



EDITORIAL

WORLD HEALTH ORGANISATION 'HEALTHY LIFE EXPECTANCY IN 191 COUNTRIES, 1999' — WHAT OF THE FUTURE?

This important review,¹ just published, concerns the present situation in a large number of countries regarding healthy life expectancy or disability-adjusted life expectancy years (DALEY), i.e. years of 'wellness'. By way of introduction and explanation, it was stated that 'years of healthy life lost due to disability represented 18% of total life expectancy with low healthy life expectancy countries, and decreases to around 8% in the countries with the highest healthy life expectancies. Globally, the male-female gap is lower for DALEY than for total life expectancy. Healthy life expectancy increases across countries at a faster rate than total life expectancy, suggesting that reductions in mortality rate are accompanied by reductions in disability. Although women live longer, they spend a greater amount of time with disability. As average levels of health expenditure *per capita* increase, healthy life expectancy increases at a greater rate than total life expectancy.'

The lengthiest healthy life expectancy occurs among the Japanese (74.5 years). In second and third places are Australia and France, followed by a number of other industrialised countries in Western Europe. Surprisingly, the USA is ranked 24th, with a healthy life expectancy of 70.0 years.

Ranked lowest are several countries, largely in sub-Saharan Africa, where HIV/AIDS is most prevalent. Although in 143rd position, Gabon is most favourably placed at 48.3 years. South Africa ranks 160 at 39.8 years and Zimbabwe 184, with 32.9 years. Sierra Leone is in the lowest position, listed 191, with 25.9 years. It was stated that life expectancy in several countries in southern Africa has been reduced without HIV, and that other African countries have lost 5 - 10 years of life expectancy because of HIV.

The immediate questions which arise are: from the distant past, just how far have we come? Among particular populations or subpopulations, which are the most advanced in terms of healthy life expectancy? And, not least, given sustained and intense individual determination, what further gains could be made? Conversely, at the opposite extreme is the dire question regarding sub-Saharan African populations, especially those in southern Africa battling with the consequences of HIV/AIDS infection, namely how much lower is the already diminished life expectancy likely to fall?

First, how far have we come? In the time of Aristotle, in the 5th century BC, babies were not named for a week after birth

since by then 'most' of them had died.² In the first century AD during the reign of the Emperor Augustus, a baby born to any mother could expect to live for 23 years.³ There was very little gain during the Middle Ages and in later centuries; indeed, in the UK as late as 1850 the average expectation of life among the very poor, namely the 'mechanics, servants, labourers', was only 16 years. Life expectancy increased to 26 years for 'tradesmen', and to 45 years for 'gentlemen'.⁴ However, it must be appreciated that those who did survive childhood enjoyed long lives, particularly so among the better circumstanced. There is evidence that well-off men and women in classical Rome⁵ and in the Renaissance period⁵ experienced life spans of 50 - 60 years and longer.

As to changes in infant mortality rate (IMR) and life expectancy, a century ago in the UK these were about 100 per 1 000 live births and 50 years, respectively.⁶ In that country the IMR is currently 5 per 1 000 live births, and expectations of life about 75 years for men and 80 years for women.⁷ Furthermore, in the near future, according to a fascinating editorial in the *Lancet*,⁸ 'survival to 100 years or more may become the norm'.

In the very gratifying situations described, to what extent can individuals or population subgroups, by strong determination, still further increase their years of 'wellness', i.e. of healthy life expectancy? Some well-known examples include certain Mediterranean populations,⁹ Seventh Day Adventists¹⁰ and vegetarians.¹¹ These populations, whose lifestyles comply in large measure with officially strongly recommended health guidelines, have lower than average death rates from nutritionally related diseases, cardiovascular diseases and cancer, and they have longer years of 'wellness' and also longer survival times. In this field, regarding healthy life expectancy, a recent enquiry which has attracted world interest is the US Nurses' Health Study,¹² established in 1976 and including 121 700 female nurses. During the 14 years of follow-up the incidence of coronary heart disease declined by 31% (it could have been greater, but for the rise in obesity). Smoking declined by 41%, the use of hormone replacement therapy among post-menopausal women increased by 175%, and the diet consumed improved considerably.

Probably the most spectacular example of what can be done is afforded by the California Mormons.¹³ A prospective study was carried out over 8 years on a cohort of about 6 000 subjects, including middle-aged high priests and their wives who adhered to three health practices, namely never smoking cigarettes, engaging in regular physical activity, and getting proper sleep. In order to calculate standardised mortality ratios (SMRs) the white population of the USA was assigned a value of 100. The SMR for the Mormon male group was 34 for all cancers, 14 for cardiovascular diseases and 22 for all causes. The corresponding SMRs for the wives of the priests were 55, 34 and 47. These SMRs are among the lowest, if not the very lowest, on record. In commendation, it was stated that 'This



population is currently achieving the 50% reduction in cancer mortality that the US National Cancer Institute has set as a goal for the year 2000. These results demonstrate substantial progress in the prevention of cancer and other diseases in one well-defined population, and they suggest a lifestyle that could result in a major reduction in cancer mortality, as well as in mortality in general.'

