

protect males are currently unknown, and the potential of a biological mechanism based on the results of this study highlights the need for further research.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2017-2475UUU

Megan F. Patterson, MD
Tamara T. Perry, MD
Little Rock, AR

The Influence of Comorbid Asthma on the Severity of Symptoms in Children With Attention-Deficit Hyperactivity Disorder

Borschuk AP, Rodweller C, Salorio CF. *J Asthma*. 2017;1:1-7

PURPOSE OF THE STUDY. This study examined the association between asthma and attention-deficit/hyperactivity disorder (ADHD) symptoms in a clinical pediatric sample.

STUDY POPULATION. Children with asthma and ADHD symptoms.

METHODS. Demographic and neuropsychological data for children with a billing diagnosis of ADHD were extracted from a clinical database. Families completed standard rating scales. Seventy-one patients with a comorbid asthma diagnosis were identified and matched by age to a group of 71 patients with only ADHD.

RESULTS. Children with asthma and ADHD were more likely to display clinically elevated levels of hyperactivity, externalizing behaviors, anxiety, and hyperactive and/or impulsive behaviors compared with children with ADHD alone. Boys with asthma and ADHD had more symptoms than boys with only ADHD of somatization and emotional internalizing, while girls with asthma and ADHD had more symptoms of hyperactivity and/or impulsivity, conduct problems, anxiety, and emotional internalizing compared with girls with only ADHD.

CONCLUSIONS. Findings suggest that in children with ADHD, comorbid asthma is associated with increased behavioral and internalizing symptoms, with distinct sex differences present. Increased behavioral and internalizing symptoms seen in children with both asthma and ADHD may be due to the burden of their medical condition. No difference was found in cognitive variables, suggesting chronic hypoxia may be less influential in explaining these differences. Future research should determine the specific mechanisms of these differences.

REVIEWER COMMENTS. Clinicians are often faced with dilemmas when caregivers focus on the impact of controller and rescue medications on behavior in addition to managing the chronic nature of asthma. In children with ADHD and similar disorders, the authors note that these learning disabilities can impact how children potentially perceive their symptoms, and they can affect the ability of

the children to self-manage. In addition, the specific sex differences can impact how children may respond to both asthma treatment and their ability to manage, which clinicians should take into account when creating asthma treatment plans with caregivers.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2017-2475VVV

Clare E. Ward, MD
Harvey L. Leo, MD
Ann Arbor, MI

Effectiveness of Evidence-Based Asthma Interventions

Kennedy S, Bailey R, Jaffee K, et al. *Pediatrics*. 2017; 139(6):e20164221

PURPOSE OF THE STUDY. To assess the effectiveness of using evidence-based asthma interventions in community health centers as part of the Community Healthcare for Asthma Management and Prevention of Symptoms (CHAMPS) study.

STUDY POPULATION. Children aged 5 to 12 years ($N = 590$) with moderate to severe asthma were enrolled in 3 intervention and 3 control sites within high-risk, low-income communities in Arizona, Michigan, and Puerto Rico.

METHODS. Asthma intervention (environmental control) was tailored to each child's allergen sensitivity and exposure and involved 4 visits over the course of a year. Study visits were electronically documented and prospectively monitored. Asthma symptoms and health care utilization were evaluated at baseline, 6 months, and 12 months.

RESULTS. The intervention group included 314 children, and there were 276 children in the control group. Nearly all children had allergy testing (96%) and home environmental assessments (89%) performed. A total of 70% of children completed all study activities (testing, assessments, and intervention visits). Symptomatic days in the previous 4 weeks were significantly reduced in the intervention group compared with the control group (-3.27 in the intervention group vs -2.28 days in the control group, or a -0.99 difference; $P < .001$). This is consistent with changes found in the initial rigorous, evidence-based interventions in other large studies.

CONCLUSIONS. Evidence-based interventions can be successfully used in community health centers that care for underserved, high-risk populations, leading to a reduction in asthma morbidity.

REVIEWER COMMENTS. This study shows that evidence-based asthma guidelines can be successfully employed with positive clinical outcomes despite the challenges of high-risk asthmatic children in community health settings with limited financial resources. The results here mirror the results previously reported as part of the National

Cooperative Inner-City Asthma Study (NCICAS) and the Inner-City Asthma Study (ICAS).

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2017-2475WWW

Frank S. Virant, MD
Seattle, WA

Practice Variation in Management of Childhood Asthma Is Associated With Outcome Differences

Garbutt JM, Yan Y, Strunk RC. *J Allergy Clin Immunol Pract*. 2016;4(3):474-480

PURPOSE OF THE STUDY. To determine how variation in preventive and acute care approaches to asthma in pediatric primary care practices affects patient outcomes.

