

PROCEEDINGS OF THE NUTRITION SOCIETY

The Four Hundred and Thirty-fifth Scientific Meeting was held at Dudley Road Hospital, Birmingham on 7/8 April 1987

SYMPOSIUM ON 'NUTRITION AND ALCOHOL'

Alcohol: lessons from epidemiology

By ALEX PATON, *British Postgraduate Medical Federation, University of London, 33 Millman Street, London WC1N 3EJ*

A leader writer at the end of the last decade predicted that alcohol abuse in Britain would reach epidemic proportions in the 1980s (Anon, 1979). Those of us who work in the alcohol field see plenty of evidence of the damage caused and believe that there is indeed a serious problem; the Royal College of Physicians (1987) has called it 'a great and growing evil' yet we have difficulty in convincing the public at large that something needs to be done.

There are many reasons for this. In Britain over 90% of the population drink alcohol and most are unharmed by it. Alcohol oils the wheels of social intercourse, and the fact that it is a drug, 'our favourite drug' (Royal College of Psychiatrists, 1986), is firmly rejected by most individuals. Unlike illicit drugs it is not illegal to drink alcohol except by those who are under age. Alcohol agencies like 'Alcohol Concern' and 'Action on Alcohol Abuse' (Triple A) are regarded as anti-alcohol, when in fact most of their members enjoy the occasional glass of alcohol. Above all, the level of knowledge about alcohol among both public and professionals is woefully inadequate, and public opinion is not yet sufficiently informed to encourage action against abuse. There are also powerful pressures from government, which earns £11000/min from alcohol taxes, the brewing industry, the media and advertizers to promote the consumption of alcohol.

Patterns of consumption

What is the evidence that we should be concerned about present levels of drinking? In Britain annual consumption of alcohol has doubled from about 5 litres per head of population over the age of 15 years to about 9 litres in the last 20 years. A similar pattern is seen in most developed countries, only those in the Mediterranean having achieved a stable (although very much higher) level of consumption. The rise in developing countries is even more striking (Walsh & Grant, 1985). To give two examples: beer production in the Cameroons increased by 300% between 1960 and 1981, and North Korea which was bottom of the league table of thirty countries whose consumption of spirits was measured in 1960 (incidentally just beating the UK) was top in 1981. Countries which were formerly among the lowest consumers have shown the greatest rises, and affluence causes drinking to become 'internationalized' with wine (as in Britain) and spirits predominating in increased consumption.

The Ledermann hypothesis

In spite of some controversy it is now generally accepted that the higher the per capita consumption of alcohol the greater the amount of damage caused in the population (Ledermann, 1956). Thus, all indices of harm—cirrhosis of the liver, drink-driving offences, admissions to psychiatric hospitals, etc.—are positively correlated with per capita consumption. Where the fit is not good it can usually be attributed to inaccurate information. For example, in Britain it is likely that deaths from cirrhosis may have been officially underestimated by as much as four or five times because doctors do not realize that alcohol is the cause or are reluctant to report it if they do.

Correlation between rising consumption over time and increasing harm does not necessarily imply cause and effect. A causal connection is, however, strengthened by the fact that a fall in consumption is accompanied by a fall in indices of harm. A striking example of this occurred in France during World War I when rationing of wine was associated with a dramatic fall in the deaths from cirrhosis, while mortality from other diseases remained constant (Pequignot *et al.* 1974). With a return to pre-war levels of drinking, cirrhosis mortality rose sharply.

The problem

In the US alcohol abuse is the third commonest cause of death after heart disease and cancer. In Britain, with a population of fifty-six million, a rough estimate is that there are two to three million drinkers at risk, one million of them with problems, and one-quarter of a million dependent on alcohol. Put in other ways: for every drug addict there are between twenty and forty problem and dependent drinkers; each health district would have 4000 and a general practice with a list of 2000 patients might expect forty; the National Health Service as the largest employer in the country could have as many as 100000 employees with problems. Only a tiny proportion of these make contact with alcohol services, and on the whole it is the individual with end-stage damage who contacts health professionals, by which time treatment is nearly always unrewarding.

Alcohol abuse accounts for 500 deaths under 25 years of age, and the number of premature deaths is increasing all the time. The recent report from the Royal College of General Practitioners (1986) gives a figure of 40000 (current deaths from carcinoma of the lung are 100000, from drugs 250, and from AIDS under 200 annually). It is only fair to say that this figure is disputed as being too high.

