

Paediatric Allergy

Evidence Update

January 2018



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Teaching and Learning

Training Calendar 2018

All sessions are one hour

January (13.00-14.00)

4 th (Thu)	Statistics
8 th (Mon)	Literature Searching
18 th (Thu)	Critical Appraisal
24 th (Wed)	Statistics

February (12.00-13.00)

1 st (Thu)	Literature Searching
9 th (Fri)	Critical Appraisal
12 th (Mon)	Statistics
20 th (Tue)	Literature Searching
28 th (Wed)	Critical Appraisal

March (13.00-14.00)

8 th (Thu)	Statistics
12 th (Mon)	Literature Searching
20 th (Tue)	Critical Appraisal
28 th (wed)	Statistics

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Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research. Please email requests to library@uhbristol.nhs.uk

Journal Tables of Contents

If you would like any of the papers in full text then please email the library:

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[Acta Paediatrica](#)

January 2018 Volume 107, Issue 1

National allergy programme had little impact on parent-reported food allergies in children aged 6–7 years (pages 121–125)

Sauli Palmu, Paula Heikkilä, Virpi Uski, Siina Niitty, Sari Kurikka and Matti Korppi

Version of Record online: 13 OCT 2017 | DOI: 10.1111/apa.14083

[Allergy](#)

January 2018, Volume 73, Issue 1

[Chest](#)

December 2017 Volume 152, Issue 6

[Methacholine Challenge Testing: A Novel Method for Measuring PD20.](#)

[Clinical & Experimental Allergy](#)

January 2018, Volume 48, Issue 1

[Journal of Allergy and Clinical Immunology](#)

January 2018. Volume 140, Issue 6

[Pediatric Allergy and Immunology](#)

December 2017. Volume 28, Issue 8

Departmental News

News, Research, Conferences, Training etc

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Recent Database Articles

UpToDate

ALLERGY, IMMUNOLOGY, AND RHEUMATOLOGY

Tiotropium for severe symptomatic asthma in children (December 2017)

In a 12-week randomized trial in 400 children (aged 6 to 11 years) with severe symptomatic asthma, once-daily [tiotropium](#) 5 mcg, but not 2.5 mcg, improved lung function compared with placebo and was well tolerated as add-on therapy to inhaled glucocorticoids and other maintenance therapies [23]. However, consistent with studies in adults, no differences for placebo versus tiotropium at either dose were noted in patient-important outcomes such as asthma symptoms or rescue medication use. Although tiotropium 2.5 mcg/day is approved in the United States for maintenance treatment of asthma, further studies are needed to better define the role and optimal dosing of tiotropium for severe symptomatic asthma not well controlled on standard maintenance therapies. (See "[Asthma in children younger than 12 years: Treatment of persistent asthma with controller medications](#)", section on 'Tiotropium'.)

Peanut epicutaneous immunotherapy (December 2017)

Epicutaneous immunotherapy (EPIT) is an investigational approach for delivering immunotherapy that solubilizes the allergen by perspiration and delivers it into the skin. In an international trial comparing EPIT (50, 100, or 250 mcg) with placebo in patients 6 to 55 years of age with peanut allergy, all groups demonstrated some degree of treatment success, but the benefit compared with placebo was only significant for the 250 mcg dose [24]. The greatest effect was seen in children aged 6 to 11 years. Findings from this and an earlier trial support the effectiveness of EPIT, particularly in younger children. A phase 3 trial in children aged 4 to 11 years is underway. (See "[Investigational therapies for food allergy: Immunotherapy and nonspecific therapies](#)", section on 'Epicutaneous immunotherapy'.)

HDAS

1. Underutilization of Preventive Asthma Visits Among Urban Children With Persistent Asthma.

Author(s): Gundewar, Anisha; David, Rebecca; Frey, Sean M.; Fagnano, Maria; Halterman, Jill S.

