

LETTER TO THE EDITOR

Fetal exposure to tobacco smoke is common

EDITOR.—In 1994, women matched men with regard to smoking rates in Spain. In 1996, rates of daily smoking at 17 years of age showed a clear transition from men (24%) to women (29%). These figures rose to 43% and 45% in men and women, respectively, at 24 years of age during 1998 in a Spanish Health Interview Survey.¹ This high incidence of tobacco consumption in young women in Spain may have unfavourable effects on the health of new generations exposed to maternal smoking and environmental tobacco smoke since gestation.

We assessed the recent in utero exposure to tobacco smoke in newborns from the Barcelona cohort of the AMICS study (Asthma Multicentre Infants Cohort Study). Pregnant women (n = 500, median age = 29 years) attending the Hospital del Mar in Barcelona (the fourth biggest hospital in the city) during 1997–1998 were invited to participate if expecting to live in Barcelona the forthcoming years and in possession of a telephone number. A questionnaire including smoking habits was completed in the third trimester of pregnancy and on the day of delivery. Cotinine, the major nicotine metabolite, was assayed in cord serum using a radioimmuno assay technique with a detection limit of 0.2 ng/ml in 409 newborns. Cotinine in cord serum was chosen because it is a highly sensitive and specific biomarker of recent smoking status in population studies, and cannot indicate exposures other than smoking.²

One hundred and thirty four mothers (33%) reported daily smoking during the last trimester of pregnancy. Questionnaire was confirmed by a 34% of cord blood samples having cotinine concentration above 14 ng/ml, the cut off point established to separate between daily smokers and non-smokers.³ This prevalence of active smoking during pregnancy is noticeably higher than in many European countries,^{3,4} or USA.⁵ Furthermore, of the remaining 275 cord blood samples coming from non-smoker mothers reporting both exposure and non-exposure to environmental smoke during pregnancy, 83% presented cotinine levels above 1 ng/ml, a cut off used to distinguish exposure from no exposure to environmental tobacco smoke.² This finding indicates a universal fetal exposure to cigarette smoke at least during the last days of pregnancy. The importance of non-parental sources in passive exposure to cigarette smoke by infants was recently evidenced despite commonly underreporting or unawareness of this phenomenon to underline the question of smoking epidemic affecting children.⁶

Although our cohort was not randomly selected, the coincidence of prevalence of smoking with the more recent general

interview survey (45% between 15 to 24 years of age in both), as well as the coincidence of social class distribution based on mother occupations, suggests that these findings could be representative of the whole city. We conclude that in Barcelona it is almost impossible not to be exposed to cigarette smoke even during last days of pregnancy. The smoking epidemic in Barcelona is a paradigm of the smoking transition from men to women, which has appeared recently in Spain and is going to appear in other countries, with its harmful consequences in future generations.

SIMONA PICHINI
ROBERTA PACIFICI

Clinical Biochemistry Department, Istituto Superiore di Sanità, Roma, Italy and Pharmacology Department, Institut Municipal d'Investigació Mèdica, Barcelona, Spain

CARME PUIG
ÓSCAR GARCÍA-ALGAR
ORIOL VALL

Pediatrics Unit, Hospital del Mar, Barcelona, Spain

JORDI SUNYER

Respiratory and Environmental Research Unit, Institut Municipal d'Investigació Mèdica, Barcelona, Spain

Correspondence to: Dr García-Algar, Servicio de Pediatría, Hospital del Mar, Barcelona Passeig Marítim 25–29, E-08003 Barcelona, Spain (OGarciaA@imas.imim.es)

- 1 Diez E, Barniol J, Nebot M, *et al.* Comportamientos relacionados con la salud en estudiantes de secundaria: relaciones sexuales y consumo de tabaco, alcohol y cannabis. *Gac Sanit* 1998;12:272–80.
- 2 Pichini S, Basagaña X, Pacifici R, *et al.* Cord serum cotinine as a biomarker of foetal exposure to cigarette smoke at the end of pregnancy. *Environ Health Perspect* 2000;108:1079–83.
- 3 Nafstad P, Kongerud J, Botten G, *et al.* Fetal exposure to tobacco smoke products: a comparison between self-reported maternal smoking and concentrations of cotinine and thiocyanate in cord serum. *Acta Obstet Gynecol Scand* 1996;75:902–7.
- 4 Chatenoud L, Chiaffarino F, Parazzini F, *et al.* Prevalence of smoking among pregnant women is lower in Italy than England. *BMJ* 1999;318:1012.
- 5 Ebrahim SH, Floyd RL, Merrit RK, *et al.* Trends in pregnancy-related smoking rates in the United States, 1987–1996. *JAMA* 2000;283:361–6.
- 6 Ownby DR, Johnson CC, Peterson EL. Passive cigarette smoke exposure of infants: importance of nonparental sources. *Arch Pediatr Adolesc Med* 2000;154:1237–41.

BOOK REVIEW

The widening gap: health inequalities and policy in Britain. Mary Shaw, Daniel Dorling, David Gordon, George Davey Smith. (Pp 267; £16.99.) The Policy Press. ISBN 1-86134-142-3.

The Whitehall Study and Black Report, both of which originate in Britain, set the stage for most modern research on the link between social class or socioeconomic status and health and mortality. Both demonstrated a

strong and clear connection between socioeconomic status (the term most often used by researchers in the United States) and differential health outcomes. In Britain, the Black Report also became an important flash point in public policy. This book provides a clear and readable update on the trends in and the current status of health differentials by social class. The data brought to bear on the issues are wide ranging and rigorous in scope including census and mortality records, longitudinal studies of health and wellbeing, and variety of sample surveys. In addition, the authors explore a variety of explanations of these social class differences and provide direct and concrete policy recommendations.

The book, however, is made much more interesting by its underlying agenda. The authors use two current research themes in public health research to structure their description and explanation of the social class differentials in health. The first theme is that health at all life stages is produced by influences over the life course and by different aspects of social class at each life stage. Thus, for instance, they structure the descriptive chapters around life course stages including infancy and retirement. The authors also highlight longitudinal explanations of social class differentials in health, such as health selection and inter-generational and intra-generational social mobility. The second theme they use throughout the book is that the geographical location of individuals works synergistically with individual factors to produce health. They implement this perspective in a unique way by identifying those areas of Great Britain with the poorest and best health that contain a million people respectively. They use these areas then as a descriptive device to track health differences such as mortality and long term limiting illness as well as socioeconomic determinants such as poverty and educational attainment. This method of presenting the data proves quite convincing. The important role of place and its social content are amply illustrated.

The only disappointment of this book is the audience it targets. It would serve excellently in a graduate course on social epidemiology or public health policy. Alternatively, it is a good public health primer for policy makers or individuals without research experience in the area. The data are presented clearly with ample, albeit sometimes distracting, graphics and tables. Unfamiliar concepts are explained well and chapter summaries are provided. This simple clarity while useful for the intended audience is disappointing for researchers who are working in this area. The complexity of longitudinal explanations of health differentials, which are rooted in the past and present social geography of individuals, belies this simple treatment. These authors have made major contributions in other venues to this literature and a book length exploration of this research area would have been very exciting. In this case, however, the fault lies with the reader who wished for something that the authors never intended.

FELICIA B LECLERE
Laboratory for Social Research and Department of Sociology, University of Notre Dame, 913 Flamer Hall, Notre Dame, IN 46556, USA