

Round Table

Healthy aging and the quality of life

Ian Darnton-Hill

The size of the elderly population, both in numbers and as a proportion of the whole, is increasing rapidly in most parts of the world. This trend, together with other deep changes in society, has made traditional ways of understanding and accommodating the aging process inadequate. Surveys suggest that economic security, psychosocial well-being, and a sense of being in reasonably good health are the most important values to aim for.

Never before have so many people lived for so long (1). Already, in 1992, 18% of Sweden's population and about 13% of the populations of Japan and the USA were over 65 years old. In Japan, which has an average life expectancy of 79.1 years, it is anticipated that approximately 25% of the population will be over 60 years old by the year 2020. Aging, previously regarded as an emerging trend mainly in the industrialized countries, is now recognized as a global phenomenon. In 1990 more than half (55% of 176 million) of the elderly population of the world were living in the so-called developing world; by 2025, the proportion is expected to be 65%. Besides the increasing numbers of people

over 65 years old, there are now many more who live considerably longer. Already, over 2% of the population are over 80 years old in countries such as Australia and New Zealand, and over 3% in Japan and western European countries, and this is the portion of the population that will grow most quickly in the coming decades.

A major difference between countries has been the rates at which they have moved from having a relatively young population to being what is called an "aged society". In France, for example, it took 115 years for the proportion of elderly people to double from 7% to 14%, and it was predicted that this doubling would occur in Japan in only 25 years, between 1970 and 1995, but in fact it happened even more quickly, in about 20 years.

The ever-increasing number of elderly people means that questions concerning the quality of life in the extra years will continue to attract increasing attention and resources in the future. The quality of life in the elderly has come to be seen as depending mainly on socioeconomic security, psychosocial well-being, and perceived health.

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Economic aspects of aging

Socioeconomic security appears to be a critical factor for countries and individuals alike. Countries with a gross national product of less than US\$ 7000 per capita (in the early 1980s) have been found to be unlikely to have an average life expectancy exceeding 70 years. After a certain point, however, increasing affluence appears to produce little further change in life expectancy without social and other changes. Increased food availability has likewise been shown to be associated with increasing life expectancy, but with an upper limit, after which further increases in dietary fat intake may actually be associated with a reduction in life expectancy due to an increase in cardiovascular diseases and probably some cancers.

It has been persuasively argued that where the gap between the richest and the poorest sections of a community is smaller, average life expectancy is higher. Thus it appears to be the scale of income difference and the resulting sense of disadvantage within a society that affects average life expectancy more than affluence as such. In fact, the relative health status of the less advantaged groups has grown worse as the income gap has increased

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in countries such as Australia, the United Kingdom and the USA, and there is concern that the same trend will soon be seen in China. In the United Kingdom, money and class were found to be important determinants of the quality of life before death as well

as length of life. The implication of this is that even though middle-class people are living longer than people in lower socioeconomic groups and therefore might be expected to have more ill-health, they, in fact, also have less ill-health in the year before dying than those in poorer groups. It has been consistently found that about two-thirds of the variation in mortality rates in both developed and developing countries is related to the distribution of income in the nation's population (2).

Level of income and health status are the two most consistently found variables associated with life satisfaction among elderly people. A study on the role of elderly members of Filipino families found that a strong economic position within the household endowed individuals with more power than other household members, regardless of age or health status. Feelings of loneliness were correlated in the WHO-commissioned four-country study on aging not only with marital status, but also with the subject's current economic situation, socioeconomic status, physical health, and physical and social functioning, associations that come up again and again in considerations of the quality of life in elderly people (3).

The elderly in the workforce

One of the effects of aging populations will be the drastic change in the ratio of people working to those retired, which will have fallen from approximately 6:1 in 1990 to 3:1 in 2030 in Japan, though less marked in less affluent populations. This will presumably lead to a shortage of wage-earners, who will increasingly have to come from women who previously stayed at home, and older people, including those above the current retirement ages. If this projection is correct, the current fear that many young people will never have the opportunity of being in the workforce may eventually turn out to be ill-founded.

In the shorter term, however, this could be a source of conflict between unemployed younger people who want to work and older people who want to go on working, a similar conflict to the one women faced when they started entering the workforce in significant numbers.

The current trend in Europe appears to be for people to take early retirement, although in countries such as Japan, 40% of men take a second job after retirement. There are marked differences in labour force participation rates between elderly men and elderly women, and between developed and developing countries. For example, rates range from less than 2% of elderly men in the workforce in Austria to 85% in Malawi. For women, rates range from 1% in some developed countries to 29% in the Philippines (1). In contrast to elderly men's declining work participation rates, rates among older women in developed countries have been rising or holding steady.

A study on employment, social networks and health in retirement years found that continued employment into old age was generally associated with higher morale, happiness, better adjustment, longevity, larger social networks and, no doubt partly because of these, to better perceived health (4). In the context of health promotion there is therefore support for the idea that the retirement age should be flexible, with the capability of each individual judged in relation to the specific demands of his or her job. A review of studies made in Finland, Japan, the United Kingdom and the United States cited evidence suggesting that "the accepted conventions about ageing are overly pessimistic and that older workers offer many advantages to industrial employers through their experience, attitudes, and commitment", and that rates of absenteeism were actually lower among older workers (5).

Well-being and the family

In Canada, it was found that those who aged successfully were those who had reported greater satisfaction with life when questioned 10 years earlier, and who had made fewer demands on the health care system. Not being widowed or entering a nursing home were also shown to be predictive of successful aging in this study (6).

Mortality has been found to be lower if an elderly person is married, and higher if single, divorced or widowed, suggesting perhaps the importance not only of the family, but of day-to-day social interaction. The positive effects of social support have also been demonstrated by means of intervention studies and at least three epidemiological studies have shown that being in a network of family and friends is associated with a lower risk of mortality. Higher age-specific mortality rates among widowed people than among married people have been consistently reported, although it appears that excess mortality in this group peaks during the first six months of bereavement and declines thereafter.

At the same time there is some evidence, although not as strong as is often claimed, that the break-up of traditional households has meant the abdication of care of the elderly by their families, although even in the more "westernized" countries of the Western Pacific region of WHO, the family is still the greatest single source of support and the main focus of activity for the elderly. Much research on modernization and aging has supported the hypothesis that the status of older people declines as a society becomes modernized. This tendency has been attributed to many factors such as modern mass education, the decreased importance of land as a source of power, increased proportion of the population being aged, the emergence of the nuclear family, retirement, residential segre-

gation between the generations, social differentiation, and rapid changes in the social structure and cultural values.

However, in the Republic of Korea, where traditional values regarding the elderly are reinforced by Confucianism emphasizing filial piety and strong obedience to parents, investigators found that younger elderly people who were married, lived in rural areas, and had modern attitudes and highly educated children were more likely than others to have power in family decision-making. In a study in the Philippines the younger elderly had greater input into family decisions than did the older elderly. While this could simply mean that authority declines with age, it was thought more likely to be because of other factors differentiating the two age groups. If so, this would argue against the contention that the impact of modernization upon the social status of the elderly is necessarily negative (7).

Preference among the elderly themselves for being separated from their children and having an independent household seems to be increasing (7, 8). In a survey of the elderly in Canada, Germany, Japan, the United Kingdom and the USA it was found that although most elderly people enjoy close family ties, they wish to remain independent even in the face of serious illness. In these countries, but

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not Japan, moving in with a son or daughter's family was not a popular option, and even institutional care ranked higher. Unlike in the USA where private nursing homes are more widely accepted by old people (41%), only 5% of the Japanese elderly want to stay in

such a home if they become physically unable to care for themselves. In the Republic of Korea, 61% of those questioned (compared with 15% in Germany) said living with their offspring was or would be an ideal situation. However, this is a large decrease from the figure of 83% given in 1981. In Europe, there is also considerable disparity. For instance, the number of people of over 65 living in institutions ranges from 11% in the Netherlands to 1% in Greece.

Perceptions and expectations

The perceived role of women is another area of change. In most countries, women are more likely to survive to older ages than men, to be lonely, and to be economically disadvantaged. Even in societies in which women are seen to have a considerable degree of independence, the burden of care of the elderly, especially the infirm elderly, still rests predominantly on the females in the household. This is even more the case in many Asian societies. Studies by the Japanese Ministry of Health and Welfare have shown how nursing of the aged is expected to be shouldered mainly by women, including the aging spouse herself. However, change is rapidly occurring, and although the responsibility may still be thought of as belonging mainly to daughters and daughters-in-law, it may just not be possible if these women have full-time jobs, if the housing is too confined or if there is geographic separation. In Singapore for example, women in the labour force rose from 44% to 50% in just a decade. This, together with the changes in the workforce mentioned above, will have considerable implications for the individuals, families and finances involved in health care of the elderly in the near future.

Differing expectations also strongly affect psychosocial well-being. In a comparative study of the elderly on different continents, it was found that only 10% of the elderly in the

United Kingdom were living with their families, but only 11% of them felt neglected by their children, whereas in the Republic of Korea 41% felt neglected although 61% actually still lived with their families. In a European survey of the elderly, 1% of the Danes, 7% of the Britons and 9% of the Americans questioned described themselves as often lonely. As might be expected, those who were married were less lonely than those who were widowed, divorced or separated. Although not strictly comparable because of possible methodological differences, 24% of Fijians, 22% of Koreans, 10% of Malaysians and 7% of Filipinos have been reported as being often lonely. A study made in the USA indicated that numerous variables, such as subjective and objective health, education, financial satisfaction, having a role to play and feeling integrated, significantly correlated with life satisfaction. However, the combined effect of two variables, namely feelings of loneliness and isolation from the family and levels of sociocognitive skill, accounted for 49% of the variability in the life satisfaction of elderly people (9).

As in physical health, psychosocial perceptions and effects are the outcome of a lifetime of experience and development. When asked about their own assessment of their health and life satisfaction, many older people said they did not feel or believe that growing old was necessarily "all down hill". When one's external and internal environments are understandable, meaningful and manageable, life satisfaction is positive. When they are unstable, or are considered likely to become so, life dissatisfaction increases.

Feeling physically healthy

The most important single non-biological factor affecting the health of an elderly person appears to be his or her economic condition; next comes nutrition, and then level of edu-

cation (10). At the same time, health has been found to have the largest effect on life satisfaction, followed by subjective integration and financial satisfaction. It was noted above that health status and level of income were the two variables most consistently associated with life satisfaction among elderly people in general. In the very elderly at least, physical health status has been found to be a stronger predictor of emotional well-being in relation to life satisfaction than social networks.

Although about 80% of older people are quite capable of carrying out the activities needed for daily living, older people are statistically more likely to suffer ill-health than those under 60 years of age. Not only will they have more ill-health but many will have more than one condition that is disabling or in need of treatment. Health problems which significantly affect older people include incontinence, chronic pain, arthritis, deafness, periodontal disease, osteoporosis and hypertension. Although the diseases to which an elderly person is prone are not peculiar to later life, they take on specific characteristics when they occur in later life. An elderly person's illness is a compound of a particular disease and the effects of the aging process, plus, all too frequently, the pharmaceutical drugs which have been prescribed for various impairments. In western countries, for example, approximately a third of the people aged 65 years and over, and three quarters of those aged 75 years and over, take medication regularly.