Are there any examples in developing populations of those who enjoy better than average health? Perhaps the most quoted example concerns the life experience in Kerala,¹⁴ one of the poorest provinces in India with a population of about 60 million, and whose gross national product is only one-hundredth of that in the UK. Due to various measures of community involvement and self-help, the IMR is low, about 30 per 1 000 live births; elsewhere in India IMRs are 50 - 90 or more. In addition, Kerala, highly desirably, has a far lower birth rate, namely, 20 - 30 per 1 000 head of population, compared with that of India as a whole where the records show 40 - 50 per 1 000.

Turning back to the situation in southern Africa — what was the situation in the past? At the turn of the last century in Cape Town, IMRs for both blacks and whites were very high at 304 and 150 per 1 000 live births, respectively.¹⁵ Corresponding life expectancies were 31 and 47 years. Causes of death were almost wholly infections. At present, the IMR for blacks has fallen to 47 and for whites to 11 per 1 000 live births.¹⁶ Interestingly, in 1995 the IMR in Soweto (population 3 million) had fallen to 20 per 1 000 live births.¹⁷ At that time life expectancies for black males and females were given as 60 and 67 years, and for whites 69 and 76 years, respectively. The former vital statistics are probably the best in a sub-Saharan African population; indeed they approach those of some European populations.⁷ Against the favourable situation described must now be juxtaposed the devastating situation with HIV/AIDS, perhaps southern Africa's holocaust. In South Africa, at present, approaching one-quarter or more blacks are infected.¹⁸ In some big city hospitals at least half of the patients now have HIV-related diseases.¹⁹ In the southern African countries most affected, it is considered likely that the infection will cause the early death of as many as 50% of teenagers,²⁰ and that life expectancy will fall from 60 to 45 years.^{21,22} Only a vaccine is likely to arrest increasing morbidity and mortality.²³

Returning to developed populations, with the possibility of further increases in healthy life expectancies, it is clear that despite the undoubted benefits likely to arise from altering some aspects of lifestyle, the general public has little wish to make any changes. On the contrary, despite numerous health recommendations the undesirable situation is that in most populations the prevalence of obesity has doubled.²⁴ Furthermore, in contrast to previous falls in smoking practice among the young, rises are occurring, as well as in alcohol consumption and drug taking.^{25,26} The general attitude in many

ways would seem to be that since life expectancy with today's mode of living is far longer than it was in the past, people want to live as they wish.

Notwithstanding resistance to change it could be asked: in the ultimate, what is the ideal? In this regard there is the often-quoted view that 'Nature did not intend us to grow old and ill; we were designed to die young, of old age, but free of disease . . . We can prevent a substantial proportion of chronic diseases by improving lifestyle and preventive medicine. Healthy older persons can continue to be physically and intellectually productive and active in their 80s.'²⁷ In this regard two authorities held in high international esteem maintain that 'there is no such thing as aging; old age is associated with disease but not the cause of it'.²⁸

This discussion of ideal health seems heartless when considering the heavy burden of ill-health and premature death in developing populations, with their invariably unfavourable socio-economic circumstances, especially among populations in sub-Saharan Africa. Nevertheless, even in these adverse contexts the health benefits that would result from reduced smoking practice, restricted alcohol consumption, and greater physical activity among urban dwellers should still be urged.

In brief, developed, and to some extent urban developing populations could — with intense, indeed near-Herculean resolve — make alterations to their lifestyle that would assuredly lessen the current burden of ill-health, especially in middle and old age, and further extend life expectancy.

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ASSESSING DIAGNOSTIC ACCURACY AND TYMPANOCENTESIS SKILLS OF SOUTH AFRICAN PHYSICIANS IN MANAGEMENT OF OTITIS MEDIA

To the Editor: The distinction between acute suppurative otitis media (AOM) and otitis media with effusion (OME) is important for antibiotic management decisions;¹ tympanocentesis may be useful in the diagnosis of AOM in selected patients.² During visits to South Africa in 2000 and 2001 I presented a continuing medical education (CME) course, which offered the opportunity to assess the accuracy of South African physicians with regard to physical examination findings of AOM and OME. Their technical competence in performing tympanocentesis was also assessed, and their performance was compared with that of practising United States physicians on both accounts.

CME course participants viewed nine different video-recorded pneumatic otoscopic examinations. Thereafter they were asked to reach a conclusion as to one of four possible diagnoses: AOM, OME, retracted but otherwise normal, and normal.

The percentage of correct diagnoses by specialty and overall is shown in Table I, and is compared with performance by US physicians. There was remarkable consistency in the percentage of correct diagnoses according to specialty for those attending the course in South Africa and the USA. Overall the average correct diagnosis for South African paediatricians was 53%, and for otolaryngologists, 72%. Otolaryngologists tended to make the correct diagnosis of OME more often than paediatricians.

Table I. Comparison of diagnostic accuracy of video-presented tympanic membrane and middle ear findings among health care providers

		% correct	
		Paediatricians	Otolaryngologists
USA	South Africa	USA	South Africa
(N = 478)	(N = 36)	(N = 151)	(N = 37)
50	53	73	72

To validate the skill of otolaryngologists and for training of paediatricians, a mannequin model was developed and validated as an effective training tool. The mannequin consists of a plastic external shell head and shoulders mould with an external pinna and auditory canal. A cartridge consisting of four simulated tympanic membranes inserts into the head portion of the mannequin. Each participant was allowed 15 minutes to complete the four tympanocentesis procedures.

Tympanocentesis performance results are presented in Table II. Above average familiarity with the procedures was observed