Abstract

Asthma in adults may be associated with chronic airflow obstruction, possibly resulting from airway disease in early life and/or a greater rate of decline in lung function in adult life compared with those with asthma. Treatment and cigarette smoking may also influence the rate of decline of lung function. The aim of this analysis was to examine the level and rate of decline in lung function in relationship to asthma and cigarette smoking in adults. Subjects (n = 9,317) had participated as adults (> 18 years) in one or more of the cross-sectional Busselton Health Surveys between 1966 and 1981 or in the follow-up study of 1994/1995. The effects of sex, doctor-diagnosed asthma, smoking status, and anthropometric data on the level and rate of decline in FEV1 were examined in a linear mixed effects model. At the age of 19 years, FEV1 was reduced in subjects with asthma but was similar in smokers and nonsmokers. Males, taller subjects, smokers, and subjects with asthma had greater declines in FEV1 with age. Smoking and asthma had additive but not multiplicative effects on decline. Thus, asthma is associated with reduced lung function at the beginning of adult life as well as an increased rate of decline during adult life.