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Title: Nutritional status of COPD patients with complete respiratory failure on long term home oxygen therapy

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Body: Objectives: This study aimed in assessing nutritional status in patients with the advanced COPD, treated with long term home oxygen therapy. Material and methods: A group of 49 patients with COPD, mean age 67 year, were included into the study. 43 patients smoked cigarettes in the past (91.5%). Body composition evaluation with bioelectrical impedance analysis (BIA) were performed in all patients. Body Mass Index (BMI) and Fat-Free Mass Index (FFMI) were calculated. FEV1 and FVC were measured. Life quality was assessed with St. George Respiratory Questionnaire (SGRQ). Results: 17.7% of patients were diagnosed as underweight, in 22.3% the body weight was normal, 61,9% of patients were overweight or obese. FEV1 value was the lowest in underweighed patients, and the highest in overweighted and obese patients. Strongly positive correlation between FEV1 and FFMI: $r=0.45$; $p<0.01$, was also noted. Statistically significant differences between SGRQ total score and frequency of the undertaken physical activity were seen. In patients, who performed moderate exercises, e.g. walking once a week only, lower life quality was statistically significant (SGRQ Total Score=77.6) in comparison with the patients, who performed physical exercise thrice a week at least (SGRQ Total Score= 67.7) at $p<0.04$. Conclusions: 1. Normal body weight was noted in 22.3% of patients with advanced COPD. Overweight and obesity are seen statistically significantly more often than underweight. 2. Respiratory system function are worse in patients diagnosed with malnutrition than that in patients that are overweight and obese. 3. Quality of life in patients more physically active is better than ones with lower physical activity.