



Blueprint for Healthy Aging

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The world over, populations have been aging. This has mainly resulted from reduction in fertility rates. Although India has the youngest population with people over 60 years of age presently constituting about 7.5 per cent, it is estimated that, in the next two decades, this percentage will go up to 11.7 per cent. In absolute numbers the elderly in India will exceed 160 million in 2025 which would be 3.9 times the number in Japan and about 1.9 times the number in the US in that year.

Physical Changes during Aging

A variety of changes take place during the aging process. These can be hastened by the decline in antioxidant defences. Aging results in loss of muscle mass which slows down metabolism, loss of bone density, loss of appetite resulting from loss of taste, loss of memory, loss of gut function, and exposure to greater risk to age related diseases. Surveys indicate that in India there is also prevalence of chronic energy deficiency as measured by body mass index. Some of these changes begin even at the age of 30 but are visible a little later in life. While these changes are inevitable, they can be slowed down if early initiatives are taken.

Health Problems of the Elderly

The problems associated with aging are multifarious and include social, economic, physiological, nutritional and pathological. The elderly are at increased risk of developing health problems because of decline in physiological functions.

The major concern about the elderly is the age-related non-communicable diseases like cardiovascular diseases, cancer, osteoporosis, cataract and macular degeneration and mental impairment.

In India, it is reported, one third of the deaths among the elderly are attributable to cardiovascular disorders. Incidence of oral cancer is the highest in India.

With the exposure of the elderly to disease and disability about 12 per cent of the total life span becomes dysfunctional with deterioration in the quality of life. It is therefore desirable to prevent or reduce the risk of these age related diseases and degeneration of the body and enable the elderly lead a healthy and active life or what has been described as “successful aging”. This implies health, morbidity and autonomy.

Healthy aging, with reduced incidence of age related diseases will also help Government reduce expenditure on public health.

Strategies for successful Aging

The strategy for successful aging should consist of two parts viz.

- **Nutritional intervention**
- **Physical activity**

These strategies are mutually reinforcing. Proper diet and physical activity are essential to remain healthy and active. To slow down the aging process it is evident that both these strategies need to be initiated early enough. Diets and food supplements must be such as to make up for the shortfall in intake or reduced bioavailability of macro and micronutrients as also anti-oxidants. Physical activity repairs muscle loss, activates metabolism and restores energy balance.

Diets and Health

It is now appreciated that diets have a bearing on health and longevity. Healthy diets consisting of large quantities of vegetables, legumes and grains, moderate quantities of milk and low quantities of meat and fats with high monounsaturated/saturated fat ratio, ethanol consumption at moderate levels, mainly in the form of wine, have been conducive to healthy and long life in the Mediterranean countries.

High consumption of green tea and soy has been proven epidemiologically to reduce the incidence of cardiovascular disorders, cancer and osteoporosis in Japan.

On the contrary, the high incidence of cardiovascular disorders in Goa, Punjab and Andhra Pradesh and low in Nagaland, Meghalaya, Himachal Pradesh and Sikkim have been due to differences in the consumption of fat, cereals, fruits, vegetables, milk and sugar.

Dietary Guidelines

Food based dietary guidelines of WHO for the elderly underline the importance of traditional vegetable and legume based foods. The Guidelines recommend prudent selection of nutrient dense foods such as fish, lean meat, liver, eggs, soy products, and low-fat dairy products, fruits and vegetables, herbs and spices, whole grain cereals nuts and seeds. Wherever refined fats are necessary selection of oil should include those high in n-3 and n-6 fats (canola, soybean and olive).

More specifically, nutrition intervention that should start early in life and should be based on adequate intake of nutrients through food and food supplements, particularly the following:

- Antioxidant micronutrients like beta-carotene, vit C, E and B 2 and zinc and selenium which also protect skin cells
- Calcium, vit.D and vit K for bone health
- Folic acid, vit. B12, B6 and B2 and poly unsaturated fatty acids to counter risk of cardiovascular diseases.

