TABLE III—*Number of live births with spina bifida by year of birth and year of death. (Values in parentheses are proportion (%) of affected babies dying in calendar year of birth)*

Year of birth	No of live births with spina bifida	No dying in: 1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	No surviving end 1982
1971	236	102 (43)	14	2	2	1				1	1	1	1	111
1972	176		67 (38)	10	3	1	2		1					92
1973	169			80 (47)	19	1	1		1		2			65
1974	192				77 (40)	16	2	2						95
1975	194					67 (35)	5							122
1976	119						47 (39)	5						67
1977	135							64 (47)	4	1	1			65
1978	121								37 (31)	6		2		76
1979	81									33 (41)	2		1	45
1980	63										25 (40)	4		34
1981	67											21 (31)	1	45
1982	67												19 (28)	49

Data on mortality and survival in babies with spina bifida (table III) showed that most deaths occurred in the calendar year of birth or in the year after, the proportion occurring in the first year ranging from 31% to 47%. Averaged over five years the proportion of deaths occurring in the first calendar year was lower in 1978-82 than over the earlier period, but the falling number of survivors mainly reflected the substantial reduction in live births with the condition.

Discussion

A recent leading article in the *British Medical Journal*, commenting on trends in a number of countries,[6] pointed out that defects of the neural tube seem to have become less common in Northern Ireland, the United States, and Australia as well as in England and Wales. The increase in the number of terminations in Britain and Australia was considered to be insufficient to account for the decline in these countries, and in the United States the decline started well before 1970 and before screening was available; these data may therefore reflect a true decline in the occurrence of these conditions. In the Republic of Ireland, where there is no antenatal screening programme, the decline has been negligible.

The indications from Scottish data are that both the birth prevalence of anencephaly and spina bifida and the birth prevalence adjusted for terminations have been declining during the period considered. The introduction of antenatal screening programmes has undoubtedly been instrumental in reducing the number of live births with spina bifida and the consequent burden of disability from this condition and has also resulted in a fall in cases of anencephaly; notably, in Glasgow in 1982 there was no birth with this diagnosis. In 1976 terminations accounted for 12·7% of total known pregnancies with anencephaly or spina bifida; in 1981 they substantially exceeded the number of births and represented 62% of known affected pregnancies. The terminations reported, however, are those after α fetoprotein or other screening, and it may be that various other terminations for anencephaly or spina bifida have been performed unknown to the laboratories.

The birth prevalences of spina bifida and of anencephaly in Scotland and England and Wales increasingly converged after 1975, being 1·3 and 1·1/1000 total births respectively in 1982. This convergence may have been due to the scale of α fetoprotein screening in Scotland. In a recent study of late terminations in England and Wales it was estimated that 0·3% of terminations were performed because of increased α fetoprotein screening, and 86% of these aborted fetuses were confirmed to have neural tube defects.[7] This would represent an adjusted birth prevalence of anencephaly and spina bifida of 2·7 compared with the equivalent prevalence in Scotland of 3·2 in 1982. The data for England and Wales also showed that, when terminations after other means of diagnosing neural tube defects (principally ultrasound) were also counted, the combined prevalence of anencephaly and spina bifida increased by 15% to 3·1/1000 total births. Whether these other methods are used to diagnose anencephaly and spina bifida as often in Scotland, given the extensive α fetoprotein screening programme, is not known; but, if they are, a proportionate increase in the adjusted birth prevalence in 1982 would have been from 3·2 to 3·7. This is still considerably lower than the birth prevalence of anencephaly and spina bifida of 5·2 in 1974 and 1975 that we have reported here (and that must underestimate the true position) and supports other reports of a genuine fall in the incidence of anencephaly and spina bifida.

Our method of extracting information from routine data sources appears to be successful in providing data similar to that captured by a congenital malformation notification system in England and Wales. It can, in addition, provide data (for spina bifida) on subsequent death and, hence, the number of survivors; this permits further appraisal of the effectiveness of programmes for the prevention and treatment of this condition.

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