



European Federation
of Asthma and Allergy
Associations

The Patient: Your Partner



The Right to Breathe Healthy Indoor Air in Schools

*This publication is dedicated
to the late EFA President Kerstin Hejdenberg*

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The right to breathe healthy indoor air in schools
Extracted from the EFA report
'Indoor Air Pollution in Schools', 2001



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Introduction

The last half of the 20th century has seen an increase in allergic diseases worldwide, and children are particularly affected by this 'epidemic of the third millennium'. One of the major concerns of EFA is to identify measures that can help to halt or slow down the increasing trend in allergy and asthma.

At the end of 1999 EFA received a grant from the European Commission for a project entitled 'Indoor Air Pollution in Schools'. The aim of the project was to compile an overview of literature data, and governmental and other initiatives relating to indoor air in schools, and to make recommendations for a healthy school environment. These recommendations, made by a multidisciplinary panel of experts based on the data collected, are distilled in this leaflet. The complete report is available from the EFA Secretariat.

Indoor air pollution in schools emerges as a real problem, but a problem for which there are various solutions. However, local initiatives will not have a lasting impact. In fact, the general consensus arising from this study is that the complex issue of indoor air pollution in schools must be approached at a European and international level.

We hope that the recommendations and proposals sketched-out in this booklet will prompt action at national and European level to make schools a much healthier place for our children and for school staff in general.

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What is EFA?

The European Federation of Asthma and Allergy Associations (EFA) was founded in Sweden in November 1991 upon the initiative of eight European countries (Finland, Iceland, Ireland, Norway, Poland, Sweden, The Netherlands and United Kingdom) with the aim of improving the health conditions and quality of life of people with asthma and allergy throughout Europe. The rationale being that a strong international organisation is the most effective means to serve the needs and safeguard the rights of patients and their families.

Today, EFA is an important patients' network representing 250,000 individuals who are members of 33 associations in 17 European countries (Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Hungary, Ireland, Italy, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, The Netherlands and United Kingdom).

EFA's Project on 'Indoor Air Pollution in Schools'

More than 1 of every 3 children in Europe has asthma or allergy. These diseases are the major causes of days lost from school and their socio-economic costs cannot be overestimated. Children are in school for one-third of their normal day.

Various studies have shown that poor indoor air quality (IAQ) in schools interferes with learning activities and can cause discomfort, irritation, and various short- and long-term health problems in students, teachers and staff. Indoor pollutants can be particularly harmful for students already affected by allergies or asthma.

In this scenario, it is crucial that people working in schools and the relevant authorities are aware of the problem of indoor air pollution.

The 'Indoor Air Pollution in Schools' project was undertaken in an attempt to assess the magnitude of the problem and to provide recommendations for a healthy school environment.

• Aims

- To collect information on air pollution in schools. The project looked at nursery, primary, and secondary schools in Europe, and focused on IAQ and its effects on asthma and allergy.
- To review indoor air pollution in school policies and programmes of European countries.
- To formulate recommendations and initiatives aimed at providing a healthy school environment.

The results should serve to design awareness campaigns directed at schools, builders, architects, physicians and the public-at-large.

Collection of data and information

Information on IAQ, ventilation, and building-related health problems in schools was collected from scientific publications identified from bibliographic databases. The Internet was scanned for relevant documents, and recommendations, initiatives, policies and programmes aimed at providing a healthy school environment. A questionnaire, designed to collect information about reports, research programmes and policies on indoor air pollution in schools, and on initiatives aimed at providing a healthy school environment, was distributed in European countries through the EFA member associations' network, as well as overseas.

In summary, the data collected was of three types:

- IAQ data on schools.
- Health effects related to IAQ in schools.
- Policies and special programmes of European countries concerning indoor air pollution in schools.

Consensus on recommendations and practical initiatives in relation to indoor air pollution in schools

The ultimate aim of the project was to reach a consensus on recommendations and practical initiatives in relation to indoor air pollution in schools to present to the European Commission and to national governments.

The report was approved in November 2000 by the EFA board, the project Scientific Committee and EFA's project partners. It was concluded that indoor air quality in schools should be recognised as a priority topic for public health. There is a need for a global approach including a multidisciplinary European Programme on Indoor Air Quality, with the emphasis on schools, that aims at encouraging and coordinating actions in the fields of research, legislation, prevention, education, information, and training.

Indoor air quality in schools should be recognised as a priority topic for public health

School buildings are used by a large number of people for a long time of their day. There are slightly more than 71 million students and nearly 4.5 million teachers in the primary and secondary schools in the EU, representing more than 20% of the total population. In half of the European countries, children spend over 800 hours a year in class, that is about one-third of their typical day. No child should risk becoming ill or having exacerbation of symptoms because of the air quality in the school environment.

- The magnitude of the problem

Asthma, allergy and airway hyperreactivity are increasing throughout Europe and at least one child in three is affected by this type of disorder.