Source: Clinical Pediatrics; Dec 2017; vol. 56 (no. 14); p. 1312-1318

Publication Date: Dec 2017

Publication Type(s): Academic Journal

Abstract: National guidelines recommend that children with persistent asthma have at least 2 preventive asthma visits (PAVs) per year. We sought to determine the percent of urban children with persistent asthma who had a PAV in the past year, and to identify differences in demographics, health-related variables, and management associated with PAVs. Using data from 530 children (3-10 years) participating in a school-based asthma trial, we found that only 25% of children had at least 1

PAV, with only 5% receiving ≥ 2 visits. Having a PAV was not associated with demographics or health-related variables. Importantly, having a PAV was associated with having a preventive medication, taking that medication daily, and having a medication adjustment. Although PAVs were associated with actions to improve asthma control and management, these visits were underutilized in this sample. This highlights the need for novel methods to ensure access and deliver care to this vulnerable pediatric population.

Database: CINAHL

2. Association of an Asthma Improvement Collaborative With Health Care Utilization in Medicaid-Insured Pediatric Patients in an Urban Community.

Author(s): Kercksmar, Carolyn M.; Beck, Andrew F.; Sauers-Ford, Hadley; Simmons, Jeffrey; Wiener, Brandy; Crosby, Lisa; Wade-Murphy, Susan; Schoettker, Pamela J.; Chundi, Pavan K.; Samaan, Zeina; Mansour, Mona

Source: JAMA Pediatrics; Nov 2017; vol. 171 (no. 11); p. 1072-1080

Publication Date: Nov 2017

Publication Type(s): Academic Journal

Available at [JAMA Pediatrics](#) - from EBSCO (MEDLINE Complete)

Abstract: **IMPORTANCE:** Asthma is the most common chronic condition of childhood. Hospitalizations and emergency department (ED) visits for asthma are more frequently experienced by minority children and adolescents and those with low socioeconomic status. **OBJECTIVE:** To reduce asthma-related hospitalizations and ED visits for Medicaid-insured pediatric patients residing in Hamilton County, Ohio. **DESIGN, SETTING, AND PARTICIPANTS:** From January 1, 2010, through December 31, 2015, a multidisciplinary team used quality-improvement methods and the chronic care model to conduct interventions in inpatient, outpatient, and community settings in a large, urban academic pediatric hospital in Hamilton County, Ohio. Children and adolescents aged 2 to 17 years who resided in Hamilton County, had a diagnosis of asthma, and were Medicaid insured were studied. **INTERVENTIONS** Interventions were implemented in 3 phases: hospital-based inpatient care redesign, outpatient-based care enhancements, and community-based supports. Plan-do-study-act cycles allowed for small-scale implementation of change concepts and rapid evaluation of how such tests affected processes and outcomes of interest. **MAIN OUTCOMES AND MEASURES:** The study measured asthma-related hospitalizations and ED visits per 10000 Medicaid-insured pediatric patients. Data were measured monthly on a rolling 12-month mean basis. Data from multiple previous years were used to establish a baseline. Data were tracked with annotated control charts and with interrupted time-series analysis. **RESULTS:** Of the estimated 36000 children and adolescents with asthma in Hamilton County (approximately 13000 of whom are Medicaid insured and 6000 of whom are cared for in Cincinnati Children's Hospital primary care practices), asthma-related hospitalizations decreased from 8.1 (95%CI, 7.7-8.5) to 4.7 (95%CI, 4.3-5.1) per 10000 Medicaid patients per month by June 30, 2014, a 41.8%(95%CI, 41.7%-42.0%) relative reduction. Emergency department visits decreased from 21.5 (95%CI, 20.6-22.3) to 12.4 (95%CI, 11.5-13.2) per 10000 Medicaid patients per month by June 30, 2014, a 42.4%(95%CI, 42.2%-42.6%) relative reduction. Improvements were sustained for the subsequent 12 months. The proportion of patients who were rehospitalized or had a return ED visit for asthma within 30 days of an index hospitalization was reduced from 12% to 7%. The proportion of patients with documented well-controlled asthma in this study's primary care population increased from 48% to 54%. **CONCLUSIONS AND RELEVANCE:** An integrated, multilevel approach focused on enhancing availability and accessibility of treatments, removing barriers to adherence, mitigating multidomain risks, augmenting self-management, and creating a collaborative relationship between the family and the health care system was associated with improved asthma outcomes for a population of Medicaid-

insured pediatric patients. Similar models used in accountable care organizations or across patient panels and with other chronic conditions could be feasible and warrant evaluation.

