Evidence-Based Practice Project

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Background & Clinical Significance

- Asthma is one of the most common chronic disorders of childhood in the United States.
- Inflammatory disease
  - Narrowing of the airways, shortness of breath, wheezing, continuous coughing, and chest tightness/pain
- Asthma
  - Seriously limits a child’s activities
  - Often has exacerbations that result in emergency department visits and hospitalizations
  - Is linked to at least 4,000 deaths per year
Asthma facts

Asthma accounts for 10 million school absences per year.

More than 50% of children with asthma missed at least one day of school

(American Academy of Allergy Asthma & Immunology)

Orange County

More than 66,000 children are affected by asthma.

(2003 National Health Interview Survey, NCHS, CDC, 2004)
Purpose of the Project

- **Child Health Priority**
  - Research indicates that self-management education is a key factor in the control of asthma in children and is related to improved outcomes. (NHLB Institute Executive Report 2007)

- **Organizational Priority**
  - PCS Strategic Plan
    - **Goal #2** - Deliver Exemplary Patient Care and Services Devoted to Safety and Quality
    - **Initiative #3** – Incorporate the principles of evidence-based practice into the care processes and standards of practice at CHOC

- **CHOC and Patient/Family Priority**
  - Develop a model program for active partnership in asthma self-management
  - Provide a program that has consistent asthma self-management educator(s) to assess patient concerns and provide patient/family centered care
Clinical Question (PICO)

- Among hospitalized pediatric patients with asthma (P) does a formalized asthma educational program for patients and their parents by a certified asthma nurse educator (I) compared to traditional hospital discharge education (C) result in:
  - Increased knowledge of asthma and its triggers
  - Increased adherence to daily medication management and/or rescue plan
  - Decreased ED visits
  - Increased school attendance
  - Increased quality of life (O)
Stake Holders

CHOC Health Alliance

Asthma Nurse Educators
ACLD
Breathmobile

Patient, Parents, & Family

MDs, RNs
Respiratory Therapists,
Social Workers,
Pharmacists

Nursing Administration
EBP Scholars Program
Research Strategies: Terms and Databases

Asthma, Asthma Nurse Specialist, Nurse Educator, Certification Hospital, ER, Self-Management Adolescent/Child, Infant

Cochrane Evidenced Based Reviews
CINAHL OVID Medline
Asthma Clinical Guidelines NIHBL/NAEERP Pub Med

St. Joseph’s Burlew Library
Librarians Provided Support services
Critique & Synthesis

- A randomized clinical control study of children hospitalized with acute asthma suggested *fewer hospital readmissions* for children whose parents had received nurse led home management education compared to children who received usual discharge instructions and education (Madge, McColl, & Paton, 1997) (Level 1)

- Nurse-taught patients increased their use of inhaled corticosteroids; reduced use of Albuterol, reached higher and less variable Peak Flow Rates (Levy et al., 2000) (Level II)

- Nurse specialists using standardized 2 hour asthma education noted a decrease in hospital utilization and missed activity over 6 months (Hopman & colleagues, 2004) (Level VI)
Critique & Synthesis

- Nurse specialist led education demonstrated the following outcomes
  - Greater reductions in asthma symptoms, less limitations of activities, and less airway inflammation (Lindberg et al. 2002; Janson et al., 2001) (Level VI)

- Reliable, consistent expertise with supporting materials is needed to ensure that education predictably occurs (Nettles, 2005) (Level IV)

- Hospitalization presents an opportunity to address patients’ unique urgent learning needs (Nettles, 2005) (Level IV)
2007 Expert Panel’s Evidence for Asthma Self Management

- Evidence A
  - Education is essential to provide patients with the skills necessary to control asthma and improve outcomes.
  - Know that effective allergen avoidance requires a multifaceted, comprehensive approach; individual steps alone are generally ineffective.

