

Background: Chronic Obstructive Pulmonary Disease (COPD) should be considered in individuals exposed to harmful agents to lung health, especially in people aged 40 years or older who present chronic signs and symptoms such as cough, dyspnea, fatigue with minimal exertion, and sputum production. Although a reduction in FEV1 is an important indicator, the assessment of the severity and prognosis of COPD requires additional parameters. The BODEXs90 index is a multidimensional tool that evaluates predictive variables for mortality, providing a more comprehensive assessment of the consequences of the disease.

Objectives: To explore the association between COPD severity and prognosis using the BODEXs90 index.

Methods: A cross-sectional study was conducted with patients diagnosed with COPD, confirmed by spirometry with $FEV1/FVC < 0.7$, according to the criteria of the Global Initiative for Chronic Obstructive Lung Disease (GOLD), under follow-up in an outpatient pulmonary service. Patients aged 40 to 90 years, without cognitive or oral communication deficits, and who did not depend on oxygen supplementation, were included. To compose the domains of the prognostic index, the following were evaluated: Body Mass Index (BMI), percentage of FEV1 after bronchodilation spirometry, symptom intensity by the COPD Assessment Test (CAT), degree of dyspnea by the Modified Medical Research Council (mMRC), history of exacerbations, and baseline oxygen saturation (SpO_2). The associations were determined through Pearson chi-square analysis and Fisher's exact test.

Results: The sample consisted of 65 individuals, with an average age of 67.1 ± 8.5 years, with the majority being female (55.4%). The predominant educational level was elementary school (75.4%). More than half of the patients (56.9%) reported exacerbation events. Regarding BMI, 44.6% were of normal weight, 16.9% were underweight, 16.9% were overweight, and 21.5% had some degree of obesity. The average baseline SpO_2 was 94.5 ± 2.8 . Severe FEV1 reduction (GOLD 3) was more prevalent (44.6%). No significant difference was observed between the CAT classification and predominant sex in both sexes [$\chi^2(3) = 2.394$; $p = 0.49$], nor in degree 1 of dyspnea by sex [$\chi^2(4) = 1.381$; $p = 0.85$]. A significant association was observed between COPD severity and prognosis in the BODEXs90 index [$\chi^2(6) = 22.925$; $p = 0.001$], indicating that patients with moderate obstruction were classified in the mild category of BODEXs90 compared to other categories.

Conclusion: The greater the degree of airflow obstruction, the worse the prognosis and the estimated survival at four years, regardless of sex. The use of the BODEXs90 index proved to be effective in assessing the prognosis of COPD patients.

Implications: Personalizing the treatment of COPD patients based on a multidimensional prognostic system such as the BODEXs90 index is important for adjusting therapies and also for supporting the early identification of patients at higher risk of disease progression.

Keywords: Sarcopenia, COPD, Prognosis

Conflict of interest: The authors declare no conflict of interest.

Funding: CAPES - Finance Code 001.

Ethics committee approval: CAEE: 79149824.4.0000.5149.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101286>

24

PERIPHERAL OXYGENATION BEHAVIOR IN PEOPLE WITH COPD: PILOT STUDY

Annicia Lins Freitas^a, Edvan José Alves Da Silva^c, Elysson Da Silva^a, Antônia Yasmin Correia Chaves^c, José Heriston de Moraes Lima^{a,c},

Eduardo Ériko Tenório de França^{a,c},

Danielle Aparecida Gomes Pereira^b, Rafaela Pedrosa^{a,c}

^a Programa de Pós-graduação em Fisioterapia, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil

^b Programa de Pós-graduação em Ciências da Reabilitação, Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brasil

^c Departamento de Fisioterapia, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil

Background: Chronic obstructive pulmonary disease (COPD) is a systemic condition that causes microvascular alterations, interfering with muscle metabolism and leading to reduced oxidative capacity and exercise tolerance limitations.

Objectives: To analyze the peripheral oxygenation behavior of people with COPD.

Methods: This was a cross-sectional, analytical, and quantitative study conducted with 12 individuals with COPD. The participants' peripheral oxygenation behavior was assessed using near-infrared spectroscopy (NIRS), positioned on the medial gastrocnemius muscle, while they performed a treadmill exercise test. The evaluated variables included initial saturation (StO_2 initial), lowest saturation (StO_2 lowest), final saturation (StO_2 final), desaturation time, and desaturation rate. Data analysis was performed using the Statistical Package for Social Science (SPSS), applying the Shapiro-Wilk normality test and a significance level of 5%.

Results: The mean age of female participants was 68.6 ± 23.0 years, and for males, it was 69.3 ± 20.0 years. In men, the values were: StO_2 initial = $53.7 \pm 9.58\%$, StO_2 lowest = $48.3 \pm 10.9\%$, StO_2 final = $53.4 \pm 7.92\%$, desaturation rate = -0.03 ($-0.15 - -0.01$). In women, the values were: StO_2 initial = $58.6 \pm 4.37\%$, StO_2 lowest = $52.2 \pm 4.45\%$, StO_2 final = $54.5 \pm 4.55\%$, desaturation rate = -0.18 ($0.67 - -0.01$).

Conclusion: The peripheral oxygenation behavior observed in this study differs from reference values, showing numerically lower levels. These results may be attributed to the fact that people with COPD often present chronic hypoxemia, reduced muscle perfusion due to endothelial dysfunction, and lower vasodilatory capacity. Despite the low saturation values, the volunteers were able to sustain exercise, as the desaturation rate remained below the reference values for individuals without apparent pathologies.

Implications: These findings encourage further research with a larger sample size to provide a more robust analysis of oxygenation behavior. Even with low saturation, there is resistance to continuing exercise, which may contribute to more tailored treatments for this condition through peripheral exercise.

Keywords: Chronic Obstructive Pulmonary Disease, Near-Infrared Spectroscopy, Peripheral Tolerance

Conflict of interest: The authors declare no conflict of interest.

Funding: CNPq.

Ethics committee approval: CAEE: 60443522.5.0000.5504, CAEE: 60443522.5.3001.0076.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101287>

25

LEVEL OF PARTICIPATION IN PEOPLE WITH INTERSTITIAL LUNG DISEASE (ILD): PRELIMINARY RESULTS

Gabriela Matoso Melgaço, Izabella Lorena Batista Porto, Lorrane Ferreira Soares, Fernanda Manenti Basso, Tiago de Almeida Araújo, Renato Fleury Cardoso, Valéria Amorim Pires Di Lorenzo, Vanessa Pereira de Lima