- **Riboflavin, copper and zinc to prevent cataract**

The diet should consist of a variety of foods containing cereals, pulses, fruits and vegetables, milk, oils and fats, nuts, tofu, fish, soy, olives etc. which have been found to have healthy food components. It is desirable that fats do not exceed 25% of the total energy intake . WHO has recommended consumption of at least five fruits a day. Both green and black tea have functional properties and contribute to longevity. As far as possible intake of nutrients should be through natural foods. However, when nutrient deficiencies are acute supplementation becomes necessary,

Industry should produce special foods for the elderly and for people with special needs arising from medical conditions. These foods should be properly labeled to convey correct information about the properties of these foods and their beneficial effects. Legal framework regarding labeling should be in place.

Ayurveda offers specific diets based on psychosomatic constitution of individuals. These diets are believed to repair and rejuvenate the degenerating tissues.

Older people are at risk of dehydration because of declining sensory function. Regular intake of liquid diets and water is vital.

Day care centres should be set up at different places to provide subsidized food and medical facilities to the elderly.

Self Care

There is not enough public awareness about aging process and the role of nutritional intervention. It is therefore important that the public is informed through media, pamphlets, fliers, etc. by concerned government departments, research organizations and NGOs in non-technical language about successful aging through diet management.

Nevertheless, self care to maintain health to prevent or deal with diseases, in conjunction with health care professionals is important and will create confidence in one self and make the elderly more independent.

Good preventive oral health care is necessary to help reduce the incidence of oral cancer and other oral health problems. Similarly, skin care should include filters to limit damage from exposure to ultra violet rays.

Physical Activity

The other complementary strategy to slow down aging is physical activity. Regular exercise counters the tendency of oxygen to break down muscle mass which accompanies aging process. Physical activity has the advantage of activating the natural process of producing antioxidants, speeding up metabolism and keeping the body active and healthy.

Physical activity has been associated with lower incidence of coronary heart disease, breast cancer, type 2 diabetes, and has protective effect on over-weight, bone loss, hip fracture, as well as on the rate of functional decline.

Physical activity generally diminishes with age. Lower intensity activities like walking, gardening, are preferred by older adults. However the vast majority of them does not undertake leisure-time physical activity at all.

Of particular interest are aerobic exercise “Take Ten” program and yoga. Thirty minutes of aerobic exercise per day with strength training for 2/3 days have been recommended by WHO. “Take Ten” program was introduced by ILSI originally for school children. It has equal relevance to the elderly. They should exercise for 10 minutes at a time atleast thrice during the day.

Yoga has also been found to be highly beneficial. It combines three aspects of human personality viz. physical, psychic and spiritual and offers a path to stress free life that can lead to healthy aging while remaining physically active and mentally alert.

It is important to exercise regularly through out life right from the school to slow down aging. But no age is too late to begin regular physical activity. The very old can equally benefit.

In view of the importance of physical activity for improving health related quality of life it is necessary that there is public education about the health effects of moderate physical activity and community centre programs for promoting physical activity among the elderly.

Research

There is need for research on a variety of subjects related to aging. Effect of diets in different regions of the country on the aging process was to be studied to help bring out nutritional guidelines for successful aging.

Similarly, properties of functional foods like black tea, spices, vegetables like mushrooms, etc. have to be investigated so that food can be an alternative to medicine.

In Brief:

- Successful aging depends on good health, mobility and self care.**
- Government organizations should inform public about the importance of nutrition and physical activity.**
- Start healthy nutrition early in life. Consume a variety of foods containing cereals, pulses, fruits and vegetables, and in moderate quantities milk, oils and fats, nuts, soy, tofu, fish and meat.**

- **Industry to produce nutrient dense foods with labels to convey correct information.**
- **Exercise regularly. Of particular interest are aerobics, “take ten”, and yoga.**
- **Greater attention by research institutions on problems of the elderly.**