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Suicide in Young Doctors

J. C. RICHINGS, G. S. KHARA and M. McDOWELL

Fifty-five cases of suicide by doctors under the age of 40 were studied because of concern about deaths among anaesthetists in training. The excess mortality of doctors from suicide was confirmed, suggesting that risk factors associated with being a member of the medical profession continue to operate, although mortality for young male doctors from accidental poisoning is falling. Analysis of the branches of medicine in which the doctors were working showed no definite specialty predominance. There was a somewhat greater risk for women doctors born overseas.

Suicides account for a substantial number of deaths in England and Wales; evidence shows that they are on the increase and that, although the risk is greatest among middle-aged men, the greatest rise recently has been in young people (McClure, 1984; Bulusu & Alderson, 1984). Successive *Decennial Supplements on Occupational Mortality* (General Register Office (GRO), 1958, 1971; Office of Population Censuses and Surveys (OPCS), 1978) for England and Wales have shown relatively high rates of suicide among male members of the medical profession; comparable figures are not available for women doctors because of limitations in the data and methods used for calculating occupational death rates (McDowell, 1983). However, an increased rate of suicide has been reported in women doctors in America (Steppacher & Mausner, 1974). A number of studies have suggested that a doctor's specialty may increase the likelihood of suicide: anaesthetists (Helliwell, 1983), psychiatrists (A'Brook *et al*, 1967), ophthalmologists (Waterson, 1976), and pathologists (Harrington & Shannon, 1975) have at various times been thought to be particularly vulnerable.

The standardised mortality ratios (SMRs) for male doctors from the post-war Decennial Supplements (GRO, 1958, 1971; & OPCS, 1978) are shown in Table I. The supplement based on the year 1951, 1958) notes that the excess was greatest among the younger male doctors, with SMRs of 400 for the 20–30 age group, 283 for 35–44, 211 for 45–54, and 113 for 55–64 (the SMR for all males in England and Wales is set as 100 for each age group). Similar breakdowns by age were not published for the two subsequent studies (GRO, 1971; OPCS, 1978), but a special tabulation of mortality ratios for suicide in male doctors for 1970–1972 shows excess mortality at all age-groups (273 for age 25–34, 388 for 35–44, 316 for 45–54, and 388 for 55–64). Recent concern over the number of suicides in one particular group of young doctors (Helliwell, 1983) prompted us to undertake a study using more up-to-date information.

TABLE I

Standardised mortality ratios for suicide in male doctors in England and Wales (1949–53, 1959–63, 1970–72) (GRO, 1958, 1971; OPCS, 1978)

Years	*Age-group*	*SMR*
1949–1953	20–64	226
1959–1963	15–64	176
1970–1972	15–64	335

Method

The under-reporting of suicides in official statistics has been well recorded (Sainsbury & Jenkins, 1982; Adelstein & Marden, 1975); many will be recorded as open verdicts or accidental deaths, due to the natural reluctance of coroners to enter a verdict of suicide where some possible measure of doubt remains. A wider view of suicide, which includes deaths recorded as 'suicide' (ICD-9 categories E950–E959), 'undetermined' (ICD-9 categories - E980–E989) and 'accidental poisoning by drugs etc' (ICD-9 categories E850–E859) has been proposed by Adelstein & Marden. Although it has been argued that the wider definition adds little to most analyses (Sainsbury & Jenkins, 1982), the presentation and recording of suicide in doctors may vary from that of the general public. In order to avoid any possible bias, both the narrow and wide definitons of suicide have therefore been used in this study.

From death registration records at the OPCS we extracted draft death entry forms for deaths from the three groups of causes above, for medical practitioners under the age of 40 in England and Wales. We covered five years: 1972, 1975, 1979, 1980, and 1982. Suitable data on populations at risk were only available from 1972, and the years chosen were those for which occupation at death had been

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TABLE II
Mortality ratios in England and Wales by the wide definition for suicide and its components in male and female doctors aged 25–39 for 1972, 1975, 1979, 1980 and 1982 combined

	Male		Female	
	SMR	*Deaths:n*	*SMR*	*Deaths:n*
A. Suicide (narrow definition)	165*	29	310*	7
B. Undetermined deaths	146	8	–	0
C. Accidental poisoning, drugs etc.	246*	8	550*	3
Wide definition (A + B + C)	170*	45	274*	10

