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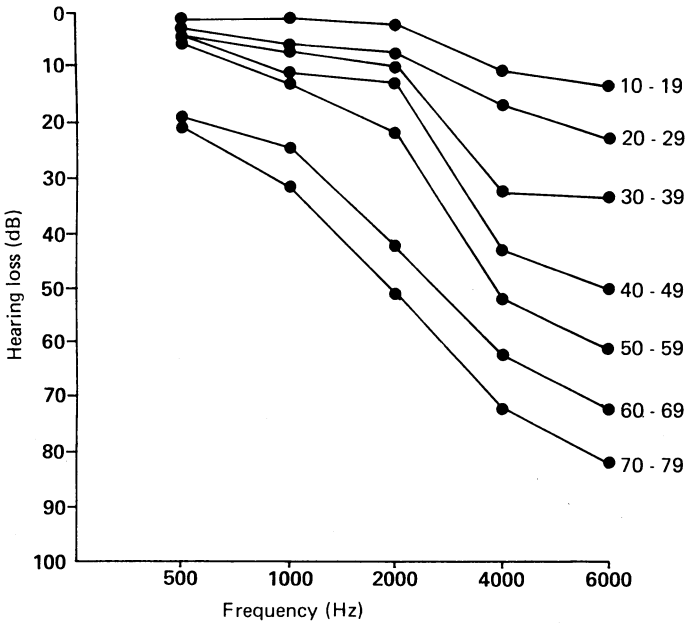
Hearing problems of elderly people

Every elderly citizen should be offered an audiogram

From birth onwards a gradual deterioration in hearing seems inevitable. Hearing for higher tones is lost earlier, and more severely, than hearing for lower tones (figure). The rate of deterioration declines after the age of 70.[2]



Average audiograms for each decade of age from large population survey[1]

The high prevalence of deafness in the elderly is well documented.[3] At least a third of all people over the age of 70 are deaf enough to require a hearing aid; the fraction is about a half in those over 80. Herbst and Humphrey explored impairment of hearing in the elderly living at home, concluding that deafness of a degree to justify a hearing aid is "usual" beyond the age of 70.[4] Earlier this year Dafydd Stephens presented a paper to the Royal Society of Medicine that reported a survey of people aged 50-65 and showed that almost a quarter needed an aid—though only a quarter of them had actually been issued with one.

Calculations from the findings of the Office of Population Censuses and Surveys on disability in Great Britain in 1988 show that over two million people aged over 60 are aware of hearing difficulties,[5] making deafness the second most common disability in the elderly. Furthermore, many people with some hearing loss are unaware of it; probably over four million elderly people in Britain would be helped by a hearing aid. Again the estimate is that only about a quarter have one.

What happens when we fail to identify and help those deaf enough to need an aid, commonly defined as those with a loss of 35 dB or more at speech frequencies in the better ear? The deaf gradually become detached from everyday life. Family chat, shopping, and social outings gradually become difficult and embarrassing and are finally avoided. Such people often become increasingly difficult to live with—asking for remarks to be repeated, getting the wrong end of the stick in conversations, and turning the radio or television on so loud that others are annoyed. And Rabbitt's studies showed that it was much more difficult to cope with the same degree of hearing loss as age advanced.[6] Yet helping the deaf need not be costly. The main source of hearing aids in the NHS is through a bulk buying arrangement with the Mersey Health Authority, and the cost of a basic aid is about £15-20.

Should the elderly be screened for deafness? In an advanced nation on the threshold of the 1990s every senior citizen should be offered an audiogram, and this should be repeated periodically so that the issue of a hearing aid can be suitably timed. Every NHS general practitioner has a named list of people for whose medical welfare he or she has accepted responsibility. Some half of all practices now have computers and are using these to invite specific groups of patients to come for appropriate attention, such as immunisation and cervical cytology screening. Even simple clinical assessment can be highly effective. Ideally, however, elderly patients should be examined by pure tone audiometry. A growing number of practices have audiometers, and suitably instructed practice nurses are ideally placed to record audiograms.[7] Audiometry should be seen as an essential facility in general practice—for example, to monitor glue ear, to meet the need for audiometry for workers in noisy occupations, and to investigate and counsel patients with tinnitus.

