Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, MG, Brazil

Background: Interstitial Lung Disease (ILD) refers to the involvement of the pulmonary interstitium, characterized by inflammation and fibrosis. Psychological and functional impairments also impact patients' social participation, often resulting in social isolation. In this context, it becomes critically important to implement assessments that consider the individual's level of social participation.
Objectives: To assess the level of participation of individuals affected by ILD through the Participation Scale.
Methods: This is a preliminary multicenter cross-sectional study, part of a larger project approved by the research ethics committee, conducted with participants of both sexes diagnosed with interstitial lung disease (ILD). The participants underwent a standardized anamnesis and the Participation Scale, which consists of 18 items addressing dimensions of daily life affected by health. The scores from each item were summed to calculate a total score ranging from 0 to 72, where higher scores indicate more significant participation restrictions and an average of 12 points suggests the absence of participation restrictions. Additionally, individuals performed the 6-Minute Walk Test (6MWT) following the American Thoracic Society (ATS) guidelines and underwent muscle strength assessment through Handgrip Strength (HGS) using a Jamar hydraulic dynamometer. For statistical analysis, Spearman's correlation was performed, with a significance level set at 5%.
Results: The sample consisted of 13 participants, 7 of whom were male (53%), with a mean age of 55.82±13.8 years. Only 3 (23.1%) participants had a body mass index within normal parameters. Regarding education, 7 (53.8%) had completed high school, and 7 (53.8%) self-identified as mixed-race. Post-COVID fibrosis was the most prevalent condition, affecting 4 (30.8%) participants, followed by idiopathic fibrosis, fibrosis associated with rheumatic diseases, silicosis, and sarcoidosis, each with 2 (15.4%) individuals, and finally, usual interstitial pneumonia, with 1 (7.7%) case. The total score of the Participation Scale had a mean of 31.64 ± 19.07 points. Thus, it can be inferred that the individuals presented significant participation restrictions. Specifically, 2 (15.4%) participants had no significant restriction, 1 (7.7%) had a mild restriction, 5 (38.5%) had a moderate restriction, 1 (7.7%) had a severe restriction, and 3 (23.1%) had extreme restriction. The mean distance covered in the 6MWT was 394 m, suggesting reduced functional capacity. The mean HGS was 34.38 KgF, indicating a reasonable level of peripheral muscle strength. The Participation Scale showed a strong correlation with the 6MWT distance (r: -0.702; p: 0.016) and a moderate correlation with HGS (r: -0.589; p: 0.044).
Conclusion: Participants showed significant restrictions in social participation. The negative correlation between 6MWT distance and HGS suggests an impact on both exercise capacity and muscle strength.
Implications: The preliminary findings underscore the need for targeted interventions and health policies to enhance social participation in individuals with ILD.
Keywords: Interstitial Lung Diseases, Participation

Conflict of interest: The authors declare no conflict of interest.
Funding: Not applicable.
Ethics committee approval: No. 6.227.397.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101288

26

HUMAN ACTIVITY PROFILE IN PEOPLE WITH INTERSTITIAL LUNG DISEASE: PRELIMINARY ANALYSIS

Lorrane Ferreira Soares[a], Izabella Lorena Batista Porto[a], Gabriela Matoso Melgaço[a], Daiane Roberta Viana[b], Livia Maria Petilli Zopelari[b], Renato Fleury Cardoso[a], Valéria Amorim Pires Di Lorenzo[b], Vanessa Pereira de Lima[a,b]
[a] *Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, MG, Brazil*
[b] *Universidade Federal de São Carlos (UFSCar), São Carlos, SP, Brazil*

