



**APPROACH TOWARDS LIFE STYLE MODIFICATION PLAN AS PER AYURVEDA AND MODERN TECHNIQUE FOR PREVENTION OF GERIATRICS**

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**ABSTRACT**

Jara (ageing) being a Swabhababala Pravritta roga, occurs due to vyadhihetu called parinama / kala. Jara being a natural phenomenon of parinama (time) is unavoidable i.e., jara is an inescapable part of life. Onset and manifestation of aging can be delayed to certain extent i.e., manda jara. This paper is dedicated for lifestyle modification plan and its implementation in the prevention of geriatrics. Strategy and action plan regarding life style management as per Ayurveda is model diet plan, Model Dincharya plan / sleep pattern, Rasayana therapy, Behaviour modification plan includes the following Built positive and accurate expectation about result, Precisely define the behaviour, activity to be changed, Help patients to set realistic goals. Tools used for Behaviour modification plan; Music Therapy (Mantrayoga / Nadyoga / kriyayoga), Yoga / Asana, Gardening, Get-togethers, Family holidays.

**Keyword:** jara, Diet, Yoga, behaviour modification plan, geriatrics.

**INTRODUCTION**

Successful ageing is defined not by longevity alone but also by sufficient well being in multiple domains-socially, physically and mentally. The three components form successful aging are avoiding disease, engagement with life and maintaining high physical and cognitive function. Life style is the way a person leads his life. It typically reflects an individual's attitude towards the Ayurveda, the holistic science, is meant to maintain equilibrium of healthy life and prevent several diseases. To serve this purpose, certain rules and regulation for proper life style are explained here in terms of Dincharya (daily regime), Rutucharya (seasonal regime), Diet plan, sleep pattern, some Rasayana therapy, Sharir Shodhana and Behavioural modification. One who follows these routines regularly usually never indulged in the trap of disease.

**Process of aging**

Aging is a normal process begins at conception and ends only with death. Individuals are known to age at different rates. Heredity and good nutrition may slow the aging processes so that the individual enjoys physical and mental vigour in his eighties. Goal of nutritional care should be to help the aged achieve a healthy, purposeful and independent living. One prominent theory of aging is the free radical theory involves the continuous formation of free radicals as a result of exposure to oxygen and harmful exposure to environmental factors. These highly reactive substance lead to damage and alterations in the structure of proteins, lipids, carbohydrates and chromosomal material in cells which probably leads to changes associated with aging. Tissue damage by free radicals and pro-oxidant radicals like superoxide, peroxide, and hydroxyl radicals is the basis for inflammatory and degenerative changes seen in variety of diseases like cancer. Endogenous antioxidants are superoxide dismutase (SOD) catalase (CAT) glutathione peroxidase (GPX) which act together with glutathione (GSH) and NADPH. With age and

in diseases these antioxidant defences are lowered and the vitamins A, C and E get excessively utilised and a deficiency state occurs. The process of aging brings about physiological, psychological and immunological changes which influences the nutritional status. The changes associated with aging are partly influenced by genetics, race and gender<sup>1</sup>.

**Size of the problem**

Discoveries in medical science and improved social conditions during past few decades have increased the life span of man. The expectation of life at birth in developed countries is over 70 years. The age structure of the population in the developed countries has so evolved that the number of old people is continually on the increase. These trends are appearing in all countries where medical and social services are well developed and the living is high. In India, the elderly constitute about 7 per cent of the total population and by 2016; the number is likely to increase to 10 per cent<sup>2</sup>.

**Social issues and health of seniors**

- Loneliness from losing a spouse and friends.
- Inability to independently manage regular activities of living.
- Difficulty coping and accepting physical changes of aging.
- Frustration with ongoing medical problems and increasing number of medications.
- Social isolation as adult children is engaged in their own lives.
- Feeling inadequate from inability to continue to work.
- Boredom from retirement and lack of routine activities.
- Financial stresses from the loss of regular income<sup>3</sup>.

These factors can have a negative impact on overall health of an older individual. Addressing these psychosocial problems is an integral component of senior's complex medical care.

### **Disorders in aged**

I.H.D, Hypertension, Diabetes mellitus, osteoporosis, arthritis, high cholesterol, dementia, depression, and certain cancers are some of the common conditions.

### **Life Style Modification**

#### **Dincharya**

##### **Awakening early in the morning (get up time)**

One desirous of long healthy life should get up in Brahma Muhurtam. One should analysis about the digestion of the food taken previous night. Usually during this time environment is clean without much of pollution. Along with the clean air, pleasant atmosphere, absence of noise, the rising sun is very beneficial and the cosmos is charged with energy.

##### **Vegoudirana (natural urges)**

You need to empty your bowels on time, toxins from the waste products intended for elimination

##### **Dantadhavana (Tooth Brushing)**

Brushing one's teeth with an Ayurvedic tooth powder in the vertical direction from bottom to top in morning and night after intake of food; it brings about freshness, take away bad odour and coating on teeth.