- Risk factors

Asthmatic children are most often hyperreactive to a number of gases and particles. Furthermore, asthmatics are most often sensitive to allergens present in excessively high amounts in schools. There is evidence of a worldwide increase in morbidity and mortality for asthma and allergies, particularly in western countries. The rate of increase in asthma prevalence is too rapid to be due to changes in the genetic pool. It has been suggested that this increase may primarily be due to an increase in exposure to allergens in the modern indoor environments.

Indoor allergen exposure is recognized as being the most important risk factor for asthma in children, in particular for sensitisation during the first years of life. The indoor environment in general can give symptoms of a non-specific nature,

which is known as 'sick-building syndrome'. The building, not the patients/children are diagnosed by questionnaires sent to the inhabitants/schoolchildren/school staff. Asthmatic children function as the most sensitive biological sensors in such cases.

• Health problems

Indoor air quality in schools has been much less studied than IAQ in other buildings (e.g. offices and other workplaces). In fact, scarce attention has been given to IAQ in schools, the related health effects, and the effectiveness of remedial measures in European schools.

The studies available show that schools frequently have severe indoor problems because of poor building construction and maintenance, poor cleaning and poor ventilation; in addition, high levels of volatile organic compounds, allergens and moulds (humidity) are frequent.

Other studies have shown that the IAQ in schools can cause various short- and long-term negative health effects and discomfort in students, teachers and other school staff.

Children are more sensitive to indoor pollutants than adults. In effect they react more readily to air pollution and breathe a greater volume of air relative to their body weights than adults do. Also, many children breathe through their mouths, bypassing the nasal passages' natural defences.

The school environment is compulsory; children cannot make decisions concerning their own (school) environment because they are placed at a school and did not choose it themselves. This should put an obligation on school authorities to provide an environment that is appropriate also for children with allergy or other kinds of hypersensitivity. Schools should be adapted towards the benefit of asthmatic and/or allergic children.

Basic requirements for good indoor air quality in schools

A general consensus on the implementation of guidelines for IAQ in schools can be found in the report of the International Society on Indoor Air Quality and Climate-ISIAQ, 'Creation of Healthy Indoor Environment in Schools - Guidelines for Indoor Air Quality in Schools'. These Guidelines can be considered a general framework applicable to the diverse national and regional situations. They are included in the full report of this project, and can be obtained from <http://www.isiaq.org>.

- Avoidance of environmental tobacco smoke.
- Avoidance of moisture/moulds in the building.
- Avoidance of allergen sources.
- Adequate cleaning and maintenance, practical shaping of the interior to facilitate cleaning and maintenance.
- Good control of the maintenance of heating and ventilation to ensure a satisfactory temperature and ventilation in the classroom.
- Adequate periodical monitoring of the IAQ parameters in schools.
- Appropriate training of students, teachers and school staff who are responsible for management, maintenance and cleaning.

• Basic requirements for good IAQ in schools

Recommendations for a European Programme on Indoor Air Quality in Schools

- The right to breathe healthy indoor air in schools

The right to breathe clean air in schools should be recognised as a fundamental health right at all levels: by the European Commission, the Health, Environment and Education authorities in the Member States, and the scientific societies and professional organisations involved in this topic, and also by school staff, students, and the public at large.

- European Programme on Indoor Air Quality in Schools

There is a need for a multidisciplinary European Programme on Indoor Air Quality, with the emphasis on schools, that aims at encouraging and co-ordinating actions in the fields of research, legislation, prevention, education, information, and training. The main objectives of the Programme in the specific sector of schools should be to obtain regulations to ensure a safe and healthy environment and generalised health control of schoolchildren in Europe, and to promote awareness campaigns aimed at children and their families, school staff, policy decision makers, health professionals and the public.

- A call for research

Research is needed to develop sustainable measures to improve IAQ in school buildings, to evaluate the impact of IAQ in schools on health and its effects on learning and life style of children, to determine the impact of tobacco smoke exposure at school and its health effects, and to develop specific IAQ standards and guidelines for schools. In addition, implementation of epidemiological methodology is also required.

Role of patients' associations

Patients' associations and professional organisations play a very important role within this European strategy. They must increase public awareness, inform, educate and help both the public and those affected by asthma, allergy and hypersensitivity, and bring pressure to bear on their governments to take and encourage more co-ordinated action at national level.

In the absence of national projects, the larger patients' associations have developed their own plans and actions and those with significant resources also make important contributions to professional training and research. There is clearly considerable scope for action at European level to foster the exchange of experience and expertise between patients' associations, thereby helping the smaller associations to make a more effective contribution to good IAQ. The main actions taken by patients' and professional organisations have been to improve public awareness and knowledge of this topic, to provide patients with support, education and practical assistance, to provide training and guidance for the various professions involved and to support research and surveys. The actions are implemented through publications and use of the media, telephone helplines, exhibitions, training courses and conferences, on the basis of a close collaboration with employers and education authorities.

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