

Malnutrition–Inflammation Score (MIS) and Physical Activity among Hemodialysis Patients

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Abstract

Background: Protein Energy Malnutrition (PEM) related to inflammation and physical activities reduction occur commonly among hemodialysis patients. This study aimed to describe Malnutrition-Inflammation Score (MIS) and physical activity of hemodialysis patients.

Methods: This study involved 117 patients in the Hemodialysis Unit of Dr. Hasan Sadikin General Hospital Bandung from September to October 2014. Secondary data were collected to examine MIS and physical activity, which was measured by using Baecke Physical Activity Questionnaire. The collected data were presented using frequency distribution.

Results: Eighty (68.4%) patients had MIS <6, thirty seven (31.6%) patients had MIS ≥6, and ninety four (80.3%) patients had light physical activity.

Conclusions: Most of the patients have MIS <6 and are physically inactive. [AM].2015;2(4):601-7]

Keywords: Hemodialysis, Malnutrition-Inflammation Score, physical activity

Introduction

The numbers of chronic kidney disease patients are rising rapidly in Indonesia. The incidence of end-stage renal disease patients who experienced hemodialysis has increased, from 2.077 patients (in 2002) to 4.344 patients (in 2006).¹ Among hemodialysis (HD) patients, Protein Energy Malnutrition (PEM) is a common problem, which can be a strong predictor for morbidity and mortality.² Nutritional management is a required therapy and a periodic nutritional status assessment is crucial in identifying nutritional problems as early as possible.³ Several studies have shown a strong correlation between PEM and inflammation.⁴ Malnutrition Inflammation Score is thus used as a simple, effective, and comprehensive method to measure malnutrition and inflammation in HD patients.^{2,3}

Additionally, hemodialysis patients usually experience a decrease in physical activity as a result of several factors, such as excessive

utilization of muscle mass as energy source leading to sarcopenia and presence of comorbidity e.g. diabetes, anemia, bone or mineral disorder.⁵ The state of malnutrition and inflammation can assert influence on patients' physical activity.⁶ Physical activity assessment proves useful for identification of problem and intervention to improve the quality of life.⁷ There has not been any study about physical activity of HD patients in Indonesia hence, this study aimed to examine MIS and physical activity of HD patients.

Methods

A descriptive study was carried out to HD patients in the Hemodialysis Unit of Dr. Hasan Sadikin General Hospital during September and October 2014. This study has been approved by the Health Research Ethics Committee. Sampling was carried out by non-probability consecutive sampling. The minimum sample size was 96 and calculated using the formula for descriptive categorical variable with 10%

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