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EDITORIAL

Fatigue: A neglected symptom of COPD*

La fatiga, un síntoma desatendido en la EPOC

Chronic obstructive pulmonary disease (COPD) is a disorder that affects the respiratory tract. It is generally secondary to tobacco use and its course tends to be progressive and incapacitating, with significant repercussions on quality of life and high mortality in patients. Its manifestations include respiratory symptoms such as cough, expectoration, and dyspnea. It also has extrapulmonary manifestations that significantly influence disease progress and prognosis. Pain, insomnia, fatigue, anorexia, and weight loss are common symptoms. Fatigue is the most common extrapulmonary symptom and the second most frequent symptom in general after dyspnea.

The prevalence of fatigue in patients with COPD is much higher than what is observed in the general population. In a cross-sectional study, 48.5% of patients with COPD had severe fatigue and 26% had mild fatigue.¹ It was more frequent among patients who smoked and those who weighed less, had greater dyspnea, and had worse pulmonary function.^{1,2} In other studies, dyspnea, depression, sleep quality, and oxygen saturation were predictors of onset of fatigue.^{3,4}

Different scales have been used to evaluate fatigue in patients with COPD.⁵ Some are general multidimensional scales which, in addition to the symptom, evaluate some of its attributes such as duration, frequency, and rhythm. Among them, the Brief Fatigue Inventory, Fatigue Assessment Scale, Fatigue Severity Scale, and Fatigue Impact Scale are of note. Specific scales for the disease have also been developed, such as the Manchester COPD Fatigue Scale and the COPD and Asthma Fatigue Scale. The COPD Assessment Test (CAT) questionnaire is widely used in patients with COPD and includes an item on lack of energy, an aspect related to the capacity for effort and fatigue. The OLIN COPD study conducted in Sweden observed that a score ≥ 2 on the CAT

question regarding energy can be a useful means for detecting fatigue in clinical practice.⁶

Another simple test is hand grip strength measured using a dynamometer. In a study on more than 800 individuals, Strandkvist et al. observed that strength was diminished in patients with COPD.⁷ In addition, hand grip strength in males, but not in females, was associated with fatigue regardless of age, tobacco consumption, or physical activity level.

In this issue, Alpaydin et al. present a cross-sectional study examining fatigue in 64 males with COPD.² The authors measured fatigue using the Fatigue Severity Scale and quality of life with the SF-36 questionnaire. Dyspnea, tobacco use, and pulmonary function deterioration were associated with higher levels of fatigue. One of the most interesting results of the study is the association of fatigue both with the physical component and the mental component on this last scale. However, the study is on a small sample and its results must be evaluated with caution.

Fatigue is a symptom with significant repercussions on functional capacity, health status, and quality of life in patients with COPD.⁸ It has been observed that patients who experience fatigue have a lower capacity for exercise and walk less on the six-minute walk test,⁹ have more exacerbations,¹⁰ have more hospitalizations,¹¹ and have a higher mortality rate.¹² Despite this, patients often do not consult about this symptom and, in many cases, it goes unnoticed by healthcare professionals, who tend to focus more on respiratory symptoms. In addition, fatigue has a more insidious course, which means it goes unnoticed until the disease has been ongoing for a long period of time.

The physiopathology of fatigue in COPD is complex and multifactorial in origin and its mechanisms are not known in great detail.¹³ This makes treatment aimed at controlling it difficult. Oxygen therapy¹⁴ and rehabilitation help improve the sensation of fatigue. A recent meta-analysis examined the effect of different exercise-based interventions on fatigue in patients with COPD. Both aerobic and anaerobic exercise or a combination of both were associated with an improvement in fatigue.¹⁵ Different types of

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exercise can be done, such as walking or running on a treadmill; cycling; weight lifting; or using resistance machines for the quadriceps, triceps, or biceps.

We believe that for a proper approach to COPD, other possible debilitating symptoms such as fatigue must be addressed in addition to dyspnea. It is necessary to proactively detect their presence and, as a rule, recommend physical exercise to decrease their impact and improve patients' quality of life.

