



National Association of School Nurses

ISSUE BRIEF

School Health Nursing Services Role in Health Care

Asthma Management in the School Setting

INTRODUCTION

In the United States, 17.3 million people of all ages have asthma, according to estimates by the Centers for Disease Control and Prevention. One child in 13 (about 5 million) has been diagnosed with asthma, making it the most common chronic illness of childhood (Adams & Marano, 1994). Over the last 15 years, pediatric asthma has also increased in severity as well as in numbers. Although asthma affects children of all backgrounds, children in minority groups are more highly represented among those with this disease.

The noted increase in pediatric asthma is thought to be due to a combination of factors: better recognition and diagnosis of the condition at younger ages; changes in the prevalence and distribution of risk factors (obesity, single parent families, poverty, racial-minority status, and decreased physical activity); increased time spent indoors in tightly sealed buildings; increased exposure to air pollution; and an increased prevalence of allergies (U.S. Department of Health and Human Services, 2000).

BACKGROUND

Asthma is an inflammatory lung condition in which the airways become blocked or narrowed. It is characterized by acute episodes, or attacks, of breathing problems that include coughing, wheezing, chest tightness, and shortness of breath. These symptoms are caused by three primary factors: airway muscle tightening, airway swelling, and mucous-blocked airways associated with increased airway responsiveness to a variety of stimuli, or "triggers". The triggers that cause an asthma episode vary both within and across individuals, but many with this disease experience an increase in asthma symptoms when exposed to the following:

- Allergens, such as pollen, animal dander, dust mites, cockroaches, and molds.
- Irritants, such as cold air, strong odors, chemicals, indoor and outdoor pollutants, weather changes, and cigarette smoke.
- Upper respiratory infections.
- Physical exercise, especially when there are changes in weather, including changes in temperature, humidity, and wind.
- Ambient temperature changes, such as going out into cold air or coming in from the heat into cool air.
- Strong emotions, such as hard laughing or crying.

Although psychological factors, such as stress, are not sufficient to cause asthma symptoms alone, stress can potentiate wheezing in those predisposed to or with the disease. Recurrent episodes of asthma can range in severity from inconvenient to life threatening.

It is estimated that in the United States, costs related to asthma were at least \$12.7 billion in 2000 (Public Health Policy Advisory Board, 2002). Direct costs include medical expenditures associated with hospitalizations, doctors' visits, and medications. Each year two million people are treated in emergency rooms and approximately 500,000 are hospitalized for their asthma. In 1998, children 0-17 years had 5.8 million visits to doctors' offices and hospital outpatient departments (Public Health Policy Advisory Board, 2002). All too often, after a health-care provider office visit, an emergency room visit, or a hospitalization, these children present with wheezing and/or cough in the school health room. Not infrequently, the school nurse has never been told about the child's diagnosis or the children arrive at school with asthma medications, no instructions, and little understanding of their use.

In the United States, the majority of the population spends 90 percent (about 20 hours a day) of their time indoors. Each day, one in five Americans, mostly children, spends the day in a school building. Because children breathe more rapidly and inhale more pollutants per pound of body weight than adults, children are especially vulnerable to respiratory hazards that may be in the air in and around their schools and homes. Therefore, reducing exposure to both indoor and outdoor environmental asthma triggers is an important step in controlling this condition.

Asthma also impacts children's quality of life. Asthma accounts for more than 100 million days of restricted activity annually and contributes to avoidance of school and activities. Children who have had interrupted sleep due to nighttime asthma symptoms come to school tired and may fall asleep in the classroom. They can also be lethargic or irritable. Additionally, students who experience difficulty in breathing find it difficult to concentrate on schoolwork, and those who need breathing treatments during school hours miss class time. When severe episodes occur, children also miss time from class and school. Furthermore, the side effects from some medications used in the treatment of asthma can interfere with performance and concentration as well, particularly when the child's medication regimen is not well-managed or monitored (Environmental Protection Agency, 2001).