##### **Jivhanirlekhana (tongue cleaning)**

Another essential daily activity; this helps get rid of ama deposited on the tongue. It removes bad taste, odour of mouth, cures oedema, stiffness of tongue and gives taste.

##### **Gandusha (Gargling)**

Gandusha should be done with concentration. Liquid should be kept in the mouth till dosha gets filled in the mouth or before eye starts watering. Every day gandusha is ideally done with oil. It enhances strength of mandible, resonance of voice, nourishment of face, taste sensation and gives good taste. It prevents dryness of throat, cracking of lips, decay of teeth and makes the teeth strong. Person does not experience pain, tingling sensation after eating sour or hard food.

##### **Anjana (collyrium)**

Eye is most important among all the sense organs. So to protect it one should apply collyrium every day. It cleans the human eyes which makes them shine like the bright moon in the clear sky.

##### **Dhumapana- prayogika (Smoking)**

Inhalation of medicated smoke and exhalation is known as Dhumapana (Smoking). Part of vitiated kapha situated in the head is elimination very fast by smoking. So after application of collyrium smoking is prescribed. Smoking cures heaviness, headache, rhinitis, half sided headache, earache, bad odour from nose and mouth, toothache, etc. It strengthens hair, skull bones sense organs and voice. It prevents strong vata kapha disorders occurring above the shoulders<sup>5</sup>.

##### **Nasya –pratimarshya (nasal drops)**

Medicated oil used in the form of nasal instillation, cures the diseases of the head through this route. The figure should be

dipped in oil and drop should be instilled into the nostril. This should be inhaled inside, which makes the body strong. As the amount is only two drops or minute amount it is devoid of any complication and administered at any time.

### **Exercise**

Exercise is an integral part of maintaining healthy life. It helps to regulate body weight. The risk of degenerative disease is considerably decreases by regular exercise. Walk or exercise regularly is less likely to experience the memory loss and other decline in mental function that can come with aging. Regular exercise 3-5 times a week for at least 30 minutes is strongly advised for seniors. An effective exercise is one which would increase the heart rate adequately to about 75 % of maximum heart rate. A person's maximum heart rate is roughly calculated by subtracting age from the number 220<sup>6</sup>.

A number of studies have shown that regular exercise can<sup>7</sup>,

- Improve psychological health.
- Increase muscle mass, strength and endurance.
- Prevent chronic disease.
- Decrease the risk of falls through improved agility and balance.
- Promote functional independence.
- Mood enhancement
- Better sleep quality and duration
- Weight maintenance and burning excess calories
- Improving the ratio of good cholesterol to bad cholesterol
- Building up physical endurance
- Optimizing health of the heart, lung, and vascular system
- Better delivery of oxygen and nutrients to tissues.

### **Abhyanga (Massage)**

One should massage the body with lukewarm oil according to season in the direction of the body hair. It nourishes the skin and helps revitalize organs, delays ageing, cures tiredness and vata disorders; improve vision, complexion, good lustrous skin and strength. This should be done daily to head, ears, and feet.<sup>8</sup>

### **Udvarthana (rubbing)**

Massage with different herbs, Relief of blood stasis, carrying away morbid products. It is a process which helps to decrease kapha and fat, makes the body strong and gives excellent, clear as well as good complexion to the skin.

### **Snana (Bath)**

After doing massage daily takes bath with lukewarm water. It is good for heart and purifying all organs. Person will be cured of bad odour, heaviness of body, drowsiness, itching, impurities, sweat and unpleasantness due to sweat.

### **Aahar (Diet)**

A simple prescription being that you do not eat the next meal before the earlier meal has been digested. You eat only enough to half fill your stomach. Your last meal should be between 6:30 pm and 7:00 pm to be followed by light exercise<sup>4</sup>.

Table 1: Modification of diet during old Age

Dietary Modification	Reason
Foods must be soft, easily chewable	Problem of dentition, fallen teeth or dentures
Foods should be easily digestible	Decreased production of digestive enzymes
Restricted fat in the diet, inclusion of PUFA	Susceptible to heart disease.
Foods rich in fibre should be given	To prevent constipation and reduce cholesterol level. Also to prevent colon cancer.
Coffee, cola and tea should be restricted	May result in insomnia due to over stimulation.
Calcium rich foods like milk should be given	To compensate the bone loss and reduce the incidence of osteoporosis.
Green leafy vegetables can be given liberally.	Source of nutrients like carotene, calcium, iron, riboflavin, folic acid and vit C, besides supplying fibre, rich in antioxidants.
Food of the elderly should consist of familiar foods. New foods are difficult to accept.	Unfamiliar or changes in the food pattern may lead to psychological problems like depression.
Clear soup at the beginning of meal	Aids digestion
Small and frequent meals instead of three heavy ones.	Favour more complete digestion and free from distress.
A glass of hot milk just before going to bed.	May induce sleep.
Heavy meal at noon and light evening meal.	Sleep is less likely to be disturbed.
Too much sweet with lot of fats and sugar should be avoided.	Too much of sugar may cause fermentation, discomfort due to indigestion and cause tooth ache and may increase cholesterol level. May lead obesity.
Plenty of fluid.	To prevent constipation and dehydration.