Researchers taking the approach of looking at "successful agers" found that they were less likely than all others to have ever smoked. There was also some evidence that they were less likely to have either abused or completely abstained from alcohol, and less likely to have been severely over or underweight. One such study was on a cohort of over 5000 men of Japanese ancestry living in Hawaii. Those

who developed coronary heart disease, stroke, cancer or a variety of other conditions, were more likely to have higher blood pressure, be obese, smoke cigarettes, consume alcohol at higher levels of intake than the others, and

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have abnormal serum glucose, uric acid and triglyceride levels. Years spent in Japan was a factor positively associated with disease-free outcome in the trial period, but was presumably related to environmental and lifestyle factors in Japan.

An examination of the lifestyles of the Japanese led to the conclusion that their high longevity is at least partly due to current eating habits: a ratio of approximately 1:1 for dietary animal to vegetable protein, retaining rice as the main dish, having one of the highest intakes of fish in the world, and reducing the amount of salt in the diet. Almost certainly, the still relatively low levels of saturated fat in the Japanese diet should be added. Even among the "westernized" inhabitants of Osaka, dietary fat was found to contribute only 23% of energy intake, compared with 42% in the United Kingdom. The ratio of unsaturated to saturated fat is 1.1:1 compared with 0.34:1 in Britain. The change to less (but still relatively high) salt and fewer preserved foods has also probably been responsible for the decrease in both stroke and stomach cancer in Japan.

In spite of all this, however, it may be that subjective perception of health, rather than actual health, is more important in terms of how elderly individuals feel about the quality of their life. In the four-country study men-

tioned above (3), at least half the subjects in all four countries reported feeling quite healthy, ranging from 50% in Korea to 84% in the Philippines. Except in Fiji, more females felt unwell than males. When asked about health problems or illness affecting functional ability, there were marked cultural differences with 59% of Fijians reporting such health problems, 40% of Koreans and 25% of Malaysians. Although Filipinos reported higher levels of satisfaction with their health status than other countries, they also had the highest prevalence of health problems, which brings us back to questions of expectation. In a study of four European countries and Japan, it was found in all five countries, that becoming ill was the greatest fear of elderly people.

Health promotion

A WHO Scientific Group looking for a global end-point for epidemiological use, proposed maintenance of autonomy as the basic aim of healthy aging, and prevention of its loss as the objective of intervention programmes (11). Such interventions will require social support, public changes of attitude, and manipulation of the environment, in addition to activities directed to the individual.

It might even be said that the real aim of health promotion is to lead to "healthy dying". In western studies at least, older people mostly interpret this as remaining as independent as possible for as long as possible and as having as much control over their lives as possible. It would be interesting to know if societies in which old people expect to be cared for in the family setting attach equal importance to this factor of independence. It may be that a higher value is given to remaining productive within the family and maintaining respect as a source of guidance and wisdom. Many studies, however, have shown a remarkable convergence. As Rowe & Kahn observe, "lack of control has adverse effects –

on emotional states, performance, subjective well-being, and on physiologic indicators" (12). The authors also found that undesirable events over which the individual had full control did not correlate with the index of emotional strain, whereas this was not so for undesirable events over which the individual had no control.

The possibilities for primary prevention are somewhat reduced in old age, and the distinctions between primary prevention (avoiding or delaying the onset of diseases), secondary prevention (early diagnosis to stop the progress of disease), and tertiary prevention (adequate treatment of established diseases to diminish disability) become increasingly blurred.

Medawar has proposed that most diseases that afflict us from middle age onwards might simply represent "unfavourable" genes that have accumulated to express themselves in the second half of our lives (13). They are no longer subject to evolutionary pressure, as that only affects the earlier years, when we reproduce, so all types of haphazardly accumulated decay can assert themselves freely. In this argument, civilization, which has more or less wiped out famine and pestilence in most industrialized societies, is not the cause of our chronic diseases but has merely allowed our genes to express themselves and reveal what had been lurking within us for centuries. It is likely that the "western" chronic disease pattern already existed among the few relatively affluent people of the past, who were somewhat better nourished, and more exempt from infections, and therefore lived longer. If this is true, lifestyle changes will be of little avail.

However, given the effect of lifestyle changes on cardiovascular and cerebrovascular disease prevalence figures, as well as the effects of class, socioeconomic advantage and edu-

cation, I take the view that lifestyle factors are important, particularly with regard to individual behaviour in matters such as smoking, diet and physical exercise. Growing evidence supports the view that continued physical activity and good nutritional status are important determinants of physical and cognitive functioning. Studies suggest that

Increased food availability has been shown to be associated with increasing life expectancy, but with an upper limit, after which further increases in dietary fat intake may actually be associated with a reduction in life expectancy.

moderate exercise programmes improve the glucose intolerance and insulin resistance of older people and, together with avoiding the known risk factors of cigarette smoking, heavy alcohol intake and inadequate calcium intake, can also help in the prevention of osteoporosis.

As we have seen, the continuing increases in life expectancy mean that questions about the quality of that longer life are becoming more important. The aim must be to compress the time of disability so that an ever-decreasing proportion of our longer lives is spent disabled or in ill-health. So far, it is unclear whether this is happening or not, partly because of methodological problems in examining the variety of factors leading both to increased life expectancy and to disability and ill-health. Also these probably differ from country to country. At present, women can expect to spend more years in a disabled state than men, but also to live longer. National longitudinal studies now taking place in an increasing number of countries are beginning to examine this important question, with all the implications it has for national health and long-term care systems.

Japan has concluded from its experience that strong health service programmes and check-ups starting in middle age reduce the demand for inpatient care in later life. However, considerations of cost-effectiveness are not currently a constraint in that country, and it is likely that such an approach is beyond the resources of all but a few. The cost, except in the case of a few specific medical conditions, generally does not appear to justify such an approach.

A possible obstacle for health promotion in this area is what older people consider appropriate behaviour. In Australia older people have reported feeling that participation in vigorous activities is inappropriate and becomes less acceptable socially with increasing age. It has also been found that the aspirations and expectations of older people for their own capacity and achievement tend to be low, and those perceptions are reinforced by the expectations of the rest of society. Reduced opportunities also reduce the activity levels of older people.

Needs and options

To sum up, enormous sociocultural changes caused by rapid economic development have brought with them many other changes, both positive and negative, not least in health and aging. Life satisfaction and the quality of life are determined by socioeconomic security,

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psychosocial well-being and perceived satisfactory health. In turn, health is governed by one's past life, genetic make-up and environment, as well as satisfaction with life, psychosocial well-being and socioeconomic security.

All are intertwined and necessary, with their relative importance differing from culture to culture and person to person, but the factors remain remarkably similar.

Some have expressed the concern that tackling the emerging problems of the aged may, while necessary, further weaken the tradition of supporting and caring for them within the family. This view is sometimes taken in spite of the evidence that the expectations and preferences of the elderly may be changing towards increased independence. The outcome of the debate about the increasing costs of health care for the elderly will depend primarily on the cultural, political and ideological context in which particular service systems operate. It is extremely important but beyond the scope of this paper.

According to the findings we have just reviewed, efforts to meet the needs of elderly people should focus on three factors: their socioeconomic security, their psychosocial well-being, and their perceived health. Health promotion, in its broadest sense of working for healthy lifestyles and health-supporting environments, appears to have much to offer for well-being in aging. Increasing experience with aging populations will help us to decide exactly what are the most important points at which to intervene to ensure that the quality of life is optimized throughout life.

Finally, however, a whole new debate appears to be starting, about the danger that health promotion may encourage dependency in older people and reduce their perceived quality of life by nagging them about what they should be doing or not doing in terms of exercise, prudent diets, sensible drinking and so on. While there would be pay-offs in terms of longer life and better health if everyone did the "right" thing, my view is that such choices, once the information has been provided, must be made by the elderly person concerned. ■

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WHO's programme on Aging and Health

In April 1995 the World Health Organization launched a new programme on Aging and Health which is to include the following perspectives:

- **Life course – approaching old age as part of the life cycle rather than a separate area of health care**
- **Health promotion – focusing on healthy aging**
- **Cultural setting as an important determinant of health in later life**
- **Gender differences in health and ways of living**
- **Ethical considerations which claim more attention as populations age, such as undue hastening or delaying of death, human rights, long-term care, and abuse.**

WHO is being called on to provide worldwide leadership in the health dimensions of aging, which will become a dominant societal issue in the twenty-first century. Aging and Health will be a horizontal programme, working as a catalyst for action in other divisions of WHO, in the Regional Offices, in Member States, and in other agencies. Collaboration with academic institutions and nongovernmental organizations will be firmly established. Key programme components will be information base strengthening, policy development, advocacy, community-based programmes, training, and research. A global media strategy on healthy aging will be created.

- **For further information, please contact Dr Alexandre Kalache, Aging and Health Programme, World Health Organization, 1211 Geneva 27, Switzerland.**

Discussion

Health care in Jamaica

Denise Eldemire

A study in Jamaica found that the main health problems suffered by people over 60 years of age were hypertension, osteoarthritis and diabetes (1). All three of these chronic diseases are related to nutrition and lifestyle. Women were found to be at higher risk from these diseases than men, and two thirds of the 34.2% who were overweight were women. Such findings reinforce the view that health promotion is important for all age groups, since eating habits are formed early in life, and subsequently health depends to a significant extent on how such habits are maintained or modified.

Caring for the "older elderly"

I agree with Dr Darnton-Hill that lifestyle changes, especially in the area of physical activity and nutritional practices, can reduce disability and improve quality of life,

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especially for the "older elderly", namely those over 75. In a country such as Jamaica, where 60% of the elderly live in rural areas, a certain amount of physical activity is usually

unavoidable as walking is the only reliable means of transport. In our community study, 78% of the respondents walked daily. Another very important concept for successful aging is self-care, which refers to everything individuals can do to prevent, diagnose and treat their own illnesses, and use the informal and formal support systems and medical services available.

To avoid or overcome the obstacles health promotion can encounter, careful attention must be given to the normal cultural practices of the population concerned. In Jamaica one such obstacle is found not among the elderly themselves but among their younger relatives who want to "look after" them and encourage them to be less active than is good for them. This underscores the need for health promotion for all age groups as a means of strengthening intergenerational relationships, especially for countries which depend mainly on informal systems of care – in this case the family.

In Jamaica the extended family is still cohesive, and is often headed by an elderly person. Caring for elderly family members is not usually seen as a burden, and in many cases is carried out not by the young but by people who are only 10 or so years younger than the patient. Women, although they live longer and are economically disadvantaged, usually live with the extended family and do not see loneliness as a major concern. This is related to the traditional role of women in maintaining the home and raising the children.

