



## Editorial

### Education in Asthma<sup>☆</sup>

### Educación en asma

Francisco-Javier González-Barcala,<sup>a,b,c,d,\*</sup> Nuria García-Couceiro,<sup>c,d</sup> David Facal<sup>d,e</sup>

<sup>a</sup> Departamento de Medicina, Universidad de Santiago de Compostela, Santiago de Compostela, A Coruña, Spain

<sup>b</sup> Centro de Investigación Biomédica en Red de Enfermedades Respiratorias (CIBERES), Spain

<sup>c</sup> Servicio de Neumología, Hospital Clínico Universitario de Santiago de Compostela, Santiago de Compostela, A Coruña, Spain

<sup>d</sup> Instituto de Investigación Sanitaria de Santiago de Compostela (IDIS), Santiago de Compostela, A Coruña, Spain

<sup>e</sup> Departamento de Psicoloxía Evolutiva e da Educación, Universidad de Santiago de Compostela, Santiago de Compostela, A Coruña, Spain



Education is an integral element in the development of human beings and should also play an essential role in their experience as patients. Etymologically speaking, the word *educate* is a combination of 2 words with different roots. Firstly, there is *educere*, understood as drawing out the potential of the person being educated. Then there is *educare*, which means to bring up or feed, addressing the role of outside influences in forming an individual. The implication is that education should be conceived as a synthesis of these two actions and their interactions.

Asthma is a chronic disease that affects all ages and involves exacerbations which impact significantly on the lives of patients and their families. Exacerbations necessitate frequent visits to the doctor or the emergency department, hospital admissions, and work or school absenteeism, and intensification of the usual treatment with the added burden of greater financial costs and more side effects.<sup>1,2</sup>

The basic goal of correct diagnosis and treatment is good disease control, allowing patients to lead a normal life. Many guidelines are of great help in achieving this. But the real world lies beyond the application of guidelines, and in the real world, outcomes are less satisfactory, as evidenced in recent papers reporting consistently high levels of hospital admissions, mortality or work absenteeism in our setting.

Various educational programs have been implemented in Spain; interventional methodologies, target populations or follow-up times vary widely, but all of them show some beneficial effect on the progress of the disease.<sup>2–4</sup> The first such program was developed in a general hospital in Andalusia at the end of the last century, aimed at patients aged 14–65 years. It included a complete asthma educational program, with refresher sessions at 3, 6 and 12 months, and then annually every 3 years. The results showed a reduction in

the number of absences from school or work, unscheduled medical visits, night-time symptoms, and in the use of oral corticosteroids, as well as improvements in lung function. Compliance was high, with only 3% of patients lost to follow-up.<sup>2</sup>

Between 2005 and 2006, a prospective multicenter study was performed in the referral areas of 5 hospitals, in a population of patients aged 15–70 years who were enrolled during primary care visits. Patients received a brief, 5-min educational intervention at the start of the study, and at 3 and 6 months. The intervention group saw a reduction in medical visits, whether scheduled or for exacerbations, and in work absenteeism. In this study, the dropout rate was higher, at around 30%.<sup>4</sup>

More recently, the SEPAR asthma group performed a multicenter study in patients aged 18–70 years that consisted of a brief educational intervention repeated at 3-monthly intervals over 1 year. Patients were enrolled both in primary care and in respiratory medicine departments. Very few, less than 3%, were lost to follow-up. The intervention showed benefits in asthma control and quality of life, and a reduction in the rate of exacerbations.<sup>5</sup>

Other studies appear to support the benefit of educational interventions in different healthcare settings. Boulet et al. showed benefits in primary care centers in Quebec, obviating the need to travel to specialized centers, thus overcoming one of the main barriers to the development of these programs.<sup>1</sup> In this study, an in-depth educational intervention was made at the beginning of the program, followed by refresher sessions at 4–6 weeks, 4–6 months, and 1 year. The main outcomes included a reduction in unscheduled medical visits, use of antibiotics and oral corticosteroids, and improved inhalation techniques. A downside was the low rate of compliance, since only 124 patients completed the study (28% of the total).