By no means all the problems associated with alcohol abuse are concerned with physical or psychiatric disease. Alcohol abuse contributes to accidents in the home, at work, on the road and at sea; to both serious and petty crime; to disruption of the family, battered wives, child abuse and divorce; to loss of productivity and absenteeism (eight million working days lost annually); and in Britain, generates an estimated £1600 million/year in social costs.

Detection and prevention

The real problem lies deeper than the harm done to those who abuse alcohol and to the rest of society, great though that is. Because of the scarcity of alcohol agencies time is taken up dealing almost entirely with end-stage alcohol abuse, virtually impossible to treat and with a life expectancy measured in a few years (Saunders *et al.* 1981). Success rates for abstinence in this group are seldom greater than 20–30% whatever form of treatment is used. And physically damaged as well as dependent alcohol abusers are getting younger as well as being less heavily weighted towards the male sex. Cirrhosis was commonest in the age range 41–55 years in our patients in 1974; in 1983–84 the

majority of our dependent patients were aged between 31 and 45 years. It may not be coincidence that the age at which drinking starts has fallen in the same time from 17–18 to 12–14 years.

Even today when most people know of someone, relative or friend, with a drink problem, awareness of damage is minimal. A lack of knowledge among professionals, coupled with public ignorance and guilt are likely causes. The main thrust must be towards detecting and counselling heavy drinkers and those who are beginning to develop problems.

This means better education for both laymen and professionals. Health professionals, and especially doctors, need to be able to spot the early signs of damage. Doctors must be more alert to the significance of gastric symptoms, chest pain, arrhythmias, hypertension, diabetes, cerebro-vascular symptoms, etc. (Anon, 1982), especially among young and middle-aged men and in the elderly, and to the psychosomatic symptoms in the spouses and children of heavy drinkers. The ratio of men:women alcohol abusers has fallen in 25 years from 5:1 to 3:2, and since women are more easily damaged than men, doctors should be alert to alcohol excess as a cause of symptoms. There is no excuse these days for failing to obtain a proper history of every individual's drinking habits. As many as two-thirds of those who drink excessively will respond to advice to cut down if it is given to them early in their drinking career by respected health workers (Skinner & Holt, 1983). Unfortunately the stereotype of the 'alcoholic' persists and with it the myth that it is impossible to get any truthful account of an individual's drinking or to do anything about it.

Drinking levels

It is difficult to educate, or for that matter to detect problems, if knowledge about sensible drinking and safe levels is not available. The purists say there is no such thing as a safe level given the circumstances in which drinking is done. Nevertheless in the real world people need guidance, and because of this the three Royal Colleges in their recent reports (Royal College of General Practitioners, 1986; Royal College of Psychiatrists, 1986; Royal College of Physicians, 1987) agreed to make the same recommendations.

These are based on weekly (multiples of seven) quantities in units, where one unit (approximately 8 g pure alcohol) equals half a pint (0.23 litres) of beer, a standard glass of sherry or wine and a single whisky or other types of spirit. Except under special circumstances a weekly intake of up to 21 units for men and 14 units for women is regarded as safe. Consumption of 21–49 units and 14–35 units/week respectively is considered hazardous, and sustained intake of over 56 and 35 units/week respectively is dangerous. All recommendations include a statement that it is sensible to have two or three alcohol-free days a week.

There are two points to make about these figures. The 'safe' threshold has been continually reduced since the first Royal College of Psychiatrists' (1979) report, and there is no guarantee that it has reached the bottom. Second, danger levels are based on fairly crude information relating various intakes, usually estimated in g alcohol, to different types of damage over time. Since a minority of individuals are harmed in any one particular way, it is probably better to consider relative risk. Such information is gradually being accumulated, but a great many reports do not give enough information about levels of consumption to make the necessary calculations. We have started a computer-based review of the literature since 1980 to try and establish risk in relation to different types of harm, so that we may be able to give better advice about sensible drinking in future.

What should be done?

If it is accepted that there is a problem in the UK—and history suggests that when annual consumption exceeds 10 litres per capita, positive steps are taken to reduce consumption, as at the end of the last century when the Temperance movement was born—what are the practical solutions?

The first initiative belongs to the professionals, to educate themselves and the public in the dangers of excessive drinking. Health workers must radically change the emphasis from treatment to prevention. This means that primary-care teams will have to make a positive effort to detect alcohol abuse rather than wait for damaged patients to come to them. If such teams were given responsibility for local wards, as suggested in the Cumberledge report (Department of Health and Social Security, 1986), community nurses and health visitors, for example, could take on the job of surveying drinking patterns among their patients. Greater awareness of the all-pervading influence of alcohol is required by all types of health worker.

