Editor’s Note: Authors are invited to respond to Correspondence that cites their previously published work. Those responses appear after the related letter. In cases where there is no response, the author of the original article declined to respond or did not reply to our invitation.

CODEX Index and Prognosis of Patients With Exacerbation of COPD

To the Editor:

We read with great interest the article by Almagro et al1 in this issue of CHEST (see page 972). In this article, the authors proposed a new index for short- and intermediate-term prognoses among patients with COPD: the CODEX (comorbidity, obstruction, dyspnea, and previous severe exacerbations) index. However, a few important points should be highlighted before this index is accepted into clinical practice.

First, the most important component of the CODEX index (ie, the Charlson index) has several limitations in the context of patients with COPD. Although broadly based, it does not include comorbidities that are relevant to patients with COPD/smokers, such as coronary artery disease, liver cancer, osteoporosis, muscle weakness, depression, and so forth. Second, it is not clear from the article whether all the comorbidities listed in the Charlson index were actively investigated, or whether the calculation of the index was based simply on patients’ self-reporting or hospital records. The first scenario implies the need for extensive investigations, whereas adoption of the second approach may have allowed several of these comorbidities to have been missed. Last, but not least, this study was designed to develop and validate a model for prognosis, taking associated comorbidities into account, that would perform better than the previous models (BODEX [BMI, airflow obstruction, dyspnea, and previous severe exacerbations], DOSE [dyspnea, airflow obstruction, smoking status, and exacerbation frequency], and updated ADO [age, dyspnea, and airflow obstruction] indexes), which do not include comorbidities. The results of the study showed that the CODEX index has a larger area under the curve in predicting survival at 3 months and 1 year as compared with the other indexes. However, the Charlson index scores of the development and validation cohorts were 3 and 2, respectively; which implies that there were few associated comorbidities present among these patients. This fact becomes more apparent when we consider that all patients would have gotten at least 1 point for the presence of COPD and the rest of the points may have been for the age of the patients, because the mean age of the study cohort was >70 years. Therefore, we suggest that the previously mentioned points be kept in mind before accepting the CODEX index as an advanced tool for determining the short- and intermediate-term prognosis of these patients.

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Response

To the Editor:

We appreciate the comments of Dr Hadda and colleagues about our article.1 We agree with their first statement that the Charlson index does not include all relevant comorbidities in patients with COPD. However, the Charlson index is an excellent predictor of mortality after hospitalization in these patients.2 Actually, as highlighted in the Materials and Methods section of our article, the development cohort of the CODEX (comorbidity, obstruction, dyspnea, and previous severe exacerbations) index is based on previously published research (the ESMI [EPOC en Servicios de Medicina Interna] study) conducted specifically to assess up to 30 different comorbidities in patients hospitalized for an acute exacerbation of COPD, regardless of whether included in the Charlson index. In that study, several comorbidities were associated with a greater mortality at 3 months after discharge, most of them included in the Charlson index. Of note, the Charlson index was an independent predictor of mortality, even after adjustment for age, FEV1, and physical functional status (Katz scale).3 With respect to the second observation by Dr Hadda and colleagues, comorbidity data were collected from a specific questionnaire that included all physician-considered relevant in patients with COPD. Comorbidity data were collected by physicians through both medical history and explorations indicated for diagnosis according to usual clinical practice.

References


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