Indirect costs from the burden of asthma are attributed to lost workdays, school absences, and decreased productivity. An estimated 11.8 million missed school days per year are attributed to asthma (Weiss, Sullivan, & Lyttle, 2000), making it the leading cause of school absenteeism due to a health condition. Other indirect costs include caretaker's lost workdays and costs associated with asthma deaths. With 5,000 deaths - 246 in children - occurring each year from asthma, the seriousness of this disease cannot be overlooked. And, both hospitalization and death rates among young children are increasing (Centers for Disease Control, 2001; U.S. Department of Health and Human Services, 2001).

RATIONALE

The National Association of School Nurses believes that:

- Every child should have access to a school nurse at a ratio of no more than 1:750. This ratio is particularly critical for children with a potentially life-threatening condition like asthma.
- The effective management of childhood asthma includes four components (American Academy of Allergy, Asthma & Immunology, 1999):
 - Regularly assessing and monitoring asthma, including use of objective measures of lung functioning.
 - Controlling factors that trigger asthma episodes and contribute to asthma severity.
 - Adequately managing asthma with pharmacologic therapy.
 - Educating asthma patients and their parents to become partners in their own care.
- The school nurse has an active role in coordinating effective asthma management in the school setting using a coordinated school health program approach and collaborating with local health-care providers and asthma-related organizations and agencies to ensure that asthma care is appropriately integrated throughout the child's school activities.
- The school nurse is an effective change agent in the student's mastery of his/her self-management of asthma.
- Children have the right to easily accessible quick relief inhalers, including the right to carry these inhalers and self-administer medications when developmentally able.
- The school nurse has the responsibility to encourage and promote communication about the child's asthma among parents, school staff, and health-care providers.
- The best way to provide optimal care for children is for health-care providers to effectively communicate with one another about the child's care. Health-care providers at emergency rooms and clinics should obtain permission from the parent/guardian to share Asthma Action Plans directly with the school nurse.

ROLE OF THE SCHOOL NURSE

School nurses play an important role in serving as a liaison between the school and child's home and between the school and health-care providers in efforts to promote adherence with health-care providers' orders related to asthma management. The school nurse develops and implements, in coordination with local providers and the coordinated school health team members, the child's asthma management plan; establishes and monitors compliance with school policy related to the management of children at school and during school-related activities; develops protocols for the care of children with acute respiratory distress at school; provides or supervises proper medication administration; supports education of the child in self-management; monitors the child's condition; advocates for the child's inclusion in school-related activities; and works with school staff to assure that accommodations are in place for the child's well-being.

Using the four components of asthma care, there are numerous ways for the school nurse to contribute to the effective management of students with asthma in the school setting by:

- Educating the student and his/her family in asthma management, including content about pathology, pharmacology, environmental irritants and allergens, and proper use of treatment and management devices, such as peak flow meters, metered dose inhalers, and nebulizers.
- Delivering developmentally-appropriate asthma self-management skill lessons.
- Developing asthma care plans and asthma action plans in collaboration with the student, his/her family, school staff, and the student's health-care provider.
- Gathering asthma materials and resources for students, parents, and staff and disseminating these appropriately through a variety of media.
- Developing an asthma management policy or plan for the school that includes plans for respiratory emergencies and the management of acute asthma episodes at school, school-related activities, and crisis situations.
- Educating school staff about the effective use of individual asthma action plans.
- Educating the school board, school community, and school staff about asthma and asthma triggers in the school that need to be controlled and decreasing exposure to allergens and irritants by educating school staff about how its activities affect air quality.
- Proposing the development of indoor air quality teams in the school so that school staff is involved in making necessary changes to improve air quality.
- Working with local community groups to mobilize community resources for a comprehensive, culturally and linguistically competent approach to controlling asthma.
- Collaborating with health-care providers to secure permission from parents to mail information directly to school nurses.
- Collaborating with emergency rooms and hospitals to provide a copy of discharge orders for the school nurse.
- Helping parents understand the importance of sharing appropriate information about the child's asthma with the school nurse and others in the school community involved with the child, including teachers, school staff, coaches, on-site or after-school daycare providers, etc.

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