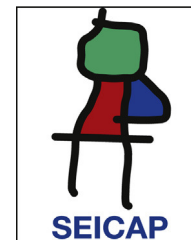




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### EDITORIAL

## EISL study (Estudio Internacional de Sibilancias en Lactantes): A global perspective of wheezing during the first year of life



I would like to take the opportunity of including yet another paper from the EISL study in this issue of *Allergologia et Immunopathologia* (the first one in 2016) to dedicate this editorial to a multinational study which has been able to offer some new perspectives on a very frequent condition during the first year of life: recurrent wheezing.

The study started as a joint effort of several Latin-American and Spanish centres, with the latter addition of more Latin-American centres and another one in The Netherlands. Although as an anecdote it took some discussion with a reviewer on a particular paper, this was – definitely – an international study, which was carried out in three languages (Spanish, Portuguese and Dutch). The first phase, and the more numerous one, included up to 20 centres in 10 countries, with more than 30000 parents of infants surveyed. After validation in the study languages and in different settings,<sup>1–4</sup> it was launched in 2005 and was extended into 2009, depending upon the centres. Two major papers were published in 2010 including the main findings on the prevalence, treatment modalities and resource consumption together with the main risk factors.<sup>5,6</sup> As there were centres from very different socio-economic statuses it was possible to compare prevalence and risk factors between them. In fact the prevalence of recurrent wheezing (three or more episodes) in the first year of life was significantly higher in Latin-America as compared to Europe,<sup>6</sup> and although there were some common risk and protective factors, their impact was not the same in both parts of the world. In particular, mother education was a risk factor in Latin-America while it was not in Europe.<sup>5</sup> After those two summarising papers, other ones – from specific centres which were not included due to a delayed start from the core group – have been published, casting new insights into this common condition in other geographical areas.<sup>7–14</sup> Furthermore, new centres with a more potent questionnaire (EISL phase Three) have recently offered even a clearer picture of the problem, mainly in Latin America.<sup>7,10,11,15,16</sup>

Apart from the prevalence, treatment modes, resource consumption and risk factors, other specific issues have been addressed in the EISL publications, including the effect of latitude in the strength of the association of several risk factors on recurrent wheezing,<sup>17</sup> the relationship between wheezing and pneumonia,<sup>18</sup> or the influence of BMI<sup>19</sup> or low birth weight<sup>20</sup> on wheezing. Indeed other papers were focused on other allergic diseases which were secondary objectives of the EISL study, such as atopic dermatitis<sup>21</sup> and rhinitis;<sup>22</sup> the latter one extended to pre-school years.

In summary, the EISL study constitutes an example of international collaboration, and – although with the limitations of any cross-sectional study – has the power of a very large sample size and variability. *Allergologia et Immunopathologia* welcomes any additional paper from the EISL which focuses on new aspects of wheezing in infancy.

In the meantime, my best wishes for 2016 to all readers!

### References

1. Bianca AC, Wandalsen GF, Miyagi K, Camargo L, Cezarin D, Mallol J, Sole D. International Study of Wheezing in Infants (EISL): validation of written questionnaire for children aged below 3 years. *J Investig Allergol Clin Immunol*. 2009;19:35–42.
2. Chong Neto HJ, Rosario NA. Expanding the application of a standardized questionnaire on recurrent wheezing in infancy. *J Pediatr (Rio J)*. 2009;85:170–4.
3. Chong Neto HJ, Rosario NA. Risk factors for wheezing in the first year of life. *J Pediatr (Rio J)*. 2008;84:495–502.
4. Mallol J, Garcia-Marcos L, Aguirre V, Martinez-Torres A, Perez-Fernandez V, Gallardo A, Calvo M, Rosario FN, Rocha W, Fischer G, Baeza-Bacab M, Chiarella P, Pinto R, Barria C. The International Study of Wheezing in Infants: questionnaire validation. *Int Arch Allergy Immunol*. 2007;144:44–50.
5. Garcia-Marcos L, Mallol J, Sole D, Brand PL. International study of wheezing in infants: risk factors in affluent and non-affluent countries during the first year of life. *Pediatr Allergy Immunol*. 2010;21:878–88.

