

Stages of COPD, pulmonary function test, anthropometric measurements and relationship with nutrition

Erkan Pehlivan

B Mete¹, E Pehlivan¹, G Gulbas², H Gunen³

¹Public Health Department, Inonu University Medical School, Battalgazi/ Malatya, Turkey

²Chest Diseases Department, Inonu University Medical School, Battalgazi/ Malatya, Turkey

³Sureyya Pasa Research and Training Hospital, Health Science University, Istanbul, Turkey

Contact: erkan.pehlivan@inonu.edu.tr

Background:

The weight loss, low body weight, and malnutrition affect the life span of patients in COPD. It is important to raise awareness for primary health care. In this study, we investigated the relationship between the anthropometric measurements of patients and pulmonary function tests in patients with COPD.

Methods:

This cross-sectional study was carried out in 2016. 105 patients with COPD who applied to the university chest diseases outpatient clinic were included in the study in Malatya. Pulmonary Function Test (PFT) and Mini nutrition assesment form were applied and anthropometric measurements of patients were measured by bioelectrical impedance method. Nutrient registration forms were given using a three-day recall method to assess nutrient uptake of the patients. SPSS and BeBIS programs were used in the evaluation. Chi-square, Kruskal Wallis, Spearman correlation test was used analysis of the data.

Results:

The prevalence of malnutrition in COPD cases was 17%. Pulmonary function tests were found to be significantly lower in patients with low body mass index and malnutrition ($P < 0.05$). The frequency of malnutrition was found to

increase as the mMRC (Modified Medical Research Council Dyspnea Scale) score increased ($p = 0.002$). There was a significant positive correlation between pulmonary function tests and muscle mass and amount of non-fat tissue of the patients. There was positive correlation between the amount of protein in diet and muscle mass ($p \leq 0.001$, $r = +0.10$). However, there was no relationship between dietary Omega-6 and Omega 3 ratios and exacerbations ($p = 1.000$).

Conclusions:

Malnutrition is a major problem in patients with COPD. PFT values of malnourished patients and low BMI cases were found to be significantly lower. Nutrition of patients with COPD should be carefully monitored.

Key messages:

- Preservation of muscle mass with adjusted protein diet affects patients' quality of life positively.
- The status of malnutrition should be carefully assessed in COPD cases in primary health care.