

Conference Report

Farr sighted

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Most specialties in medicine have their gurus, but I doubt whether many get the sort of posthumous acclaim given to William Farr. Statistics may not get the adrenaline going in all of us, but judging by the enthusiastic response to his commemorative centenary symposium the "father of medical statistics" is not short of an admirer or two. The meeting was organised by the Office of Population Censuses and Surveys and held at the Royal Society. This elegant house in Carlton Terrace with its portraits of men of science commands respect and provided the ideal milieu to pay tribute to a leader in his subject. In a day devoted to Farr, several of the speakers gave illuminating accounts of his work. These more than compensated for an incomplete sketch of current activities and developments in epidemiology.

William Farr was born in 1807 in Kenley, Shropshire, and at the age of 2 he was adopted by a retired cab proprietor, who was a man of "sufficient means" and this enabled Farr to work as a dresser in the Shropshire Royal Infirmary and later to study medicine in Paris and at University College Hospital. In 1839, soon after completing his training, he was appointed compiler of abstracts at the General Register Office. It was here that his insatiable appetite for collecting, tabulating, and calculating data were given free rein. He extrapolated from his findings to express his views—in splendidly flowery prose—on many of the major health problems and social issues of his day. He was a gifted man who was genuinely concerned with the high morbidity and mortality of Victorian England and his perceptive observations made an important contribution to public health. His meticulous collection and classification of information set the standard for future generations of epidemiologists.

Observation and documentation

Farr was sometimes ahead of his time, as Sir Austin Bradford Hill (London) reminded us with two excerpts from his 1849 report. In the first he comments that "the health and temper of workmen can be improved if recreational facilities are provided for them" and that they should be encouraged to take up physical exercise. In the second he warned of the danger of hypothermia and noted that "the aged cannot resist cold so low as 33°F" and that bedroom temperature could not safely drop below 40°F.

As a practical statistician Farr devoted much time to the classification of deaths and certification of births and marriages. He also looked at population growth in England and noted that this depended on a variety of factors including longevity, age of marriage, fertility, migration, and emigration. In common with most Victorians he did not see the expanding population as a problem. How could there be too many Englishmen? After all, one could always send them out to raise the tone in the colonies.



William Farr 1807-1883.

The cholera problem

During the cholera epidemics of the last century Farr had ample opportunity to put his dual talents to the test—accurate tabulation of the mortality of disease and interpretation of this information in the light of environmental factors. The miasmatic theory of disease was prevalent then, and, as Fred Lewes (Exeter) explained, most people, Farr included, accepted that you caught ague from miasms. He noted that the "pestilences of the present day are most fatal at low places." This logically led him to expound his "elevation theory" to explain the incidence of cholera. Miasms were heavy and accumulated in low lying areas (along with poverty and depression), and he suggested that the elevation of the soil was directly related to the incidence of cholera.

This was not the only theory around at the time, but Farr dismissed Snow's theory of excremental distribution as "almost too disgusting and revolting to write about." But after observing the outbreak of cholera in Newcastle in 1853, which was due to pollution of the domestic water supply by sewage, he conceded that Snow was right. He then launched into a crusade against the rich and powerful London water companies. He was convinced that the provision of unpolluted water was essential for health. When cholera returned to London in 1866 Farr went down to Poplar in east London to look at the reservoirs. He realised that they were contaminated and his report was published in *The Times*. The East London Water Company was accused of supplying polluted water. The company denied it but in the end Farr won the battle—a major victory, for until this time few had appreciated the necessity for sewerage control and a clean water supply.

Classification of disease

Most speakers at the meeting felt that Farr's major contribution to health was in the classification and nomenclature of disease and in his sound approach to the problems of statistics. Professor Bernard Benjamin (London) discussed Farr's interest in actuarial principles and his construction of the first three English life tables. He improved the quality of census information and included a "domestic" group for wives and mothers and an "undefinable and non-productive group" into which he placed, among others, "certain ladies who neither toil nor spin and nothing of value do their heads produce."

His survey of occupational mortality produced some interesting findings. These included a high mortality among Catholic priests over 55, and his putative explanation was that "the effects of celibacy are then felt." Innkeepers fared badly too, a fact which he attributed to their intemperate lives and habit of indulgence in alcohol. He perceptively described excessive consumption of alcohol as slow suicide.

To the future

In a discussion of present day issues Professor John Fox (London) described the linked demographic statistics that are now being compiled. These should shed new light on the variation of disease in relation to events occurring early in the life of an affected individual. The Office of Population Censuses and

Surveys, which includes the General Register Office, has a statutory obligation to collect data and give out information. This information is available to clinicians or epidemiologists who wish to carry out research, but there is a drawback. The pricing policy is such that, for example, data on mortality by age, by sex, and by father's country of origin for one borough may cost as much as £1500. Brief mention was made of the political pressures that may be exerted on the organisation, which is part of a government body and holds the key to vital statistical information. On a practical note two areas were delineated where further classification and documentation of disease is necessary. The first is in deaths occurring in those over 75 years, where it is important to record the precise cause of death as this may enable clinicians to practise preventive medicine in the expanding elderly population. The second is in the accurate classification of disability and delineation of its incidence, especially in handicapped children.