References

- Göertz YMJ, Spruit MA, Vañt Hul AJ, Peters JB, van Herck M, Nakken N, et al. Fatigue is highly prevalent in patients with COPD and correlates poorly with the degree of airflow limitation. *Ther Adv Respir Dis.* 2019;13:1–13, doi:10.1177/1753466619878128.
- Alpaydin AÖ, Aktan R, Keles E, Özalevli S. Factors affecting the severity of fatigue in male patients with chronic obstructive pulmonary disease. *Rev Clin Esp.* 2020, doi:10.1016/j.rce.2020.06.015.
- Kapella MC, Larson JL, Patel MK, Covey MK, Berry JK. Subjective fatigue, influencing variables, and consequences in chronic obstructive pulmonary disease. *Nurs Res.* 2006;55:10–7.
- Lewko A, Bidgoog PL, Garrod R. Evaluation of psychological and physiological predictors of fatigue in patients with COPD. *BMC Pulmon Med.* 2009;9:47, doi:10.1186/1471-2466-9-47.
- Antoniou SA, Ungureanu D. Measuring fatigue as a symptom in COPD: from descriptors and questionnaires to the importance of the problem. *Chron Respir Dis.* 2015;12:179–88, doi:10.1177/1479972315575716.
- Stridsman C, Svensson M, Johansson Strandkvist H, Hedman L, Backman H, Lindberg A. The COPD Assessment Test (CAT) can screen for fatigue among patients with COPD. *Ther Adv Respir Dis.* 2018;12:1–10, doi:10.1177/1753466618787380.
- Strandkvist V, Andersson M, Backman H, Larsson A, Stridsman C, Lindberg A. Hand grip strength is associated with fatigue among men with COPD: epidemiological data from northern Sweden. *Physiother Theory Pract.* 2020;36:408–16, doi:10.1080/09593985.2018.1486490.
- Kouijzer M, Brusse-Keizer M, Bode C. COPD-related fatigue: impact on daily life and treatment opportunities from the patient's perspective. *Respir Med.* 2018;141:47–51, doi:10.1016/j.rmed.2018.06.011.
- Al-Shair K, Kolsum U, Singh D, Vestbo J. The effect of fatigue and fatigue intensity on exercise tolerance in moderate COPD. *Lung.* 2016;194:889–95, doi:10.1007/s00408-016-9931-y.
- Baghai-Ravary R, Quint JK, Goldring JJP, Hurst HR, Donaldson GC, Wedzicha JA. Determinants and impact of fatigue in patients with chronic obstructive pulmonary disease. *Respir Med.* 2009;103:216, doi:10.1016/j.rmed.2008.09.022.
- Paddison JS, Effing TW, Quinn S, Frith PA. Fatigue in COPD: association with functional status and hospitalisations. *Eur Respir J.* 2013;41:565–70, doi:10.1183/09031936.00021412.
- Stridsman C, Skär L, Hedman L, Rönmark E, Lindberg A. Fatigue affects health status and predicts mortality among subjects with COPD: report from the population-based OLIN COPD study. *COPD.* 2015;12:199–206, doi:10.3109/15412555.2014.922176.
- Kentson M, Tödt K, Skargren E, Jakobsson P, Ernerudh J, Unosson M, et al. Factors associated with experience of fatigue, and functional limitations due to fatigue in patients with stable COPD. *Ther Adv Respir Dis.* 2016;10:410–24, doi:10.1177/1753465816661930.
- Eaton T, Lewis C, Young P, Kennedy Y, Garrett JE, Kolde J. Long-term oxygen therapy improves health-related quality of life. *Respir Med.* 2004;98:285–93, doi:10.1016/j.rmed.2003.10.008.
- Li LSK, Butler S, Goldstein R, Brooks D. Comparing the impact of different exercise interventions on fatigue in individuals with COPD: a systematic review and meta-analysis. *Chron Respir Dis.* 2019;16:1–12, doi:10.1177/1479973119894855.

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