

Involving Patients and Parents in Evidence Based Asthma Care

Jennifer David, DNP, APRN, CPNP; Sharon Karp, PhD, RN, CPNP-PC; Anna Brown, CPNP | Vanderbilt University School of Nursing
Regena Spratling, PhD | Georgia State University

Introduction

- Asthma management in the pediatric setting is critical to decrease morbidity and mortality in children (CDC, 2016)
- Evidence based management is linked to reduced costs and inpatient admissions (Kelly, et al., 2000)
- The National Heart, Lung, and Blood Institute (NHLBI, 2014) guidelines outline care steps to prevent asthma exacerbations and promote avoidance of triggers and use of preventative medicines

Problem Statement

- 1,200 children with an asthma related diagnosis at University Pediatrics in Savannah, GA
- Unnecessary Emergency Department (ED) visits for asthma exacerbations

Purpose/Objectives

- Implement recommended patient/parent standardized screening measures
- Parent and patient needs assessment - Assess asthma symptoms and control of the disease process, beliefs about asthma and medication, knowledge of triggers and trigger avoidance.

Background

- Asthma is a common chronic disorder of the airways characterized by variable and recurring symptoms, airflow obstruction, bronchial hyperresponsiveness, and underlying inflammation (NHLBI, 2007)
- 25 million people with asthma in the US (CDC, 2011)
- Rate of asthma in African Americans was 47% higher than it was for whites (Allergy and Asthma Foundation of America, 2017)
- 6.3 million children in the US live with asthma with 13.5 million told at one time they had asthma (CDC, 2014)
- Nine asthma related deaths per day (CDC, 2011)
- \$56 million costs of asthma treatment and loss of productivity (CDC, 2011)
- Implementation of nationally published guidelines can improve outcomes

Review of Literature

Search

- Boolean operators: pediatric; asthma;
- Yielded 77 articles

Selected Articles

- 12 articles for synthesis
- Qualitative and quantitative studies
- Randomized controlled trials (RCT) provide evidence for guideline implementation
- Descriptive/qualitative studies explain complexity of medication adherence and asthma control

Synthesis of Literature

Use of NHLBI guidelines

- Improved overall patient outcomes
- Decreased costs
- Decreased hospital admissions and ED visits

Parent Barriers

- Misunderstanding of disease process
- Lack of access to healthcare providers
- Inability to obtain prescription medications

Conceptual Framework

- James G. Anderson's Healthcare Utilization Model 1973
- Providers may increase compliance by taking systems into consideration (Anderson, 1973)

Project Design



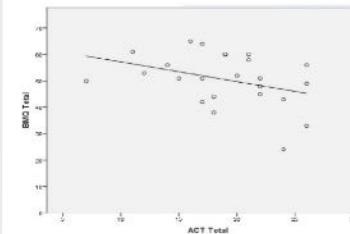
Data Analysis

- Descriptive stats for univariate data
- Bivariate analysis of BMQ/ ACT scores and EPA 1
- Simple linear regression for correlations

Results

- Negative correlation between ACT and BMQ scores (clinical Significance of $p=.078$)
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- 1 unit increase in ACT is predictive of BMQ score decrease of 0.744 units
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- 1 unit increase in ACT is predictive of BMQ score decrease of 0.744 units
- Strong correlation between ACT and BMQ
- Renting associated with ACT scores that are 4.555 units lower and BMQ scores that are 9.092 units higher than home owners

Sample
 • N=24
 • 87.5% African American
 • 62.5% Male
 • 70.8% living in rental property



EPA 1 (Rent vs Own)	R ²	B	t	p
ACT Total	.186	-4.555	-2.140	.036
BMQ-5 Total	.197	7.160	2.391	.030
BMQ-C Total	.053	1.935	1.112	.278
BMQ Total	.180	9.092	2.200	.039

Conclusion

- Paper survey
- Demographics: Age, Race, Diagnoses, Gender, Medications
- Asthma Control Test (ACT) to assess level of asthma symptom control, questions from the Environmental Protection Agency(EPA), and the Beliefs about Medications Questionnaire-Specific (BMQ-S).

Impact to Practice

- Needs based assessment
- Focused education
- Presentation to stakeholders

Strengths/Limitations

- Strengths:** Participation, access to asthma registry/charts, and adequate time to complete surveys
- Limitations:** 3 week survey dissemination, decreased patient volume, moderate number of surveys collected

Future Implications

- Assessment of learning needs as foundation of education
- Patients with poor asthma control to be followed closely with regular exams and interviews
- Social and demographic indicators for poor asthma control