After an intensive day of lectures I emerged with a clear picture of the work of Farr and through his quotations a glimpse of life in the Victorian era. On comparing his expressions with contemporary statistical jargon I wished myself back a 100 years, taking a chance among the miasms. What statement could be more lucid and true today than the following: "Nothing is more important than health and this depends on how people live and that can be improved."

A collection of works by and about William Farr is held at the Office of Population Census and Surveys Library, St Catherine's House, 10 Kingsway, London WC2B 6JP.

A patient with the Bernard Soulier syndrome—a rare but severe bleeding disorder in which giant sized platelets that fail to adhere are produced by an otherwise normal bone marrow—suffers from repeated bouts of prolonged epistaxis. These last one to three weeks and are almost always coincident with and probably triggered by coryza. Is α -interferon available or likely to become available for prophylaxis by nasal instillation in such cases?

Human α -interferon prepared by recombinant deoxyribonucleic acid technology is now being manufactured in bacteria and purified to standards suitable for use in clinical trials. It is known that given prophylactically as a nasal spray it can prevent experimental colds.¹ It is now being evaluated in clinical trials to work out the appropriate dose and timing to prevent naturally acquired colds and to avoid inducing local inflammation and irritation. It may be years before a product licence is obtained. Pure interferon produces inflammation in normal subjects,² and there may be a few spots of blood in the nasal secretion during use. It will, therefore, be important to take great care when using it in a regimen approved for use in normal subjects that it does not occasionally induce epistaxis in a patient.—D A J TYRRELL, director, MRC Common Cold Unit, Salisbury.

¹ Scott GM, Wallace J, Greiner J, Phillpotts RJ, Gauci CL, Tyrrell DAJ. Prevention of rhinovirus colds by human interferon alpha-2 from *Escherichia coli*. *Lancet* 1982;ii:186-8.

² Scott GM, Secher DS, Flowers D, Bate J, Cantell K, Tyrrell DAJ. The toxicity of interferon. *Br Med J* 1981;282:1345-8.

A woman of 40 uses natural sponge tampons and is developing a recurrent vaginitis after each period. Are these tampons commonly used, and is there any way of sterilising them?

Natural sponge tampons consist of egg shaped pieces of sea sponge of various species harvested from the Mediterranean or the Caribbean. In the 1970s American feminist and "back-to-the-earth" groups¹ advocated their use, partly because sponges seemed more natural than manufactured tampons and partly because some feminists see the sanitary protection industry as male dominated "big business."² Sponge distribution remains a small time business in America (fewer than 10 000 being sold annually by the largest distributor), and their use in Britain is probably quite unusual. The United States Food and Drug Administration objected to the sale of sponge tampons after

analysis showed seawater contaminants such as sand, coral, and hydrocarbons and after two cases of the toxic shock syndrome were linked to the use of a sponge.¹ Like manufactured tampons, sponge tampons are not sterilised before sale, but their advocates advise removing bits of debris and thorough rinsing or boiling for about 12 minutes. They suggest that after use the sponge should be squeezed out, rinsed (if water is available), and reinserted. A single sponge is said to last for several cycles, but boiling shortens the life of the sponge. According to one article,¹ "women with vaginal infections should not reuse a sponge, and should either boil or discard a used one": this seems reasonable advice, though there is little or no medical evidence on the subject. There is an unconfirmed report¹ of an allergic type of reaction, thought to be due to iodine in the sponge. I think this patient should be investigated for the normal causes of vaginitis, including monilia, and treated in the usual way. She may be willing to use another form of sanitary protection for a few cycles to see if her symptoms alter.—JAMES OWEN DRIFE, senior lecturer in obstetrics and gynaecology, Leicester.

¹ Friedman N. *Everything you must know about tampons*. New York: Berkeley Books, 1981.

² Sebestyn A. Blood money. *Spare Rib* 1977;65:6-8.

How effective is hyperbaric oxygen in treating multiple sclerosis? Are improvements permanent, or are they coincidental with a remission?

There has been one published controlled trial¹ in which hyperbaric oxygen was given to a few patients with relatively stable disease. Improvement was reported in 12 of 17 treated patients and only one out of 20 untreated controls. This did not statistically modify progression of disability after one year. The improvement was short lasting in seven patients and long lasting (one year) in five and included disappearance of nystagmus and restoration of bladder control, both of variable duration. In a disease such as multiple sclerosis with a clinical course that differs widely among patients these figures are inadequate to prove what value hyperbaric oxygen might be. We require confirmation and extension of the published findings before there is reasonable certainty that this is not yet another treatment that will disappoint patients.—ALAN TURNER, senior registrar in neurology, Southampton.

¹ Fischer BH, Marks M, Reich T. Hyperbaric-oxygen treatment of multiple sclerosis: a randomized, placebo-controlled, double-blind study. *N Engl J Med* 1983;308:181-6.