

LETTER TO THE EDITOR

The relationship of patients' sex to reproduction in multiple sclerosis

Few studies have examined the consequences on reproduction of chronic diseases beginning in early adult life. When a disease, such as multiple sclerosis (MS), has no major effect on fertility, the number of offspring depends on decision making by the couple, which is influenced by fear of recurrence in children,¹ uncertainty on the course of the disease, and for female patients, concern about the possible effects of pregnancy on the course of MS.²

Mean number of children in male (M) and female (F) patients according to age at onset of multiple sclerosis and age at the time of the study.

Age at time of the study (years)	Age at onset (years)							
	<		25-30		30-35		>35	
	M	F	M	F	M	F	M	F
<30	0.30** (184)	0.52 (390)	1.05 (18)	1.10 (49)				
30-40	1.08 (346)	1.16 (625)	1.45 (251)	1.57 (421)	1.68 (116)	1.67 (253)	1.54 (24)	1.69 (45)
40-50	1.62 (138)	1.50 (322)	1.75 (152)	1.89 (322)	1.87 (143)	1.90 (305)	1.98 (214)	2.14 (403)
>50	1.86 (98)	1.73 (264)	1.71 (115)	2.04 (309)	2.11 (137)	1.93 (349)	2.27 (521)	2.16 (1144)

** p=0.01
() number of patients

From a nationwide epidemiological survey of MS, we studied reproduction of 5296 female patients and 2506 male patients. Women were slightly older than men at the time of the study (46.9 v 45.7 years, p<0.001). Mean age at disease onset was 31.2 years in both sexes. The mean number of children was 1.7, both in men and women; proportions of MS patients with no children were 21.6% and 19.4% for men and women respectively. When we stratified our sample according to both age at MS onset and age at the time of the study (table), we found no significant differences between female patients and male patients in any strata, except in patients under 30 years of age; in this stratum, women had more children than men.

To investigate further the influence of age at symptom onset on the number of children,

we studied MS patients who were older than 40 years at the time of the study, assuming that the majority of them would have no more children. In patients with first symptoms of MS before the age of 25 years, mean number of children was 1.6 in women versus 1.7 in men with onset of MS after 35 years, the mean number of children was the same ($\bar{x}=2.2$) in both sexes and was significantly higher than in the patients with early onset of MS. At 40 years of age, the mean value in the French population is nearly 2.6 children. Thus this study shows that MS patients with disease onset before the age of 25 have, on the average, one child less than the French general population. As expected, the mean number of children increases with the age at first symptoms.

There have been few data on reproduction in female patients with MS³ and to our knowledge, none about male MS patients. A surprising finding of this study is the absence of any differences between men and women.

Fear of recurrence in offspring and awareness of consequences on child raising of uncertain long term prognosis have similar impact on the decision to plan a family in male and female patients with MS. Surprisingly, the possible influence of pregnancy on disease course seems to play a minor role in couple's decision making.

- 1 Sadovnick AD. Empiric recurrence risks for use in genetic counselling of multiple sclerosis patients. *Am J Med Genet* 1984; 17: 713-4.
- 2 Thomson DS, Nelson LM, Burns A, Burks JS, Franklin GM. The effects of pregnancy in multiple sclerosis: a retrospective study. *Neurology* 1986; 36: 1097-9.
- 3 Poser S, Poser W. Multiple sclerosis and gestation. *Neurology* 1983; 33: 1422-7.

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BOOK REVIEWS

Epidemiology and the Prevention of Mental Disorders. Ed Brian Cooper, Thomas Helgason. (Pp. 367; £40.00.) Routledge, for the World Psychiatric Association, 1989. ISBN 0-415-00015-7.

This book records a selection of papers from the 9th Scientific Symposium, held in 1987, of the World Psychiatric Association's

Section of Epidemiology and Community Psychiatry. Five previous books have reported earlier symposia, concentrating on methodological issues and the testing of research methods. The implication is that in the present volume we should be seeing the fruits of applied research based on previously described methods.

The theme of the book is psychiatry as a public health discipline and it is divided into six parts. Logically these range from the "Goals, strategies and constraints of prevention in psychiatry" to "promoting healthier public policies". Coordination of the parts could have been improved by linking text from the editors. The first part draws attention to the neglect of prevention in standard psychiatric texts and in teaching.

Models which are familiar in the sphere of traditional public health are outlined, though they stand repetition in the psychiatric field. For example, the adaptation of a person or host to external environmental or psychological factors with alteration by extrinsic or intrinsic modifying factors is set out as one model. However, as Tirrill Harris points out in the chapter on "Implications of the vulnerability model for the prevention of affective disorder", the translation of epidemiological findings into preventive strategies is rarely simple. In psychiatry, unlike physical illness, there is the added complication that it is not just the person's response to some environmental agent or stressor but his response to his conscious or unconscious interpretation of environmental factors.

The research papers and reviews encompass an important range of public health issues in psychiatry, such as dementia, alcoholism and suicide. If the compilation has a fault, it is in failing to identify sufficiently clearly and to discuss (except for Harris's contribution) the stressor risks which are amenable to intervention and the form that the intervention should take. It was also encouraging to read of the healthy debate that is taking place in the Netherlands concerning the priority to be given to prevention in psychiatry by the year 2000. There are worries in that country that the benefits of prevention are being overestimated and that this will have negative consequences for the care of persons already suffering from psychiatric conditions. To date, such debates in Britain have been somewhat muted, though they could be stimulated by this book.

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Research Methods in Occupational Epidemiology. (Monographs in Epidemiology and Biostatistics, vol 13.) H Checkoway, N Pearce, DJ Crawford-Brown. (Pp 344; £30.) Oxford University Press, 1989. ISBN 0-195052242.

To uncover the links between occupational environments and disease, Ramazzini advised doctors to add one more question to those recommended by Hippocrates—"What is your occupation?" Occupational epidemiology has its origins in this simple question, although with the complexity of modern day industry, it has had to refine its methods and expand its ideas. Today, it forms a thriving and distinct subdiscipline of epidemiology and occupational medicine.

This book is divided into two main sections. The first section, chapters 1-7, describes the historical development of occupational epidemiology, a variety of approaches for characterising exposures in the workplace, and methods for designing and executing investigations (cohort, case-control, and cross sectional studies). There is also a useful chapter on potential sources of bias. The second section of the book, chapters 8-10, covers advanced statistical analyses, dose and exposure modelling, and special applications of occupational epidemiology—with particular emphasis on models of carcinogenesis and risk assessment.

The authors have compiled their chapters thoughtfully. Each includes, where appropriate, an overview which clearly states what is to be covered; this is followed by the main body of the chapter, which is followed by a summary of the major points made, and a