Background: Interstitial Lung Disease (ILD) is a set of pathologies that result in fibrosis, impaired gas exchange, and functional limitations. Individuals with ILD have a reduced level of physical activity due to dyspnea and fatigue. Evaluating the Human Activity Profile (HAP) is essential for understanding the impact of the disease on functionality and physical activity levels and thus guiding better physiotherapeutic interventions.
Objectives: To evaluate functional capacity and physical activity levels in individuals with ILD using HAP questionnaire.
Methods: This is a preliminary cross-sectional multicenter study, part of a larger project approved by the research ethics committee conducted with volunteers diagnosed with ILD. After collecting anthropometric data, the participants were assessed using the HAP, the 6 Minute Walk Test (6MWT) according to the standards of the American Thoracic Society (ATS), and the measurement of muscle strength using the Jamar hydraulic dynamometer. The HAP was analyzed using a questionnaire made up of 94 components which analyzed the level of physical activity and functionality, based on the variables Maximum Activity Score (MAS) and Adjusted Activity Score (AAS). The MAS corresponds to the numbering of the activity with the highest oxygen demand that the individual "still does," reflecting the highest level of metabolic effort achieved. The AAS represents the average levels of metabolic equivalents (METs) spent on a typical day, allowing an estimate of daily energy consumption based on the activities performed. Participants were classified as inactive (score < 53), moderately active (53-74), or active (> 74).
Results: The sample consisted of 13 volunteers, 7 (53.8%) of whom were male, with an average age of 55.82 ± 13.84 years, 5 (38.5%) were overweight, and 7 (53.8%) were self-declared as brown. The majority, 7 (53.8%), had finished high school. In addition, post-COVID fibrosis was the most prevalent condition found in 4 (30.8%) volunteers. In the HAP, 9 (69.2%) were classified as "inactive" and only 4 (30.8%) as "moderately active". The average distance covered in the 6MWT was 394m, suggesting a reduction in functional capacity since reference values for healthy individuals generally exceed 500m. The mean of muscle strength was 34.38 KgF, which is above the predicted value for patients with Chronic Obstructive Pulmonary Disease (COPD), which is approximately 28.0 KgF, suggesting that the participants maintain a reasonable level of peripheral muscle strength.
Conclusion: Individuals with ILD exhibit reduced physical activity levels and impaired functional capacity, despite preserved muscle strength. These findings highlight the need for interventions to mitigate functional decline.
Implications: The results underscore the importance of pulmonary rehabilitation and individualized exercise programs to enhance physical activity and quality of life in individuals with ILD.
Keywords: Lung Diseases, Interstitial, Human Activity Profile

Conflict of interest: The authors declare no conflict of interest.
Funding: Not applicable.
Ethics committee approval: CAAE: 77076624.9.0000.5108.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101289

27

ACUTE EFFECT OF INSPIRATORY MUSCLE TRAINING ON THE PERIPHERAL MUSCLE OXYGEN DESATURATION RATE IN PATIENTS WITH COPD: A CASE SERIES

Natália Mota da Silva Borges, Kauane Paulino Guedes, Letícia Vitorino, Tatiana Onofre Gama, Danielle Aparecida Gomes Pereira, Rafaela Pedrosa, José Heriston de Morais Lima, Eduardo Ériko Tenório de França
Programa de Pós-graduação em Fisioterapia, Universidade Federal da Paraíba (UFPB), João Pessoa, PB, Brazil

