ORIGINAL ARTICLE

Knowledge of asthma and anaphylaxis among teachers in Spanish schools

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Received 4 September 2016; accepted 31 October 2016

KEYWORDS
Asthma;
Anaphylaxis;
Health education;
School

Abstract

Introduction: Allergic diseases affect 15–20% of the paediatric population in the industrialised world. Most educational centres in Spain do not have health professionals among their staff, and the teachers are in charge of child care in school. The advisability of specific training of the teaching staff should be considered, with the introduction of concrete intervention plans in the event of life-threatening emergencies in schools.

Material and methods: Evaluation of the training needs constitutes the first step in planning an educational project. In this regard, the Health Education Group of the Spanish Society of Clinical Immunology, Allergology and Paediatric Asthma (Grupo de Educación Sanitaria de la Sociedad Española de Immunología Clínica, Alergología y Asma Pediátrica [SEICAAP]) assessed the knowledge of teachers in five Spanish Autonomous Communities, using a self-administered questionnaire specifically developed for this study. The data obtained were analysed using the SPSS statistical package.

Results: A total of 2479 teachers completed the questionnaire. Most of them claimed to know what asthma is, and almost one half considered that they would know how to act in the event of

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http://dx.doi.org/10.1016/j.aller.2016.10.019
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an asthma attack. This proportion was higher among physical education teachers. Most would not know how to act in the case of anaphylaxis or be able to administer the required medication. In general, the teachers expressed interest in receiving training and in having an interventional protocol applicable to situations of this kind.

Discussion: It is important to know what the training requirements are in order to develop plans for intervention in the event of an emergency in school. Teachers admit a lack of knowledge on how to deal with these disorders, but express a wish to receive training.

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Introduction

Allergic diseases affect 15–20% of the paediatric population in the industrialised world.\(^1\) In fact, asthma is the most frequent chronic illness in childhood, with an estimated prevalence in the Spanish paediatric population of 7–10%.\(^2\) Thus, it can be deduced that there is an average of 1–2 pupils with asthma symptoms in each school class.\(^3\)

Asthma in school can manifest spontaneously in a previously asymptomatic child or can worsen in a child with mild symptoms. A special case is asthma induced by exercise, since physical exertion can induce exacerbation of the disease. While not particularly frequent, there have been reports of fatal episodes in physical education classes and team sports activities in school.\(^4,5\)

Food allergies are also common in schoolchildren, with an estimated overall prevalence of 4–7%.\(^6\) In this regard, it has been reported that 10–18% of all allergic reactions to foods occur in the school setting.\(^7\)

Anaphylaxis is the most life-threatening expression of allergy. It has been estimated that 5–22% of all anaphylactic episodes in children occur in school,\(^6,7\) and some of these reactions can prove fatal – particularly in the context of food allergy.\(^8,9\)

According to the European Academy of Allergy and Clinical Immunology (EAACI), one out of every 300 Europeans suffers anaphylaxis at some point in life,\(^10\) and most European schools have at least one child at risk of developing anaphylaxis in the context of food allergy.\(^11\)

Most educational centres in Spain do not have health professionals among their staff, and the teachers are in charge of child care and supervision in school.

Making school a safer place for children with serious health risks is a pending objective in European countries, and requires joint action on the part of parents, physicians and school staff.\(^12\) The situation varies greatly from one country to another, as well as between different school centres in one same country.\(^13\)

The Paediatric Section of the EAACI has launched initiatives to define uniform intervention protocols in these circumstances, with general and specific objectives for the different allergic diseases.\(^14\) The Paediatric Section has drafted a document that aims to serve as a common guide to be adapted by each centre in accordance with its possibilities. The recommended activities include the presence in schools of people trained in recognising alarm symptoms and in providing emergency treatment with adrenalin and bronchodilators if needed. Furthermore, the safety of children with life-threatening allergic disease requires the

supervising physician to provide a personalised action plan describing the allergy of the patient, the symptoms that may develop, and the emergency treatment required if such symptoms appear. The idea is not for the school’s staff to diagnose and treat a reaction but to follow a clearly described series of concrete steps. Registries containing the required information are therefore recommended.

The existence of such plans in schools increases the safety of the children, although deaths have been reported\(^15,16\) despite emergency treatment. Prevention is therefore essential.

In Spain, pioneering programmes have been developed in the Autonomous Communities of Andalucía\(^17\) and Galicia,\(^18\) with coordination between the educational and emergency healthcare services. In March 2007, Galicia launched the School Alert (Alerta Escolar) programme with the main aim of ensuring immediate and efficient care of schoolchildren who suffer life-threatening emergencies due to anaphylaxis, epileptic seizures or diabetes-related hypoglycaemia.

The School Alert programme was likewise introduced in the Balearic Islands in 2014. This programme comes into effect when the parents enter a child with life-threatening chronic disease into the registry of the 061 emergency care service. In the event of an emergency situation, the school alerts 061, where a physician provides instructions on what to do until the medical staff arrive. The school teachers in turn receive prior training in the management of the life-threatening illnesses included in the programme.

Evaluation of the training needs constitutes the first step in planning an educational project. In this regard, the need for the teaching staff to have specific information and training, with concrete intervention plans, must be considered.

With the purpose of exploring this need for information, the Health Education Group of the Spanish Society of Clinical Immunology, Allergology and Paediatric Asthma (Grupo de Educación Sanitaria de la Sociedad Española de Inmunología Clínica, Alergología y Asma Pediátrica [SEICAP]) evaluated knowledge about disorders such as asthma and anaphylaxis, and their management, among 2481 teachers in school centres in different Spanish Autonomous Communities.

Material and methods

A self-administered questionnaire specifically developed for this study was distributed among nursery school, primary school, secondary school and high school teachers in five autonomous Communities (Andalucía, the Balearic Islands,
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