

Abstract Submission No. : 2425

Identifying the nutrition-related factors associated with fatigue on MHD Patients: A Cross-sectional study at Sleman Regional Hospital, Indonesia

Susetyowati Susetyowati, Nadira D'mas Getare Sanubari, Mashita Inayah, Melia Likwan
Department of Nutrition and health, University Gadjah Mada, Indonesia

Objectives: Maintenance hemodialysis (MHD) patients often experience fatigue; it becomes more profound on dialysis days which prevalent in more than 60% of dialysis patients worldwide. Fatigue affects patients' quality of life; moreover, it predicts cardiac events and all-cause mortality. This research aimed to identify factors associated with fatigue symptom in MHD patients at Sleman Regional Hospital, Indonesia

Methods: This research was conducted in an observational method with a cross-sectional design. A total of 97 MHD patients who were regularly undergoing dialysis twice per week at Sleman Regional Hospital, Indonesia were recruited during January-February 2021. Fatigue was assessed using a-13-items of Functional Assessment Chronic Illness Therapy (FACIT) scale; the result was categorized into mild (scored >30) and severe (≤30). Data collection involved patient's characteristics, Nutritional status (Anthropometric data, hemoglobin, albumin, Handgrip Strength (HGS), and Dialysis Malnutrition Score (DMS)), nutrient intake, Total Iron Binding Protein (TIBC). Independent t-test and chi-square tests were performed to analyze the dependent variables.

Results: A total of 56.7% of patients were malnourished based on DMS. Severe fatigue experienced by 37.1% of patients, which more frequent in woman, the elderly, patients who were actively working, married, and gaining >5% of Inter-dialytic weight. Regarding nutritional status, Body Mass Index, HGS demonstrated a significant association to fatigue ($p < 0.05$), however patients with severe fatigue were found to had lower Mid Upper Arm Circumference (25.9 ± 4.6 vs 22.6 ± 7.6 ; $p = 0.008$). Patients' daily protein, carbohydrate, and fat intake significantly different in the two fatigue groups ($p < 0.05$), nevertheless, patients with mild fatigue consumed higher energy intake compared to others (1158.4 ± 304.2 vs 1027.8 ± 340.9 ; $p = 0.061$). No significant association was found in Albumin level, TIBC, Iron serum, hemoglobin.

Conclusions: Nutritional status and nutrient intake are relatively correlated with fatigue in MHD patients; identifying patients who are at increased risk for fatigue may result in more precise nutrition intervention with a better outcome.

Table 1. Prevalence of Fatigue

**KSN** 2021
FULLY VIRTUAL MEETING
September 02 (Thu) - 05 (Sun)

Table 1. Prevalence of Fatigue

Variables		
	n	%
Fatigue		
Mild	61	62.9
Severe	36	37.1

Table 2. Factors Associated with Fatigue



KSN 2021
FULLY VIRTUAL MEETING
 September 02 (Thu) - 05 (Sun)

Table 2. Mean difference among variables

Variables	Fatigue		p
	Mild (Mean)	Severe (Mean)	
Age	46.5±11.9	51.9±9.1	0.020*
%Inter-dialytic Weight Gain	4.0±1.8	4.7±1.7	0.099
Body Mass Index	23.3±4.1	21.4±3.3	0.028*
Mid-Upper Arm Circumference	25.9±4.6	22.6±7.6	0.008*
% Total Fat	25.3±8.9	21.6±6.3	0.090
Visceral Fat	7.6±8.1	4.2±6.6	0.038*
Handgrip Strength	17.1±8.9	10.8±7.6	0.001*
Albumin level	4.1±0.4	3.9±0.8	0.171
TIBC	104.7±32.9	113.4±75.5	0.522
Iron serum	72.3±40.2	79.0±49.5	0.471
Hemoglobin (mg/dl)	7.8±1.8	7.7±1.7	0.710
Adequacy (kt/v)	1.9±0.3	2.0±0.3	0.745
Anorexia (SNAQ Score)	13.9±2.1	12.6±2.6	0.009*
Energy (kcal)	1158.4±304.2	1027.8±340.9	0.061
Protein (g)	39.6±12.9	33.8±14.4	0.046*
Carbohydrate (g)	159.3±48.1	135.9±61.0	0.039*
Fat (g)	38.9±16.2	30.9±19.3	0.034*
Fe Intake (mg)	7.94±11.7	5.0±9.0	0.204

*p<0.05 is statistically significant