Background: Chronic Obstructive Pulmonary Disease (COPD) is characterized by prolonged airflow obstruction due to tobacco exposure and environmental factors, making it one of the leading causes of mortality worldwide. In addition to respiratory complications, the disease promotes alterations in the cardiovascular system and peripheral muscle metabolism, contributing to exercise intolerance. In this context, Inspiratory Muscle Training (IMT) emerges as a strategy to enhance exercise tolerance and may influence the modulation of the metaboreflex during IMT application. However, the acute effects of IMT on the peripheral muscle metabolism of individuals with COPD remain poorly understood. Near-infrared spectroscopy (NIRS) is an effective method for analyzing the oxidative capacity of peripheral muscles.
Objectives: To analyze the acute effect of IMT, with different pressure loads, on the peripheral oxygen desaturation rate in patients with COPD. METHODS: This crossover case series followed five individuals diagnosed with COPD. They underwent two IMT protocols: one strength-focused protocol (IMT-F), using 60% of the patient's maximal inspiratory pressure, and a Sham IMT protocol. During training, tissue oxygenation behavior was measured using near-infrared spectroscopy on the gastrocnemius muscle. The study included individuals capable of performing the IMT protocol and/or functional tests, who had no associated comorbidities such as psychiatric disorders, cognitive impairments, progressive neurological disorders, chronic pain, or an inability to follow commands. Participants who wished to discontinue their participation during the protocol execution or failed to comply with the protocol were excluded. Before participation, all individuals signed an informed consent form.
Results: All participants showed greater desaturation in the IMT-F group compared to the Sham IMT group. The mean peripheral oxygen desaturation rate was higher in the IMT-F condition (-0.0184 $\pm$ 0.0210) compared to the Sham IMT (-0.0137 $\pm$ 0.0080). CONCLUSION: The results suggest a tendency for greater peripheral oxygen desaturation when patients are exposed to IMT-F. This condition may be explained by various physiological factors present in COPD patients that affect oxygenation and metabolic demand during intense effort. We believe that IMT-F requires more intense contractions of the inspiratory muscles, leading to increased oxygen consumption in this structure, indicating earlier activation of the metaboreflex. This mechanism redirects peripheral blood flow to the inspiratory muscles engaged in activity, potentially being a key factor in the reduction of peripheral tissue oxygenation during this type of training.
Implications: This study may contribute to a better understanding of the acute effects of IMT on peripheral tissue oxygenation behavior in COPD patients and may serve as a guide for the development of more effective respiratory rehabilitation protocols for these individuals.
Keywords: COPD, Oxygen Saturation, Strength Training

Conflict of interest: The authors declare no conflict of interest.
Funding: CNPq - 404976/2023-9.
Ethics committee approval: No. 4.377.348.
Registration: Not applicable.

https://doi.org/10.1016/j.bjpt.2025.101290

28

PREVALENCE OF SARCOPENIA AND CLINICAL PROFILE OF INDIVIDUALS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) UNDERGOING OUTPATIENT PNEUMOLOGY CARE

Júlia Soares Leite, Jhonata de Marco Vieira, Flávia Del Castanhel, Rosemeri Maurici da Silva
Universidade Federal de Santa Catarina (UFSC), Florianópolis, SC, Brazil

Background: Chronic Obstructive Pulmonary Disease (COPD) is a condition characterized by persistent respiratory symptoms and a partially irreversible limitation of airflow. Patients with COPD are more predisposed to sarcopenia, which is defined as the progressive loss of muscle mass, strength, and physical performance. The coexistence of these conditions results in an unfavorable clinical prognosis, with worse quality of life, increased frequency of exacerbations, and higher mortality.
Objectives: To describe the clinical profile of COPD patients under outpatient care and identify the prevalence of sarcopenia in this population.
Methods: This was a cross-sectional study conducted with patients diagnosed with COPD based on spirometry showing a FEV1/FVC ratio < 0.7, treated in an outpatient pneumology service. Patients aged between 40 and 90 years of both sexes, with no history of using cardiac electronic devices, were included. The diagnosis of sarcopenia was established through the evaluation of appendicular muscle mass using bioimpedance. Descriptive statistical analysis was used to characterize the variables of interest.
Results: The sample consisted of 65 patients, with a predominance of females (55.4%). The mean age was 67.1 $\pm$ 8.5 years. Regarding educational level, 75.4% of patients had completed most primary education. A history of exacerbation was reported by 56.9% of participants. Approximately 26.2% required hospitalization, with 16.9% having one hospitalization, 3.1% having two, and 6.2% having three hospitalizations. The majority of patients were former smokers (67.7%), while 32.3% were still active smokers. Regarding Body Mass Index (BMI), 44.6% had normal weight, 16.9% were underweight, 16.9% were overweight, and 21.5% had some degree of obesity. Hypertension was observed in 55.4% of patients, and Diabetes Mellitus in 7.7%. According to the severity of COPD, as per the Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria, 32.3% had moderate obstruction, 44.6% had severe obstruction, and 3.1% had very severe obstruction. According to the GOLD classification, which combines exacerbation history and symptoms, most patients were classified as GOLD B (44.6%) or GOLD E (43.1%), while 12.3% were classified as GOLD A. Sarcopenia was diagnosed in 28 patients (43.1%).
Conclusion: The predominant clinical profile in this sample consisted of female patients, mostly elderly, with a history of exacerbations but without the need for hospitalization. The most prevalent