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REVIEW

The school as a health promoter for children with asthma: The purpose of an education programme

M. Urrutia-Pereira^{a,b}, T. To^{c,d}, Á.A. Cruz^e, D. Solé^{f,*}

^a PAMPA's Federal University, Brazil

^b Pediatric Asthma Prevention Program (PIPA), Uruguayana, Brazil

^c Dalla Lana School of Public Health, Institute of Health Policy Management and Evaluation, University of Toronto, Toronto, Canada

^d Child Health Evaluative Sciences, The Hospital for Sick Children, Toronto, Canada

^e Center of Excellence in Asthma, Federal University of Bahia, Salvador, Brazil

^f Division of Allergy, Clinical Immunology and Rheumatology, Department of Pediatrics, Federal University of São Paulo-Escola Paulista de Medicina, São Paulo, Brazil

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KEYWORDS

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Abstract

Background: Not only is asthma one of the leading causes of hospitalisation in children under 15 years and one of the main reasons for primary care outpatient visits, it also accounts for 13 million lost days of school annually, which can affect children's learning, integration at school and overall academic achievements.

Material and methods: This review article highlights the important role of the school in helping children and adolescents to control and manage their asthma through integrated and coordinated actions of health professionals, school staff, family, and the community.

Results: We recommended key elements for a multidisciplinary team asthma school programme that can be replicated and implemented especially in developing countries where children and adolescents are in a more disadvantaged environment.

Conclusion: This multidisciplinary asthma school intervention when demonstrated with efficacy can be applied in the context of the real world, where many children and families who need care the most currently do not receive it.

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* Corresponding author.

E-mail address: dirceu.sole@unifesp.br (D. Solé).

Introduction

Allergic diseases are a public health concern due to their high prevalence and adverse impact on quality of life. Overall, allergic diseases account for a third of chronic diseases in children and was ranked sixth among the most common childhood diseases by the World Health Organisation (WHO). Today, one in five school-age children has an allergic disease.¹

Among allergic diseases, asthma is one of the most common reasons for medical assistance when it comes to primary care, as more than five million school-age children have physician-diagnosed asthma.^{2,3} In addition to being a major cause of hospitalisation in children under 15 years of age, asthma also accounts for 13 million lost days of school annually.⁴ This level of school absenteeism can affect children's learning, integration at school and their overall academic achievements.⁵⁻⁷

Because children spend many hours at school, it is essential to have good knowledge of the environment that they are exposed to. This is especially important for children with asthma as it is suggested that the exposure to micro-particles in the classroom is high. To lower the concentration of allergens and irritants in the school indoor environment, it is necessary to ensure proper cleaning procedures of the classrooms and that ventilation is adequate. This will help make the school an extension of the family environment for children and an important part of the proper management and control of asthma.^{8,9}

In this paper, we evaluated the role of schools in helping to control asthma in children and adolescents. We recommended key elements for a multidisciplinary team asthma school programme that can be replicated and implemented especially in developing countries where children and adolescents are in a more disadvantaged environment.

Method

For a better recognition, monitoring and care of children with asthma in schools, we conducted this review. In selecting articles, the PubMed database was used having the last 20 years as the search period. The following search terms were used: *asthma*, *asthma programmes*, *school*. Among the studies found, review and consensus articles with a high level of evidence for clinical decisions related to paediatric asthma and its impact on school health were selected. The articles were screened and selected in a three-phase step process. In the first step we analysed the articles which fitted the key words. The second step was to thoroughly read each article that met the criteria and finally in the third step, the most relevant articles for this review's objectives were chosen and included in the reference lists of the article.

Professionals working at school and asthma

In order to establish proper management of asthma in schools, it is necessary to have an integrated and coordinated action amongst health professionals, school personnel, family, and government officials who are in charge of the legal framework.⁷

A recent systematic review conducted by Jaramillo and Reznik suggested that professionals working in schools have insufficient knowledge about the negative impact of allergic diseases on children's lives and their families.¹⁰ Teachers interact with children on a daily basis and being the "front-liners" are considered by many to be health promoters. They should be in a position to identify early allergic conditions especially in those that can be a life threat. In order for teachers to fully share the responsibility in disseminating asthma knowledge and raising awareness of asthma and serious allergic reactions with local health teams,¹¹⁻¹⁴ this should be included in their professional training.¹⁵

To carry out an interdisciplinary effort among school, family and the healthcare team, guided and trained teachers would need to recognise the child with asthma through a medical report. With adequate and up-to-date information, the teacher could support the child participating in school activities when symptoms are well controlled.¹⁶

Integrated action

Families and teachers: When parents of children with asthma do not have good knowledge of asthma or proper management of the disease, their children could be at a higher risk for asthma exacerbations. In this regard, the role of the family in establishing good control of their child's asthma at home and at school is important. Parents should inform the teachers about their child's disease and its severity. More importantly, they should provide the school with an asthma action plan that was written by the child's doctor with information on triggers of asthma exacerbations and specific medications (with dose) to take in an emergency situation.⁸⁻¹⁷

The healthcare team: The healthcare team should maintain an effective and active communication with the family and school, confirm the diagnosis of asthma in the child, its severity, educate the patient and family, and establish an individual asthma action plan for each child with asthma if he or she does not have one. The healthcare team will help educate and raise the awareness of asthma amongst the families and teachers. With this strengthened "doctor-nurse-patient-family-school" relationship, the adverse impact of asthma in children's school activities may be reduced.¹⁸

It should be noted that the care of children with asthma is not limited to the responsibility of the child's family or restricted to the home environment. The "doctor-nurse-patient-family-school" team will ensure that the asthma is properly recognised and diagnosed, adequately treated and well controlled. The ultimate goal is to minimise school absenteeism and to improve quality of life.

Initiatives – asthma-friendly school

There are several successful initiatives of "asthma-friendly schools" implemented by various groups and in different countries. Examples include: Australia,¹⁹ the American Lung Association,²⁰ Maryland,²¹ and the Centres for Disease Control and Prevention (CDC) (Asthma – Friendly schools

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