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The study is being published this month in the journal The Lancet and is also featured in its editorial.

Estimating the risk of death in COPD

Chronic obstructive pulmonary disease (COPD) affects almost half of smokers of advanced age. Although clinical manifestations and disease severity vary greatly across patients, treatment is often similar. Through the development of a new risk index for COPD patients, researchers are seeking ways to improve this situation.

Barcelona, 28 August 2009 - Researchers from the **Centre for Research in Environmental Epidemiology** (CREAL) and the **Municipal Institute of Medical Research** (IMIM-Hospital del Mar), in collaboration with the **Hospital Clínic of Barcelona**, have participated in an international consortium that has developed a new risk index for COPD patients. With this index, doctors can assess disease severity more objectively and estimate the risk of death.

According to Milo Puhan, researcher at the Johns Hopkins Bloomberg School of Public Health (USA) from the University of Zurich (Switzerland) and coordinator of the international consortium that has conducted the study, ***“Now it will be possible to adjust the treatment according to the underlying risk of mortality, as cardiologists have already done for a long time in patients with cardiovascular disease”***.

Chronic obstructive pulmonary disease (COPD)

Although this term may not be familiar to many, **COPD is among the five leading causes of death worldwide**, killing three million people each year. The disease affects almost half of smokers during their lifetime. In Spain, it is estimated that more than 18,000 people die each year from this disease. It is the fifth leading cause of death in men (60 deaths for every 100,000 inhabitants) and the seventh leading cause in women (17 deaths for every 100,000 inhabitants). Nevertheless, these figures increase year after year in Spain, as our country has the highest rate of adolescent smoking in Europe and one of the highest percentages of women smokers in the world.

Inflammation in the lungs and the rest of the body, together with progressive shortness of breath, cause suffocation, one of the main problems in patients' daily lives. ***“Presently, most patients receive similar treatment. This is partly due to the traditional assessment of disease severity, which is based only on lung function and does not predict the clinical conditions or progressive course of the disease with much precision”*** states **Judith Garcia-Aymerich**, Spanish coordinator of the study and researcher from CREAL and IMIM-Hospital del Mar. To arrive at this conclusion, the international research consortium analysed data from 232 Swiss patients from the Barmelweid cohort and 342 Spanish patients from the Phenotype Characterisation and Course of COPD

(PAC-COPD) cohort, which includes COPD patients from five hospitals in Catalonia, one in the Basque Country and one in the Balearic Islands.

Simplified risk index

The current issue of *The Lancet* (*) presents, for the first time, an index which can easily be used in primary care settings, where most COPD patients are treated. The **ADO Index (age, dyspnoea, obstruction)** considers, besides lung function, the patients' age and their level of dyspnoea. It predicts the probability that an individual patient will die within the next three years.

"This simple and practical index explicitly indicates the risk of mortality for an individual patient and helps identify patients who may benefit from a more comprehensive and individualised treatment", adds Garcia-Aymerich. Besides quitting smoking and the use of inhaled drugs, there are highly-effective non-pharmacological treatments such as pulmonary rehabilitation and regular physical exercise. The Spanish researchers heading this study continue to analyse how COPD progresses over time and how this progression can be modified.

This study is a collaborative effort amongst researchers in Switzerland, the Netherlands, the United States and Spain. Funding has been provided by the Swiss National Science Foundation; Barmelweid Clinic; Health Research Fund (FIS), Department of Health, Spain; Agency for Health Technology Assessment and Research, Generalitat of Catalonia; Spanish Society of Pneumology and Thoracic Surgery; Catalan Foundation of Pneumology; RESPIRA Network; RCESP Network; TV3 Marathon Foundation and Novartis Farmacéutica, Spain.

Reference article:

(*) M. A. Puhan, J. Garcia-Aymerich, M. Frey, G. ter Riet, J. M. Antó, A. G. Agustí, F. P. Gómez, R. Rodríguez-Roisín, K. G. M. Moons, A. G. Kessels and U. Held (2009): *Expansion of the prognostic assessment of patients with chronic obstructive pulmonary disease: the updated BODE index and the ADO index*. *The Lancet* 374: 704-711.

For more information, please contact:

Marta Calsina, Communications Department, CREAL-IMIM, Tel: 933160680 or 638720000