

Urban School District's Action Against Asthma

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Background

- The American Lung Association and Center for Disease Control and Prevention report asthma is the most common chronic condition among minors and the third leading cause of hospitalizations in the age group.
- Approximately 25% of children from ages 5–17 have some restricted activity due to asthma and it is the prominent cause of absence from school, emphasizing the need for having beta-agonist therapy readily available when a child is symptomatic at school.
- The estimated annual cost for treating pediatric asthma is substantial and only increasing due to multiple challenges at home, in school, and within the medical system.
- Allentown School District (ASD) is the third largest urban school system in the state with 15 elementary schools and early childhood centers, four middle schools, and three high schools serving a community with a 40% poverty rate.
- Greater than 90% of the students qualify for school lunch program.
- In 2015, the incidence of asthma in ASD was approximately 25%.

Objectives

- Understand current school management of asthma
- Identify barriers resulting in poor asthma control within the school
- Implement interventions with the long term goals of improving a student's quality of life, decreasing health care utilization, and decreasing missed days of schools

Methods

- The target population includes pediatric asthma patients enrolled in ASD.
- School nurse surveys were distributed to 15 elementary schools in ASD in order to identify barriers to asthma care and management in the school setting.
- Once the surveys were collected (n=37), the data was analyzed in Microsoft Excel and educational brochures and presentations were created and discussed at the school nurse in-service days.
- Nurses were educated on how to identify asthma triggers, implement an asthma care plan, and understand the pharmacology of current treatments.
- As part of the grant, spacers for inhalers were distributed to each school.
- At the end of this school year, a post-intervention nurse survey will be distributed to determine intervention success.

Results

Figure 1: Challenges to treating asthma at school

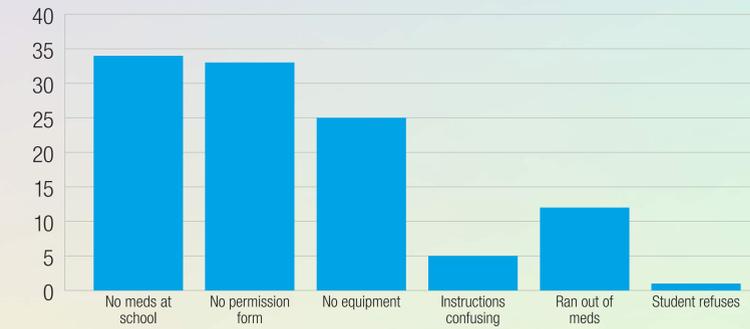


Figure 2: Asthma triggers at school

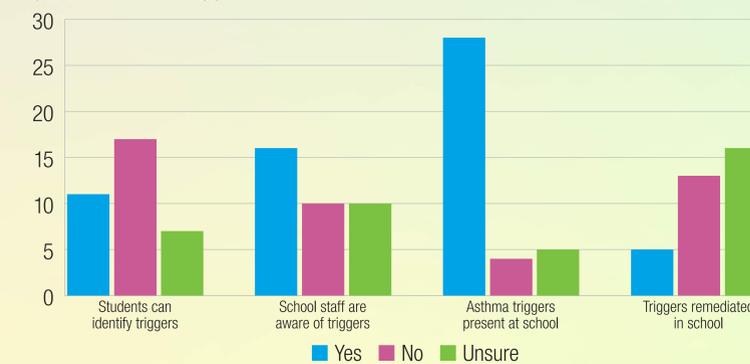


Figure 3: I understand what to do if a student experiences asthma symptoms

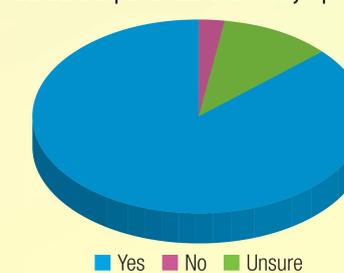
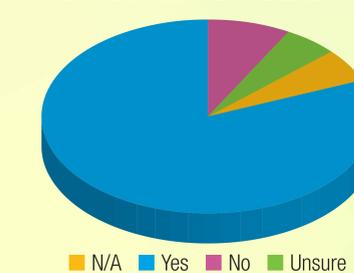


Figure 4: I feel confident in my ability to administer asthma medication



Discussion

- Asthma is a reversible airway obstruction due to bronchial spasm and inflammation in response to a stimulus.
- The most common triggers include tobacco smoke exposure, upper respiratory infections, cold weather, and personal or family history of atopy.
- Uncontrolled asthma increases the risk of asthma exacerbations requiring emergency room care or hospitalization.
- In acute management (such as in schools), a short acting beta-two adrenergic agonist, like albuterol, can be administered (by a nebulizer, metered-dose inhaler, or dry powder inhaler).
- Studies have shown that an inhaler taken with a spacer is a more effective form of medication delivery compared to an inhaler by itself or to a nebulizer.
- The two principal challenges in managing an asthma exacerbation at school are the student having no medication at school or no permission form for the nurse to administer a rescue inhaler. Not having the proper equipment at school was the third most frequent challenge (65%).
- Given the challenges, about 60% of school nurses will send the student to an emergency room or urgent care.
- Through the CATCH grant, 100 adult and 95 pediatric spacers were distributed among the nurses for their individual school.
- It was emphasized that in the absence of being able to contact the child's parent or PCP, if a student is in respiratory distress, the nurse should absolutely initiate treatment as directed by the individual's asthma action plan.