

Physician–Patient Communication Regarding Asthma and Work

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Background: *Healthy People 2020*–specific respiratory diseases objectives seek to increase the proportion of people with current asthma who receive appropriate asthma care. For adults, this includes a discussion of whether asthma is work-related.

Purpose: To establish a baseline measure of physician–patient communication regarding asthma and work.

Methods: This study used data from 27,157 non-institutionalized U.S. adult respondents of the 2010 National Health Interview Survey (analyzed in 2011). Adults employed at any time in the 12 months prior to the interview with a health-professional diagnosis of current asthma who have been told by a health professional that their asthma was probably work-related or ever discussed the relatedness of asthma and work were identified. Weighted proportions and, using logistic regression analysis, prevalence ORs for factors that may have predicted communication with a health professional regarding an asthma–work relationship were calculated.

Results: An estimated 6.6% (95% CI=5.1%, 8.2%) of employed adults with current asthma have been told that their asthma is work-related. Among those not so informed, 7.4% (95% CI=5.6%, 9.2%) ever discussed the topic. When responses to both questions were considered, the proportion was 13.5% (95% CI=11.3%, 15.8%). Employed adults aged ≥ 30 years, those reporting adverse asthma outcomes, and those of Hispanic ethnicity had higher odds of having communication with a health professional about the relation between their asthma and their work.

Conclusions: One in seven employed adults with asthma report communicating with their health professional about the role of workplace exposures in their asthma. Opportunities to increase this dialogue should be examined.

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Introduction

In 2009, 17.5 million (7.7%) U.S. adults had asthma.¹ Occupational factors play a substantial role in the onset and severity of adult asthma.^{2,3} Approximately 25% of cases of asthma in adults are work-related.^{2–4} Work-related asthma has been associated with adverse health and socioeconomic outcomes.^{2,5–9}

Physician–patient communication is an essential element of care.^{10,11} The *Healthy People 2020* respiratory diseases objectives seek to increase the proportion of people with current asthma who receive appropriate

asthma care according to the National Asthma Education and Prevention Program guidelines.^{11,12} A developmental objective addresses the proportion of adults with current asthma who have discussed with a doctor or other health professional whether their asthma was work-related.

The National Health Interview Survey (NHIS) collects information about the health and health care of the civilian, non-institutionalized U.S. population. In 2010, the National Institute for Occupational Safety and Health sponsored an occupational health supplement in the NHIS (Research Ethics Review Board protocol no. 2009–16). Using data from the supplement, the present study examined communication between healthcare providers and adults with current asthma employed at any time in the past 12 months regarding the role of work in their asthma and provided a baseline measure for the *Healthy People 2020* respiratory disease objective RD-7.8.

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Methods

Data were from the 2010 NHIS Sample Adult data set for 27,157 randomly selected adults aged ≥ 18 years (response rate 60.8%).¹³ Data sets and related documentation are available at www.cdc.gov/nchs/nhis.htm. The occupational health supplement section on asthma in relation to work was designed to collect information from adults who were employed at any time in the 12 months prior to the interview and who had current asthma. Survey participants were considered to be employed if they indicated that they were working or had a job or business in the past week or at any time in the past 12 months. Also interviewed were participants working not for pay at a family-owned job or business. Participants with current asthma reported a physician or other health professional lifetime diagnosis of asthma and reported still having asthma.

Two questions addressed communication about asthma and work. First, participants were asked: *Have you been told by a doctor or other health professional that your asthma was probably caused by your work/was probably made worse by your work/was ever made worse by any job you have ever had?* Those who answered yes were defined as having been told that their asthma is work-related. Those who answered no/don't know/refused were further asked *Did you ever discuss with a doctor or other health professional whether your asthma was probably caused by your work/was probably made worse by your work/was ever made worse by any job you have ever had?* Individuals who reported being told that their asthma was probably work-related or having ever discussed the asthma–work relationship were defined as having communication about asthma and work with their health professional.

Statistical Analysis

National estimates were calculated¹³ using SAS software, version 9.2. Using separate logistic regression models, prevalence ORs (PORs) for the associations between communication about the asthma–work relationship and demographic variables and asthma outcomes were computed. Also, these associations were assessed using multivariate logistic regression models. PORs were adjusted for age, race, ethnicity, educational level, insurance coverage, and family income. These covariates were selected because of their association with effective physician–patient communication.^{14–17} Data were analyzed in 2011.

Results

In 2010, of 27,157 adults who participated in the survey, 1227 (representing 11.1 million) were employed at any time in the 12 months prior to the interview and had current asthma. The weighted national prevalence of current asthma in this population was 7.2% (95% CI=6.7%, 7.6%). Characteristics of the study population are shown in Appendix A (available online at www.ajpmonline.org).

