PROACTIVE ASTHMA CARE IN CHILDHOOD: GENERAL PRACTICE-BASED, RANDOMIZED, CONTROLLED TRIAL


Purpose of the Study. To assess the feasibility and effectiveness of a general practice-based, proactive system of asthma care among children.

Study Population. A total of 174 children with moderate/severe asthma who were cared for by 24 general practitioners in the Australian Capital Territory were studied.

Methods. The study was a randomized, controlled trial with cluster sampling according to general practice. The intervention involved a system of structured asthma care called the 3+ visit plan, which included families being reminded to visit the general practitioner. Visit 1 was a baseline visit in which the concept of a “contract” for care was discussed. Visit 2 was used to assess asthma status, history, drug treatment, and management. Education and support were assessed for methodologic quality, and pooled with fixed-effects and random-effects models.

Results. Thirty-two of 45 identified trials were eligible, with a total of 37,006 patients 2 to 18 years of age. Education regarding asthma was associated with improvements in lung function (standardized mean difference: 0.50; 95% confidence interval [CI]: 0.25-0.75) and self-efficacy (mean difference: 0.36; 95% CI: 0.15-0.57) and reductions in absenteeism from school (mean difference: −0.14; 95% CI: −0.23 to −0.04), number of days of restricted activity (mean difference: −0.29; 95% CI: −0.33 to −0.09), and number of visits to an emergency department (mean difference: −0.21; 95% CI: −0.33 to −0.09). When pooled with a fixed-effects model but not a random-effects model, education was associated with a reduced number of nights disturbed by asthma. The effects on morbidity were greatest for programs with strategies based on peak flow, interventions targeted at the individual, and participants with severe asthma.

Conclusions. Educational programs for the self-management of asthma among children and adolescents improve lung function and feelings of self-control and reduce absenteeism from school, number of days of restricted activity, number of visits to an emergency department, and possibly number of disturbed nights. Educational programs should be considered part of the routine care of young people with asthma.

Reviewer’s Comments. In the early 1990s, a meta-analysis found no evidence of reductions in morbidity or utilization of health care resources associated with educational programs. However, several rigorous evaluations of educational programs have been completed in the past decade. This meta-analysis provides encouraging evidence that our educational efforts regarding self-management of asthma improve lung function, reduce morbidity, and decrease utilization of emergency health care resources. Such programs should be considered routine in the care of children and adolescents with asthma.

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PEDiatrician self-efficacy for Counseling parents of asthmatic children to quit smoking


Purpose of the Study. Although environmental tobacco smoke is a known risk factor for asthma exacerbations among children, pediatricians infrequently advise parents who smoke to discontinue smoking. It has been shown that high physician self-efficacy or self-confidence in the counseling of parents regarding smoking discontinuation is related to increased physician screening and counseling on this issue. It is unclear, however, which factors are associated with high physician self-efficacy for counseling (eg, previous training in smoking cessation counseling or number of years in pediatric practice). The objective was to identify parameters related to physician self-efficacy in smoking cessation counseling.

Methods. This was a cross-sectional survey of a national random cohort of 829 primary care physicians.

Results. The response rate was 55% (457 of 829 physicians). The percentages of physicians with high levels of self-efficacy for screening parents and children to identify
smokers were 87% and 84%, respectively. The percentages of physicians with high levels of self-efficacy for advising parents and patients about smoking cessation were 59% for both. Previous training in smoking cessation counseling was associated with higher levels of self-efficacy for all 4 skills assessed, including inquiring about the patient’s smoking status (odds ratio [OR]: 3.91; 95% confidence interval: 1.63–9.37), inquiring about parents’ smoking status (OR: 2.51), counseling the patient to quit smoking (OR: 5.30), and counseling a parent to quit smoking (OR: 4.96). The number of years since completing residency training was not related to greater self-efficacy.

Conclusions. The authors concluded that formal training in smoking cessation had significant effects on physician self-efficacy with respect to smoking discontinuation, throughout physicians’ professional careers.

Reviewer’s Comments. The study clearly demonstrated that levels of physician self-efficacy in both screening for and counseling about smoking cessation were significantly enhanced by formal training in this area. The study was limited in that it might not be representative of all pediatricians, because the respondents were more likely to be board-certified in pediatrics than were nonrespondents. In addition, the response rate was 55%, which could limit generalizability. Although there are many examples of formal training programs in smoking cessation counseling, less than one-half of pediatric residency programs currently offer any formal training in smoking cessation counseling. This study suggests that this should be made a priority for all training programs.

