Decreasing Anxiety In School Aged Children With Asthma

Background

Asthma is a leading chronic condition in children that is caused by swelling of the airways. Asthma is the most common chronic childhood illness affecting approximately 6.3 million (8.7%) children in the United States (ALA, 2013). During an asthma attack, the muscles surrounding the airway tighten, causing the lining of the air passages to swell. As a result, less air is able to pass through (NHI, 2014). Breathing problems associated with asthma include shortness of breath, gasping for air, increased respiratory rate, irritability, tightness in chest, wheezing, and coughing (NHI, 2014). Asthma management includes long-term control drugs and rescue drugs. Asthma is a leading cause of school absenteeism in the United States, on average thirteen millions days are missed per year due to asthma related illnesses (CDC, 2013). On average, children with asthma miss 2-3 more school day per year than children without asthma. It is the third ranking cause of hospitalization for children under age fifteen. Asthma costs the US about $ 56 billion in medical costs, lost school days, and work days (CDC, 2013). By providing support and education within the school setting it will help decrease school absences and increase students self-efficacy and management of asthma symptoms. L.C., A.E., K.G., K.S., A.S.

Benefits and Significance

Primary asthma management has focused on medical interventions. To date there have been few studies that examine the relationship between the effect of stress and anxiety on childhood asthma.

Asthma-related anxiety can lead to overuse of medications, more frequent hospitalizations, and increased severity and poor control of symptoms.

Psychological factors may influence the symptoms and management of asthma in children in many ways. There is evidence that emotional stress can either precipitate or exacerbate both acute and chronic asthma. Approximately ¼ of children with asthma have comborbid anxiety disorders.

Parental anxiety and stress related to their child’s asthma may lead to poor disease control. There have been no studies that have examined parent asthma related anxiety. Psychotherapeutic interventions may be employed to eliminate these problems. These include family therapy, educational interventions, behavioral therapies, cognitive therapies, cognitive behavioral therapy, and relaxation techniques.

Asthma self-efficacy shows that a child’s perception about their personal competence positively influences their behaviors, actions, motivations, and perseverance in self-management behaviors.

There is no foreseen harm to practicing psychotherapeutic interventions in asthmatic children.

Asthma-friendly schools are needed to create supportive learning environments for asthmatic children and reduce number of absent days. L.C., A.E., K.G., K.S., A.S.

Program Implementation

Program Objectives: To provide evidence based education to asthmatic school age children and their parents regarding psychological and relaxation interventions. Medications will be identified as the first line of treatment. Self-efficacy will be improved through identification of onset of symptoms and triggers. Relaxation techniques will be taught as additional methods to aid in decreasing anxiety associated with symptom onset. This will include teaching relaxation breathing and guided imagery.

Targeted population: All children within the school system that have been diagnosed with asthma will be invited along with their parents to attend the class.

Part 1

Parents will be invited to participate in the program along with their children. A general overview of asthma as a disease will be taught. Identification of onset of symptoms and possible contributing triggers will be discussed. Prevention and attack management will be reviewed. Self-efficacy of asthma management will be encouraged first with identification of symptoms and second through symptom management.

Part 2

Each parent and child will be administered the Youth Asthma Related Anxiety Scale (YAYAS) and the Parent Asthma Related Anxiety Scale (PAAS). This will be given to establish a baseline for anxiety. Parents and children will be administered this in separate rooms (see appendix A).

Part 3

Deep breathing exercises will be taught. On inhaling, the abdomen should expand and not the chest. Deep breathing is the process of slow inhalation followed by slow and complete exhalation. It should be done in a comfortable position, sitting or lying down. This is commonly referred to as belly breathing. There are several school age adaptations to teaching this breathing technique such as blowing bubbles or bowing out a candle.

Guided imagery will be taught by letting the child imagine good things happening to them and visualizing anything that gives them pleasure. The thoughts and imagery of a positive picture makes a person feel relaxed. Parents will be encouraged to practice deep breathing and guided imagery with their child at home, repetition will help with efficiency of relaxation techniques.

Part 4

Each participating student will have an asthma action plan in place along with prescribed medications available. Ratings from the YAAS will be recorded on their asthma action plan for future use.

Upon each visit to the nurse’s office, the child will be evaluated for symptoms and observed behaviors.

Medications will be the first line of treatment, relaxation breathing and guided imagery will be encouraged to aid in decreasing anxiety with asthma symptoms.

Nurse’s observation of behaviors pre and post interventions will be recorded along with the students self-report of elevation of symptoms. L.C., A.E., K.G., K.S., A.S.

Evaluation

Readminister the YAAS and the PAAS 60-90 days after baseline measurement. The authors of the YAAS and the PAAS conservatively estimate the temporal stability of the scale to be 2-3 months.

Evaluate differences between baseline and retet results.

Evaluate the frequency of the student’s visits to the nurse’s office and frequency of use of rescue medications while at school.

Students behaviors and self-report related to anxiety will be observed and documented. L.C., A.E., K.G., K.S., A.S.

Methodology

Methods used to Collect/Select the Evidence: A search was conducted using electronic databases including Cochrane Systematic Reviews, Medicine, CINAHL through the McGoogan Library of Medicine. The Centers for Disease Control and Prevention (CDC), the American Lung Association, and the National Institute of Health websites were also used in our search.

Methods used to assess the quality and strength of evidence: Each article was rated on the Rating system for Level and Quality of Evidence from the University of Nebraska Medical Center adapted from Joanna Briggs Institute and AHRQ (2005).

Methods used to formulate recommendations: Likely to be effective based on the Oncology Nursing Interventions for Patient Outcomes (ONS) was used to formulate the recommendations.

The Theor of Reasoned Action

Implementing a school based asthma education program for school aged children and their parents, can improve self-management of their disease. This education program would include psychological relaxation techniques and breathing exercise to prevent increased severity of an attack. Self-management can decrease school days missed and/or having to be sent home from school. This can also have a positive effect at home with decreased ER visits, decreased hospital stays, and overall a positive economic effect for families. This takes the school community, the individual child, and parents to be educated and knowledgeable of the interventions. L.C., A.E., K.G., K.S., A.S.