

Changes In Prevalence Of COPD And Asthma In The U.s. Population: Nhanes 1988-94 And Nhanes 2007-10

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Objective: Changes in prevalence of and risk factors for chronic obstructive pulmonary disease (COPD [chronic bronchitis and emphysema]) and asthma among the U.S. adult population were evaluated.

Methods: Using data from the 1988–1994 and 2007–2010 National Health and Nutrition Examination Surveys, we evaluated changes in the prevalence of self-reported doctor-diagnosed chronic lower airway diseases, respiratory symptoms, and airflow limitation as defined by American Thoracic Society/European Respiratory Society guidelines. Risk factors including education level, smoking, body mass index, and occupational exposures were evaluated using 2007–2010 NHANES data.

Results: Prevalence of wheezing decreased between the two surveys (17.4% vs. 14.3%; $p < 0.01$), however, doctor-diagnosed asthma increased significantly (5.3% vs. 7.9%; $p < 0.001$). Prevalence of chronic bronchitis symptoms did not change between the two time periods but doctor-diagnosed chronic bronchitis decreased significantly (5.0% vs. 3.2%; $p < 0.001$). Prevalence of doctor-diagnosed emphysema decreased significantly among males (4.7% vs. 2.7%; $p < 0.001$). We observed significant associations between the outcomes of COPD (chronic bronchitis and emphysema) and asthma with the following risk factors: lower education, smoking status (current and ex-smokers), underweight and obesity, and occupational exposure to dusts and fumes. However, there were no statistically significant associations between occupational exposure and airflow limitation.

Conclusions: These results provide an update on the prevalence of chronic respiratory symptoms and doctor-diagnosed COPD and asthma in the United States. COPD and asthma continue to be a major public health problem. Interventions focused on occupational and lifestyle factors are prudent for primary and secondary prevention of these diseases.

This abstract is funded by: This paper has been reviewed and approved at NIOSH as a work product conducted by the authors as part of their employment without external funding.

Am J Respir Crit Care Med 189;2014:A6705

Internet address: www.atsjournals.org

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