6. Mallol J, Garcia-Marcos L, Sole D, Brand P. International prevalence of recurrent wheezing during the first year of life: variability, treatment patterns and use of health resources. *Thorax*. 2010;65:1004–9.
7. Bercedo-Sanz A, Lastra-Martinez L, Pellegrini-Belinchon J, Vicente-Galindo E, Lorente-Toledano F, Garcia-Marcos L. Wheezing and risk factors in the first year of life in Cantabria, Spain. The EISL study. *Allergol Immunopathol (Madr)*. 2015;43:543–52.
8. Bessa OA, Leite AJ, Sole D, Mallol J. Prevalence and risk factors associated with wheezing in the first year of life. *J Pediatr (Rio J)*. 2014;90:190–6.
9. Ferreira IC, Wandalsen NF. Prevalence and severity of wheezing in the first year of life in the city of Santo Andre, Brazil. *Rev Paul Pediatr*. 2014;32:164–70.
10. Moraes LS, Takano OA, Mallol J, Sole D. Prevalence and clinical characteristics of wheezing in children in the first year of life, living in Cuiaba, Mato Grosso, Brazil. *Rev Paul Pediatr*. 2014;32:313–9.
11. Moraes LS, Takano OA, Mallol J, Sole D. Risk factors associated with wheezing in infants. *J Pediatr (Rio J)*. 2013;89:559–66.
12. Pellegrini-Belinchon J, Miguel-Miguel G, Dios-Martin B, Vicente-Galindo E, Lorente-Toledano F, Garcia-Marcos L. Study of wheezing and its risk factors in the first year of life in the Province of Salamanca, Spain. The EISL Study. *Allergol Immunopathol (Madr)*. 2012;40:164–71.
13. Medeiros D, Silva AR, Rizzo JA, Sarinho E, Mallol J, Sole D. Prevalence of wheezing and associated risk factors among infants in Recife, Pernambuco State, Brazil. *Cad Saude Publica*. 2011;27:1551–9.
14. Dela Bianca AC, Wandalsen GF, Mallol J, Sole D. Prevalence and severity of wheezing in the first year of life. *J Bras Pneumol*. 2010;36:402–9.
15. Aranda CS, Wandalsen G, Fonzar L, Bianca AC, Mallol J, Sole D. Risk factors for recurrent wheezing – International Study of Wheezing in Infants (EISL) phase 3. *Allergol Immunopathol (Madr)*. 2016;44:3–8.
16. Mallol J, Sole D, Garcia-Marcos L, Rosario N, Aguirre V, Chong H, Urrutia-Pereira M, Szulman G, Niederbacher J, Arruda-Chavez E, Toledo E, Sanchez L, Pinchak C. Prevalence, severity, and treatment of recurrent wheezing during the first year of life: a cross-sectional study of 12,405 Latin American infants. *Allergy Asthma Immunol Res*. 2016;8:22–31.
17. Garcia-Marcos L, Mallol J, Sole D, Brand PL, Sanchez-Bahillo M, Sanchez-Solis M. Latitude modifies the effect size of factors related to recurrent wheeze in the first year of life. *Respir Med*. 2013;107:665–72.
18. Garcia-Marcos L, Mallol J, Sole D, Brand PL, Martinez-Torres A, Sanchez-Solis M. Pneumonia and wheezing in the first year: an international perspective. *Pediatr Pulmonol*. 2015.
19. Wandalsen GF, Borges LV, Barroso N, Rota R, Suano F, Mallol J, Sole D. Gender differences in the relationship between body mass index (BMI) changes and the prevalence and severity of wheezing and asthma in the first year of life. *Allergol Immunopathol (Madr)*. 2015;43:562–7.
20. Aranda CS, Wandalsen GF, Mallol J, Sole D. Wheezing and low birthweight. *Pediatr Allergy Immunol*. 2015;26:82–5.
21. Draaisma E, Garcia-Marcos L, Mallol J, Sole D, Perez-Fernandez V, Brand PL. A multinational study to compare prevalence of atopic dermatitis in the first year of life. *Pediatr Allergy Immunol*. 2015;26:359–66.
22. Chong Neto HJ, Rosario CS, Rosario BA, Chong FH, Grasselli EA, Silva FC, Bojarski LF, Rosario NA. Allergic rhinitis in preschool children from Southern Brazil. *Allergy*. 2014;69:545–7.

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