Although Jamaica's per capita gross national product is significantly less than US\$ 3000, average life expectancy is over 75 years. People aged 75 and above comprise the fastest

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growing age group, and already account for 39% of the elderly population (those aged 60 and above). As has frequently been pointed out, the "older elderly" require two to four times as much health care as the "younger elderly". Meeting this growing need is therefore a pressing concern. At the same time, keeping it to a minimum by means of early prevention programmes can yield substantial benefits. Not least among these are the advantages of increasing the ability of the old to remain physically self-sufficient, economically independent and socially involved.

Health promotion through the primary health care system

Like many other developing countries, Jamaica already has a well-established structure for carrying out health promotion programmes for the benefit of older people: the primary health care system. This level of health care includes all age groups, and as such favours the life-cycle approach to health promotion. In most cases beneficial changes in lifestyle take their most important effect over a number of years. For instance, control of hypertension in mid-life reduces the risk of cerebrovascular disease in later life; likewise, proper management of diabetes mellitus from the start reduces ill-health and disability in later life. Thus a modest investment in promoting healthy lifestyles among adults now will yield its most substantial savings when the same people are elderly.

The multiple causes of chronic diseases are still insufficiently understood, and ongoing research is needed to make the preventive activities more numerous and more effective. Already, many of the frailties of old age can be reduced or averted if they are detected in time and appropriate action is taken. This calls for a culturally appropriate system of care, providing not only for medical referral but for social and economic support as well.

Health promotion must be seen as part of an overall strategy rather than a self-sufficient activity. WHO has suggested that maintaining autonomy should be the basic objective of care for the elderly. Other important considerations closely related to this include preserving dignity, and ensuring access to necessities such as rehabilitative, educational, social, economic, and health services. Thus programmes for preventing disease and disability in old age have to be multidisciplinary and involve intersectoral cooperation and community participation. Public support is needed at all levels, from national government to local community, and this means that health promotion activities must include efforts to change public opinion and attitudes towards aging. ■

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Tradition and the future in India

Bela Shah

The social and physical well-being of the elderly population is becoming an important issue for India. At present there are 55.3 million people in India who are over 60 years of age, which is 6.55% of the total population. The number is projected to increase to 75.93 million by the year 2001, representing 7.7% of the total population. The current decline in fertility and increase in life expectancy will continue to enlarge the elderly population. The proportion supported by their children, which was 80.8% in 1971, is projected to fall to 50.9% by 2001.

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Rural and urban differences

There are significant socioeconomic differences between the urban and rural elderly in India. More than 80% of those aged over 60 live in rural areas. The rural elderly are older than the urban elderly, but have little access to tertiary care services. In the rural areas 6% of the women are elderly, in the urban areas 5.1%. While 78.2% of the elderly men are currently married, thus having the support of the spouse, 64.3% of elderly women were widowed, and most of them are dependent. A large workforce exists in the rural informal sector: 70% of rural elderly men work, as against only 48% of urban elderly men. The health care services also differ significantly in rural and urban areas, with emphasis on primary health care in the rural areas, and tertiary care in the urban areas.

The medical problems reported by the elderly are mainly related to chronic disorders. Coronary heart disease is the leading cause of death in the elderly. Visual and locomotor disabilities are widely reported. In a rural community survey made by the Indian Council of Medical Research, only 20% of those interviewed said they had no medical problems. Geriatric subjects presented with five or six symptoms simultaneously, and had two or three diagnoses. Health problems were as follows: visual (65% of the sample), locomotor (36%), respiratory (10%), skin (8.5%), central nervous system (7.4%), cardiovascular system (6.3%), and hearing (5.8%). On the positive side, only 1.1% had psychiatric complaints.

Health services

The Indian Council of Medical Research has shown that geriatric clinics can be set up successfully at the primary health centres in rural areas. The existing paramedical staff can be trained to recognize the important physical illnesses and find an appropriate medical,

family or social intervention. Sleeplessness, vague bodily pain and backache responded well to intervention by health workers, while other symptoms like visual handicap, giddiness and pain in the joints showed only marginal improvement.

Psychosocial aspects of family integration and social integration could also be improved with intervention. In the rural areas, 10% said they felt isolated from their families while 11.6% were actually living alone. Lack of family integration occurred even among those living with the family, and conversely, those living alone did not all feel isolated. In another study, elderly subjects attending psychiatric outpatient departments were observed to lack family and social integration. Depressive illness was the most common disorder, and patients responded well to intervention.

Appropriate screening and referral would greatly decrease the load on tertiary care services for the elderly, which in India are sadly lacking. Some hospitals do have geriatric outpatient services, but very few have inpatient facilities earmarked for geriatrics. This may be because the Indian elderly at present are mostly in the "young elderly" group (60–75 years old), in which there is little demand for long-term health care. A study on those attending a geriatric clinic in a rural primary health centre found that 58% required referral for medical care, 5.3% for psychiatric care, and only 2.3% for inpatient admission. In a countrywide survey made by the National Sample Survey Organisation, only 5.4% of those above 60 years of age reported being immobile.

General hospitals and departments of medicine continue to cater for terminally ill patients. Several forums have discussed the need for more emphasis on geriatric medicine and management in India. The public health system needs more centres and specialists in this field.

Elderly Indians are not easily moved to seek hospital care – on average, the time between becoming eligible for institutionalization and accepting it is 9.8 years. Health insurance and other support measures for the terminally ill are available for those who have worked in the organized sector. The majority of elderly who are ill are looked after by their families. Even today, the younger generation in India see it as their responsibility to care for their elderly, and they are under social and cultural pressure to do so.

Tradition

In the Hindu culture one prepares oneself for old age by adopting the disengagement theory. This stage of *vanaprastha* in a man's life requires him to give up his authority over family and property, and devote his time to self-realization. Such cultural traditions play an important part in the high level of life satisfaction found among elderly Indians. Indian social norms not only call for the proper care of the elderly by the family and the kinship group, but also define their status with regard to most family matters. Therefore, old age was never seen as a social problem in ancient India.

In contemporary Indian society, however, the position and status of the elderly and the care and protection they traditionally enjoy have been undermined by several factors. Urbanization, migration, the break-up of the joint family system, growing individualism, change in the role of women from being full-time carers, and increased dependency status of the elderly may be cited. There is also a generation gap in terms of education, aspirations and values, and the allocation of resources to different members of the family. Often the family is unable to meet the financial, social, psychological, medical, recreational and welfare needs of the elderly, and needs help from supporting services.

Old people's homes do not appear to be the answer for the majority of the Indian elderly. Of the rural elderly who were questioned, 33.4% suggested that such homes should be started in villages, but only for those who

In the census of 1981, 65% of the country's elderly men and 14% of its elderly women were listed as workers.

were destitute and lonely. Institutions such as ashrams may be suitable for such cases.

Increased recreational activities and spiritual discourses were among the suggestions made by the elderly for themselves.

The responsibility of the State for its senior citizens is enshrined in India's Constitution. It includes pension schemes, but these are applicable largely to the organized workforce. In the census of 1981, 65% of the country's elderly men and 14% of its elderly women were listed as workers. Thus a large proportion of elderly remain economically active. Of the non-working elderly, only 23% of the men were retired pensioners; 69.4% of the men and 52% of the women were dependent.

Steps to be taken

A workshop on the public health implications of aging in India was organized in 1993 by the Indian Council of Medical Research. Its recommendations included introducing the concept of geriatric care into hospital services, developing rehabilitation services for the disabled elderly, introducing principles of geriatric medicine in the undergraduate medical curriculum and organizing facilities for postgraduate training in gerontology at some institutions.

The terminally ill elderly are largely looked after by their families. Homes have been

suggested for the elderly destitute and those living alone, but above all, commitment and compassion are needed, for without them no amount of facilities and infrastructure will work. Modernization is causing the traditional culture of family care to disintegrate. Every effort should be made to prevent the elderly from being segregated from the family. Family support for the elderly needs to be strengthened economically by the State. Western experience has shown that family and community support cannot be replaced by institutions and old people's homes.

Traditionally the elderly were seen as an asset and as the head of the household on whom the entire family could depend for guidance, coordination and advice. We should encourage people to continue this tradition.

The elderly represent a vast resource. Their experience, skills and wisdom should be recognized and fully used in each community and in society as a whole. ■

Ideals and realities in the Eastern Mediterranean

Ghada Hafez

Dr Darnton-Hill's paper gives us an excellent overview of the global transition often referred to as the "greying" of nations. As recently as the first decade of this century, long life was a privilege enjoyed by relatively few people. Today, as the twenty-first century approaches, it is a reality for millions, even in the developing world. Medical technology, "miracle" drugs, and improved health care

generally, have to a very large extent been responsible for making this happen. However, this success has brought with it formidable challenges.

There is not yet much public awareness in the developing countries of this demographic transition and its implications. In most cases, the possibility of living to be a centenarian produces a feeling of euphoria, without much thought about the health and socioeconomic implications. In most countries of WHO's Eastern Mediterranean Region, the elderly only make up 3–5% of the population, and the transition, though it is already happening, receives little attention from national planners and health administrators. Therefore the first step for WHO in responding to this trend has been to make people aware of it at the highest level in the health sector.

Support for the elderly is needed mainly to meet their economic, social and health needs. Perhaps the most daunting question is how to provide the economic support that a large proportion of the elderly population will need just in order to survive. This is particularly the case for elderly women, most of whom will be widows, who greatly outnumber the men, and who also have special social and health needs.

The family and its limits

There is no simple answer to the question of where the increasing number of elderly people will live and who will take care of them. It is frequently said that the cultural norm in most countries of this Region is to take care of elderly parents and other relatives at home, and that sending them to old people's homes and similar institutions is out of the question. However, surveys conducted by the Regional Office have shown that because of migration from rural to urban areas and to other countries, elderly relatives

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are often left alone in the rural home, even if everyone agrees they should not be.

There is also a distinct trend towards the erosion of the extended family system and its replacement by the nuclear family. Furthermore, the stringent economic conditions currently faced by lower-income and some middle-income families restricts the amount of support they can give their elderly relatives. Economic independence appears to be a vital requirement for happiness in old age, but to achieve it, a dialogue between the State, non-governmental organizations and the families concerned is urgently needed.

The cultural norm of family solidarity prevailing in this part of the world is in great need of support from the State, society, communities and individual carers. It is encouraging to see that several governments in the Region are providing economic support for the elderly through such means as pension schemes, subsidized food and drugs, subsidized transport and accommodation, and financial assistance for families maintaining elderly relatives. In several countries hearing aids, glasses, crutches and other items which reduce disability are provided through the welfare system.

Other sources of support

A significant amount of support is also provided by religious bodies. In Cyprus the churches provide a large part of the care received by the elderly, as do the mosques in Iran. Some nongovernmental organizations are also involved in establishing homes for elderly people who have no one to take care of them, and in organizing programmes for providing them with food and medical care.

