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Asthma Management for Children

Risk Identification and Prevention

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Key points

- Children with frequent wheeze, allergies, parental history of asthma, early illness, and environmental exposures to tobacco smoke and violence or stress may be at higher risk to progress to persistent wheeze or asthma.
- Although strides have been made in terms of developing predictors of asthma exacerbations in children, continued research is needed to further refine these predictors.
- Children with severe asthma are less likely to require chronically administered oral glucocorticoids, have improved lung function, and require less rescue short-acting beta-agonist therapy compared with children in the recent past.

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- New electronic monitoring devices have the potential to significantly improve adherence and significantly reduce the disproportionate morbidity and mortality in children with severe persistent asthma.
- Emerging therapies are adding to the options of therapeutics for preventing and managing acute asthma exacerbations.

INTRODUCTION

Almost every 10 years there is a paradigm shift in the way that we look at and manage asthma. For the last 10 years, we have been focused on asthma control. The asthma guidelines and strategies, nationally and worldwide, have focused on achieving control through careful assessment, education, environmental control, and therapeutic intervention. It is now time to look at the disease in terms of risk factors for breakthrough symptoms, including exacerbations, as well as progression of disease that may result in chronic obstructive lung disease persisting into adulthood. This article reviews recent publications regarding early asthma, asthma exacerbations, severe asthma, and new medications. These 4 sections summarize new information on early asthma, asthma exacerbations, severe asthma, and new medications.

EARLY ASTHMA

The diagnosis of asthma at less than 5 years of age is a subject of debate in scientific literature and among providers who care for children who have symptoms of airway obstruction (eg, cough, wheeze) and albuterol response before 5 years of age. The urgency for diagnosing and treating those children is due not only to the increasing prevalence of asthma and cost of asthma care in young children but also to recent data indicating that children who are diagnosed with asthma may have lower lung functions as adults and be at higher risk for chronic obstructive lung disease [1].

Epidemiology of preschool and early wheeze

The prevalence of asthma in children younger than 5 years is increasing. The Centers for Disease Control and Prevention (CDC) in the United States reported in 2013 that children aged 0 to 4 years are more likely to have an asthma attack with a prevalence ratio of 1.9 (95% confidence interval 1.5–2.4). The demographics of early asthma are not as clear because children aged 0 to 4 years are often included as part of the demographic of children aged 0 to 17 years. The CDC data published in 2011 show that 14.6% of black children aged 0 to 17 years, 8.2% of white children, and 18.4% of children of Puerto Rican descent report asthma. The prevalence of asthma for children who live at or at less than the Federal Poverty Level (FPL) is 11.7% versus 8.2% of children living at 2 or more times the FPL [2].