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Health Disparities in Pediatric Asthma: Comprehensive Tertiary Care Center Experience

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Location

Study conducted at Nemours /Alfred I. duPont Hospital for Children, Wilmington, DE 19803

Background

Although the treatment and management of asthma has improved over time, incidence and prevalence among children continues to rise in the United States. Asthma prevalence, health services utilization, and mortality rate demonstrate remarkable disparities. The underlying causes of these disparities are not fully understood. We aimed to examine racial/ethnic variances in pediatric asthma prevalence/admission.

Patients and Methods

We retrospectively reviewed data on 1070 patients and applied a cross-sectional design to assess asthma admission between 2010 and 2011. Information was available on race/ethnicity, sex, insurance status, severity of illness (SOI), and length of stay/hospitalization (LOS). Chi-square statistic was used for the association between race and other variables in an attempt to explain the racial/ethnic variance.

Results

The proportionate morbidity of asthma was highest among Caucasians (40.92%) and African Americans (40.54%), intermediate among others (16.57%), and lowest among Asian (0.56%), American Indian/Alaska Native (0.28%), and Hawaiian Native/Pacific Islander (0.28%). Overall there were disparities by sex, with more boys (61.80%) diagnosed with asthma than girls (38.20%), $\chi^2(7) = 20.1$, $p = 0.005$. Insurance status, and SOI varied by race/ethnicity, but not LOS. Caucasian children were more likely to have private insurance, while African Americans and Hispanics were more likely to have public insurance ($p < 0.005$). Asthma was more severe among non-Hispanic children, $\chi^2(14) = 154.6$, $p < 0.001$. While the overall readmission proportion was 2.8%, readmission significantly varied by race/ethnicity.

Conclusion

Racial/ethnic disparities in asthma admission exist among children in the Delaware Valley. There were racial/ethnic disparities in insurance status, asthma severity, and sex differed by race/ethnicity, but not in length of hospitalization.

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Keywords

Pediatric asthma; Health disparities; Asthma admission; Racial/Ethnic minorities; Delaware Valley

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