In its recent campaign "Hearing Aids—the Case for Change" the Royal National Institute for the Deaf has highlighted the unsatisfactory provision of hearing aids in the NHS. The traditional procedure requiring the referral of patients to hospital ear, nose, and throat surgeons results in deplorable delays (sometimes over a year) for patients. It also greatly increases the waiting period for patients who actually need the attentions of ear, nose, and throat surgeons. Presbycusis is not a hospital disease, and for many elderly

patients the journey to hospital represents a major undertaking. To overcome these difficulties the Royal National Institute for the Deaf has proposed that a three month course should be set up to prepare workers to act as "hearing aid dispensers." They would record audiograms, take impressions of patients' ears so that an insert can be made, and finally issue the aid and counsel the patient in its use. The proposal is that these dispensers should work in the community visiting health centres and larger practices. Unfortunately the job description and the probable pay scale are hardly likely to attract applicants of calibre in sufficient numbers to meet the need.

Another solution would be to enlist the help of practice nurses. They have already satisfied stringent educational requirements and have a scientific and medical background. They are experienced in dealing with accumulations of wax (so often a problem for wearers of hearing aids), otitis externa, and other ear problems. They are accustomed to advising and educating patients, and many record audiograms in the practice. With instruction, they could take a key part in dispensing hearing aids.

Perhaps the best way forward would be to make hearing aids prescribable by general practitioners, subject to suitable regulations. Courses to update general practitioners in the problem of deafness, in the prescription of hearing aids, and in long term support of patients who wear hearing aids could be set up—perhaps under the aegis of the Royal National Institute for the Deaf. Hospital audiology departments could arrange instructional sessions for practice nurses—both to teach them the basics of hearing aid provision and to establish a working liaison with them so that patients presenting special difficulties could be more readily helped. By using the resources available in general practice it should be possible to tackle effectively the problem of hearing difficulties in the elderly.

GORDON HICKISH

General Practitioner,
Bransgore,
Hampshire BH23 8AL

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Congenital malformations

Mortality varies with mother's country of birth

Geographic and ethnic differences have long been recognised in the incidence of specific congenital malformations, particularly neural tube defects.[1] This is one of the tantalising clues to their aetiology, and it also provides an indication of those groups that should be given priority for genetic advice and prenatal diagnosis.

A recent study used linked files of births and infant deaths from the Office of Population Censuses and Surveys to compare by the mother's country of birth the proportions of infant deaths in which a congenital malformation was given as the underlying cause.[2] After allowing for differences in maternal age and social class the authors confirmed previous reports of an excess rate of deaths from malformations in infants of mothers born in Pakistan, particularly neural tube defects, the rate in infants of mothers born in India being the next highest.[3-5]

The use of the Office of Population Censuses and Surveys infant mortality files gives access to large enough numbers to allow such comparative studies. Their value would be considerably enhanced if information about the mother's country of birth was also available for the sets of data on congenital malformations and abortions so that rates could be calculated for survivors and terminations. Data from the latter files would tell us the extent to which the excess in the birth prevalence of malformations detected in the infants of mothers born in Pakistan and India might be attributable to a lesser use of selective termination of pregnancy. If this is not the explanation we need to know how much is due to consanguineous marriage, shown to be an important factor in perinatal mortality due to malformations.[5,6] First cousin marriages are common in the Pakistani community, and their numbers may be rising.[7] Continuing genetic studies in these communities may give important new clues to the causes of the defects, including the possibility that part of the association may be a common diet or other environmental exposure. The role of consanguinity might perhaps be reduced by consultation with the relevant religious leaders, leading to agreement on guidelines for arranged marriages to avoid the problem as far as possible.

Both prenatal diagnosis and selective termination of pregnancy are sensitive issues, but the Pakistani and Indian communities might wish to organise appropriate genetic counselling by their own members together with education of young couples about the availability, timing, and implications of these techniques.

What is indisputable is the value of comparative studies for planning preventive action. Data published elsewhere by the same authors have pointed to a relative deficiency of sudden infant deaths in British babies born to mothers from the Indian subcontinent, and by implication an excess in other groups.[8] These are all findings that should stimulate not only further research but also energetic preventive action in groups of different ethnic origins identified as being at high risk for specific causes.

EVA ALBERMAN

Emeritus Professor of Clinical Epidemiology,
St Bartholomew's Medical College,
London EC1M 6BQ

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