

## Author contributions

Raquel Duarte and A. Rita Gaio conceived the project idea. Daniel Coutinho and Pedro Sousa collected the data. Olena Oliveira and A. Rita Gaio conducted the analyses. All authors interpreted and discussed the results. All authors wrote the manuscript. All authors have read and approved the final version.

## Conflicts of interest

The authors have no conflicts of interest to declare.

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## Portuguese Pulmonology footprint in Europe: From abstracts to papers and grants



To the Editor,

Now that the Portuguese Journal of Pulmonology has reached the highest impact factor of the national medical journals,<sup>1</sup> it is worth analyzing other indicators of national respiratory research.

To be widely recognized as a mature medical society and specialty, Pulmonology needs to leave a distinct international footprint.

What image does the Portuguese Pulmonology present to the international arena?

### Participation in the European Respiratory Society (ERS) Congress

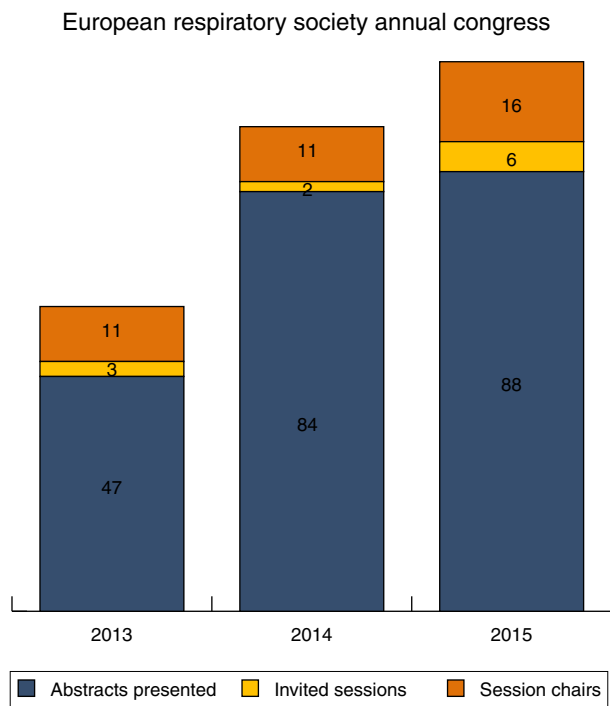
Portuguese participation in the ERS has been increasing in recent years (Fig. 1) reaching in 2015, 2.1% of accepted

abstracts. However this number is below the European representation of other Portuguese societies; it is even lower than that of Greece in 2006 (Greece in 2006, 13.7 abstracts per million inhabitants versus Portugal in 2015, 8.8 abstracts per million inhabitants).<sup>2</sup>

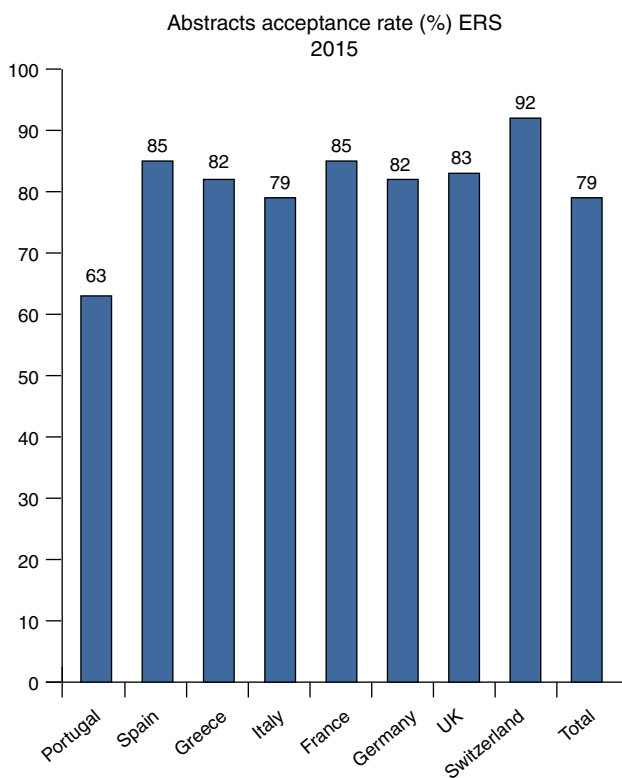
During 2015, the ERS meeting in Amsterdam had 23.293 participants, 317 of which were Portuguese (1.4%). Out of the 5088 abstracts submitted, 136 were sent from Portugal (2.7%); Total acceptance rate was 79% while the acceptance rate of Portuguese abstracts was 63% very close to India (61%) and Egypt (63%) (Fig. 2).