An estimated 6.6% of adults with current asthma who were employed at any time in the 12 months prior to the interview had been told by a doctor or other health professional that their asthma is work-related. Among employed adults with current asthma who had not been told that their asthma is work-related, 7.4% discussed that possibility with a doctor or other health professional.

When information on being told by a health professional that asthma was work-related and having a discussion about the asthma–work relationship were combined, this proportion was 13.5%.

The proportion of employed adults with current asthma who communicated about the asthma–work relationship increased with age. Also, after adjusting for other demographic variables, those of Hispanic ethnicity were more likely to communicate about the topic. No association between communication about asthma and work and gender, race, educational level, having insurance coverage, and family income was observed (Appendix A, available online at www.ajpmonline.org). Employed adults with current asthma who had an asthma attack or asthma episode; who missed ≥ 3 work days because of asthma; or who stopped working or changed jobs or work activities were all more likely to have communication with a health professional about their asthma and work.

Discussion

The current study found that 13.5% of employed adults with current asthma communicated with a health professional about the role of work in the causation or exacerbation of their asthma. Results of other studies^{18–20} support these findings. Within these studies, 7.4%–16.9% of all adults with current asthma (regardless of employment status) communicated with a healthcare professional about the relationship of their asthma to their work.

In the present study, adults of Hispanic ethnicity were more likely to communicate with a health professional about their asthma–work relationship than non-Hispanics. The higher proportion of communication among Hispanics cannot be explained by differences in asthma morbidity among Hispanics. Moorman et al. reported no difference in the physician office visits or in the occurrence of asthma attacks during the preceding 12 months for people with current asthma between Hispanics and non-Hispanics.²¹ On the contrary, Hispanics had fewer hospital outpatient visits than non-Hispanics. More research is needed to better understand the current findings that Hispanics are more likely to communicate with a health professional about this topic than non-Hispanics.

The current study found that nearly half of employed adults with current asthma experienced an asthma attack in the past year. However, although these adults were twice as likely as those who did not have an asthma attack to report communication with a health professional about their asthma and work, the proportion of adults who reported the communication was only 18%.

The proportions of adults who report communication with a health professional about their asthma and work

were greater for those who missed ≥ 3 work days due to asthma and for those who stopped working, or changed jobs or work activities because of asthma. It is possible that these respondents had more-severe asthma and are more likely to communicate with a health professional about their asthma and work.²² Also, these higher proportions may be associated with a physician's diagnosis of work-related asthma and a decision to remove a patient with work-related asthma from the causative exposure.^{2,3}

Clinicians should consider a work-related asthma diagnosis in all currently employed patients who present with new-onset asthma and in those in whom asthma worsened during their working life, and conduct appropriate investigations and intervention.² The diagnosis of work-related asthma requires (1) the diagnosis of asthma and (2) establishing a relationship with work. Thus, the necessary step in evaluating patients with asthma of working age is to obtain a detailed and accurate history including history of asthma symptoms, temporal relationships between asthma symptoms and work, and detailed information about work and potential exposures. Previous studies have explored factors that might be associated with poor work-related asthma communication.^{19,23-29}

Delayed physician-patient communication about the asthma-work relationship or inadequate work-related asthma medical care can result in more-severe disease, poorer asthma outcomes, or death.^{2,6-8,30-32} Moreover, it can result in lost opportunities to implement primary, secondary, or tertiary prevention measures in the workplace.^{2,32,33} Establishing effective communication with patients can also facilitate understanding of medical information,¹⁰ increase patients' compliance with a recommended treatment,³⁴ reduce diagnostic testing,³⁵ and reduce malpractice risk.^{36,37}

Limitations

Communication about asthma and work was based on self-report. Given the potential impact of asthma diagnosis and relevant work-related asthma discussion on patients' lives, it seems likely that respondents would remember and report their asthma history accurately. On the other hand, a discussion that did not lead to changes at work might be forgotten. Further, no information on related factors (e.g., use of educational materials; time constraints placed on the healthcare encounter³⁸) was available. For example, it was not possible to determine whether physicians assessed and found no association between patients' asthma and work, and did not discuss it further. Moreover, because some unemployed adults may have been diagnosed with asthma or may have left their

job because of their asthma symptoms²⁵ and may no longer be in the workforce, the current results may underestimate communication. Finally, the ascertainment of temporal relationships was not possible.

Conclusion

This study provides a baseline measure for the *Healthy People 2020* respiratory disease objective. The results suggest that clinician-patient communication about the role of workplace exposures in the causation or exacerbation of asthma could be enhanced.

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Appendix

Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.amepre.2012.03.021>.