Asthma in a Minute: Student Education for Self-Management of Asthma
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The Problem: Limited Time for Asthma Education

Asthma is the most prevalent diagnosis among this school nurse’s middle school population. The Expert Panel Report 3 [EPR-3] Guidelines for the Diagnosis and Management of Asthma [NHBLI, 2007] delineate education of patients as one of four main components of asthma management, along with measurable assessment of severity, medications, and environmental factors. Ideally, every encounter between a nurse and a student with asthma should include some element of education.

But asthma education takes time. School nurses struggle to find adequate time for traditional classroom-style instruction. This results in inconsistent and poorly documented asthma education efforts. The minute between two puffs of albuterol, particularly when used to prevent symptoms before exertion in Physical Education [PE] class, was recognized as a teachable moment in the school health office. Could adding another minute or two make a difference?

One Solution: Utilize Teachable Moments

This project was undertaken as an Independent Learning Project for the Cambridge College Master of Education in School Nursing Program. Using an action research approach, Asthma in a Minute represents one school nurse’s attempt to utilize frequent, brief encounters to accomplish cumulative asthma education during routine visits to the school health office. The “lessons” were distilled into short modules, to be covered during one-to-five minute interactions, using a variety of teaching tools already at hand.

Based on the EPR-3 Guidelines, a checklist of topics was created, with teaching outlines and resources compiled for 5 categories of lessons: basic asthma facts, self-monitoring, medications, triggers, and action plans. A matching set of 18 reproducible “key message” cards were provided as student reminders. Students selected a carabiner key ring to collect key message cards. As the nurse and student covered a key message, the student added the colorful cards to the ring. The carabiners were stored with the students’ metered dose inhalers in the school health office, to be taken home at the end of the school year.

An airflow data record, printed on the back of the checklist, captures objective data to be easily copied and shared with Primary Care Providers and parents. The outline suggests commonly found asthma education materials, but encourages informal, spontaneous instruction as teachable moments arise. A variety of devices, online video clips and printed materials were used, allowing the nurse to choose a method appealing to the student and appropriate to the circumstances. School nurses should use what they have at hand.

Asthma in a Minute Toolkit

- Checklist of topics
- Airflow data record
- Student “key message” cards
- Nurse teaching resources

References:


What We Learned:

Middle school students responded well to digital and manipulative teaching tools; an airway model, digital PEF/FEV1 meter, and inspiratory teaching device were favored. Animated video clips, internet sites, and printed materials supported independent learning. Peer support was built-in with 2 or 3 students with asthma in each PE class.

Quantitatively, the results support brief, semi-spontaneous teaching as an effective nursing intervention strategy in the school setting.

- Student knowledge improved, as measured by pre and post-tests of basic asthma facts.
- Self-monitoring and documentation of airflow improved, as demonstrated with a digital PEF/FEV1 device [ASA1].
- Effective self-administration of inhalated medication improved, as demonstrated with an inspiration teaching device [In-Check Dial].

Qualitatively, student responses indicated two main themes of “what we learned”: effective inhalation technique and asthma pathophysiology. Parents reported positive feedback from a few POPs.

- “I learned I had been breathing in my medicine too fast.”
- “I learned little muscles can squeeze the airflow, so there’s not enough room for air to get through”.
- “Our doctor was impressed with this information, she had no idea school nurses could do this.”

Where Do We Go From Here?

Ongoing asthma education for self-management has become the norm in this school. Next year, this small group of students will become “asthma leaders”, ready to demonstrate the devices and informally teach self-advocacy skills to a new class of younger students. Even busy school nurses can empower young adolescents to manage asthma...one minute at a time.

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