### Bibliometry of respiratory medicine research

According to the report from General Directorate for education and health statistics<sup>3</sup> (Direção Geral de Estatísticas de Educação e Ciência) for Pulmonology, in 2012, the number of publications indexed in Web of Science was 5.88 per million inhabitants, only better than Luxembourg and a long way from Holland the leader in Europe with 22.95 publications per million inhabitants. Since 2007, indexed publications on



**Figure 1** Portuguese participation in the European Respiratory Society Congress (2013–2015).



**Figure 2** Abstracts acceptance rate (%) by country at ERS congress 2015.

the Respiratory systems increased to a peak in 2009 with around 8 per million inhabitants, declining in 2012 to around 6 per million inhabitants. This is far below the indexed publications of cardiac and cardiovascular system in 2012 with more than 16 per million inhabitants. Moreover analyzing the impact per publication during 2008–2012 Portuguese Pulmonology is at the bottom of the list, compared with other medical disciplines, with Critical Care, Allergy and Anesthesiology leading the group.

### Participation of Portuguese centres on EU funded projects

The Seventh Framework Programme for Research and Technological Development showed a significant number of funded projects in the area of chronic lung disorders, tuberculosis and cancer with an amount of over €350 Million.<sup>4</sup> Spain got €27 Million, Holland €30 Million, Italy €27 Million, Greece €12 Million, while Portugal only managed €3 Million (including 2 projects in COPD and 2 projects in cancer). Three participants came from academia (HOME-CARE project including the University of Aveiro, WELCOME project including the University of Coimbra and IL7sigNETure coordinated by the IMM-Instituto de Medicina Molecular) and one from industry (LUNGCARD project coordinated by STAB VIDA, Investigação e serviços em ciências biológicas).

So, unfortunately, Portuguese Pulmonology footprint in Europe is much smaller what should be expected.

What should we aim for in the future? To keep Portuguese Pulmonology hidden from Europe, like a stone raft or... navigate other seas, trusting in the talent and creativity of the boldest?

We need to support the new generations of pulmonologists to reach excellence in research by reinforcing local and international networks. A strong respiratory research organization is highly desirable. Collaboration between, academia, clinicians, scientific societies and industry is strongly recommended. Tightly monitoring the progress of this endeavour is mandatory! Only if we succeed in this may we hope for a better healthcare in the future!

### Conflicts of interest

The authors have no conflicts of interest to declare.

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## Asthma prevalence in Portuguese preschool children: More scientific evidence...



Dear Editor,

We read with interest the research letter “Asthma prevalence in Portuguese preschool children: The latest scientific evidence”, published by Branco et al.<sup>1</sup> The authors intended to review the major findings of published papers on childhood asthma prevalence in preschool-aged children in our country. We agree with the authors that it is important to have nationwide-based surveys, so we would like to briefly cite two large surveys that were published by our group, and that can contribute to the knowledge about asthma and recurrent wheezing in the same age group (Table 1).<sup>2,3</sup>

The first survey was a cross-sectional, questionnaire-based (ISAAC-adapted) descriptive study of children aged between 3 and 5 years living in mainland Portugal (ARPAkids); a representative sample of 5003 children was included in the analysis.<sup>2</sup>

The prevalence of “wheezing in the last 12 months” (current wheezing – CW) was 24.5% [95% confidence interval (CI) 23.3–25.7]; most of these children (61.4%) had had 1–3 wheezing episodes in the previous year, and 7.5% reported >12 episodes. The prevalence of CW was significantly higher in children with a family history of allergic disease; those living in rural regions had a significantly lower wheezing prevalence. No statistically significant differences were found for gender, age, birth weight, or exposure to tobacco smoke at home. The prevalence of “physician diagnosed asthma” (PDA) in children with CW was 16.7% [95% CI 14.6–18.8] – vs.

4.6% [95% CI 4.0–5.2] in the general population; it was highest (73.0%) in those with >12 wheezing episodes.

CW was strongly associated with rhinitis in this age group, especially with moderate – severe persistent disease; children with both wheezing and rhinitis had more wheezing episodes and needed treatment more frequently. The number of wheezing episodes significantly increased with increasing rhinitis severity/persistence.<sup>2,4</sup>

The second survey included the paediatric-specific data ( $n=716$ ; 21.4% younger than 6 years of age) from a cross-sectional, population-based, all-age, nationwide telephone interview study (INAsma), the first population-based epidemiological study aiming to estimate asthma prevalence in Portugal covering all ages.<sup>3</sup> The methodology of this study has been previously described<sup>5</sup>; a GA2LEN-adapted questionnaire was used. “Current asthma” (CA) was defined as a positive answer to “has the child ever had asthma?”, plus at least one of 4: wheezing, waking with breathlessness or having had an asthma attack in the previous 12 months, or currently taking asthma medication.

In children aged <6 years, the prevalence of CW and CA was 31.0% (95% CI 24.4–38.5) and 6.5% (95% CI 3.5–11.6), respectively. No statistically significant differences were found in the prevalence of CA according to region or other socio-demographic variables, but a higher risk for CA was found in children with rhinitis and eczema.<sup>3</sup>

In conclusion, asthma-like symptoms were present in one-third to one-fourth of Portuguese preschool children; the prevalence of PDA was 4.6% (ARPAkids) and of CA was 6.5% (INAsma). Asthma prevalence can vary significantly according to different study methodologies, namely disease definition, and objective markers of disease must be included in future surveys.