invited commentary

ALCOHOL-RELATED DEATHS BY OCCUPATION: WHAT DO DATA FOR ENGLAND AND WALES IN 2001–2005 TELL US ABOUT DOCTORS’ MORTALITY?

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Alcohol-related mortality for different occupations in England and Wales has long been monitored by the Office for National Statistics and its predecessor organizations. Staff at the General Register Office in the early 1890s sorted half a million paper death records into separate occupational groups, which were in turn classified by cause of death. The results of the consequent analyses, published in 1895, were the first comprehensive assessment of mortality from a range of causes for men in particular occupations (General Register Office, 1895). From the wealth of results, we learn that mortality in publicans from alcoholism was seven times that of all working men, while deaths from liver disease were six and a half times higher. Mortality from alcoholism for workers in agriculture was, conversely, less than a third of that for men in all occupations.

Subsequent reports show some consistencies, including that the highest levels of alcohol-related mortality are generally found among those who work in the drinks industry. The last ONS report considered deaths up to 1990 (Drever, 1995), but since then death rates from causes related to alcohol misuse have been rising rapidly. In fact, rates in the UK almost doubled between 1991 and 2005 (Office for National Statistics, 2006). It was therefore timely for ONS to undertake a new analysis of alcohol-related mortality by occupation, the results of which were published in August 2007 (Romeri et al., 2007).

Using the National Statistics definition of alcohol-related mortality (which includes only those causes regarded as being most directly due to alcohol consumption, such as alcoholic liver disease and fibrosis and cirrhosis of the liver), we examined deaths in England and Wales between 2001 and 2005. From the information collected at death registration, we have the occupation of the deceased, which ONS codes to 353 occupational groups. Population counts for the same groups are available from the 2001 Census.

Occupational mortality analysis presents a number of challenges, including the bias that can occur because of differences in the occupation recorded at death and at census (Office of Population, Censuses and Surveys, 1986). To limit the extent of this, our analysis was restricted to those aged 20–64. By excluding deaths at older ages, it is more likely that the same occupation will be recorded at both death and census. Most occupational mortality analyses are limited to men because of the paucity of information on occupation recorded at death registration for women. We decided to include both sexes in our analysis, but half the women with an alcohol-related underlying cause of death in 2001–2005 had no occupation recorded and so had to be excluded. (For men, 16% had no occupation.)

Using the remaining death records, we produced Standardized Mortality Ratios (SMRs) for each of the occupational groups. By applying national alcohol-related mortality rates to population counts for each occupation, we calculated the number of deaths expected from these causes. The SMR is the ratio between the observed number of alcohol-related deaths in each occupation and this expected number. This allows us to compare the level of alcohol-related mortality with the general population of England and Wales (SMR = 100).

As there remains a risk of numerator/denominator bias with SMRs, a second mortality indicator, the Proportional Mortality Ratio (PMR) was also calculated, as this is not dependent on knowing the population at risk for each occupation. The PMR compares the proportion of deaths in a particular occupation that are alcohol-related, to the proportion in England and Wales. PMRs are themselves not free from bias, however, as the proportion of deaths which are alcohol-related may be affected by the relative frequency of other causes of death. By calculating both PMRs and SMRs we were, however, able to examine consistency between the results.

For men, the occupations with the highest alcohol-related PMRs were bar staff, seafarers, and publicans (223, 216, and 202, respectively). All had results which showed that their proportion of alcohol-related deaths was more than double that expected from the general male population. Alcohol-related causes were thus an important cause of death in these occupations compared to other causes. Among the other occupations which had PMRs which were significantly higher than for England and Wales, there were a number in the catering, entertainment, and hospitality industries (chefs/cooks, kitchen assistants, musicians, hotel managers) as well as occupations classified as skilled trades (floorers, bricklayers, painters, and decorators) and elementary occupations (labourers, window cleaners).

Although the SMRs for men were generally consistent with these results, there were some differences. The two occupations with the highest results were coal miners and seafarers, with SMRs of 852 and 798 respectively, indicating levels of alcohol-related mortality eight times higher than in the general male population. Bar staff had the next highest SMR (401).

As for men, bar staff and publicans were the occupations for women which had the highest PMRs (203 and 193

*The Editors draw your attention to the paper by Judith Rosta on German doctors’ alcohol consumption in this issue.

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that once the hazards of smoking were recognized in Britain, perceived in a country (Sebo et al., 1998). Low PMRs and SMRs were also found, encouragingly, for a number of driving-related occupations, including driving instructors and drivers of heavy goods vehicles, vans, buses/coaches, and taxis. For women, the lowest PMR and SMR results were for educational assistants (35 and 14). Several other jobs which also involve education and working with children also had low levels of alcohol-related deaths (school mid-day assistants, primary and nursery education teachers, nursery nurses, and childminders), possibly because women who work with young children may be more likely to have young children themselves.

Although many of our recent findings were consistent with earlier reports, there was one notable exception. Male medical practitioners were among the occupations with the highest alcohol-related mortality in the 1960s, 1970s, and 1980s (General Register Office, 1961; Office of Population, Censuses and Surveys, 1978; Drever, 1995). In 2001–2005, however, they had a PMR of 58 and an SMR of 27 (both results significantly lower than England and Wales). The behavior of doctors has been taken as a marker of how harmful lifestyle behaviors are lower than England and Wales). The behavior of doctors has been taken as a marker of how harmful lifestyle behaviors are. The reasons why some occupations may be prone to raised alcohol-related mortality have been explored in earlier studies. Plant in the 1970s, for example, found that breweries in Edinburgh tended to attract workers already likely to have high levels of alcohol consumption. Plant also found evidence that within the drinks trade, there was strong social pressure to consume available alcohol (Plant, 1978). Following a literature review, he also proposed other factors which had emerged as possible explanations of why some occupations had high rates of alcohol-related problems, including availability of alcohol at work, separation from family or social relationships, freedom from supervision, very high or very low income levels, collusion by colleagues, and stress (including danger, responsibility, and job insecurity) (Plant, 1979). Many of these risk factors can be associated with the occupations we found with the highest levels of alcohol-related mortality in 2001–2005.

The lowest PMR for men in our study was for farmers (39), indicating that the proportion of deaths from alcohol-related causes was less than two-fifths of what would be expected for men in England and Wales as a whole, a result which is consistent with figures published over a century earlier (General Register Office, 1895). It has been suggested that the demands of farming discourage alcohol misuse and are unlikely to attract those who are already heavy users of alcohol (Hawton et al., 1998). Low PMRs and SMRs were also found, encouragingly, for a number of driving-related occupations, including driving instructors and drivers of heavy goods vehicles, vans, buses/coaches, and taxis. For women, the lowest PMR and SMR results were for educational assistants (35 and 14). Several other jobs which also involve education and working with children also had low levels of alcohol-related deaths (school mid-day assistants, primary and nursery education teachers, nursery nurses, and childminders), possibly because women who work with young children may be more likely to have young children themselves.

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REFERENCES