Health support is also indispensable. It is often forgotten that aging involves biological changes which reduce the physical and mental

competence of even the fittest and healthiest people. However healthily we age, there will be changes in the digestive and nervous systems, muscles, bones, lungs, and blood vessels. An old woman or man can certainly be healthy but it is a relative term.

Though ultimately unpreventable, most of these biological changes can be delayed by taking various steps, most of which involve living in certain ways. To ensure the best

However healthily we age, there will be changes in the digestive and nervous systems, muscles, bones, lungs, and blood vessels.

possible health in old age, a healthy lifestyle should be adopted in one's 40s or 50s, or preferably even earlier. Awareness of the biological processes of aging will make it easier for people to take the steps necessary to delay them. This awareness can be promoted through the primary health care system, and the Regional Office is focusing its efforts on training primary health care workers for this task, and for care of the elderly in general. ■

A mixed blessing

John Fraser

I think that, at least till he got tired, my father quite enjoyed the ninetieth birthday party my wife organized for him. It certainly broke the routine to be surrounded by so many children, grandchildren, great-grandchildren and assorted collaterals.

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He was, I suppose, a case of “successful” aging, for he was still autonomous, doing his own frugal shopping on foot and preparing his own skimpy meals. But his “quality of life” was no longer very good: retinal damage

Prince Albert, who was doubtless well nourished, died of typhoid fever almost certainly transmitted in the palace water supply. Alexander the Great died at 32, probably of malaria, and Cicero's slave Tiro lived to be 100.

due to late-onset diabetes, otherwise well controlled, had forced him to give up tennis in his late seventies, and now reading was becoming very difficult. After ten years' bereavement he still badly missed my mother. Burglars had taken his silver tennis trophies and everything else of value, except books, now as useless to him as to them, and then threatened him with a gun until he managed to convince them that he kept no money in the house. I suppose he was lucky not to be tortured.

We would gladly have helped him move into a comfortable and convenient flat, but he would not hear of leaving his ill-heated house and the wilderness he still called his garden. Myself now in my seventies, I understand him.

Age without death

After cutting his cake (with a little help) and being duly congratulated on achieving such enviable longevity, he murmured to me: “I am a Struldbrugg”.

In Jonathan Swift's satire *Gulliver's travels* (Who reads it nowadays? Everyone should), Struldbruggs, born in the Kingdom of Luggnagg at the rate of only two or three in a generation, and “not peculiar to any family, but a

mere effect of chance” (perhaps a rare recessive gene?), are persons recognizable by a distinctive birthmark as endowed, like Tithonus in the Greek myth, with immortality but not with perpetual youth.

In Swift's brief but graphic account of their unending decay, perhaps the most chilling part concerns their physical appearance: “Besides the usual deformities in extreme old age, they acquired an additional ghastliness in proportion to their number of years, which is not to be described; and among half a dozen I soon distinguished which was the eldest, although there were not above a century or two between them.”

Here, if you like, is “healthy aging” carried to its logical extreme. A nightmarish prospect, but one that most of us would settle for, if indeed as Swift says everyone desires “to put off death for some time longer, let it approach ever so late”. Luckily we shall not be offered the option, because Struldbruggs belong to the domain of fiction. My father died at 93; we grieved for him, but it was time.

The myth of slower aging

Yet, as Dr Darnton-Hill says, “never before have so many people lived for so long”; and, according to optimistic popular belief, this is because people are aging not only more healthily but more slowly. In former times, we are told even by professional historians, who really should know better, most people were old at 35 and dead by 40.

The belief that our ancestors suffered from galloping senility appears to stem from a misunderstanding of the concept of life expectancy. The high birthrates with high infant mortality that were once universal naturally translate into low life expectancy at birth. In the improbable case of a society where half the babies died in the first week after birth

and all the survivors lived to 80, mean life expectancy would be 40 years, though nobody would be "old", let alone die, at that age. Like half-persons in a society where the average couple has 2.5 children, the elderly 35-year-olds of former times are a "statistical artefact". If life expectancy were reckoned from, say, five years of age instead of from birth our current superiority in longevity would appear less overwhelming.

Of course, our ancestors really were more prone than we to die in middle age; but they died from disease, starvation and violence, not from precocious senility. If we were indeed aging more slowly than they, some of us would be reaching ages never attained before, and that is not happening. More of us are equalling the authenticated records, but nobody is breaking them.

Effects of wealth and poverty

I suspect, on purely anecdotal evidence, that our ancestors' tendency to have numerous offspring, few of whom survived, was at least as marked among the affluent, who left the rearing of their children to wet-nurses, as among the poor, whose fertility was tempered by the contraceptive effect of breast-feeding. Swift's contemporary Queen Anne had 17 children, not one of whom reached adolescence.

More generally, I suspect that in former times longevity was at least as evenly distributed as today. Probably, as Dr Darnton-Hill suggests, the affluent "were somewhat better nourished, and more exempt from infections, and therefore lived longer", but was the difference really great? If in the well-to-do countries today we do not suffer much from intestinal infections, surely it is not because we have enough to eat but because we have clean water. Little over a century ago Queen Victoria's consort, Prince Albert, who was

doubtless well nourished, died of typhoid fever almost certainly transmitted in the palace water supply. Alexander the Great died at 32, probably of malaria, and Cicero's slave

In Swift's story we see "healthy aging" carried to its logical extreme. A nightmarish prospect.

Tiro lived to be 100. The plague that ravaged Athens in 430 BC killed rich and poor alike, including the great statesman Pericles.

In more recent times, when the causes of infections were still totally unknown and the orthodox therapy for diarrhoeal dehydration was bleeding, those who could not afford a doctor were doubtless safer than those who could. Homoeopathy, whether or not it really "works", at least respects the principle of *primum non nocere*, and its advent in the late eighteenth century must, by replacing the lethal treatments of the day, have saved many lives.

Nowadays, even in the poorest countries, with mediaeval mortality rates, the affluent few have access to everything they need for the preservation of their life and health, from bottled water and mosquito nets to sophisticated tests and operations. Will the benefits of knowledge be more widely spread, or will the future see such horrific developments, already looming, as the poor serving as walking organ banks for the rich?

Health promotion

In opposition to Medawar's view that our old-age diseases are genetically determined and largely unavoidable, Dr Darnton-Hill believes that changes of lifestyle in our latter years can help, "particularly with regard to individual behaviour in matters such as smok-

ing, diet and physical exercise." I have my doubts: according to an article in the April 1995 issue of *Scientific American*, it is uncertain "whether a man who spends money and time to lower his cholesterol level has done anything to prolong his life", and some examples among my acquaintance suggest that to give up smoking after 40 years' relentless puffing amounts to little more than a belated moral victory.

Lowering blood cholesterol at least has a scientific basis of sorts, but what of the irrational "alternative" regimens that more and more people seem to be following in the hope of prolonging their lives? I fear I may have already given offence by my remark about homoeopathy, so I shall say only that such regimens strike me as very like the "systems" applied by roulette players, whose chances of winning, for all their obsessive counting and calculating, remain unalterably the same as anyone else's. Gamblers who win give the credit to their systems, and long-lived health-cultists to their mystical diets, postures and contortions.

In any case, I strongly agree with Dr Darn-ton-Hill that people should not be nagged about their lifestyles, especially in their declining years, a time of reaping rather than of sowing, when our quality of life depends on our past more than our present choices, and still more on luck, fate, Providence – call it what you will.

Still, it would be perverse to reject a medically validated reason for doing what one intends to do anyway. A recent report in the *British medical journal* (1995, Vol. 310, p. 1165) suggests that a daily intake of five glasses of wine (not, apparently, beer or spirits) will make us live longer and more healthily. I'll drink to that, even if some spoilsport isolates the active principle from *Vitis vinifera* and puts it into a pill. ■

Quality of life – as yet undefined

Carol Brayne

Dr Darn-ton-Hill underlines the continuing importance of the World Health Organization's full definition of health for the older individuals and populations of the world. He includes the results of many interesting studies, but some caution must be exercised in their interpretation. There remain major questions about the definition of quality of life in different cultural contexts and the extent to which there is common ground. Are the areas mentioned, such as socioeconomic security, psychosocial well-being and perceived health, of the same relative importance in different settings? A further factor in this is the changing pattern within cultures over time, not only in the health of surviving cohorts but also, and crucially, in their expectations. The comparison of results from two studies in the same country can be difficult enough, and comparisons of findings from different countries are liable to be flawed by false assumptions. This danger cannot be overemphasized, and such studies require detailed knowledge of the countries concerned and the methods used.

It is difficult to interpret the relative validity and importance of the information Dr Darn-ton-Hill presents. Much of it comes from around the world, but there appears to be relatively little from Eastern Europe and Africa. Both of these regions have much to contribute in terms of variety of living conditions, cultural context and massive societal changes. They contain countries which are in a period of profound change, and fascinating insights into influences on perception of the quality of life could be gained from them.

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Quality of life and income

A particular area which could be investigated further, and is touched on in the economic section of Dr Darnton-Hill's article, is the relation of quality of life to per capita income in the context of different cultures and different income levels. There is much scope here for closer integration of sociological and economic research with anthropological expertise to increase our understanding of this issue. The arguments about economic improvement leading to increased survival seem less convincing in the light of the significant demographic changes occurring in countries such as Brazil without any marked improvement in material circumstances.

The effect of population aging on the dependency ratio is of great importance and interest. Discussions on it seem to neglect the changes in working patterns in many societies. The right and the desire to continue working after retirement age is often mentioned, but those who wish to retire earlier, and the degree to which this preference might exist in a given society, are factors which are often overlooked. Studies which suggest that continued employment is associated with improved indicators of quality of life must be culturally and economically bound. In a society where there is no pension arrangement, some continuation of employment is essential. In societies where this is not the case, those who retire may constitute at least three distinct groups: those who must retire because of ill health, those who must retire because of workforce regulations, and those who wish to retire to enjoy a full Third Age in other ways.

The drive in many societies to employ younger people in preference to older ones contrasts paradoxically with the observation, cited in Dr Darnton-Hill's article, that older workers have much valuable experience to

share. Societies change and progress through the transfer of knowledge and wisdom, and when experienced workers are discarded, this process is cut off. Greater understanding of how work experience is transferred, and the design of mechanisms to derive the maximum benefit from this, could be a research priority.

The concept of Third Age and Fourth Age

Differentiating between the young elderly and the old elderly is perhaps less important in discussions of quality of life than using the concept of Third Age and Fourth Age. Individuals' potential quality of life in their Third Age will depend on many of the dimensions already mentioned, but it is likely that their actual importance for the quality of life depend on the current situation of the person concerned. In other words, when a health problem becomes much worse and other factors remain the same, health becomes more important for the quality of life. In the Third Age, health factors may be low on the scale of contribution to the quality of life, and social factors high. In the Fourth Age, where chronic illness and bereavement become much more common, they may assume greater importance.

