

Cochrane for Clinicians

Putting Evidence into Practice

Culture-Specific Asthma Education Programs for Minority Groups

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Clinical Question

Among children and adults with asthma who belong to minority groups, do culture-specific asthma education programs (CAEPs) improve asthma-related outcomes vs. generic asthma education programs or usual care?

Evidence-Based Answer

In children from minority groups, CAEPs reduce the number of severe asthma exacerbations requiring hospitalization and improve asthma control as measured by the Childhood Asthma Control Test (ACT) but not the Asthma Control Questionnaire (ACQ). CAEPs have no effect on overall asthma exacerbations in children.

In adults from minority groups, CAEPs improve asthma-related quality-of-life scores, although by less than the clinical significance threshold, but do not improve primary outcomes (e.g., asthma exacerbations severe enough to require hospitalization).¹ (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Asthma affects 11% of African Americans, 16% of Puerto Ricans, and 8% of Caucasian Americans.² Self-management education has been shown to improve morbidity and mortality in patients with asthma.³ Culture-specific

education involves teaching patients in their own language, dialect, and cultural patterns. The authors of this review sought to evaluate the effectiveness of CAEPs compared with generic asthma education programs or usual care on outcomes among minority patients with asthma.¹

This Cochrane review included seven randomized controlled trials and 837 patients.¹ Studies focused on African American, Hispanic, Puerto Rican, Asian, Indian, and indigenous Australian patients. Four studies focused on children, two on adults, and one contained both. Included studies compared CAEPs with generic asthma education programs or usual care. Primary outcomes were the number of asthma exacerbations and exacerbations that were severe enough to require hospitalization. Secondary outcomes included objective measures of asthma control (i.e., forced expiratory volume in one second, peak expiratory flow, and airway hyperresponsiveness), scoring questionnaires measuring asthma control (ACT and ACQ), asthma-related quality of life, and symptoms.

Among children from minority groups with physician-diagnosed asthma, CAEPs decrease asthma exacerbations severe enough to require hospitalization (two studies; N = 305; relative risk = 0.48; 95% confidence interval [CI], 0.24 to 0.95) and the subjective asthma control scores on the ACT (n = 218; odds ratio [OR] = 3.35; 95% CI, 1.45 to 7.73) but not on the ACQ (n = 40; mean difference [MD] = -1.11; 95% CI, -2.31 to 0.09). CAEPs do not reduce overall asthma exacerbations (n = 88; OR = 1.55; 95% CI, 0.66 to 3.66 and n = 110; MD = 0.18; 95% CI, -0.25 to 0.62).

In adults from minority groups, CAEPs improved asthma quality-of-life scores (two studies; N = 293; MD = 0.26; 95% CI, 0.17 to 0.36), although the clinical significance remains uncertain given that the MD was less than the minimal important difference for the asthma-related quality-of-life scores. Compared with generic programs or usual care for adults, CAEPs did not reduce asthma exacerbations during follow up (one study; n = 294; OR = 0.80; 95% CI, 0.50 to 1.26), exacerbation rates (two studies; N = 430), or severe exacerbations requiring corticosteroids or hospitalization (one study; n = 294).

These are summaries of reviews from the Cochrane Library.

This series is coordinated by Corey D. Fogleman, MD, Assistant Medical Editor.

A collection of Cochrane for Clinicians published in *AFP* is available at <https://www.aafp.org/afp/cochrane>.

SUMMARY TABLE. SIGNIFICANT OUTCOMES OF CULTURE-SPECIFIC ASTHMA EDUCATION PROGRAMS IN MINORITY GROUPS

Outcomes	Total number of participants	Statistical analysis	95% confidence interval	Quality of evidence
Children				
Decreased severe exacerbations requiring hospitalization over six to 12 months	305 (two studies)	Relative risk = 0.48	0.24 to 0.95	Low
Improved asthma control	218 (one study)	Odds ratio = 3.35	1.45 to 7.73	Low
Adults				
Improved quality-of-life scores	293 (two studies)	Mean difference = 0.26	0.17 to 0.36	Low

The quality of the data was graded as low or very low across the studies because of methodologic differences, imprecise reporting, and lack of objective data.

Self-management education has a primary role in asthma management. The National Institutes of Health's National Asthma Education and Prevention Program recommends education at every opportunity, reinforcement with a variety of educational strategies, and individualized self-management education.³ CAEPs should be considered for adults and children with asthma from minority groups, but further research is needed to strengthen the quality of evidence and determine the cost-effectiveness of these programs.

The practice recommendations in this activity are available at <http://www.cochrane.org/CD006580>.

The views expressed in this article are those of the authors and do not necessarily reflect the official policy or position of the Department of Defense, the U.S. Navy, or the Uniformed Services University of the Health Sciences.

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