Annual postneonatal mortality among legitimate live births by social class and among all live births by maternal age in England and Wales 1984-5

375; and among illegitimate children registered by both parents, 394.

Postneonatal mortality in the three highest social groups (I to III) and the three oldest groups of mothers (those aged 25 and over) was low. The rate increased sharply in social classes IV and V and among mothers aged 20-24 and <20. Mean postneonatal mortality was 3.4/1000 legitimate live births, 3.9/1000 live births (legitimate and illegitimate), and 5.9/1000 illegitimate live births. When the illegitimate births were divided into those registered by one parent and those registered by both the rates were 7.2/1000 and 5.2/1000 respectively. These figures were similar to postneonatal mortality in the maternal age group <20 (7.2/1000) and in social class V (5.4/1000).

Comment

Postneonatal mortality was found to be 5.9/1000 for illegitimate live births. Dividing these births according to whether they were registered by one or both parents resulted in the mortality being reduced among the births registered by both parents but increased considerably among those registered by one parent. The two highest rates seen (7.2/1000 illegitimate births registered by one parent and 6.7/1000 births to women aged <20) probably represent the same section of society,² but this is not true for the two low rates (in social class V and births registered by both parents). In social class V the numbers of people and postneonatal deaths (only 58 in southern England in 1985) and mortality are decreasing.^{3,4} Illegitimate births registered by both parents, however, form an increasing proportion of live births. We can therefore substitute illegitimacy (even when the birth is registered by both parents) for social class V as an indicator of social deprivation of infants. This is especially true when illegitimacy is combined with a maternal age of less than 25.²

Asians rarely have illegitimate children, and although half of West Indians are illegitimate, this group does not have a high postneonatal mortality. The problem of high postneonatal mortality thus seems to lie among young white parents and Pakistanis with their high rate of congenital abnormalities.⁵

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(Accepted 27 October 1989)

Districts' use of thrombolytic agents

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Br Med J 1990;300:237-8

Intravenous thrombolysis performed early after myocardial infarction reduces mortality¹ and should be routine hospital practice unless specific contraindications exist. We examined the extent to which thrombolysis is actually used.

Methods and results

We conducted a questionnaire survey of district pharmaceutical officers by telephone in January 1989. Seventy nine English health districts were selected at random from the published list of districts with such officers. We asked the officers if thrombolysis had been used in the district; if a district policy existed and if so about content; if there was a local cardiologist; and if they had participated in trials of thrombolytic agents. Details of expenditure on thrombolysis in the last quarter of 1988 were also obtained.

All 79 districts had used thrombolysis after acute myocardial infarction, streptokinase being the preferred agent. Use of streptokinase ranged widely, from one patient being treated in two years to 40 in one month. During the survey anistreplase was not available for routine clinical use and tissue plasminogen activator, available in 44 districts, had been given to

only one patient. Stocks left over from drug trials had been used in two districts.

Only 28 districts had a published policy for thrombolysis, and in 27 a policy was being prepared. Thirty six districts had participated in trials, and neither this nor the existence of a local cardiologist had influenced the development of a policy. An upper age limit was stated in 25 of the 55 policies, which ranged from 65 to 80. A time limit for treatment was stated in 46 policies, usually six or 24 hours after the onset of symptoms. Infusion of heparin after thrombolysis was advised in 21 policies and coadministration of aspirin in 53.

We used expenditure on streptokinase to measure treatment rates. The median treatment rate from October to December 1988 was five patients per 100 000 population each month (range 0-16.3). The treatment rate was not appreciably higher in districts with a policy (either published or in preparation); those that allowed the drug to be given until 24 hours after infarction; those containing a teaching hospital; or those having a local cardiologist.

Comment

We had found previously that avoidable delays occur in giving thrombolysis.² This had initiated the publication of a policy in our district, which was designed to facilitate rapid, reliable administration. Two thirds of the districts we surveyed had a policy, either published or being prepared; although this should increase awareness of the importance of early, accurate diagnosis and prompt treatment, it was not associated with an increased treatment rate. Clearly, the enthusiasm of doctors is important in achieving high rates.

