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Title: Home oxygen saturation monitoring and quality of life in patients with idiopathic pulmonary fibrosis: A prospective multicenter trial

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Body: Introduction. Long-term follow-up of patients with idiopathic pulmonary fibrosis (IPF) is an important component of their management. While oxygen saturation (SpO₂) is widely used in routine practice and clinical trials, feasibility and relevance of long-term SpO₂ monitoring is unknown. Methods. In a multicenter prospective study we evaluated home daily SpO₂ monitoring over at least 1 year and its correlation with a symptoms and quality of life (QoL) questionnaire. Patients with a diagnosis of IPF based on current guidelines received a multi-parameter digital recorder (Sally® Personal Assistant, Medigas, Italy) enabling acquisition and web-based storage of SpO₂ measurements along with scores of a modified symptom and QoL questionnaire. Resting SpO₂ data were acquired three times a day, for at least one minute; answers to questionnaire were recorded daily. All data were centrally transferred through the telephone landline. Spearman's rank correlation coefficient (ρ) was used to calculate the correlation between SpO₂ values and the QoL scores. Results. We enrolled 28 IPF patients (19 males, mean age 73 years): 22 (81%) provided valid data for calculation of ρ coefficient, over a mean period of 202 days. In most (91%) patients with valid data, SpO₂ values decreased over time, while QoL score increased (i.e. QoL deteriorated): in 13 the correlation between SpO₂ and QoL was statistically significant. Home SpO₂ monitoring was well accepted. Conclusions. Long-term home SpO₂ monitoring is feasible and well accepted in IPF patients. SpO₂ values correlate with changes in symptoms and QoL scores, thus confirming the clinical relevance of this parameter.