Cognitive function and autonomy

Cognitive function is a key dimension of the quality of life, although its importance will depend on the insight and personality of the

Societies change and progress through the transfer of knowledge and wisdom, and when experienced workers are discarded, this process is cut off.

person concerned. Deterioration in cognitive function occurs in a large proportion of the very old, partly as a result of changes in

health, particularly sensory functions. This can impair not only the sufferers' quality of life but that of all those around them, including the older carers. A greater understanding of such changes and the ways in which different societies cope with them would improve

There remain major questions about the definition of quality of life in different cultural contexts and the extent to which there is common ground.

planning and management with regard to the anticipated changes in the demographic structure. Therapeutic progress in specific areas of dementia is likely to have relatively little impact at the population level in the short term.

It is difficult to see how a single "endpoint" for healthy aging can be defined in the face of such lack of knowledge. Maintenance of autonomy has been suggested, and it does seem to imply the reduction of costly dependence, but its importance varies greatly from culture to culture, and it cannot be used to stand for quality of life.

The point raised about which intervention is suitable for whom and at which stage in life deserves repeating. Health promotion and education activities for the older population must be specific, clear, and aimed only at those who are known to stand to gain from them. Well-meaning general health messages aimed at all and sundry about taking exercise and changing one's lifestyle could actually lower the quality of many people's lives. ■

Disability and the quality of life

María Teresa Gil del Real

As the world's population ages, we are faced with important questions about how to ensure the highest quality of life possible for our increasing numbers of elderly. As Dr Darnton-Hill so correctly states, this involves economic, social, and disease-free well-being, or, regarding disease, at least the subjective perception of relative well-being.

The concept of pushing morbidity towards the years of "older" old age is becoming increasingly popular and producing good results with prevention programmes, regular check-ups, and the promotion of healthy lifestyles for the elderly. The success of such efforts, mainly in Western countries, can be seen in decreasing incidence and mortality rates for cardiovascular and cerebrovascular disease, for example. Unfortunately, the same cannot be said for all countries, especially those of Eastern Europe (including Russia and other formerly Soviet countries), where there have been increases of up to 63% in stroke mortality rates in the last 15 years. The reason for this dramatic rise is not yet known: it may be that changing lifestyle in this part of the world is beginning to show its effect, but it could also be that health reporting is more efficient in these countries now than it was in the past.

At the beginning of this century, death was most often caused by infectious diseases, but by mid-century these were being replaced in the West by chronic diseases. At present, among persons 65 years and older, eight of the

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ten principal causes of death are related to chronic diseases: cardiovascular disease, malignant neoplasms, cerebrovascular disease, diabetes, arteriosclerosis, emphysema, cirrhosis and nephritis. The remaining principal causes of death are pneumonia and accidents (1).

As Dr Darnton-Hill mentions in his article, elderly individuals very often suffer from more than one disease at the same time. In a study done in the United States it was found that 49% of individuals 60 years of age and older who lived at home had two or more of the nine diseases studied; 23% had three or more, and 24% had four or more. Comorbidity increased with age (2).

As the number of chronic diseases accumulates in individuals, they lose functional ability, and this affects not only their own quality of life but that of those caring for them as well. Stroke, which occurs more frequently in persons aged 65 years and over, can be a major cause of disability for individuals who were previously fully functional. The principal carer of an elderly person who has suffered a stroke and returned home disabled from hospital is usually a woman (elderly spouse, daughter, or daughter-in-law), and the event is usually accompanied by a disruption in that person's lifestyle as well as the patient's, and indeed in the entire household. It is also apparent that the principal carer, in the long term, is subject to depression, stress and ill health. The carer's reduced well-being in its turn affects the person cared for, and in fact seems to cause depression in the patient (3).

As women are now a regular part of the workforce in most countries, and as keeping our disabled elderly at home seems the best way to maintain their quality of life, there is an evident need for community support programmes. We need strategies for protecting the quality of life of carers and their depend-

ants. While it is true that health promotion for the elderly is producing good results, and that we can look forward to having a healthier older population in some countries in the

At present, among persons 65 years and older, eight of the ten principal causes of death are related to chronic diseases.

coming years, the sad fact remains that with greater age comes a greater probability of disabling disease. Maintaining the quality of life of the disabled elderly and those who care for them should become one of the principal priorities in efforts to meet the needs of the world's growing elderly population. ■

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Measuring the needs

George C. Myers

Dr Darnton-Hill has performed a singular service by calling attention to many features of population aging and its implications for individual aging. He reviews a wide variety of

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psychosocial and health relationships that have been uncovered in empirical studies of older persons. However, these studies are often subject to methodological deficiencies that make it difficult to assess their reliability and validity. My own experience suggests that one can generalize only to a very limited extent from many of the conclusions they reach.

What the review makes clear is that there is a pressing need for systematic cross-national, population-based research that can begin to answer the types of questions that Dr Darnton-Hill raises. Research is needed in developed as well as developing countries, where the tempo of demographic change has been accelerating.

Such research should have several important characteristics. First, it should involve the use of sufficiently large and representative scientific samples to capture the important socio-economic and environmental diversity that exists in most countries. Second, the research should ideally be longitudinal in design, in order to assess the causal pathways involved in the aging process. Many of the cross-sectional relationships that are reported between successful aging and its determinants are confounded by selection effects that have eliminated the frail. Longitudinal studies make it possible to examine transitions in health status

Clinical assessments, in my view, are vital in determining the relative health and physical and cognitive functioning of older persons.

and well-being, as well as the important role of interventions. Third, multidimensional research is necessary to capture the many psychosocial, health and environmental factors in the aging process. As Dr Darnton-Hill sug-

gests, these should properly include measures of autonomy, quality of life and social integration. It should be acknowledged that these concepts are extremely difficult to define, apply and measure reliably, especially as they are related causally to morbidity and functional limitations. Clinical assessments, in my view, are vital in determining the relative health and physical and cognitive functioning of older persons. Finally, multivariate analyses are crucial to evaluate the relative importance of variables in structural equation modelling of relationships.

Many of these approaches form the basis for WHO's ongoing project on the determinants of healthy aging. With support from the US National Institute on Aging, this coordinated project has recently completed a series of pilot studies in Costa Rica, Jamaica and Thailand. This work can provide a sound basis for the multinational research that is envisioned in the WHO programme on Aging and Health.

Many of the important points presented in the review revolve around the issue of the extent to which prolonged life expectancy has been accompanied by increased years of active life. The concept of active life expectancy, measured in various ways as years of disability-free expectancy or as years of perceived healthy life (more subjectively determined), has been a central focus of the International Healthy Life Expectancy Network (REVES). Participants in the Network have been meeting periodically since 1989 to achieve standardized concepts, research designs, operational instruments and analytic measures for coordinating national time-series evaluations and cross-national evaluations. Findings to date are surprisingly positive and suggest for many countries that active life expectancy has kept pace with the gains in life expectancy. Moreover, in such countries as the United States, improvements appear to be driven by cohort changes in educational

attainment and economic resources, as well as the adoption of devices and housing modifications which reduce the ill effects of disability.

The validity of these findings in the USA is being further assessed by results from recent longitudinal research, but in the meantime the approach provides an important means of monitoring health and health promotion developments. Aggregate summary measures of active life expectancy, measured at birth and at specified ages, have already been suggested as a means of setting goals for the United States Healthy People 2000 Program and WHO's Health for All by the Year 2000 initiative. They were also used in the OECD Health Systems review in 1993.

Some interesting points are raised about health promotion strategies for older persons. While I agree with many of the points that Dr Darnton-Hill makes about primary (individual) prevention, we must also recognize that health care systems need to be attuned to the inevitable growth in demand for geriatric medical services and long-term care. The provision of such services also affects the quality of life of older persons.

Dr Darnton-Hill has wisely raised a number of important points about the current state of knowledge about older persons and the factors that affect their quality of life. It is important, in my view, to emphasize the crucial role that sound research plays in improving the health and well-being of older persons. We are fortunate that a solid basis for such research has been established by recent efforts of WHO and its regional offices, the International Healthy Life Expectancy Network and the international activities of the US National Institute on Aging. ■

Economic aspects of aging in Africa

Nana Apt

Dr Darnton-Hill notes that in the Philippines a strong economic position was found to be the main source of power within the household, regardless of age or health status. This confirms the view that gerontocratic power, where it exists in the modern world, is based nowadays on economics. After all, what is modernization all about if not the acquisition of wealth? And that is exactly the context in which problems of aging in developing countries need to be assessed.

A debilitating power shift

Who is in the strongest economic position in Africa today? I would say that in general it is the young, educated, politicized, urban people. The most important change that has occurred in modernizing societies is this change in the basis of power, and concepts of power in general. Typically in developing countries, the city becomes the power centre, and young people move there to get access to it through their education and modern skills, with devastating effects (1). In Africa, young Ibos who acquired wealth from wage labour no longer depended on their fathers for bride wealth (2). One of the results of this modernization was that the father's prestige declined and "psychosenility" became prevalent among the elderly.

Deprived of a social role, the elderly lose the meaningful routines and stimulation that keep them active and in good mental health. Thus they become disoriented and disturbed, which constitutes a welfare problem which

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will grow at the same rate as this age group is growing, if appropriate roles are not found for them. This new demographic situation calls for fundamental rethinking about how the generations should relate to each other.

Societies which find ways to offer their old people appropriate parts to play in meeting social and economic needs will greatly reduce their burden of welfare.

Esteem for the elderly was the norm when they were few in number, but now that they are more numerous, it has in many ways diminished. Both the gain in numbers and the loss of social and economic roles are the result of the same process of modernization.

Intergenerational support – some practical arrangements

I believe that intergenerational support arrangements can preserve the esteem enjoyed by the elderly, thereby prolonging their active lives and reducing the pressure for institutional care in industrialized countries or abandonment in developing ones. In traditional societies like Ghana, individuals had to make their own arrangements for their old age, though they were rarely forced to discuss the matter explicitly. The customary pattern of roles and obligations enabled them to ensure that they were provided with the necessary food, shelter and social relations. In particular, three forms of intergenerational support used by women in Ghana deserve consideration (3):

- giving a house or business property to a daughter in return for care in the future;
- leasing part of the home to relatives to ensure a source of income and social support in old age;
- providing foster-parent or child care services.

Relatively autonomous arrangements of this kind provide ways of easing the elderly into retirement through a series of occupational changes which respect their evolving needs and abilities. Socially, a process of this kind minimizes the sense of social rejection and the mental disorientation it causes. Economically, remaining an active participant for as long as possible also minimizes the mental and physical dependence of the old on the young. Societies which find ways to offer their older members appropriate parts to play in meeting social and economic needs will greatly alleviate their burden of welfare. Conversely, depriving the old of economic activity not only reduces national income but increases welfare needs.

Raising the retirement age has become an issue in the industrial countries, but in the developing ones the absence of a welfare system means that people go on working for as long as possible in order to survive. This produces a career path which allows for a gradual decline in activity. It has some advantages over the pattern, so common in the West, of working harder and harder till the age of 60 or 65 and then being abruptly banished into formal retirement. The more flexible and gentle approach is a feature of life in developing countries that should be preserved, and perhaps even promoted in the West.

