

# Many Children Manage Their Own Asthma Meds

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WASHINGTON — Half of children aged 7-9 years are primarily responsible for taking their asthma medication, according to the results of one study presented at the annual meeting of the Pediatric Academic Societies.

More than two-thirds of the surveyed children and parents reported that the child takes asthma medications on his or her own all or most of the time—68% of children and 66% of parents, said Lynn Olson, Ph.D., codirector of practice and research for the American Academy of Pediatrics in Elk Grove Village, Ill.

The data come from the Child Health Information Reporting Project. For the project, children ranging in age from 7 to 16 years were recruited in office and community settings in Chicago, its suburbs, and Cincinnati. A total of 414 parent-child pairs were included; parents and children were interviewed separately.

“We found that the agreement between parent and child was really pretty good . . . 80% agreeing within 1 percentage point,” including 40% agreeing exactly, Dr. Olson said.

African American children accounted for 46% of the population, with 40% white, 11% Hispanic, and the rest “other.” Forty-two percent of parents reported household incomes of less than \$30,000 per year.

Fifty-three percent of parents reported that their child had moderate to severe asthma, with 3.2 mean symptom days reported in the last 2 weeks.

There was no relationship between the child taking responsibility for asthma med-

ication and socioeconomic factors, such as income or the mother’s level of education. Whether or not the parent had asthma was not associated with the child’s responsibility for taking his or her asthma medication.

Children were more likely to be involved in managing their own asthma medication with increasing age. Among children aged 7-9 years, 56% of children and 50% of parents reported the child had a major role in managing his or her asthma, compared with 73% of children and 74% of parents among children aged 10-13 years, and 86% of children and 78% of parents among those aged 14-16 years.

The researchers also asked parents how often their child took asthma medication, as they should. More than a quarter of parents (28%) reported that their child did so only some or none of the time. Among these parents, 56% reported that the child was primarily responsible for taking his or her medication. Among parents who reported good medication adherence for their child, 71% said that the child was primarily responsible for taking the medication.

“The relationship between responsibility and adherence is complex,” said Dr. Olson, speaking at the meeting sponsored by the American Pediatric Society, the Society for Pediatric Research, the Ambulatory Pediatric Association, and the American Academy of Pediatrics.

“Relatively little attention has been given to the child’s role in medication management. Our observation is that most interventions and education are directed toward the parent,” Dr. Olson said. These findings suggest that asthma management education should be targeted at children as well as parents. ■

**Asthma interventions and education are directed toward the parent; however, findings suggest that asthma education should be targeted to children as well.**

## Use of Asthma Care Plans Spotty in Pa. School Survey

WASHINGTON — How well schools are doing to help children manage their asthma depends on the question you ask, said one expert speaking at the annual meeting of the Pediatric Academic Societies.

“We found that appropriate services, equipment, and policies and procedures for asthma management are not uniformly available in public schools,” said Marianne M. Hillemeier, Ph.D., of Pennsylvania State University in University Park.

For this study, a stratified random sample of schools representing each school district in Pennsylvania was selected. Surveys were mailed to 996 school nurses; 757 were completed. Roughly half of the schools were in rural settings.

Nurses were asked to list all of the places where students had access to their asthma medication: 93% were kept in the health office, 67% allowed children to carry their inhalers with them, 9% had medications available in other locations. Alarming, in three schools, children with asthma had no access to their inhalers, Dr. Hillemeier said.

Just over half of schools (56%) had peak flow meters available, 52% had nebulizers available, and 31% had spacers available. Only 22% of schools had written asthma management plans on file for children with asthma. Of these, only 32% included peak flow monitoring procedures, and 40% included a plan for physical education participation.

For those with written plans, only 56% included emergency contact information for the child’s pediatrician, 68% included emergency contact information for the child’s parent, and

62% included an emergency protocol for handling severe asthma attacks.

Most schools (89%) had medical emergency plans in place, but only 63% had rapid communication systems that link to emergency medical services.

Most schools (79%) had a staff member knowledgeable about what to do for an asthma attack available at all times, and 91% of schools notified teachers when a child with asthma was in their class. Almost half of the schools routinely taught students (49%) and teachers (52%) about asthma.

Case management for children with frequent asthma-related problems—extra attention to asthma care, medical monitoring, and proper preventive care—was available in 29% of schools, said Dr. Hillemeier, speaking at the meeting also sponsored by the American Pediatric Society, the Society for Pediatric Research, the Ambulatory Pediatric Association, and the American Academy of Pediatrics.

In 2002, the National Heart, Lung, and Blood Institute recommended a number of policies and practices for asthma management in schools, including ensuring that written asthma management plans were in place for each student and providing appropriate equipment for monitoring children’s status and administering medications.

NHLBI also recommended school-wide emergency plans for handling severe asthma attacks and access for children to asthma medication during school hours in the least restrictive way possible—including allowing children to carry and self-administer their medications. ■

# Breathing Problems Associated With Behavioral Difficulties

WASHINGTON — Inner-city children with persistent asthma appear to have more problems with negative social skills, anxiety, and shyness than children without asthma, according to data presented at the annual meeting of the Pediatric Academic Societies.

“Children with persistent asthma symptoms had significantly more behavior problems across several domains, compared to children with no asthma symptoms,” said Jill S. Halterman, M.D., of the University of Rochester in New York.

Dr. Halterman and her colleagues looked at the relationship between asthma and behavior in all kindergarten children in the city of Rochester school district in 2003. At the beginning of

that school year, parents completed a detailed health and development survey assessing the child’s background, behavioral functioning, and medical history—with specific questions about asthma symptoms.

Children were included if they were older than 4 years but younger than 6 years at the time of the survey, making a total of 1,619.

Black children accounted for 60% of the survey population; Hispanic children accounted for 22%. A majority of the children (59%) received Medicaid insurance.

Asthma status—no asthma, intermittent asthma, or persistent asthma—was determined from parent responses to three ques-

tions about asthma symptoms. The criteria for these three categories were based on the National Heart, Lung, and Blood Institute’s guidelines for defining asthma severity. Seven percent of the children had intermittent

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asthma, and 8% had persistent asthma.

Using 12 items on the survey, a child’s behavioral functioning was assessed using a 1-4 scale in four areas—positive and negative peer social skills, task orientation, and shyness/anxiety.

There was no difference be-

tween the three asthma groups for average positive peer social skills scores, but children with persistent asthma had worse scores for negative peer social skills than children with intermittent asthma or no asthma.

Children with persistent asthma also had worse scores than the other two groups for task orientation skills and had higher scores for shyness/anxiety.

More than 20% of children in the persistent asthma group had worse scores (one standard deviation or greater) on two or more behavior measures, compared with 16% of those with intermittent asthma and 10% of those with no symptoms. Children with persistent symptoms were

two times more likely than those without symptoms to score more than one standard deviation worse on two or more of the scales.

Multivariate regression analysis was used to evaluate the independent relationships between asthma status and the behaviors. There was no significant association among children with intermittent asthma and negative behaviors. “For children with persistent asthma, a significant association was shown for negative peer and shy/anxious scores,” said Dr. Halterman, speaking at the meeting also sponsored by the American Pediatric Society, the Society for Pediatric Research, the Ambulatory Pediatric Association, and the American Academy of Pediatrics. ■