LETTER

Comment on: Morbidity and mortality associated with the restrictive spirometric pattern: a longitudinal study

We read with interest the paper by Guerra et al.1 profiling the demographic/clinical characteristics and prospectively assessing the prognosis of subjects with a restrictive spirometric pattern enrolled in the TESAOD population-based study. The manuscript has the merit of following up a large number of patients for 14 years and investigating how selected co-morbidities are relevant to survival.2

The results of this study deserve comparison with those published in 2008 by our research group on 1265 subjects aged 65–97 years.3 First, in an older population (mean age 73.4 years) we found a comparable prevalence of restriction at spirometry (12% vs 10.9%), although restriction is an age-related phenomenon and, thus, is expected to be much lower in the younger population (ie, 6.6% in a population aged 42.2 years).4 Secondly, the study by Guerra and colleagues strongly reproduces the increased mortality risk rates (MRRs) observed in our work: for all causes (HR 1.89; 95% CI 1.3 to 2.32) and diabetes mellitus (HR 1.66; 95% CI 1.3 to 2.31) vs HR 2.0; 95% CI 1.3 to 3.1 (Guerra et al)).

At variance with our study, that of Guerra and colleagues lacks information about clinical correlates of restrictive pulmonary disease. The Cox proportional hazard models are adjusted only for sex, age and body mass index, but not for concomitant conditions known to be associated with restriction. Indeed, we found that co-morbidities such as kyphosis of the spine (OR 2.4; 95% CI 1.58 to 3.64) and diabetes mellitus (OR 1.66; 95% CI 1.00 to 2.74) as well as the physical (Activities of Daily Living scale, OR 2.17; 95% CI 1.52 to 3.58; 6 minute walking test, OR 1.75; 95% CI 1.15 to 2.67) and cognitive (Mini Mental State Examination, OR 2.05; 95% CI 1.27 to 3.52) status are strong independent correlates of restriction.

In conclusion, the paper by Guerra and colleagues has the merit of confirming that the restrictive spirometric pattern is highly prevalent and is associated with a clinical profile and risk factors differing from those of obstructive lung disease. However, research is needed to expand our knowledge of the mechanisms underlying restriction as well as to explain the link between restriction and frailty. Clarifying these issues will allow the implementation of both guided screening and preventive interventions.

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