STUDY POPULATION. The study included 948 children from 22 community-based primary care practices with a physician diagnosis of asthma and evidence of bothersome asthma within the past year.

METHODS. The data for this study were obtained over the year prior to participant entry into a trial. Inclusion criteria included 1 of the following indicators of bothersome asthma: (1) prescription for daily controller medicine; (2) ≥ 1 acute asthma exacerbation requiring an unscheduled office visit and a course of oral steroids, emergency department (ED) visit, or hospitalization; or (3) persistent asthma symptoms. Data on practice-level measures (≥ 1 asthma maintenance visit/year) and acute care (≥ 1 acute asthma visit/year) were collected over a 12-month period by chart review and telephone interviews with parents. Relationships between practice-level measures and individual asthma outcomes (symptom-free days, parental quality of life, emergency department visits, and hospitalizations) were evaluated using generalized estimating questions, adjusting for seasonality, specialist care, Medicaid insurance, single-family status, and race.

RESULTS. For every 10% increase in the proportion of children in the practice receiving preventive care, symptom-free days increased by 7.6 days ($P = .02$), and ED visits per child decreased by 16.5% ($P = .002$). There was no difference in hospitalizations or parental quality of life. In the adjusted analysis, only the association between preventive care and fewer ED visits persisted (12.2% reduction; $P = .03$). For every 10% increase in acute care provision, ED visits and hospitalizations decreased by 18.1% ($P = .02$) and 16.5% ($P < .001$), respectively, and this persisted in adjusted analyses (ED visits, 8.6% reduction; $P = .02$; hospitalizations, 13.9% reduction; $P = .03$).

CONCLUSIONS. This study found that practices providing more preventive and acute asthma care had improved outcomes in both impairment and risk. The outcomes suggest that practice-level interventions to increase both

preventive and acute asthma care could reduce asthma disparities.

REVIEWER COMMENTS. National asthma guidelines recommend a collaborative partnership between families and their physicians, with regular asthma maintenance care visits (at least 2 visits/year) to monitor and adjust the treatment plan as needed and to provide education and support for asthma management. This large, multicenter study of both urban and suburban primary care practices revealed a large variation in asthma care, and this variation is associated with differences in outcomes. The study highlights the fact that routine preventive care leads to improved asthma outcomes, including decreased impairment (more symptom-free days) and risk (fewer ED visits). The results suggest that focused efforts to improve practice-level preventive and acute care for childhood asthma may be effective in improving outcomes and reducing disparities.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2017-2475XXX

Edith Schussler, MD
Scott Sicherer, MD
New York, NY

Practice Patterns in Medicaid and Non-Medicaid Asthma Admissions

Silber JH, Rosenbaum PR, Wang W, et al. *Pediatrics*. 2016;138(2):e20160371

PURPOSE OF THE STUDY. To evaluate any differences in practice patterns between Medicaid and non-Medicaid patients admitted for asthma at 40 Children's Hospital Association hospitals that contribute to the Pediatric Hospital Information System database.

STUDY POPULATION. This cohort consisted of 17 739 matched pairs of children (Medicaid and non-Medicaid) admitted for asthma at the same institution between April 1, 2011, and March 31, 2014.

METHODS. A matched-cohort design was used, matching pairs of Medicaid and non-Medicaid children admitted to the same hospital for age, sex, asthma severity, and other patient factors.

RESULTS. The median cost for Medicaid patients was higher than for non-Medicaid patients (\$4263 vs \$4160; $P < .001$), but the median cost difference between matched pairs was \$84 (95% CI \$44-\$124). The costs for admissions at the 90th percentile were comparable (\$10 710 vs \$10 948; $P < .07$). Length of stay (LOS) was similar, and rates of ICU admission were comparable (10.1% vs 10.6%; $P = .12$).

CONCLUSIONS. In a closely matched cohort of children within the same hospital, Medicaid status did not significantly impact expenses, LOS, or ICU utilization.

Effectiveness of Evidence-Based Asthma Interventions

Frank S. Virant

Pediatrics 2017;140;S215

DOI: 10.1542/peds.2017-2475WWW

Updated Information & Services

including high resolution figures, can be found at:
http://pediatrics.aappublications.org/content/140/Supplement_3/S215.2

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.aappublications.org/site/misc/Permissions.xhtml>

Reprints

Information about ordering reprints can be found online:
<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Effectiveness of Evidence-Based Asthma Interventions

Frank S. Virant

Pediatrics 2017;140;S215

DOI: 10.1542/peds.2017-2475WWW

The online version of this article, along with updated information and services, is located on the World Wide Web at:

http://pediatrics.aappublications.org/content/140/Supplement_3/S215.2

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2017 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