*$P < 0.05$

TABLE III
Mortality ratios and number of suicides by narrow and wide definitions in doctors aged 25–39 in England and Wales

Year	*Suicide (narrow definition)*				*Suicide (wide definitions)*			
	Males		*Females*		*Males*		*Females*	
	SMR	*n*	*SMR*	*n*	*SMR*	*n*	*SMR*	*n*
1972	204	5	592	2	345*	12	421	2
1975	221	6	264	1	274*	11	476	3
1979	152	6	194	1	116	7	120	1
1980	73	3	198	1	81	5	125	1
1982	196	9	375	2	143	10	331	3

*$P < 0.05$

coded by OPCS. Each case was checked against detailed data available in the Civilian Doctors' Career Index (CDCI) maintained by the Department of Health and Social Security. The study is based on 55 cases – 36 suicides, eight 'undetermined', and 11 cases of accidental poisoning. Estimates of population at risk were based on data from the CDCI, and both mortality and population figures were cross-classified by sex and country of birth. For most cases we were also able to determine the main medical occupation and hospital specialty, if any.

Mortality ratios were calculated by comparing observed deaths of doctors under 40 with those expected. The expected deaths were derived from England and Wales mortality rate (age 25–39) for the respective causes (and for each of the study years) applied to the population of medical practitioners aged under 40, derived from the CDCI.

Results

The mortality ratios for the wide definition of suicide and its component parts for both male and female practitioners under the age of 40, for all the study years combined, are shown in Table II. Although the numbers of deaths are small, the highest ratios for both male and female doctors are from 'accidental poisoning with drugs etc'. Ratios for both sexes and by both definitions of suicide are significantly greater than 100. Table III shows mortality ratios for each year of the study, for both the narrow and the wide definitions of suicide. The number of cases in each year is small, leading to quite marked variation between individual years. The mortality ratios for young female doctors are based on a small number of cases, and there is no discernable pattern of a time-trend, but the pattern for young male doctors varies according to the definiton of suicide employed.

Mortality under the narrow definition of suicide shows no clear pattern over the years, but there is a marked decline in mortality ratios under the wider definition. Part of this decline is due to a fall in the crude rate of suicides (wider definition) of young male doctors – from 48 per 100 000 in 1972 to 32 in 1982 – but in the same period there has been a steady rise in the national rates for men under 40 (from 14 per 100 000 to 22), and this too has contributed to the decline in mortality ratios. This difference in mortality patterns for young male doctors between the two definitions is almost entirely due to a fall in deaths from accidental poisoning from drugs and other substances, of which there were five in 1972, three in 1975, and none in the subsequent years. Young female doctors, on the other hand, have consistently

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TABLE IV
Mortality ratios in England and Wales for the wide definition of suicide in male and female doctors aged 25–39, for the years 1972, 75, 79, 80 and 82 combined, categorised by place of birth

	British Isles		*Elsewhere*		*All place of birth*	
	SMR	*n*	*SMR*	*n*	*SMR*	*n*
Males	188*	29	172	6	170*	75
Females	186	5	523*	5	274*	10

*$P < 0.05$

higher mortality ratios than their male colleagues (Tables II and III). The crude rate of suicide (wider definition) in young female doctors was in fact less, at 23 per 100 000, than that for young male doctors (31 per 100 000). However, the national suicide rates for women are considerably lower than those for men, thus giving a higher mortality ratio.

The England and Wales SMR for the wider definition of suicide for Social Class I, (Registrar-General's classification), which includes doctors, for men aged 15–44 in 1970–72 (the latest figure available) was 90 (OPCS, 1978). Young persons born outside the British Isles do have a higher risk of death from suicide: SMRs for ages 25–39 for the wider definition of suicide in 1969–73 for these men and women were 169 and 165 respectively (unpublished OPCS data). This suggests that the increased SMR for suicide in doctors is not related to social class.

Table IV cross-classifies the combined years' mortality ratios (wider definition) for each sex with place of birth (British isles or elsewhere); the higher ratio in young female doctors compared with male doctors is almost entirely due to a very high ratio for the female doctors born overseas. Four of the five cases of young women doctors who were born overseas were registered as suicides, the other one as accidental poisoning. The similarity of the ratio for young male doctors, born in the British Isles or elsewhere, and the young female doctors born in the British Isles suggests a comparable degree of excess risk for the three groups.

