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Association between physical activity and risk of hospitalisation in bronchiectasis

Victoria Alcaraz-Serrano[1,9], Elena Gimeno-Santos[2,3,9], Giulia Scioscia[4], Albert Gabarrús[1], Adria Navarro[5], Beatriz Herrero-Cortina[6,7], Rosanel Amaro[8], Laia Fernández-Barat[1] and Antoni Torres[1,8]

Affiliations: [1]Fundació Clínic per la Recerca Biomèdica (FCRB), CIBERES, Hospital Clinic de Barcelona, Barcelona, Spain. [2]Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Hospital Clinic de Barcelona, Barcelona, Spain. [3]Barcelona Institute for Global Health (ISGlobal), Barcelona, Spain. [4]Institute of Respiratory Diseases, Dept of Medical and Surgical Sciences, University of Foggia, Foggia, Italy. [5]Vitruvi Centre de Biosalut, Barcelona, Spain. [6]Universidad San Jorge, Zaragoza, Spain. [7]Centre for Inflammation Research, Queen's Medical Research Institute, University of Edinburgh, Edinburgh, UK. [8]Institut Clínic Respiratori, Hospital Clínic de Barcelona, Barcelona, Spain. [9]Both authors contributed equally to this work.

Correspondence: Elena Gimeno-Santos, Respiratory Clinic Institute, Hospital Clinic de Barcelona, Institut d'Investigacions, Biomèdiques August Pi i Sunyer (IDIBAPS), Carrer Villarroel, 170, 08036 Barcelona, Spain. E-mail: elenagimeno@gmail.com

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Adult patients with bronchiectasis and reduced physical activity (<6290 steps·day^{-1}) or high sedentary behaviour (⩾7.8 h·day^{-1}) have a higher than average risk of hospital admission due to exacerbation after 1-year follow-up http://bit.ly/2wX2Y2D

Cite this article as: Alcaraz-Serrano V, Gimeno-Santos E, Scioscia G, *et al*. Association between physical activity and risk of hospitalisation in bronchiectasis. *Eur Respir J* 2020; 55: 1902138 [https://doi.org/10.1183/13993003.02138-2019].

ABSTRACT

Background: Patients with bronchiectasis have a less active lifestyle than healthy peers, but the association with hospital admission has not been explored. The aim of this study was to investigate the association between 1) any physical activity variable; and 2) sedentary time, with hospitalisation due to exacerbation in adults with bronchiectasis.

Methods: In this prospective observational study, baseline lung function, quality of life, exercise tolerance, severity of bronchiectasis and physical activity were recorded. Physical activity was objectively assessed over a week using a SenseWear armband and the results were expressed in steps·day^{-1} and sedentary time. Number of hospitalisations due to a bronchiectasis exacerbation and time to first event were recorded after 1-year follow-up.

Results: Sixty-four patients with bronchiectasis were analysed, of whom 15 (23%) were hospitalised during the follow-up. Hospitalised patients showed poor baseline clinical and severity outcomes, fewer steps walked per day and more sedentary behaviour than the non-hospitalised group. Patients who walked ⩽6290 steps·day^{-1} or spent ⩾7.8 h·day^{-1} in sedentary behaviour had an increased risk of hospital admission due to bronchiectasis exacerbation at 1-year follow-up. Specifically, ⩾7.8 h·day^{-1} of sedentary behaviour was associated with a 5.9-fold higher risk of hospital admission in the following year.

Conclusions: Low levels of physical activity and high sedentary time at baseline were associated with a higher risk of hospitalisation due to bronchiectasis exacerbation. If these findings are validated in future studies, it might be appropriate to include physical activity and sedentary behaviour as an item in severity scores.