A second useful lesson to be learnt from the occupational succession practices of women traders in Ghana is that the savings of the elderly are not necessarily held in a bank. In countries where institutions such as banks are far from stable, people start providing for their old age early on by deliberately building up visible debts which the rising generation will feel obliged to pay back in the years to come. For instance, when a business is handed down to the next generation it is with the expectation, recognized on both sides, of support in the future.

Finally, the traditional practice of sharing space in an intergenerational living arrangement has some important advantages. In particular, elderly people can make an important contribution both to the family finances and to the general comfort and convenience of the home within a two-way caring system. ■

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Threats to health and well-being in Africa

Joe Hampson

Dr Darnton-Hill's article is an excellent reminder of the challenges of aging globally, and of the interdependence of life satisfaction, health, psychosocial well-being and economic security in successful aging. These factors are as relevant for Africa as anywhere else, but they are overshadowed by the continent's socioeconomic fragility. Africa is expected to experience one of the world's largest increases in this age group: current projections suggest that by 2025 the elderly population will be 4.4 times as great as it is now. This is often ignored by planners who are already overwhelmed by the large increases in the younger population; in many countries people under 17 years of age account for more than half the population.

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The effect of AIDS

Average life expectancy is 52 years in sub-Saharan Africa, and efforts to increase it and make aging healthier are put at risk by the AIDS pandemic. The extended family has been a very resilient agent of support for the elderly, and studies show that most rural elderly have traditional tasks, such as caring for children, which are mutually beneficial. Extended family members, mainly the women, usually care for the elderly. However, AIDS threatens the viability of this system.

Grandparents are often left with few financial resources when their economically active sons and daughters die, but they are compelled to try and act as a complete substitute for the parents in caring for their orphaned grandchildren. Instead of reaching the time they had looked forward to, of being looked after by their children, they are faced with the arduous task all over again of raising children and finding money for clothes, food and school and clinic fees.

Surveys in southern Africa show that more than half of the elderly, and sometimes as much as 80%, receive remittances from their employed sons and daughters; but this is the age group most affected by the AIDS pandemic. No African economy except South

Grandparents are often left with few financial resources when their economically active sons and daughters die, but they are compelled to try and act as a complete substitute for the parents in caring for their orphaned grandchildren.

Africa has a national state pension scheme, and the elderly recognize the need to remain active and self-sufficient for as long as possible. Typically they fall back on subsistence

agriculture, but this is flimsy protection, especially in times of drought. In many African rural societies, mutual support is provided through traditional agricultural activities in which the elderly can actively contribute (for instance by brewing beer) and receive labour in return.

The effects of structural adjustment

Structural adjustment programmes are in place everywhere in Africa, and their impact on health has yet to be assessed, but the evidence so far offers little cause for satisfaction. Figures on child mortality, nutritional deficiencies, and the incidence of tuberculosis and malaria, for instance, are static or rising. Few data are collected on the quality of life of the elderly in Africa, but it is well known that the daily tasks of living (such as washing, walking, collecting water and fuel) are strenuous. This means that once mobility is restricted there is a rapid loss of viability. In addition, health services, especially at the district and local levels, are not well attuned to the needs of the elderly.

A study made in West Africa shows serious nutritional deficiency among the rural elderly, especially for women. Elderly refugee women in the Sudan and Zimbabwe were also found

At a time when national health systems are collapsing for lack of funds and infant mortality and disease incidence are rising, programmes designed to ascertain and meet the needs of the elderly are not seen as a priority.

to have a lower nutritional status than men. However, at a time when national health systems are collapsing for lack of funds and infant mortality and disease incidence are

rising, programmes designed to ascertain and meet the needs of the elderly are not seen as a priority.

Questions of well-being

Surveys indicate that in Africa women feel lonely more than men do, and are less likely than men to have friends outside the extended family. One such study found that 47% of the women in the survey felt lonely "always or often", whereas only 29% of the men did. Perhaps to compensate, more women than men report finding comfort in religious beliefs and practices. Elderly women who live on their own are particularly vulnerable, as they are not likely to be looked after by either the family or the state. The law sometimes provides them with some protection, but it is rarely used. Most elderly people live in extended family households, but in nearly all African societies significant numbers of elderly women live alone in isolation and poverty.

It is often observed that Africans regard their elders with reverence and respect. Because the elderly are closer to the ancestors (some languages use the same word for both) they are seen as repositories of wisdom and authority from the past. However, nowadays they are challenged in that role by the new order which favours education and youth, and gradually makes being old or a chief or a headman seem irrelevant.

National planning must attempt to counteract this trend towards the marginalization of the elderly in Africa, and find ways to meet their emerging needs. One example of what can be done is a scheme in Zimbabwe which incorporates elderly women in the midwifery programme, thus combining traditions with modern hygienic practices. Both the elderly midwives and the mothers they serve report considerable satisfaction with this system.

Surveys show that more elderly women feel excluded from family decisions than elderly men, and that the older elderly are more excluded than the younger elderly. However, the majority of the elderly still enjoy considerable status and involvement in the family. They still play important religious and ritualistic roles at funerals, wedding negotiations and ceremonies and other such events.

To sum up, Dr Darnton-Hill gives us a valuable perspective, but in Africa the problems of "successful aging" are exacerbated by AIDS and structural adjustment programmes. Africa's rich cultural traditions offer unique ways to increase elderly people's sense of involvement and well-being. At the same time, however, one must beware of assuming that all of the elderly can be treated in the idealistic ways stipulated by tradition. It will be necessary to focus on those most in need of social support. ■

It's not a matter of numbers

Julia Alvarez

Any discussion of the aging of world populations must join the qualitative to the quantitative. We cannot speak of life expectancy without also considering what we can expect from life. Concentrating on aging only in terms of a lengthened chronology would be nothing more than added arithmetic. But neither are numbers irrelevant. Quality of life does come at a cost. Unfortunately there is a close connection between the meaning we all wish to find in life at any age and our ability to pay for the social infrastructure that a meaningful life requires.

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Dr Darnton-Hill touches on many of the issues that arise as demographic trends move us towards a new kind of society. The problem with his excellent arguments, however, is that they virtually ignore the issue of development. In his first paragraph he states: "Aging, previously regarded as an emerging trend mainly in the industrialized countries, is now recognized as a global phenomenon. In 1990 more than half (55% of 176 million) of the elderly population of the world were living in the so-called developing world; by 2025, the proportion is expected to be 65%." But the implications of this remarkably significant number are left to the imagination, and the rest of the article discusses examples and problems taken almost solely from industrialized countries.

The economics of aging in developing countries

This is not a case of "one size fits all". We should not assume that we need merely to extend to the developing nations what we have learnt about aging and its social and economic context in the industrialized world. In our Third World countries, as populations age, things are and will be different, mainly for economic reasons. In particular, the fiscal inability to supply anything resembling adequate social security will make it necessary for many people in their 60s and 70s to remain economically active. The issues raised by poverty, the need for economic development, and increased numbers of older people are inextricably linked.

The aging of our Third World populations will create tremendous demands for new social services, but make it even more difficult than it is now to pay for them. If we think of the potential ratio of workers to beneficiaries in Western social security systems as a crisis, the same thing in developing countries could be called a catastrophe. The reality for older people in much of the developing world is

that they are poor first, and old only second. Any analysis that does not take this into account risks being irrelevant. Third World governments do not have and are not likely to

We cannot speak of life expectancy without also considering what we can expect from life.

have the funds to change this situation. As older people become more numerous, they are in danger of being perceived even less than they are now as social assets and more as a drag on development.

What shall we do about this? First and foremost, the decline in status of older people in our societies must be reversed. Clearly older people – especially those in their 60s and 70s – must be viewed not as liabilities and social enemies but as assets and allies of development. Social and economic planning must take them into account as a resource, as people who hold out a helping hand to society, rather than just another hand waiting for help. The role of older people in society and the need to maintain and increase economic development will thus have to be viewed as part of the same phenomenon.

Strategies

What strategies might we use to work our way through this difficult situation? I do not claim to have all the answers, but I can mention a few small steps that have already been taken, especially in my own country, which, I hope, will eventually add up to the giant strides we will need in a few years' time to cope with new demographic realities.

In the Dominican Republic we have started a successful project in which retired teachers return to the classroom, availing society of the

skills and wisdom they spent years developing. Our nation is thus able to draw further dividends from its human capital; and the teachers, mostly women, have a source of both income and respect. There are some kinds of farming in which even disabled elderly people can participate. In demonstration projects in the Dominican Republic, hydroponics (growing crops without soil) has been adapted to people in wheelchairs. The containers that hold the growing crops are raised above ground and can be set at whatever height is convenient.

Small enterprises involving older people have also shown promise. There are many such projects in the Dominican Republic, and in other countries. They range from laundromats to bicycle repair shops and word processing services. Relatively small amounts of money are needed to get them going, and governments need not be their only source of capital. They offer an ideal opportunity for "public/private partnerships" to make a little money go a long way.

In the Dominican Republic we have also recently proposed a national policy on aging based on the International Plan of Action on Aging and the United Nations Principles for Older Persons, designed to integrate older persons into our country's development plans. We encourage other groups in Third World nations to devise similar plans and work hard to get them implemented. As Dr Darnton-Hill points out, demographic change, "together with other deep changes in society, has made traditional ways of understanding and accommodating the aging process inadequate". Let us strive to make our response to this change sociologically and geographically appropriate. ■

Support for the elderly in Sri Lanka

Dulitha N. Fernando

Dr Darnton-Hill has highlighted the importance of aging as a global health issue. His emphasis on quality of life and the determinants of healthy aging will be of particular interest to industrialized countries already trying to meet the needs of this age group. The immediate priority for many of the developing countries, however, is to draw attention to this phenomenon and the new demands it will place on the health care system. Only then can a programme be designed to meet these demands within the narrow limits of the resources available.

Sri Lanka's per capita gross national product is US\$ 510. In 1993 average life expectancy was estimated at 69.5 years for men and 74.2 years for women. The proportion of the population over 60 years of age was 6.6% in 1993 and is expected to be 15.8% by 2025. A recent community-based survey on the health status of the elderly carried out in the Western Province of Sri Lanka produced the following information (1).

- Only 49% of the men and 37% of the women questioned considered their condition to be "healthy". Health problems named were as follows:
 - eyesight (59%);
 - hearing (22%);
 - mastication (30%);
 - mobility (7%).
- 43% had used some source of health care during the previous month.
- 32% thought they needed more medical care than they had access to.

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In addition, the need for assistance to obtain various aids was frequently mentioned. It should also be noted that the Western Province, which includes the capital, Colombo, is better equipped with health and other services than the rest of the country.

