Purpose of the Study. To evaluate the association between undiagnosed frequent wheezing and health consequences among adolescents.

Study Population. The North Carolina School Asthma Survey population of 122,829 children, aged 12 to 14 years of age, was studied. The target population was enumerated from 1999–2000 enrollment records maintained by the North Carolina Department of Public Instruction and included 565 public middle schools, with 119,248 children.

Methods. The questionnaire was adapted from the International Study of Asthma and Allergies in Childhood. Three mutually exclusive groups were compared, ie, 1) children with frequent wheezing symptoms and no diagnosis, 2) children who reported wheezing symptoms and a physician diagnosis of asthma, and 3) children with no symptoms or diagnosis ever. A fourth group, defined as infrequent wheezers (children with infrequent wheezing symptoms and no physician diagnosis, n = 38,424), was included for reference. Outcome variables were defined as the numbers of school absences, activity limitations, and sleep disturbances attributable to asthma-like symptoms. Health care utilization variables included the numbers of physician visits, emergency department visits, and hospitalizations for treatment of asthma-like symptoms.

Results. The odds of wheezing-related sleep disturbances, limited activities, and missed school were higher among undiagnosed frequent wheezers, compared with diagnosed asthmatics. The frequencies of emergency department visits and hospitalizations did not differ substantially between the undiagnosed wheezing group and the diagnosed asthma group, although the undiagnosed group was less likely to have visited a physician for treatment of wheezing in the previous year. Undiagnosed frequent wheezers were more likely to experience sleep disturbances, limited activities, missed school, and greater health care utilization for treatment of wheezing, compared with asymptomatic children. Compared with asymptomatic children, diagnosed asthmatics were 10 to 24 times more likely to experience limited activities, sleep disturbances, and missed school. They were also 20 times more likely to visit a physician and 9 times more likely to report ≥3 emergency department visits or hospitalization for treatment of wheezing, compared with asymptomatic children.

Conclusions. Children with frequent wheezing symptoms but no asthma diagnosis experience substantial illness-related morbidity, similar to that of diagnosed asthmatics. Undiagnosed frequent wheezers require more recognition from primary care physicians and need active disease management to reduce health consequences.

Reviewer’s Comments. This study nicely evaluates multiple aspects of functional consequences and health care use among children with undiagnosed frequent wheezing from a population-based sample. This study suggests that undiagnosed frequent wheezers require better recognition by primary care physicians and need active disease management. It also suggests that the effects of asthma in the pediatric population may be underestimated, because of undiagnosed disease.

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LOWER PHYSICIAN ESTIMATE OF UNDERLYING ASTHMA SEVERITY LEADS TO UNDERTREATMENT


Purpose of the Study. To determine how physician estimates of patients’ underlying asthma severity affect asthma care.

Study Population. A total of 4005 adult asthma patients enrolled in managed care organizations and the physicians who were primarily responsible for their asthma care were studied.

Methods. Patient- and physician-reported data were used to examine the relationship between physician estimates of underlying asthma severity and asthma care. Asthma patients were asked about asthma symptoms and asthma medical care. Asthma care questions included questions regarding medication use, self-monitoring, self-management, and allergy history and treatment. The physicians were instructed to evaluate the severity of their patients’ asthma, and 4005 patients had complete physician estimates of underlying severity. Relationships between physician severity classifications, patient-reported symptoms, and asthma care were examined, and multivariate logistic regression analyses were used to adjust for age, gender, race, and education.

Results. The mean age of the respondents was 44.8 years; 83.5% were white and 70.1% were female. Almost 40% of respondents reported moderate symptoms and 50.1% reported severe symptoms, but 44.6% of physicians classified their patients’ underlying asthma severity as mild and 44.5% as moderate. After adjustment for patient-reported symptoms, the odds of receiving each component of asthma care were greater when the physician estimate of severity was moderate (odds ratio: 1.92; 95% confidence interval: 1.65–2.22) or severe (odds ratio: 4.97; 95% confidence interval: 3.58–6.89) than when the physician estimate was mild. The more severe the patient-reported symptoms, the more likely patients were to receive inhaled corticosteroids and peak flow meters but the less likely they were to have self-management knowledge, even after adjustment for physician estimates of severity. Physician-estimated severity was a stronger predictor of asthma care than were patient-reported symptoms.

Conclusions. In a population of adult asthmatic patients, physician estimates of asthma severity determined the asthma care reported by patients but physicians might underestimate asthma severity, resulting in suboptimal care.

Reviewer’s Comments. These results suggested that physician underestimation of asthma severity may lead to the delivery of asthma care that is not consistent with national guidelines. Because the participants were predominantly white female adults, these results may not be applicable to other populations. In addition, physician estimates of underlying severity were obtained 1 to 6 months after patients reported symptoms, resulting in a time lag that might explain at least some of the discrepancy between patient-reported symptoms and physician estimates of underlying severity. Studies of pediatric asthmatic patients are needed, to determine the prevalence of physician underestimation of asthma severity and its effects on asthma care and ultimately on asthma outcomes.

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HOSPITAL READMISSIONS FOR CHILDHOOD ASTHMA


Purpose of the Study. To determine the magnitude of readmissions for children with asthma and to examine
LOWER PHYSICIAN ESTIMATE OF UNDERLYING ASTHMA SEVERITY LEADS TO UNDERTREATMENT

Elizabeth C. Matsui

Pediatrics 2004;114:534

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