

measurement was annualized over the data collection period. Patient-level reutilization was calculated for 981 hospitalized children who were followed for ≥ 12 months to identify time to first asthma-related ED revisit and/or rehospitalization. Cincinnati Police Department data were used to calculate violent crime rates (VCRs) and all crime rates (ACRs) by dividing the crime per tract by total people residing in the tract. Crime rates were then stratified as low, low medium, high medium, and high. Poverty rate, unemployment, asthma-related housing code violation density, and traffic-related air pollution were identified as covariates of the study.

RESULTS. Both VCRs and ACRs were associated with asthma utilization with the average asthma utilization rate of 28.0 per 1000 patients and the average VCR and ACR of 10.5 per 1000 patients and 118.7 per 1000 patients per year, respectively. There was a trend toward hospitalized children being more likely to reutilize if they lived in an area with a higher VCR and ACR in unadjusted models.

CONCLUSIONS. Crime data may help facilitate early identification of risk factors or stressors relevant to asthma utilization patterns.

REVIEWER COMMENTS. Asthma, as any other chronic illness, is affected by social and environmental factors. Crime rates can be used to assess the stress imposed by the environment on a child's health, particularly in instigating an acute exacerbation, compliance with controller medication, and follow-up with the primary care provider. In this study, a basis is provided for identifying potentially modifiable population-level and patient-level environmental factors which play an important role in the management of asthma, the most common pediatric chronic illness.

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Breastfeeding and Asthma Outcomes at the Age of 6 Years: The Generation R Study

den Dekker HT, Sonnenschein-van der Voort AM, Jaddoe VW, Reiss IK, de Jongste JC, Duijts L. *Pediatr Allergy Immunol.* 2016;27(5):486-492

PURPOSE OF THE STUDY. To investigate the association of duration and exclusiveness of breastfeeding with asthma outcomes in children aged 6 years and determine association with atopy or infection.

STUDY POPULATION. Prospective cohort study of 5675 children from the prenatal period until young adulthood in the Netherlands.

METHODS. Information about breastfeeding was collected through questionnaires. At age 6, airway resistance and

exhaled nitric oxide (FeNO), a marker of eosinophilic airway inflammation, were measured. Follow-up questionnaires inquired about wheezing patterns and current asthma.

RESULTS. Children who were not breastfed had increased risk of late and persistent wheezing (odds ratio [95% confidence interval]: 1.69 [1.06 to 2.69] and 1.44 [1.00 to 2.07], respectively) and lower FeNO levels (estimated percentage difference [95% confidence interval]: -16.0 [-24.5 to -7.5]). Shorter duration of breastfeeding was associated with early wheezing (as was less exclusive breastfeeding) and current asthma at age 6 years. Breastfeeding duration and exclusiveness were not associated with FeNO or airway resistance. The associations were explained partly by lower respiratory tract infections in early life and to a lesser extent by lower respiratory tract infections in later life.

CONCLUSIONS. Breastfeeding patterns may influence wheezing and asthma in childhood, which seems to be partly explained by infectious mechanisms.

REVIEWER COMMENTS. In this study, the researchers add longitudinal data about breastfeeding and asthma outcomes among a cohort in the Netherlands through age 6 years. Interestingly, those who were never breastfed had increased risk of late and persistent wheezing but lower FeNO levels. In addition, the risk of wheezing associated with lack of breastfeeding seemed to be at least partially mediated by respiratory infections. Limitations include the potential for selection bias because the characteristics of the participants who were lost to follow-up were different than those included in the study. Finally, 70% of participants were of European ethnicity, which may affect generalizability of these findings.

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Breastfeeding, Maternal Asthma and Wheezing in the First Year of Life: A Longitudinal Birth Cohort Study

Azad MB, Vehling L, Lu Z, et al. *Eur Respir J.* 2017;49(5):1-9

PURPOSE OF THE STUDY. To examine the association of breastfeeding and wheezing in the first year of life in a pregnancy cohort, with attention to maternal asthma and infant sex.

STUDY POPULATION. The study included 2773 infants born to women enrolled in the Canadian Healthy Infant Longitudinal Development (CHILD) Study, a population-based birth cohort, from 2009 to 2012.

METHODS. Caregivers reported on infant wheezing and infant feeding via questionnaire at 3, 6, and 12 months of life.

Breastfeeding and Asthma Outcomes at the Age of 6 Years: The Generation R Study

Suzanne Rossi and Elizabeth Matsui

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