Other studies demonstrate the utility of educational programs in elderly subjects, and the benefit of using an audiovisual reminder system.<sup>6,7</sup> In older patients, it is particularly important to adapt the educational program to the characteristics of the patients, taking into account the cognitive and functional deficits inherent to their age.<sup>8</sup>

Asthma management guidelines recommend the use of ongoing educational programs, and some consensus documents have

<sup>☆</sup> Please cite this article as: González-Barcala F-J, García-Couceiro N, Facal D. Educación en asma. Arch Bronconeumol. 2016;52:543–544.

\* Corresponding author.

E-mail address: [\(F.-J.\) González-Barcala.](mailto:francisco.javier.gonzalez.barcala@sergas.es)

listed the topics that should be addressed in these sessions.<sup>9</sup> Thus, the programs studied in the reviews focus on asthma control and treatment compliance, and include programs based on general knowledge of the disease, action plans and control of environmental risk factors,<sup>1–4</sup> and other more specific training on the use of inhalers.<sup>5,6</sup> Nevertheless, some authors challenge the majority consensus by pointing out inconsistencies in the benefits obtained.<sup>10</sup> The main problems appear to be related with the diversity of the programs, which are also complex due to the multiple interactions to be taken into consideration.

In conclusion, educational programs in asthma are useful for improving patient management. They have demonstrated their efficacy to date in several clinical and social settings, and with different types of intervention; the better the quality of the intervention, the more significant the improvements in disease prognosis.<sup>1–4</sup> However, despite the favorable outcomes reported in most of the studies, less than one third of patients receive scheduled asthma education.<sup>9</sup> More in-depth research into the application of these programs is called for, and studies are needed to obtain more information on the content of the programs, the patients and settings in which they are most effective, the best educational and psychological approaches (oral explanation given to an individual or a group, demonstrations, guided practice, discussion techniques and/or written information), the most effective duration, and how to minimize costs.

## References

1. Boulet LP, Boulay MÈ, Gauthier G, Battisti L, Chabot V, Beauchesne MF, et al. Benefits of an asthma education program provided at primary care sites on asthma outcomes. *Respir Med.* 2015;109:991–1000.
2. Ignacio-García JM, Pinto-Tenorio M, Chocrón-Giráldez MJ, Cabello-Rueda F, López-Cozar Gil AI, Ignacio-García JM, et al. Benefits at 3 years of an asthma education programme coupled with regular reinforcement. *Eur Respir J.* 2002;20:1095–101.
3. Plaza V, Peiró M, Torrejón M, Fletcher M, López-Viña A, Ignacio JM, et al. A repeated short educational intervention improves asthma control and quality of life. *Eur Respir J.* 2015;46:1298–307.
4. Morell F, Ojanguren I, Cordovilla R, Urrutia I, Agüero R, Guerra J, et al. Two short interventions to reduce health care requirements in asthma patients. A multi-centre controlled study (ASTHMACAP II). *Med Clin (Barc).* 2014;142:348–54.
5. Foster JM, Usherwood T, Smith L, Sawyer SM, Xuan W, Rand CS, et al. Inhaler reminders improve adherence with controller treatment in primary care patients with asthma. *J Allergy Clin Immunol.* 2014;134:1260–8.
6. Crane MA, Jenkins CR, Goeman DP, Douglass JA. Inhaler device technique can be improved in older adults through tailored education: findings from a randomised controlled trial. *NPJ Prim Care Respir Med.* 2014;24:14034.
7. Lee MG, Cross KJ, Yang WY, Sutton BS, Jiroutek MR. Frequency of asthma education in primary care in the years 2007–2010. *J Asthma.* 2015 [Epub ahead of print].
8. Facal D, González-Barcala FJ. Age-related changes in respiratory function and daily living. A tentative model including psychosocial variables, respiratory diseases and cognition. *Curr Aging Sci.* 2016;9:71–6.
9. Gardner A, Kaplan B, Brown W, Krier-Morrow D, Rappaport S, Marcus L, et al. National standards for asthma self-management education. *Ann Allergy Asthma Immunol.* 2015;114:178–86.
10. Cabana MD, Coffman JM. Recent developments in asthma education. *Curr Opin Allergy Clin Immunol.* 2011;11:132–6.