baseline asthma status were updated to current terminology for patients who were prospectively identified before the recent revisions to the NHLBI guidelines. The validated Modified Pulmonary Index Score was used to assess illness severity. Data regarding demographic characteristics, severity of illness at presentation, types and durations of therapies received, and duration of hospitalization were collected retrospectively.

RESULTS. A total of 298 children with asthma were admitted to the ICU with severe exacerbations. Of those, 164 (55%) had previous mild intermittent or mild persistent asthma. These children, compared with children with moderate and severe persistent asthma, were noted to be younger (7.6 ± 3.9 vs 9.8 ± 4.6 years; \( P < .0001 \)) and less likely to have been admitted to the hospital for asthma previously (42% vs 77%; \( P < .0001 \)). In the mild asthma group, fewer Hispanic children (30% vs 47%; \( P = .003 \)) and more white children (42% vs 24%; \( P = .001 \)) were identified. Other demographic features were similar between the groups. No significant differences in the ICU length of stay, hospital length of stay, or therapies received existed between the 2 groups. Admission Modified Pulmonary Index Scores correlated closely with hospital length of stay. Thirteen children (8%) with mild asthma were intubated, which was fewer than those with moderate/severe persistent asthma (17%; \( P = .03 \)). The intubated children with mild asthma were younger (6.9 ± 4.7 vs 11.4 ± 4.1 years; \( P = .009 \)), less likely to be Hispanic, and less likely to have been previously intubated (\( P = .03 \)).

CONCLUSIONS. There was a significant subset of children with mild baseline asthma who developed severe exacerbations requiring ICU admission. These children were younger, were less likely to have a history of asthma-related admission, and had differences in race/ethnicity, compared with children with baseline moderate or severe asthmatic disease. These findings suggest that current classifications of pediatric asthma do not predict asthma phenotypes during acute exacerbations.

REVIEWERS COMMENTS. This study reveals a trend toward younger white, rather than Hispanic or black, children diagnosed with mild asthma (according to current NHLBI classification criteria) requiring ICU admission. In addition, almost 10% of children with mild asthma classification required intubation during hospitalization. This raises concerns regarding the poor predictive capacity of the current classification system in identifying children at risk for severe exacerbations.

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Modifiable Risk Factors for Suboptimal Control and Controller Medication Underuse Among Children With Asthma


PURPOSE OF THE STUDY. There were 2 objectives for the study, (1) to define the rates of suboptimal control and under-use of controller medication in children with asthma and (2) to characterize how parental behaviors relate to these patterns.

STUDY POPULATION. The study included 754 children 2 to 13 years of age with persistent asthma in a Medicaid plan and a large provider group.

METHODS. Telephone interviews were conducted with parents of participants to determine rates of suboptimal control and controller underuse. Suboptimal control was defined as ≥4 symptom days, ≥1 symptom night, or ≥4 albuterol use days in the previous 2 weeks. Controller underuse was defined as suboptimal control and parental report of <6 days/week of inhaled steroid use.

RESULTS. There were 37% of children (280 of 754 children) with suboptimal control. This was more common in Hispanic children (51%) than in black (37%) or white (22%) children. Underuse of controller medication was documented for 133 children, 48% of those with suboptimal asthma control and 18% overall. Suboptimal control was related to modifiable factors, including low parental expectations for symptom control and concern about competing household responsibilities. Controller medication underuse was related to modifiable factors, including parental evaluation of asthma control in conflict with the National Heart, Lung, and Blood Institute guidelines and lack of a schedule for asthma medications.

CONCLUSIONS. The conclusion of the authors was that deficiencies in asthma control and controller medication use are associated with potentially modifiable parental beliefs, which seem to mediate racial/ethnic and socioeconomic disparities in suboptimal control and controller medication underuse.

REVIEWER COMMENTS. This study population included only insured children, and the findings may not be generalizable to uninsured populations. Another limitation is that the study depended on parental reports and 2-week recall of symptoms and medications. However, the implications from the findings are very important, that improvement in asthma control requires sensitivity in addressing parental beliefs and household concerns.

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