Database: CINAHL

3. Effect of diet and maternal education on allergies among preschool children: A case-control study.

Author(s): Andrusaityte, Sandra; Grazuleviciene, Regina; Petraviciene, Inga

Source: Environmental research; Nov 2017; vol. 159 ; p. 374-380

Publication Date: Nov 2017

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 28843990

Abstract:INTRODUCTIONThe prevalence of asthma and allergy has increased among children. This increase in prevalence might be related to dietary patterns.AIMSThe present epidemiological study investigated the relationship between the consumption of fruit, vegetables, nuts, meat and fish, and the prevalence of wheeze, asthma, and eczema among preschool children.METHODSThis nested case-control study included 1489 children aged 4-6 years and residing in Kaunas city, Lithuania. The subjects were recruited to the KANC newborn cohort study during 2007-2009. Parents' responses to questionnaires were used to collect information on allergic diseases, diet, and other variables. The association between dietary patterns and children's allergic diseases were tested by using logistic regressions, after adjustment for maternal education level, smoking during pregnancy, parental asthma, children's sex, parity, and antibiotic usage during the first year of life.RESULTSIn this study, 83.3% of all children consumed fresh fruit and/or vegetables at least three times per week. A significantly lower adjusted odds ratio (aOR) of wheeze was found among children who ate fruit than among those who did not (aOR: 0.48; 95% CI: 0.22-0.96). The consumption of nuts was also associated with a lower 61% risk of eczema among 4-6 years old children.CONCLUSIONThe results indicated a beneficial effect of a frequent consumption of fresh fruit and nuts on the prevalence of allergies among children. These results might have important implications for children's health.

Database: Medline

4. Fruit intake reduces the onset of respiratory allergic symptoms in schoolchildren

Author(s): Kusunoki T.; Yasumi T.; Nishikomori R.; Heike T.; Takeuchi J.; Morimoto T.; Sakuma M.; Higashi A.

Source: Pediatric Allergy and Immunology; Dec 2017; vol. 28 (no. 8); p. 793-800

Publication Date: Dec 2017

Publication Type(s): Article

Abstract:Background: Previous studies have shown that dietary pattern is associated with allergy prevention. Methods: We conducted a prospective cohort study on all primary schools in Omihachiman City, Shiga Prefecture, Japan. Questionnaires regarding allergic symptoms and diet were distributed to the parents of all 759 7-year-old schoolchildren for 4 consecutive years, from 2011 to 2014. Specific immunoglobulin E to inhalant allergens was measured at 10 years of age. Participants were then categorized as low, medium, or high intake during the study period for four food groups (fruits, vegetables, fish, and beans). Logistic regression analysis was performed to estimate odds ratios and 95% confidence intervals. Results: A total of 520 children (68.5%) whose parents responded to the questionnaires all 4 years were included in the analysis. The prevalence of asthma, rhinitis, and any allergic symptoms at age 10 was significantly decreased with increases in



fruit intake. In addition, the onset of any allergic symptoms during the study period was significantly decreased with increases in fruit intake (33.3%, 28.3%, and 14.3% in children with low, medium, and high fruit intake, respectively; P for trend =.01). The sensitization rate to ragweed at age 10 was significantly decreased with increases in fruit intake (P for trend =.046). No significant effect was observed for the other three food groups, except for the association between fish intake and new-onset asthma symptoms. Conclusions: These findings suggest that higher intake of fruit can help prevent respiratory allergic symptoms in schoolchildren. Copyright © 2017 EAACI and John Wiley and Sons A/S. Published by John Wiley and Sons Ltd.

Database: EMBASE

NICE

[Asthma: diagnosis, monitoring and chronic asthma management : guidance \(NG80\)](#)

Source: [National Institute for Health and Care Excellence - NICE](#) - 29 November 2017

Evidence-based recommendations on diagnosing and monitoring asthma, and managing chronic asthma, in adults, young people and children

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