Quarterly Asthma Newsletter

Report Highlights:

◊ Recent asthma-related research on topics such as pregnancy, diabetes, and QI
◊ A sneak peek at the BSPC 2018 agenda
◊ Information from “Chronic Disease in Rural America”
◊ Updates from the Montana Asthma Control Program

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News

Are you doing asthma-related work in your community that you would like to share with others? Contact the Montana Asthma Control Program at asthmainfo@mt.gov for information about sharing your success story with others. Learn about recent successes on the Montana Asthma Advisory Group website at dphhs.mt.gov/Asthma/advisorygroup.

Research Updates

Predicting asthma exacerbations

The Seasonal Asthma Exacerbation Predictive Index (saEPI) was developed based on two National Institute of Allergy and Infectious Diseases Inner City Asthma Consortium trials. The purpose of the study was to validate the saEPI in a trial to prevent fall exacerbations using omalizumab. Inner-city children with and without asthma exacerbations were compared depending on whether they had received guidelines-based therapy that included omalizumab or not. The saEPI did reliably predict which children were unlikely to have an asthma exacerbation in both groups (guidelines-based therapy [GBT] alone and GBT plus omalizumab). Higher saEPI scores were associated with exacerbation for both treatment groups. Also, children who had an exacerbation in both groups had similar features to each other. Authors believe this indicates a need to “develop better markers to predict poor response to omalizumab therapy and alternative treatment strategies for children” at risk.

Physical activity

Authors studied the impact of physical activity on asthma in middle-aged adults. Undertaking light activity (no sweating/heavy breathing) three or more times per week at baseline was associated with less follow-up asthma, but researchers did not see an effect from undertaking vigorous activity (sweating/heavy breathing) three or more times per week. Benefit from performing light physical activity varied depending on BMI.
Asthma and Diabetes


Researchers studied whether diabetes and antidiabetic agents are associated with the risk of asthma, since it has been suggested that insulin promotes airway smooth muscle contraction and enhances airway hyperresponsiveness. In this retrospective population-based cohort study, authors used Taiwan’s National Health Insurance claim database to compare incidence of asthma between patients with diabetes (n=19,428) and a matched group without (n=38,856). Incidence of asthma was significantly higher in the diabetic cohort than that in the non-diabetic cohort. Insulin increased the risk of asthma among patients with diabetes, and the use of metformin correlated with a decreased risk of asthma. The authors concluded that “individuals with diabetes are at an increased risk of asthma,” which could be increased by the use of insulin and possibly reduced by using metformin.

Pregnancy and Family History


Authors examined the effect of vitamin D supplements (25-hydroxyvitmain D3, or 25[OH]D) in pregnancy between subjects of different races, as well as the association between Vitamin D levels in pregnancy and the risk of asthma and/or recurrent wheeze in offspring. Pregnant women at risk of having children with asthma were randomized to two groups. One received a placebo and a smaller (400 international units/d) vitamin D supplement, the other received only a larger (4400 international units/d) vitamin D supplement. No difference was found between African American women and non-African American women in the effect of maternal supplementation of vitamin D and asthma/recurrent wheeze. Supplementation did reduce asthma/recurrent wheeze in the offspring through the age of 3 years, particularly for women with initial 25(OH)D levels greater than 30ng/mL. This indicates “higher vitamin D status beginning early in pregnancy is necessary for asthma/recurrent wheeze prevention in early life.”


The objective of this study was to test intergenerational impacts of parent socioeconomic status (SES) on their children. 150 parents were interviewed about their childhood SES and their children, aged 9-17 years with physician-diagnosed asthma, were interviewed about current family stress. Researchers found a relationship between lower parent childhood SES and worse asthma outcomes for offspring. This association was independent of current family SES. Researchers demonstrate that low parent childhood SES is also connected with more stressful current family relationships, which resulted in worse asthma control. Findings suggest that there is an intergenerational effect of social environment on asthma.

Dr. Debra Guinn from Kalispell will be speaking about pregnancy and asthma at BSPC 2018.
**Quality Improvement**


Staff in the Department of Pediatrics at the Indiana University School of Medicine and Riley Hospital for Children at Indiana University Health conducted a QI project with the goal of reducing the 30-day inpatient asthma readmission rate by 50% within 2 years. The QI project incorporated an analysis of readmission patterns, value stream mapping of asthma admission, discharge, and follow-up processes, literature reviews, and examination of comparable programs across the United States. The hospital saw a 79.3% reduction in 30-day readmissions.


In response to the increase in emergency department visits since the implementation of the Affordable Care Act, and the preventable nature of asthma-related ED visits with improved asthma control, researchers reviewed the relationship between children’s primary care visits and ED visits. A longitudinal, retrospective study was conducted at a children’s hospital for children aged 2 to 18 years. None of the children who completed a primary care appointment had an ED visit; in comparison, 2.7% of those with missed primary care appointments did visit the emergency department. Males were significantly more likely to have an ED visits if they missed a primary care appointment than females, and younger children made more visits than older children. The authors concluded that adhering to primary care appointments for children with asthma is an important mechanism for preventing ED visits, and interventions should target missed visits.

Dr. Michael Zacharisen from Bozeman will be speaking about pediatric asthma and practice changes that can help you make the most out of your time with patients at BSPC 2018.
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UPCOMING EVENTS

Worksite Wellness Webinar
January 8, 2018
For more information, please contact Kara Hughes at k Hughes3@mt.gov

MACP Winter Webinar
January 17, 2018
For archived webinars, please visit dphhs.mt.gov/Asthma/webinars

Montana Diabetes Advisory Coalition
January 19, 2018
Helena, MT
For more information, please contact Susan Day at sd ay@mt.gov

Implementation and Interpretation of Spirometry
January 26, 2018
Billings, MT

Big Sky Pulmonary Conference
March 15-17, 2018
Fairmont Hot Springs, Anaconda
Registration will open in January. Visit www.umt.edu/sell/cps/bigskypulmonary for more information.

Association of Asthma Educators Exam Review Course
May 18-19, 2018
Helena, MT
For more information, please contact Anna Bradley at abradley@mt.gov

ONLINE RESOURCES

Montana Asthma Control Program website: dphhs.mt.gov/asthma

Updated Asthma Storylines App from the Allergy & Asthma Network: www.allergyasthamanetwork.org/outreach/patient-resources/asthma-storylines/

Burn Wise program resources for indoor heating tips: www.epa.gov/burnwise

PROGRAM UPDATES

- Congratulations to the Missouri River Clinic in Great Falls for completing the Diagnosing and Managing Asthma (DMA) activity, and to the Southwest Montana Clinic in Butte for getting started!

  NOTE: To receive support for conducting a QI project in your facility, contact the MACP at asthmainfo@mt.gov.

- Additional topics that will be discussed at BSPC 2018 include: the relationship between oral health and pulmonary health, the health impacts of climate change, foreign body aspiration, and more!