Eur Respir Rev 2006; 15: 101, 226–227
DOI: 10.1183/09059180.00010115

THE ADULT INCIDENCE OF ASTHMA AND RESPIRATORY SYMPTOMS BY PASSIVE SMOKING *IN UTERO* OR IN CHILDHOOD

T. Duelien, MD*, T.M.L. Eagan, MD#, G.E. Eide, MSc¶, A. Gulsvik, PhD, MD*,# and P.S. Bakke, PD, MD*,#

*Institute of Medicine, University of Bergen, Norway
#Dept of Thoracic Medicine, Haukeland University Hospital, Bergen, Norway
¶Centre for Clinical Research, Haukeland University Hospital and Section for Epidemiology and Medical Statistics, Department of Public Health and Primary Health Care, University of Bergen, Bergen, Norway

WINNING ABSTRACT: The effects of pre- or postnatal passive smoking on the adult incidence of asthma have not been reported previously.

Between 1985 and 1996/1997, we conducted an 11-year community cohort study on the incidence of asthma and respiratory symptoms in Western Norway. The cohort included 3,786 subjects aged 15 to 70 years, of which 2,819 were responders at both baseline and follow-up. The incidence of asthma and five respiratory symptoms by self-reported exposure to maternal smoking in utero and in childhood, as well as smoking by other household members in childhood, was examined.

After adjustment for sex, age, education, hay fever, personal smoking, and occupational exposure, maternal smoking was associated with asthma, phlegm cough, chronic cough, dyspnoea grade 2, attacks of dyspnoea, and wheezing, with odds ratios (95% confidence intervals [CI]) of 3.0 (1.6, 5.6), 1.7 (1.1, 2.6), 1.9 (1.2, 3.0), 1.9 (1.2, 3.0), 2.0 (1.3, 3.0), and 1.4 (0.9, 2.2), respectively. The adjusted attributable fractions (95% CI) of the adult incidence of asthma were 17.3% (5.2, 27.9) caused by maternal smoking and 9.3% (23.2, 33.2) caused by smoking by other household members.

Exposure to pre- and postnatal smoking carries a substantial risk for developing adult asthma and respiratory symptoms.

Trude D. Skorge
University of Bergen, Institute of Medicine, Dept of Thoracic Medicine, Haukeland University Hospital, Bergen, Norway

MY JOB AND THE UNIT IN WHICH I WORK

My office is located at the Dept of Thoracic Medicine, Haukeland University Hospital, Bergen, Norway, where I was working as a medical doctor until I started as a full-time PhD candidate in August 2005 at the University of Bergen (Bergen).

For over 20 yrs, our department has been leading in the field of respiratory epidemiology, building a solid foundation of population-based datasets, including >40,000 individuals from the Hordaland County (Norway). The clinical department provides state-of-the-art tertiary levels of diagnosis and therapy to ~500,000 inhabitants in the region of western Norway.

The University of Bergen in general has seven faculties with >17,000 students and ~3,000 faculty and staff. It is an urban university with high-quality research and international collaboration.

MY WINNING POSTER AS PART OF MY RESEARCH

My PhD, which I started in January 2003 (part-time for 2 years and full-time from August 2005 onwards), is entitled ''Risk factors for incidence of respiratory symptoms – a Norwegian longitudinal population study''. The analyses are based on the Hordaland County Cohort Study, which is a longitudinal survey of a general population sample from western Norway. In 1985, a sample of 3,700 individuals aged 15–70 yrs and living in the city of Bergen and 11 surrounding municipalities in Hordaland County, received a mailed questionnaire with 40 questions about respiratory health, allergies, smoking habits and occupational exposure. Of the total sample, 3,370 (89.0%) subjects responded.

In 1987/1988 a stratified sample of these individuals were invited to a clinical examination at the section of Thoracic Medicine at Haukeland University Hospital. In 1996/1997, 189 of the individuals that had responded in 1985 were deceased, leaving 3,181 subjects eligible for follow-up. This follow-up study was conducted between September 1996 and May 1997. The questionnaire was expanded to 58 questions, adding questions concerning education and exposure to passive smoking. A total of 2,819 (88.6%) subjects returned the questionnaire and 2,401 (74.5%) subjects attended a clinical examination.

Another follow-up of this general population was conducted between January 2003 and December 2004. Approximately 2,000 (70%) subjects attended a clinical examination at this point. Today there is yet another ongoing follow-up of the same population, which started in February 2006.

MY RESEARCH AS PART OF MY WORKING GROUP/ RESEARCH TEAM

Asthma and chronic obstructive pulmonary disease are diseases that have been increasing in prevalence in the population of western countries over the last few decades [1, 2]. Much research on these diseases has been conducted but there are as yet no clear definitions of the diseases [2–4]. A consequence of this is that respiratory symptoms are often used as a proxy of these diseases. We have little knowledge of how respiratory symptoms vary over time in the same individual and whether exposure to passive smoking *in utero* and during childhood, and indoor climate has any influence on the incidence of respiratory symptoms in adults.

THE IMPACT OF MY WORK ON CLINICAL OR RESEARCH PRACTICE

With the data from the Hordaland County Cohort Study, we hope to describe the incidence and remission of several different respiratory symptoms and doctor-diagnosed asthma in relation to indoor climate, passive smoking and occupational exposure. We also hope to be able to describe how different respiratory symptoms change over time in the same individual.

The present study will increase our knowledge of how respiratory symptoms vary over time in the same individuals and how indoor climate and exposure to passive smoking affect these variations. One in six patients in general practice presents due to respiratory symptoms. Increased knowledge of these factors would make the evaluation of a patient with respiratory symptoms easier, especially among elderly patients, about whom we presently have very little data.

REFERENCES

1 Brøgger J, Bakke P, Eide GE, Johansen B, Andersen Aa, Gulsvik A. Long-term changes in adult asthma prevalence. *Eur Respir J* 2003; 21: 468–472.
2 Annesi-Maesano I, Gulsvik A, Viegi G, eds. Respiratory epidemiology in Europe. *Eur Respir Mon* 2000; 5: 1–454.
3 Hardie JA, Buist AS, Vollmer WM, Ellingsen I, Bakke PS, Morkve O. Risk of over-diagnosis of COPD in asymptomatic elderly never-smokers. *Eur Respir J* 2002; 20: 1117–1122.
4 Eagan T, Bakke PS, Eide GE, Gulsvik A. Incidence of asthma and respiratory symptoms by sex, age and smoking in a community study. *Eur Respir J* 2002; 19: 599–605.