We identified a major shortfall in the provision of an effective and lifesaving treatment. Differences in the incidence of acute myocardial infarction across the country cannot explain the variation in clinical practice observed, and any error due to the use of thrombolytic agents for other conditions was probably small. The median treatment rate of five patients per 100 000 each month suggests that 30 000 patients are treated annually in England. If the highest rates that we found were achieved nation wide a further 60 000 patients would be treated. Is this a realistic estimate of the shortfall?

The rate of infarction is not known accurately. The British Heart Foundation quotes 240 000 each year in Great Britain based on pooled data (estimates range from 146 000 to 362 000). This is equivalent to 205 000 infarcts in England. Almost half are immediately fatal, which corresponds with the crude death rate from myocardial infarction in England (nearly 90 000 deaths in 1988).¹ Most survivors attend hos-

pital, and at least half are eligible for thrombolysis.⁴ From these estimates and our data we calculate that each year about 20 000 (possibly as many as 60 000) eligible patients do not receive thrombolysis in England. Such undertreatment may have medicolegal implications.⁵

CJB is an intermediate British Heart Foundation fellow.

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(Accepted 25 October 1989)

Attitudes of general practitioners towards their vaccination against hepatitis B

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Br Med J 1990;300:238

Between 1980 and 1984, 6696 cases of acute hepatitis B were reported in England, Wales, and Northern Ireland, of which 361 (5.4%) occurred in health service staff.¹ The disease has particular implications for health workers as 5-10% of those infected become carriers.² This may put them at risk of infecting patients and their own families.

In 1987 the BMA recommended that health care workers who are in contact with patients or handle body fluids and pathological specimens should be immunised against hepatitis B.³ General practitioners handle patients and also come into contact with body fluids when taking blood samples, obtaining microbiological specimens and cervical smears, and doing minor surgery. The need for general practitioners to be vaccinated against hepatitis B, however, has not been established, and there is no evidence that general practitioners or other members of primary health care teams are at greater risk of infection than the general population.

Richards described the difficulties that general practitioners experience when seeking health care⁴ and noted their failure to make use of preventive medicine. Chambers has called for urgent reform of the provision of health care for general practitioners⁵ and suggested that a preventive service should be offered. I determined the proportion of general practitioners who had been vaccinated against hepatitis B as a means of assessing the need for better preventive health care for general practitioners.

Subjects, methods, and results

I posted a questionnaire to all 699 general practitioners on the list of Lancashire Family Practitioner Committee in January 1989. I sent a single reminder to those who did not reply. The doctors were asked whether they thought that general practitioners should be vaccinated against hepatitis B and whether they themselves had been vaccinated. Doctors who had not been vaccinated were asked to choose one of four possible reasons why not (table).

I received completed questionnaires from 598 general practitioners (86%), 528 of whom believed that all general practitioners should be vaccinated against hepatitis B. Only 287, however, had been vaccinated against hepatitis B or were in the process of being vaccinated; two did not state whether they had been vaccinated. There were no significant differences in the proportion who had been vaccinated between male and female doctors or among different age groups or different areas of practice. Of the 309 respondents who had not been vaccinated, 249 chose the reason "I just have not got round to it" (table). Fourteen thought that none of the four reasons applied. Again, there were no significant differences by sex, age, or area of practice of the doctors.

Comment

Though the need for general practitioners to be vaccinated against hepatitis B has not been determined, the general practitioners in this study believed that they should be vaccinated. Only half of them had been, however, with most of the others choosing the reason "I just have not got round to it." This suggests either that the doctors do not really believe they need the vaccination or that they experience difficulty in taking up this preventive health measure. As only 39 chose the reason "I am at very low risk" difficulty in getting vaccinated seems to be more likely.

General practitioners may not need to be vaccinated against hepatitis B, but the discrepancy between the belief that they do and their prevalence of vaccination needs addressing. Whether general practitioners should be vaccinated needs to be established; if they do, effective structure to promote this is needed. If they do not they should be informed of this to reduce any anxiety about their health care.

I thank Lancashire Family Practitioner Committee and its general practitioners for cooperation with this study and Professor David Metcalfe for his advice and support.

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(Accepted 8 November 1989)

Reason chosen by 309 general practitioners when asked why they had not been vaccinated against hepatitis B

Reason	No
I am at very low risk	39
I just have not got round to it	249
I do not trust the vaccine	3
Vaccination is of no proved benefit	4
Other	14