In Sri Lanka the government is the main provider of health care, and per capita expenditure on health in 1993 was only US\$ 8 (2). As in many other developing countries, the main priority for health programmes is maternal and child health. It is only recently that the growing elderly population has been recognized as a health issue, calling for an appropriate programme which takes into account the psychological and social needs of this age group.

As in many other societies, the family is the main source of support for the elderly in Sri Lanka. The economic and social changes taking place in many families are likely to affect this support base in the coming years. Since the support available for the elderly outside the family is very limited, this trend must be given careful consideration in planning for the future. In this connection, Dr Darnton-Hill is right to stress the importance of factors which have a positive influence on health in later life. The data available on Sri Lanka show that

As in many other developing countries, the main priority for health programmes is maternal and child health.

health status is positively influenced by more contact with family, better financial status, being employed, and being satisfied with the physical environment.

In many countries undergoing rapid change with the aim of achieving "development", care of the elderly is becoming a major

challenge that cannot be brushed aside. Programmes which take into account the many different kinds of input needed "to keep them healthy" must be planned and implemented. ■

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A matter of human rights

Irene Hoskins

It comes as no surprise that Dr Darnton-Hill cites socioeconomic and health status as the two most important determinants of the quality of life of older persons. This is amply documented in the literature on aging. But he also subtly shifts the public policy paradigms from "caring for the elderly" to more active health promotion and interventions to improve older persons' economic security and psychosocial well-being. For this he must be congratulated since in most countries it tends to be the stereotypes of disabled and vulnerable older persons that provide the inspiration for policies on aging. However, he stops short of saying that, with ever more people living longer, the protection and promotion of older persons' health and socioeconomic security is a matter not only of public policy but of basic human rights.

The Constitution of the World Health Organization confirms this view. It defines health as "a state of complete physical, mental

and social well-being and not merely the absence of disease or infirmity". It goes on to say explicitly that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being". This view of health as a basic human right is further strengthened by international human rights law which, through international conventions, specifically protects certain population groups, such as women and children, considered to be especially exposed to injustices. However, so far it has not been deemed necessary to extend such international human rights protection to older persons.

This raises several questions. For example, is there no international consensus on minimum standards of human rights protection for older people? Or are they perhaps not in need of such protection? Are they already protected by existing human rights treaty bodies? If so, what are the international instruments which explicitly or implicitly deal with human rights issues concerning older persons, and are they adequate? And finally, is it now necessary to develop an international instrument specifically protecting the human rights of older people?

Employment

A thorough discussion of these questions would obviously exceed the scope of a brief response to Dr Darnton-Hill's article, but a number of factors he mentions deserve a brief examination in the light of their implications for human rights. For example, he mentions a study which found that continued employment into old age was generally associated with higher morale, happiness, better adjustment, larger social networks, and better perceived health. Admittedly, not everyone can or wants to work at older ages. But how many people are there who would really be very happy to continue to work, possibly on a flexible basis, but find they are unable to

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do so because of discriminatory employment policies? The fact that retirement is most often based on an arbitrary age-related cut-off point from employment can in itself be considered a form of age discrimination. Yet, in the eyes of law-makers the elimination or liberalization of mandatory retirement ages often conjures up the spectre of legions of unemployed youth starting intergenerational warfare by angrily demanding to take over the jobs to which the elders tenaciously cling. The reality is in fact quite different: the majority of older persons want to and do retire at pensionable ages if their pensions are adequate to maintain their quality of life, while some may wish to continue to work, and others, particularly women, may have to work because of inadequate retirement income.

Further, age discrimination is not limited to those who wish to continue to work past mandatory retirement ages. First and foremost, it affects older workers in their fifties and sixties, who often find themselves forced out of the labour market before younger workers but with little prospect of finding re-employment in tight labour markets. Older women in particular often encounter a double jeopardy in the labour market: age and sex discrimination. In developing countries, most older people simply must work to survive and continue to do so until they are no longer able to, but they also encounter discrimination with respect to inclusion in development projects, and access to credit, training and new technologies.

The relevant legal instrument is the International Covenant on Economic, Social and Cultural Rights, Article 6 of which requires States Parties to take appropriate measures to safeguard the right of everyone to the opportunity to earn a living by work which is freely chosen and accepted. The United Nations Committee which monitors the implemen-

tation of this Covenant has repeatedly skirted the issue of whether "everyone" includes older people, and is currently unable to decide about it. Similarly, although the International Labour Organisation adopted a Recommendation on Older Workers in 1980, it has not

The fact that retirement is most often based on an arbitrary age-related cut-off point from employment can in itself be considered a form of age discrimination.

been a strong advocate for the rights of older workers in recent years. Most observers of such discussions therefore inevitably come to the conclusion that they tend to be influenced more by political and ideological considerations than by human rights principles.

Living conditions

As Dr Darnton-Hill points out, an important aspect of older people's quality of life and well-being is their living conditions. He observes that in Western countries, more and more older persons prefer to live independently rather than with their children. In many other countries, people still prefer to live in an extended family setting. In all countries, however, the emergence of the urban nuclear family as the more common living arrangement will entail profound changes in social structures. In 1991, the United Nations General Assembly adopted the United Nations Principles for Older Persons, which reaffirm many of the policies expressed in the Vienna International Plan of Action on Aging, adopted in 1982. These Principles are intended to serve as targets and benchmarks to evaluate current policies on aging. They are not a declaration or a convention which can be monitored or which Member States have to implement. On the issue of care, the Principles simply state that older persons should

benefit from family and community care and protection in accordance with each society's system of cultural values. In order to implement this policy, we need a much clearer understanding of cultural values and expectations, demands on families for providing care, elderly people's perceptions of loneliness, and the impact these perceptions have on their quality of life and well-being.

Women's needs

In this connection, Dr Darnton-Hill also refers briefly to the needs and changing roles of older women. Older women are most often the ones who care for their spouses, and frequently for their parents – especially their mothers – as well. The right of these carers to respite, paid employment, self-fulfilment and economic security in later life must be acknowledged and translated into public policies. Advocates for women's rights have given relatively little attention to the rights of older women. While some small progress may be anticipated, it is unlikely that the upcoming Fourth World Conference on Women in Beijing will put a major emphasis on this important category of women.

Similarly, older women tend to live longer than men and to suffer more from chronic diseases, but the difference between men and women in questions of morbidity and aging has so far been neglected by research. Considerable progress has been made in improving reproductive and maternal health, but women's right to health must now be broadened to ensure that the health needs of women of all ages are adequately recognized.

Healthy dying?

Finally, there is the whole area of ethical and human rights with regard to illness and medical treatment at the end of life. There is no international consensus on guidelines or stan-

dards in this area, and in many countries there seems to be little national consensus either. The United Nations Principles state that "Older persons should be able to enjoy human rights and fundamental freedoms when residing in any shelter, care or treatment facility, including full respect for their dignity, beliefs, needs and privacy and for the right to make decisions about their care and the quality of their lives." The Declaration on the Rights and Responsibilities of Older Persons of the International Federation on Ageing, on which these Principles are based, goes one step further by declaring that "older persons have the right... to die with dignity by accepting or rejecting treatments designed solely to prolong life". When adopting the Principles, United Nations Member States could not agree with this statement. Dr Darnton-Hill, however, introduces the idea that the ultimate aim of health promotion is "healthy dying", meaning that older persons should remain independent as long as possible and have control over their lives. This concept deserves further consideration. At the same time, more serious attention needs to be given to the whole range of implications healthy aging has for human rights. ■

Older women's health

Ruth Bonita

The continuing aging of the population will be one of the most significant changes in the social landscape for the remainder of this century and the early decades of the next. The impact of this phenomenon on health services, community services and families is

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receiving increasing attention. As Dr Darton-Hill points out, elderly people's quality of life deserves more emphasis. Surveys repeatedly indicate that this is understood largely in terms of economic, psychosocial and physical well-being. There are important differences between women and men in these three dimensions of life, but discussions about "the elderly" often neglect them, and make the special concerns of women invisible. There are at least four good reasons for counteracting this tendency and bringing the status of older women to the forefront in policy considerations.

Women's lifelong disadvantage

The health disadvantages and problems faced by aging women stem from economic, social, cultural and political factors as much as biological ones. Women are discriminated against on the basis of age earlier than men, and are routinely perceived as weak, dependent, vulnerable and lacking in femininity and sexuality. Such negative images contribute to making them invisible, and disregard their wide diversity and resourcefulness.

Women's experience of aging and its effects on their health is profoundly influenced by the cultural setting within which it occurs. Conventional attitudes towards older women and towards menopause too often negatively influence expectations in later years, and it is a well known fact that self-esteem is of central importance for health. The mental and physical well-being that results from positive attitudes also allows personal development and involvement in society to continue.

Growing numbers of women

Though aging is a common political concern in industrialized countries, in many developing ones it is not yet seen as an issue. Nevertheless, already more than half the

world's women aged 60 and over live in developing regions: 148 million, compared with 121 million in industrialized regions. Women of 70 or over are still more numerous in industrialized regions, but only just: the figures are 60 million and 58 million respectively. The future distribution of elderly women can be seen in the numbers of those now between 45 and 59 years of age: altogether there are 311 million women in this age group, and over two thirds (213 million) of them live in developing countries.

Differences in life expectancy

In industrialized countries women live on average about six years longer than men (1). Women in industrialized countries live about 15 years longer than those in middle-income developing countries, and about 30 years longer than those in the poorest countries, where life expectancy is 50 years (2). The difference between women's life expectancy in rich and poor countries has only slightly decreased during the last 20 years, and represents an inequity that needs urgent attention. Inequities in mortality rates are also seen within countries, and are associated largely with class differences.

A large part of the gap between men's and women's life expectancy is due to differences in alcohol and tobacco consumption, as well

Women in industrialized countries live about 15 years longer than those in middle-income developing countries, and about 30 years longer than those in the poorest countries.

as accidents, suicide and chronic diseases. The impact of increased numbers of women who smoke is now being seen in rising mortality rates for mature women.

The need for information

The significant differences in women's health in different population groups and countries show that aggregate data on the aged population as a whole are inadequate for monitoring trends in health status. The relevant data should be presented by sex and economic status as well as age. Improvements in demographic data are very much needed both for monitoring the health status of aging women and for providing further indicators, such as healthy life expectancy. There are a number of technical problems in preparing such indicators, and also the need to take into account social and cultural variations in the meaning of disability and other key terms.

The quality of life of older women should be judged in terms of their capacity to maintain physical, social and mental well-being despite varying levels of illness and disability. This is as important as the length of life and the number of disability-free years lived, but measuring it is harder, as it depends to a large extent on the opinions of those concerned regarding what is acceptable. Emerging indicators such as "disability-adjusted life years" (DALY) and "quality-adjusted life years" (QALY) do not take this into account (3, 4). In fact there is a danger that this way of measuring the burden of illness will give an unduly negative account of the health of aging women, unless it is counterbalanced by more adequate indicators.