Poisonous substances, including drugs, were the cause of death in 39 out of 55 doctors in our study (55% of the male and 90% of the female doctors). Members of the medical profession usually have ready access to drugs, and this probably accounts for the preponderence of this method of suicide. At the time of death, ten doctors were working as general practitioners, twenty-seven were employed in the hospital services, three worked in universities, and one worked in the community health service; the employment of the remaining fourteen was unknown.

By using the wider definition of the population at risk, the crude rates per 100 000 for general practitioners and all hospital specialties were both 23. For the individual hospital specialties, the rates were: anaesthetics 67, general medical 20, surgical 19, psychiatry 39, and pathology 36; these differences should be treated with caution, as the numbers are very small.

Discussion

There is an excess mortality from suicide in both young male and female doctors, using both the wide and narrow definitons; this had been shown previously for male doctors. The mortality ratios based on the narrow definition of suicides do not show a significant trend. The figures are based on a small number of cases, but do suggest that there might have been an underlying trend for the rates to decline since the early 1970s; if this is true, doctors would have decreased their suicide rate against the general tide. Mortality ratios based on the wider definition of suicide show a definite decline in the mortality ratios for young male doctors over the years studied, but there is no such clear evidence for young female doctors.

The overall excess mortality from suicide is not explicable in terms of social class, at least for young male doctors (female social class rates are not available) (Bulusu & Alderson, 1984), which suggests that there are risk factors associated specifically with being a member of the medical profession. Doctors usually have ready access to drugs, and this was a common cause of death for both men and women doctors. This contrasts with the general population, where access to drugs is restricted and where self-destruction by physical means such as hanging and poisoning by vehicle exhaust fumes assumes a more prominent role (Farmer & Rhode, 1980). In 1980, for men in England and Wales, death by poisoning accounted for 30% of total suicides (wider definition), in contrast with hanging, which accounted for 19% of cases. However, poisoning remains the commonest method for women: 56% in England and Wales for 1980 (OPCS, 1982).

The figures given for the individual medical specialties of these doctors must be treated with caution, as the majority of those in the hospital service were still in the training grades, and it is

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difficult to be certain that the specialty in which they were working at the time of death was their main working experience or was intended to be their final career choice. The rate for anaesthetists is significantly higher than those in the other specialties. In our study, the suicides of anaesthetists were recorded in one year, but this may have been an atypical year. A study of suicide in anaesthetists in training for the years 1979–1982 (Helliwell, 1983) showed five deaths from suicide in that period: using the target population for anaesthetists for these years, the rate for that study is 39 per 100 000. It also examined each case in depth, showing that the individuals were not under-achieving or showing stress due to the work situation, but that each had a considerable emotional problem which was thought to lead to the suicidal act. We were not able to identify the medical specialty of 14 doctors; it is likely that most of them worked for short periods in either the hospital or general medical services. These doctors could make a considerable difference to the crude rates shown for the two main groups and the individual specialties, so these figures should be viewed with caution.

A doctor's place of birth is relevant to mortality rates from suicide. Unpublished data from OPCS established that young people from overseas have a significantly higher mortality rate from suicide than those born in the British Isles. For male doctors there appears to be little direct influence of the country of birth on suicide mortality, compared with the experience of all men and women born overseas, but the higher risk of death from suicide of young persons born outside the British Isles does not appear to explain why the ratio for young female doctors born overseas is significantly greater ($P<0.05$) than the ratio for young female immigrants. This gives cause for concern, and since this ratio exeeded that in all other groups of doctors studied it cannot simply be explained by gender or by ready access to lethal means. It is possible that the feelings of isolation, including separation from the extended family and failure to adjust to a new social environment, coupled with difficulty in obtaining medical posts in this country (Smith, 1980) have contributed to this high ratio. The absolute numbers are small, so the position should be monitored in the future to see if this trend continues.

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J. C. Richings, MB, MRCP, *Senior Medical Officer, Department of Health and Social Security, 80–94 Newington Causeway, London SE1 6EF*

G. S. Khara, BA, FIS, *Statistician, Department of Health and Social Security, 286 Euston Road, London NW1 3DN*

M. McDowell, BSc(Econ), *Statistician, Office of Population Censuses and Surveys, Medical Statistics Division, 10 Kingsway, London WC2B 6JP*

*Correspondence

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