disease patients on maintenance hemodialysis at RTR Hospital.
   To identify the biochemical and anthropometric parameters that will support the nutritional status of patient on hemodialysis.
   To identify the subjective global assessment rating of patients undergoing hemodialysis
   To determine the association between hemodialysis frequency to nutritional and anthropometric measurements (serum creatinine, serum albumin, total cholesterol, mid-arm circumference, triceps skinfold, and body mass index, bioimpedance) and subjective global assessment tool.

Methods: A cross-sectional prospective study was conducted among forty-eight chronic kidney patients on maintenance hemodialysis at Remedios Trinidad Romualdez Hospital (RTRH). Biochemical and anthropometric measurements were taken, and patients were interviewed using a standardized data collection tool, Subjective Global Assessment (SGA). Descriptive statistics, Pearson product correlation and Spearman rho correlation were utilized.

Results: Among the forty-eight chronic kidney disease patients, majority were males or 52.1%, with a mean age of 59.7 years old, mean duration of dialysis of 36.8 months, diabetes was the major leading cause of CKD, and with an adequate Kt/V or 1.32. Mean body mass index (BMI) was 22.7 kg/m^2 and fifty-four (54%) of patients does not have a normal BMI. Fifty-two percent (52%) were classified as malnourished based on the criteria, of these forty-four (44%) were mildly-moderately malnourished while eight (8%) were severely malnourished. Frequency of dialysis was associated with malnutrition based on BMI and overall SGA rating

Conclusions: There is an increased prevalence of malnutrition among chronic kidney disease patients. Association was noted between frequency of dialysis and body mass index and Subjective Global Assessment. This study recommends that all patients undergoing hemodialysis should have an assessment of nutritional status through biochemical, anthropometric, and Subjective Global Assessment monthly.

Figure 1. Demographic Profile of Chronic Kidney Disease Patients on Maintenance Hemodialysis

Demographic Profile of Chronic Kidney Disease Patients on Maintenance Hemodialysis

Demographic Profile Variables	Frequency (n = 48)	Percentage (100%)
Age		
26 – 35 years old	4	8.3
36 – 45 years old	6	12.5
46 – 60 years old	12	25
61 years old and above	26	54.2
Age Mean (SD)		59.7 ± 14.7
Sex		
Male	25	52.1
Female	23	47.9
Duration of Hemodialysis Treatment		
3 – 12 months	7	14.6
13 – 22 months	13	27.1
23 – 32 months	7	14.6
33 – 42 months	5	10.4
43 – 52 months	2	4.2
53 – 62 months	5	10.4
53 – 72 months	4	8.3
73 – 82 months	3	6.3
93 months and above	2	4.2
Duration of Hemodialysis Treatment Mean (SD)		36.8 ± 25.3
Etiology of Chronic Kidney Disease (CKD)		
Diabetes Mellitus	26	54.2
Glomerulonephritis	14	29.2
Hypertension	8	16.7
Frequency of Hemodialysis Treatment		
Once a week	4	8.3
Twice a week	27	56.3
Thrice a week	17	35.4
Frequency of Hemodialysis Treatment Mean (SD)		2.3 ±0.6
Average Kt/V for the Past 3 Months		
Normal / Adequate	31	64.6
Inadequate	17	35.4
Average Kt/V for the Past 3 Months Mean (SD)		1.32 ± 0.26

Figure 2. Association Between the Frequency of Hemodialysis Treatment to Biochemical and Anthropometric Measurements and Subjective Global Assessment of Chronic Kidney Disease Patients Undergoing Maintenance Hemodialysis Treatment In RTR Hospital

Association Between the Frequency of Hemodialysis Treatment to Biochemical and Anthropometric Measurements and Subjective Global Assessment of Chronic Kidney Disease Patients Undergoing Maintenance Hemodialysis Treatment In RTR Hospital

Biochemical and Anthropometric Measurements, Bioimpedance Test and Subjective Global Assessment	Correlation Coefficient	p–Values	Interpretation
Biochemical Measurements			
Serum Creatinine	-.044	.766	Not Significant
Serum Albumin	.018	.905	Not Significant
Serum Total Cholesterol	-.705	.614	Not Significant
Anthropometric Measurements			
Mid–Arm Circumference	.129	.384	Not Significant
Triceps Skinfold	-.236	.106	Not Significant
Body Mass Index (BMI)	.739	.030	Significant
Bioimpedance Test			
Lean Tissue Index	.200	.173	Not Significant
Lean Fat Index	.685	.060	Not Significant
Subjective Global Assessment			
Overall Subjective Global Assessment Rating	-.485	.042	Significant