In terms of the future, the basic goal for the health of aging women globally should be to reduce the inequities between those in industrialized and developing countries. These inequities must be measured not simply in years of life but in the underlying determinants of health and the quality of life.

A simple goal is to increase the number of disability-free years women live. This would have obvious economic advantages for the

women concerned, their families and the societies in which they live. At the same time it would expand the roles women can play, and promote a more positive image of aging women as active citizens. As yet there is no clear evidence that women's greater life expectancy represents an advantage in terms of disability-free years.

If longer lives are to be healthier lives, policies must focus on ensuring the quality of life of women as they age. For this, the functional status and well-being of aging women need to be monitored. WHO has a key role to play in gathering these data and widening the range of indicators available. ■

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Aging inequitably in South Africa

Monica Ferreira & Karen Charlton

South Africa is both a developed and a developing country. Its population aged 65 and over numbers 1.7 million, which is 4.3% of the total. This is similar to the demographic pattern in developing countries. For the purpose of analysis, four population groups are distinguished in South Africa: African, White,

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Coloured (of mixed descent), and Asian. These groups are at different stages in the demographic transition: 9.3% of the White population are aged 65 and over, compared with 3.3% of the African, and 3.4% of the Coloured and Asian populations. The average life expectancy of Whites is from eight to ten years longer than for Africans and Coloureds, and five years longer than for Asians. Although the White population can already be called old, the African population is expected to remain young until the middle of the next century owing to high fertility rates.

Trends in demography and quality of life

By the year 2035, the population aged 65 and over is expected to reach 7.4 million, which will be 6.4% of the total. The composition of the aged population at present is 55% African, 35% White, 8% Coloured and 2% Asian. By 2035 the proportions are likely to be 73%, 15%, 9% and 3% respectively.

Unequal access to the country's resources has been a dominant feature of South Africa's history. Older Africans, Asians and Coloureds have lived through the full 40 years of apartheid rule and are today disadvantaged in most areas of their lives in comparison to their White counterparts. Their disadvantage, especially in the case of Africans, is particularly evident in the areas of education, income and health.

From 1990 to 1991, a survey was made of 4400 equally represented Africans, Asians, Coloureds and Whites aged 60 and over (1). It found that 80% of the Africans living in rural areas and 50% of those in urban areas had had no formal education. More than 80% of the Africans and Coloureds and 70% of the Asians, but only 26% of the Whites, received the means-tested social old age pension (a scheme by which the equivalent of about US\$ 120 a month is paid to the elderly).

On all the indicators of self-assessed health status, urban Africans suffered a greater degree of health impairment and disability than the Asians, Coloureds and Whites. The major reported problems affecting all groups were hypertension (45% of the total sample),

Most of the Africans (93%) lived in multi-generational households, as did 90% of the Asians and 87% of the Coloureds, compared with only 17% of the Whites.

back pain (42%), arthritis (36%), and cardiovascular disease (29%). Although health services are widely available in urban areas, they are frequently lacking or inaccessible to older Africans and Coloureds in the rural areas, owing to a combination of transport difficulties and professional barriers.

Significant numbers in all groups reported emotional distress, symptoms of stress and feelings of restlessness. The African subjects, especially those living in urban areas, reported by far the highest levels of depressive symptoms. In all groups these were higher for women than for men, especially in the case of Africans in urban areas, where the proportion was 16% to 6%. Whites reported high levels of loneliness. Most of the Africans (93%) lived in multigenerational households, as did 90% of the Asians and 87% of the Coloureds, compared with only 17% of the Whites.

The family remains the most important source of social support for the majority of older non-White South Africans. However, the old age pension plays a part in this, as Africans who receive it and share it with their families enjoy special status in the household. Nine out of ten elderly South Africans feel they are shown respect by their families, but the number is less than four out of five for urban Africans.

Two thirds of the Whites and half of the urban Africans, Asians and Coloureds in the survey owned their homes. Although 91% of the rural Africans owned their homes, two thirds of these properties were traditional huts. Urban Africans were the least satisfied with their accommodation and living arrangements, citing the cost of housing and cramped living space as the two main reasons for dissatisfaction.

Levels of satisfaction with life in general followed a similar pattern, with Africans being the least satisfied. There was a strong correlation between lower levels of life satisfaction, increasing age and socioeconomic disadvantage. Unfavourable living conditions and poor health also contributed to lower levels of life satisfaction. Most of the factors seen as contributing positively to the quality of life were related to basic needs: satisfactory health, favourable living arrangements, economic security, and psychosocial well-being – particularly in terms of feeling in control of one's life and having some degree of personal independence. Basic needs figured most prominently for the Africans. For Asian, Coloured and White subjects, social integration and psychosocial well-being were more prominent.

In sum, the factors which all older South Africans found to affect their quality of life

Older Africans, Asians and Coloureds have lived through the full 40 years of apartheid rule and are today disadvantaged in most areas of their lives in comparison to their White counterparts.

were, in order of importance, health, housing and living arrangements, income security, and psychosocial well-being. This reflects the worldwide trends reported in the literature and in Dr Darnton-Hill's article.

Nutrition

Another factor which can contribute directly or indirectly to the quality of life of the elderly is nutrition. The multidimensional survey did not include questions on nutritional status, but 7% of the African subjects mentioned in response to other questions that lack of food was a serious problem for old people. The data that are available on nutrition indicate different trends in the four population groups. Studies on the elderly in urban areas have shown that for Africans a low proportion of food energy was supplied by fat intake (27%), while for Whites the proportion was high (37%). The figure for Coloureds was in between, at 32.4%. Elderly Africans were found to consume almost twice as much dietary fibre a day as elderly Whites.

Overnutrition appears to be more of a problem for the health status of elderly South Africans than undernutrition. There appears to be a trend among urbanized Africans, Asians and Coloured of all ages towards adopting a Western dietary pattern. Western eating habits among older urban Africans appear to be accompanied by an increase in chronic diseases related to lifestyle, whereas the diseases of poverty remain predominant among their counterparts in rural areas. Obesity is common among African and Coloured elderly people in both rural and urban areas. However, a condition called "healthy obesity" has been discerned in this community, since it appears that the condition is not always accompanied by higher levels of hypertension, hyperglycaemia and hyperlipidaemia (2).

The prevalence of diabetes mellitus in rural Africans aged 60 and over rose from 1% in 1965 to 7% in 1990. In a recent health and nutrition survey on a sample of 200 Coloureds aged 65 and over in the Cape Peninsula, an urban area, the prevalence of diabetes was found to be 29%, which is one of the highest rates reported for this age group in the

world (3). The same study found the prevalence of hypertension to be 72%. A quarter of the cases of diabetes and over a third of those of hypertension had not been diagnosed or treated before the time of the survey.

Although it is not yet clear whether or how eating habits affect the quality of life of older South Africans, nutrition-related diseases and disability will certainly reduce their enjoyment of life and ability to cope. The prevention and management of these diseases will be an important challenge for South Africa's restructured health system.

South Africa has been at the forefront in the development of sophisticated tertiary medicine, but its new National Health Plan is shifting the emphasis from curative care to the primary health care approach. This should benefit the elderly, but the Reconstruction and Development Programme does not make health of the elderly an explicit priority. ■

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2. **Walker ARP et al.** Obesity in black women in Soweto, South Africa. *Journal of the Royal Society of Health*, 1990, **110**: 101–103.
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Further questions of equity

Margot Jefferys

Dr Darnton-Hill's paper gives a convincing analysis of the greying of populations which has taken place during this century in both

industrialized and developing countries. He is right to stress that, in the former, the demographic transition took place over many years and owed more to steady improvements in nutrition, public hygiene and rising standards

In societies where the cultural imperative has been for sons to take charge of their widowed parents, care is likely to fall to daughters-in-law.

of living than to medical measures. By contrast, in the latter, where the transition has only recently begun, it will have taken only a few decades and will have owed much more to public health measures which prevent the ravages of infectious diseases and to effective pharmaceutical and clinical methods of curing and caring.

As a social scientist interested in the health and welfare of older people and in inter-generational relationships, however, what I particularly appreciated was the emphasis Dr Darnton-Hill gave to the social repercussions of the transition and to the cultural factors which, along with economic resources and political power structures, influence the capacity and willingness of societies to provide adequately for the increasing number of older people in their midst. In a short paper, of course, he could not mention everything which should be borne in mind by those concerned with the health and welfare of older people. In the spirit of collaboration rather than criticism, there are three important related points which I would like to add.

The notion of a burden

The first concerns the so-called "burden" which the survival of an increasing number of older people is often assumed to represent for declining proportions of younger people.

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This view of aging is often expressed by economists and is essentially a gloomy one. Older people, it is alleged, make no contribution to the productive economy and consume more of its health and social support resources than other age groups.

Although there is some truth in this, it is a one-sided picture. It reflects not the inevitable and unbearable cost of an aging population but our present social arrangements, which are not immutable. The undue emphasis given to the "dependency ratio" concept ignores the fact that in industrial societies older people are often excluded from the labour force not by choice but to benefit younger individuals looking for work, or because their health is poor. Many could stay in the labour force and would like to do so. Their exclusion is not their own choice. Moreover, the argument assumes that present levels of ill-health among older people are changeless. It assumes, furthermore, that human productivity is static while demand for resources grows. Both propositions need to be challenged.

Dependency-ratio arguments assume that all goods and services are produced and consumed in the formal economy. They ignore the fact that most caring takes place in the non-monetary domestic economy. In it, older people, mostly women, who are excluded involuntarily or by choice from paid work, are significant producers as well as consumers. They provide a substantial part of the tending services for their peers, as well as those required by their younger kin in child-minding and caring for the sick and disabled. They may also be net contributors to, rather than recipients of, those "affective" services which cement families and provide them with psychic and emotional support in good and bad times. This is true of older women everywhere, but it is seldom acknowledged, because it is not easily costed.

Daughters and daughters-in-law

The second point concerns men's and women's roles in informal social support systems. In societies where traditionally long-lasting mother-daughter ties of affection are strong, frail old women survivors are likely to receive informal care from their own daughters, whether or not they live in the same household. In societies where the cultural imperative has been for sons to take charge of their widowed parents, care is likely to fall to daughters-in-law. Although generalizations can be misleading, there is increasing evidence to suggest that family tensions (possibly leading to abuse of elders) are more likely to occur in households where older women depend on their daughters-in-law rather than their daughters for support. This is especially likely to occur in societies which have more recently increased their average expectation of life spectacularly (like China and Japan) or are about to (like India).

The value of women

Most societies have hitherto valued males more than females. Veneration of the elderly has usually been reserved for male heads of household and, by extension, their spouses. The more successful and powerful they are (i.e. in the command of resources) the more veneration they enjoy. Given current differential mortality trends, however, it is increasingly women, including those with little wealth or privilege, who survive into extreme old age and dependency. A change in cultural assumptions about the value of women, in their own right and not merely as bearers and rearers of future generations of males and as their servants, is necessary if future generations of older people are to achieve the healthy old age to which they are entitled. ■