KSN 2019
Seoul, Korea · May 23 - 26

Abstract Type : Poster
Abstract Submission No. : PO-1384

Hemoglobin and Albumin Level as Clinical Indicators of Dietary Quality of Maintenance Hemodialysis Patient

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Objectives: We assessed the associations between food intake and clinical outcomes amongst maintenance hemodialysis patients at Dr Sardjito General Hospital, a teaching hospital for Gadjah Mada University, in Jogjakarta, Indonesia.

Methods: In the cross-sectional analysis, we investigate 156 patients, men and women aged 21-79 years, undergoing a maintenance hemodialysis patients. Every patient was measured their body weight using a digital scale and hemoglobin & albumin was obtained from the hospital laboratory. A 3 days of 24 hour recalls is used to measure food intake. Individual Dietary Diversity Score (IDDS) was define as low dietary diversity (≤ 3 food groups), medium dietary diversity (4 and 5 food groups) and high dietary diversity (≥6 food groups). Macronutrients recommendation in this study population is used 35 Kcal and 1,2 g protein/Kg Ideal body weight. We define the patients as long term dialysis survivor if they have continuously undergone this replacement therapy for more than 5 years.

Results: The mean for hemoglobin level is 9.2 mg/dL, albumin 3.82 mg/dL, and frequency of hemodialysis 417 times. We have found that most of the subjects (69%) have a low hemoglobin level (< 10 mg/dL), but 80.5% of them have a normal serum albumin (>3.5 mg/ dL). There is no differences on the level of hemoglobin and albumin according to length period of dialysis. In addition, the result of this study shows a positive correlation between hemoglobin and albumin serum concentration with diet quality measured by total food intake and individual dietary diversity score ($p<0.05$)

Conclusions: This study confirmed the beneficial effects of healthy eating particularly a high food variety of the hemodialysis patients into some indices of their clinical outcomes particularly on hemoglobin and albumin.