The second initiative rests with the public and government. The present cost of alcohol in relation to the cost of living is about one-third of what it was 20 years ago, and the two budgets in 1986 and 1987 did not increase the alcohol tax. A gradual increase over the next 10 years to bring it back in line with the cost of living index would be politically feasible.

At the same time opening hours and outlets for the sale of alcohol should not be increased. Buying of alcohol in supermarkets may have assisted the increase in drinking among women and children; it is possible to obtain a drink on trains, ferries and aeroplanes at any time of the day. In the larger cities drinking in the streets and on public transport is a common sight.

There must surely be some strengthening of the current hypocritical laws against under-age drinking and drink-driving. It is common knowledge among adolescents that some public houses cater for children as young as 12 years who are regular customers; there is virtually no enforcement of the law against those in their teens.

The public may be starting to seek more action on drink-driving, especially among the young, to reduce the unacceptable level of damage. In some countries there are campaigning groups like Mothers against Drunken Driving (MADD); in Scandinavia tough sentences, including prison, for driving under the influence of alcohol have had a marked deterrent effect. The sight in Britain of public houses surrounded by large car parks which are full in the evening, must astonish visitors from countries which take drink-driving seriously.

Advertisment is a contentious matter, the industry maintaining that the enormous amounts of money spent are needed to compete with rival brands and do not influence the overall amount of drinking. While this may be so, the association of drinking with glamour, youth and sport surely has an influence on the impressionable and vulnerable young. In spite of voluntary agreements on advertising, the letter of the law is constantly broken especially by television, as well as by participating sportsmen. When the association between football hooliganism and alcohol abuse proved too strong for the authorities to ignore, and banning of alcohol at some grounds was half-heartedly introduced, a great educational opportunity to portray the sport and its players untainted by alcohol was lost.

The government by word and action has signalled that it does not intend to do anything at present to ease the burden of alcohol excess. (The many bars in the Houses of Parliament are open day and night and many MPs have interests in the brewing industry.) Those who have to deal with the consequences of alcohol damage are left to

spread the message that social drinking is pleasurable but overdoses are as dangerous as with any other drug. If everyone reduced their intake by one-third (Royal College of General Practitioners, 1986), the harm done would be substantially less. If doctors (a high-risk group) reduced their intake the fall in the cirrhosis rate amongst them might help to convince the public of the benefits of sensible drinking. The reduction in deaths from lung cancer among doctors when they stopped smoking certainly affected public opinion, but it has taken 20 years to make an impact on cigarette smoking. It will take at least as long to change drinking habits for the better.

REFERENCES

- Anon. (1979). *British Medical Journal* **1**, 361–362.
- Anon. (1982). *Alcohol Problems*. London: British Medical Association.
- Department of Health and Social Security (1986). *Neighbourhood Nursing—A Focus for Care*. London: H.M. Stationery Office.
- Ledermann, S. (1956). *Alcool, Alcoolisme, Alcoolisation Données Scientifique de Caractère Physiologique, Économique et Social*. Institut National d'Etudes Démographiques Travaux et Documents, Cahier no. 29, Paris: Pressis Universitaires de France.
- Pequignot, G., Chabert, C., Eydoux, H. & Courcoul, M. A., (1974). *Revue de l'Alcoolisme*, **20**, 191–202.
- Royal College of General Practitioners (1986). *Alcohol—A Balanced View*. London: Royal College of General Practitioners.
- Royal College of Physicians (1987). *A Great and Growing Evil. The Medical Consequences of Alcohol Abuse*. London: Tavistock.
- Royal College of Psychiatrists (1979). *Alcohol and Alcoholism*. London: Tavistock.
- Royal College of Psychiatrists (1986). *Alcohol—Our Favourite Drug*. London: Tavistock.
- Saunders, J. B., Walters, J. R. E., Davies, P. & Paton, A. (1981). *British Medical Journal* **282**, 263–266.
- Skinner, H. A. & Holt, S. (1983). *Journal of the Royal College of General Practitioners* **33**, 78–91.
- Walsh, B. & Grant, M. (1985). *Public Health Implications of Alcohol Production and Trade*. *World Health Organization Offset Publication* no. 88. Geneva: WHO.