Abstract

The prevalence of bronchial hyperresponsiveness in adult populations is not known. To document its prevalence and distribution and to determine the factors associated with it, a random sample of the adult population of Busselton, Western Australia, was studied. Spirometric function, bronchial responsiveness to histamine, and atopic responses to skin prick tests were measured. Respiratory symptoms were determined by questionnaire. Data were obtained from 916 subjects. Of these, 876 underwent a histamine inhalation test and bronchial hyperresponsiveness to histamine (defined as a dose of histamine provoking a 20% fall in FEV1 equal to or less than 3.9 mumol) was found in 10.5%. Another 40 subjects with poor lung function were tested with a bronchodilator and 12 were found to have bronchial hyperresponsiveness (defined as a greater than 15% increase in FEV1), making the total prevalence of bronchial hyperresponsiveness 11.4%. The prevalence of current asthma, defined as bronchial hyperresponsiveness plus symptoms consistent with asthma in the last 12 months, was 5.9%. The distribution of bronchial hyperresponsiveness in the studied population was continuous. There was a significant association between it and respiratory symptoms, atopy, smoking, and abnormal lung function (p less than 0.001 for all associations). There was no association with age, sex, or recent respiratory tract infection.