

Addressing the Social Determinants of Health Is Critical Even in Preschool-Age Children With Recurrent Wheezing



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In this month's issue of the *Journal of Allergy and Clinical Immunology: In Practice*, Mutic et al¹ report results from a multicenter observational study in which they assessed whether social vulnerability was associated with poorer outcomes in preschool children with recurrent wheezing. The authors found that preschool children at the highest risk of social vulnerability had more severe symptoms during upper respiratory tract infections and asthma flares, and more severe exacerbations accompanied by poorer caretaker quality of life. The authors stated that mitigation of social inequities is an essential step toward improving outcomes in pediatric patients with recurrent wheezing.

This study highlights the effects that social determinants of health, the social and environmental factors that affect health and quality of life,² can have on even our youngest children. The United States Healthy People 2030 Commission defines social determinants of health in 5 broad domains: neighborhood and built environment, social and community context, economic stability, education access and quality, and health care access and quality.³ The World Health Organization reports that the social determinants of health account for 30% to 55% of all health outcomes.²

Many social determinants of health are rooted in systemic racism and place populations at increased risk for many diseases including asthma. Most of the research regarding disparities in pediatric asthma has focused on school-age children. Still, recurrent wheezing in preschool children is a common clinical problem that is associated with significant morbidity. Mutic et al¹ highlight the association between individual-level social determinants of health and poor outcomes in preschool children with recurrent wheezing. The authors used a composite measure of social vulnerability, which was composed of individual-level variables including caretaker-reported ethnicity, race, highest level of household educational attainment, and household poverty. The preschool children at the highest risk of social vulnerability had more severe symptoms and exacerbations. These children were also noted to live in poorer housing conditions with distinct exposures and self-reported triggers. The investigators of this study extend what is known about the social

determinants of health for school-age children to preschool-age children, noting that younger children with recurrent wheezing experience the direct effects of social vulnerability.

The report by Mutic et al¹ prompts us as clinicians to consider how to assess the social determinants of health in the youngest children—including a thorough assessment of the housing environment, food insecurity screening, access to transportation, and exposure to violence or family stress. This assessment can be critical in the preschool-age population because it can inform interventions that may reduce exacerbations and health care utilization. Interventions can span from the individual level to the community level and to the overarching societal level. We should seek solutions with lasting effects that apply to individuals of all ages so that there is a substantial impact that can last for generations.

Nonpharmacologic interventions are preferred over medications for children of preschool age with recurrent wheezing when possible. Oral corticosteroids can be associated with a myriad of side effects including adrenal suppression, growth suppression, and detrimental effects on bone health. Biologics are not approved for this age group. Committing preschool children to inhaled corticosteroids indefinitely is problematic because many of these patients will not go on to have asthma. The medical literature on asthma in children has long considered the contributions of environmental factors in asthma outcomes. In Mutic et al's article,¹ preschool children at highest risk of social vulnerability had increased tobacco smoke exposure and more visible cockroaches in the household compared with lower risk groups. We must conduct more research to better understand the role of environmental exposures in this age range and to determine which environmental factors are most important. Further research is needed to determine whether allergen reduction measures are helpful in this group, in older children and adults, and whether their effects are durable.

Community and economic factors are other important variables to consider in children of preschool age with recurrent wheezing. Studies have shown that low income and poverty are associated with greater asthma morbidity and exacerbations in children and adults.^{4,5} It has also been established that poor housing quality and food insecurity can enhance asthma morbidity^{6,7} and might play a role in asthma pathogenesis. These relationships have not been studied in preschool children. In Mutic et al's article,¹ participants at the highest risk of social vulnerability often reported a combined annual household income of less than \$25,000. Further research is needed to examine the relationships between low income, poverty, and community factors on the morbidity related to upper respiratory tract infections and exacerbations in preschool-age children with recurrent wheezing. Community advocates and assistance from policymakers can be nonpharmacologic strategies that might be

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useful for this population and their older counterparts. Engaging parents suffering from socioeconomic hardship with community and social services might be helpful nonpharmacologic interventions for this group and the entire family, though more work is needed in this area to characterize the effects of these interventions. Allergists and immunologists can garner support for this vulnerable population by participating in patient advocacy organizations or through lobbying efforts to influence changes in health care and economic policy.

The coronavirus disease 2019 pandemic has emphasized the importance of the social determinants of health and the impact that societal disparities can have on important health outcomes. We need to maintain our awareness of the social determinants of health as we look ahead in 2022 and beyond. Support from local and national leadership is needed to address the social determinants of health, which will benefit not only individuals but entire communities. Addressing the social determinants of health in these very young patients benefits the entire family as well as the next generation.

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