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EFFECTIVENESS OF ACUTE ASTHMA CARE AMONG INNER-CITY ADULTS


Purpose of the Study. To identify processes of asthma care that result in improved peak expiratory flow rate (PEFR) 2 to 3 weeks after an emergency department visit.

Study Population. A total of 365 adults with asthma who were discharged from a public hospital emergency department after an asthma exacerbation were studied.

Methods. Eligible patients were identified from an administrative database and were invited for a follow-up visit 2 to 3 weeks after discharge from the emergency department. Information regarding 6 processes of care was obtained from emergency department records and questionnaires. These processes of care were 1) inhaled β-receptor agonist at discharge, 2) inhaled corticosteroids at discharge, 3) systemic corticosteroids, 4) a follow-up visit, 5) patient education regarding an inhaler device, and 6) patient education regarding asthma medication use. Each process was examined as a potential predictor of percentage changes in predicted PEFR.

Results. Three hundred sixty-five of 448 eligible patients enrolled in the study, and 309 returned for the follow-up visit. The study population was economically disadvantaged and predominantly African American and Hispanic. The range of percentage PEFR changes was −165% to 590%, with a median of 80%. Male subjects had significantly greater percentage PEFR changes than did female subjects (115% vs 74%, P = .002), and patients with mild asthma had significantly greater percentage PEFR changes than did those with moderate or severe asthma (148% vs 87% and 22%, respectively; P < .001). After adjustment for gender, ethnicity, and asthma severity, appropriate use of systemic corticosteroids at discharge was associated with a 31.6% increase in the predicted PEFR (95% confidence interval: 8.1–55.1%). Asthma severity did not modify the effect of systemic corticosteroids on percentage changes in PEFR.

Conclusions. These findings suggested that, among poor minority adults with asthma, systemically administered corticosteroids improved PEFR 2 to 3 weeks after discharge from an emergency department.

Reviewer’s Comments. Although the results were not surprising, this study demonstrated that at least 1 aspect of acute asthma care might have improved outcomes in a high-risk patient population. Whether the improvements in PEFR seen a few weeks after discharge represent markers for improved asthma outcomes in the longer term remains to be determined.

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MORBIDITY PATTERNS AMONG LOW-INCOME WHEEZING INFANTS


Purpose of the Study. Although information is available regarding wheezing and asthma among low-income, school-aged children, less is known about morbidity related to wheezing or asthma among infants and toddlers. The objective of this study was to evaluate biological, environmental, and psychosocial associates of morbidity in wheezing illness in a multiethnic sample of low-income infants <2 years of age.

Study Population. A total of 177 infants, 9 to 24 months of age, and their families, recruited from pediatric departments of local hospitals and clinics in the metropolitan Denver area, were studied.

Methods. The protocol required the children to have had ≥3 health contacts with documented wheezing and to have undergone a complete evaluation as part of an environmental intervention program. Baseline evaluations of children included total immunoglobulin E level measurement, environmental assessment of tobacco smoke exposure, assay of urine samples for cotinine, psychosocial assessments (with the Rand Mental Health Battery) of anxiety, depression, positive effect, and emotion and stability of the caregiver, and assessment of health care utilization. Caregiver reports were included in the evaluation. At study entry, prior morbidity attributable to wheezing illness was assessed, primarily on the basis of caregiver reports and medical record documentation of hospitalizations and emergency department visits.

Results. Of the infants in this study, 46% had ≥1 hospitalization and ~60% had ≥2 emergency department visits from birth for treatment of wheezing conditions. Foreign-born Hispanic families took their infants to the emergency department significantly more than did other groups, including United States-born Hispanic families, white families, and black families, although they used fewer controller medications and documented lower illness severity. Overall, 72% of the children were receiving bronchodilators, whereas 28% were receiving controllers. The highest percentage of children receiving controller medications occurred in the white group. There was no relationship between receiving controller medications and experiencing ≥2 emergency department visits. Corticosteroid bursts were, however, associated with hospitalization (P < .001) and emergency department visits (P < .001). Multivariate analyses demonstrated 3 biological factors,
PEDIATRICIAN SELF-EFFICACY FOR COUNSELING PARENTS OF ASTHMATIC CHILDREN TO QUIT SMOKING

Christopher Randolph

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