- Evidence B
  - Asthma education programs delivered during or following discharge from the hospital or ED are effective.
  - Patient’s/family’s treatment goals & preferences apart of plan; long and short term goals agreed upon.
  - Before patients are discharged, assess inhaler techniques and reinforce correct technique.
  - Provide a written asthma action plan that includes two aspects: (a) daily management; and (b) how to recognize and handle worsening asthma.
Adopt Change into Practice

Recommendations for CHOC’s Asthma Care Guidelines

Standard of Practice
- Assess
  - Home, school, daycare, divorce, insurance, and financial.
  - Medication skills, peak flow meter, and spacer/delivery device technique use.
- Admit Orders
  - Begin asthma education/teaching
- Curriculum
  - Basic asthma facts
  - Medications and medication/delivery device skills
  - Self monitoring techniques
  - Environmental triggers
  - Control measures
- Other Interventions
  - Written action plan for daily management and how to recognize worsening asthma and what actions to take.
  - Ensure appropriate referrals (e.g. Allergist, Public Health Nurse, Social Service, Community classes)
Essential Components of the Educational Plan

- **CLASSIFICATION OF SEVERITY**
  - Mild Intermittent
  - Mild Persistent
  - Mod Persistent
  - Severe Persistent

- **NAME**_______________________________________________________________
- **DATE_______________________**
- **BEST PEAK FLOW IS** ________________

- **PEDIATRICIAN / SPECIALIST:**________________________________________
- **DOCTOR/CLINIC PHONE:**____________________
- **HOSPITAL / EMERGENCY ROOM**______________________

- **GREEN ZONE**
  - Doing well. Take these controller medicines.
  - Breathing is good
  - No cough, wheeze, chest tightness, or shortness of breath
  - Normal work and play
  - AND peak flow is above: _________
    (Above 80% of Best Peak Flow)

- **YELLOW ZONE**
  - Doing worse. Keep taking controller medicines to the Green Zone. Add these reliever medicines.
  - Cough, wheeze, chest tightness or intolerance of effort
  - Difficulty with night sleeping
  - Difficulty with work and play from shortness of breath
  - Baby not taking bottle or breast well due to breathing problems
  - OR peak flow is between: ___________ to ___________ (50% to 80% Best Peak Flow)

- **RED ZONE**
  - Medical alert! Take these reliever medicines immediately.
  - Very short of breath
  - Can not work or play from shortness of breath
  - Reliever medicines have not helped, or same or worse after 24 hours in Yellow Zone
  - OR peak flow is below: ______________
    (Below 50% of Best Peak Flow)

- **RED DANGER ZONE**
  - Lips or fingernails blue
  - Trouble walking or talking due to being out of breath

- **Medicine**
  - **How Much**
  - **When**

- **Before exercise**

- **Call 911 Now**

- **When ___________________ is taken, call your doctor**

- **Tobacco Smoke**
- **Dust**
- **Cockroach**
- **Exercise**
Adopt Change into Practice

Recommendations for Personnel

Asthma Nurse Educator
- A licensed Registered Nurse, with three years pediatric nursing experience with an existing asthma educator certification or will complete within one year of onset of employment.
- Asthma Nurse Educator (AEC) will be responsible for the education with regards to various aspects of asthma self management care for patients/families with all severity levels of asthma.

Line of Authority
- Case Management Department, Hospital funded position

Supervision
- Under supervision of delegated Manager/Supervisor
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- All patients who are admitted to CHOC with a diagnosis of asthma will be seen by an (AE-C) who will provide asthma self-management education as outlined in CHOC Asthma Care Guideline prior to discharge from CHOC.

- Clinical duties
  - Comprehensive assessment, collaborative planning, intervention, and evaluation of competency with regards to the management and skills needed to adapt to medical diagnosis.

- AE-C collaborates with the interdisciplinary team, patients/families, and community providers to coordinate plans of care, management, and education of medical condition.
Adopt Change into Practice

- Participate in CE activities related to AE-C role.
- Apply new research findings to improve patient care and to promote program development.
- Provide care to patients in a manner that promotes patient safety and compliance to all safety related policies and procedures.
- Demonstrate the safe delivery of healthcare.
- Participate in processes that support JACHO National Patient Safety Goals.
- Provide appropriate care based on the physiological, emotional, and cognitive needs.
Questions

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