

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.

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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.

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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

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