

## **Exposure to Biological Dusts, Gases, Fumes and Pesticides Linked with Increased Risk of COPD**

*21% of COPD cases in a study with more than 3,300 participants were associated with these occupational exposures*

Barcelona, 9 May, 2018.- An international team led by researchers from the [Barcelona Institute for Global Health \(ISGlobal\)](#), a centre supported by the "la Caixa" Foundation, has provided new evidence about the role of occupational exposures as an important risk factor for Chronic Obstructive Pulmonary Disease (COPD). A study with more than 3,300 participants has **linked exposure to biological dusts, gases, fumes and pesticides with a higher incidence of COPD**. The results have been published in [Thorax](#).

The research was carried out within the European Community Respiratory Health Survey (ECRHS), a longitudinal multicentre study. A total of **3,343 participants from 24 centres in 12 countries** were selected between 1991 and 1993 and followed-up 20 years later. Spirometric lung function tests were performed after recruitment and at follow-up, while exposures in the workplace were estimated from the information obtained at interviews with participants in combination with an external job exposure matrix.

After assessing occupational exposure to 12 different agents, results showed that **participants exposed to biological dust had a 60% higher risk of COPD** compared with those unexposed. **Participants exposed to gases and fumes had a 50% higher risk** of COPD, while in the case of **those exposed to pesticides the risk was a 120% higher**. However, the effect observed with pesticides was based on a small number of cases. Overall, results showed that **21% of the in total 96 cases of COPD** detected at follow-up were associated with these occupational exposures.

"Previous studies had estimated that about 15% of COPD cases are attributable to workplace exposures. Our results strengthen this evidence base substantially", says Jan-Paul Zock, ISGlobal researcher and lead author of the study. "To our knowledge, this is the **first study to demonstrate an effect of biological dust exposure** on the incidence of COPD in a prospective fashion in a general population cohort", he adds.

One of the main questions that this study leaves open to future research is whether the observed effects are modified by smoking, since tobacco smoking is the primary risk factor for COPD. Other remaining questions for further research are how the observed effects interplay with asthma and what are the specific risks with respect to particular occupations, activities and noxious agents.

### **Reference**

Lytras T, Kogevinas M, Kromhout H, et al Occupational exposures and 20-year incidence of COPD: the European Community Respiratory Health Survey. *Thorax*. 2018. [doi: 10.1136/thoraxjnl-2017-211158](#)

## About ISGlobal

The Barcelona Institute for Global Health, ISGlobal, is the fruit of an innovative alliance between the "la Caixa" Foundation and academic and government institutions to contribute to the efforts undertaken by the international community to address the challenges in global health. ISGlobal is a consolidated hub of excellence in research that has grown out of work first started in the world of health care by the Hospital Clínic and the Parc de Salut MAR and in the academic sphere by the University of Barcelona and Pompeu Fabra University. The pivotal mechanism of its work model is the transfer of knowledge generated by scientific research to practice, a task undertaken by the institute's Education and Policy and Global Development departments. ISGlobal a member of the CERCA programme of the Generalitat de Catalunya.

## ISGlobal's Press Office

Pau Rubio

[pau.rubio@isglobal.org](mailto:pau.rubio@isglobal.org)

93 214 73 33 / 696 91 28 41

Aleix Cabrera

[aleix.cabrera@isglobal.org](mailto:aleix.cabrera@isglobal.org)

93 214 73 33 / 661 45 16 00

---

Una iniciativa de:

 Obra Social "la Caixa"

 CLÍNIC  
BARCELONA  
Hospital Universitari

 UNIVERSITAT DE  
BARCELONA

 Generalitat  
de Catalunya

 GOBIERNO  
DE ESPAÑA

 Parc de Salut  
MAR

 upf.  
Universitat  
Pompeu Fabra  
Barcelona

 Ajuntament de  
Barcelona

 FUNDACIÓN  
RAMÓN ARECES