### Nutritional requirement

These are based on the physiological changes that take place during old age. The nutritional requirement changes after the age of 30 years<sup>10</sup>.

### Energy

After the age of 35 the basal metabolic rate decreases due to reduced muscle mass and other metabolically active tissue mass. Also there is reduction in physical activity which affects the energy needs. As the age increases the per cent muscle tissue decreases and fat tissue increases. Resting rate decreases approximately 15-20 per cent over the life span, primarily due to changes in the body composition and reduction in physical activity. The calorie intake should be adjusted to maintain the body weight constant. In the case of obese the calorie intake should be adjusted to maintain the body weight gradually to about normal level. Energy requirement decrease with the age beyond 30 years.

### Proteins

As people age there is a decrease in skeletal tissue mass. These results in decrease in store of protein provided by skeletal muscle and may be inadequate to meet the needs for protein synthesis. Hence the dietary protein intake is more important to meet essential needs. Due to decreased appetite and poor digestion, old people are likely to consume less protein. The serum albumin level is the most reliable indicator of protein nutritive. Deficiency of protein results in oedema, anaemia and lowered resistance to infection. Infection, altered gastrointestinal function and metabolic changes caused by chronic disease can reduce the efficiency of dietary nitrogen utilisation and increase nitrogen excretion. Of the total caloric intake 11-12 per cent should be from protein.

### Carbohydrate

An impaired glucose tolerance in the elderly can lead to hypoglycaemia, hyperglycaemia and type II diabetes mellitus. Insulin sensitivity can be enhanced by balanced energy intake, weight management and regular physical activity. Emphasis is placed on complex carbohydrates and controlling the intake of simple sugars. Whole grain cereals and pulses should be included in the diet. It is necessary that at least 50 per cent of calories are derived from carbohydrates. Since caloric requirement are reduced, carbohydrates intake is also reduced.

### Lipids

Emphasis should be placed on reducing the intake of saturated fat and choosing monounsaturated or poly unsaturated fat sources.

### Minerals

The physiology of calcium homeostasis in ageing men is over 65 bis similar to that of women with respect to the rate of bone loss. Calcium absorption efficiency decreases, vitamin D levels decline and hence aged require more calcium. As caloric requirement decreases, total food consumption decreases, hence calcium supplements are essential. The iron deficiency seen in the elderly is due to inadequate iron intake, blood loss due to chronic diseases. Vitamin C deficiency may also impair iron absorption. Some features of old age such as delayed wound healing, decrease taste sensitivity and anorexia are also findings associated with zinc deficiency.

### Vitamins

Elderly people are at risk for vitamin D deficiency due to decreased exposure to sunlight or decrease in renal mass. Stress, smoking and some medications can increase vitamins C requirement. The antioxidant vitamins, such as vitamin E, carotenoids and vitamin C have been promoted as agents that enhance the health of the elderly. Requirement for the vitamin B<sub>6</sub> are increased in many elderly persons owing to atrophic gastritis which interferes with absorption. The usual causes of vitamin B<sub>12</sub> deficiency are atrophic gastritis and bacterial overgrowth, which decrease absorption and can lead to pernicious anaemia. All vitamin requirements remain the same as the adult as adult requirement.

### Water

The kidney can function more adequately when there is sufficient fluid (1.5 litres) and hence to eliminate the waste solids. Water stimulates peristalsis and thus aids in combating constipation. Water can be consumed as such or in the form of buttermilk, fruit juices, porridge and soups.

### Fibre

Fibre stimulates peristalsis. There is great enthusiasm to encourage the consumption of fibre containing food but any increase should be gradual otherwise bowel discomfort, distension and flatulence will result. Fibre also helps in reducing cholesterol which may reduce the incidence of

atherosclerosis. Excess of fibre may reduce the absorption of iron and certain trace elements.

### Role of Behavioural Modification

It is helpful to establish regular schedules for different aspects of your lifestyle so that your body can respond in a routine and predictable way to help you maintain a healthy equilibrium. This goes for sleep, meals, work and exercise. These activities if followed from early life will certainly keep you healthy. Establishing a healthy lifestyle through careful scheduling of essential daily activities should be a source of peace and relation<sup>11</sup>.

- Using skin moisturizers and sun protection.
- Brushing and flossing teeth once or twice a day.
- Staying proactive in own healthcare and participating in decision making.
- Going to the primary care doctor routinely
- Reviewing list of medications with their doctor(s) often.
- Following recommended instructions for health screening, preventive tests, and vaccinations.
- Visiting a dentist annually or biannually.
- Following up with eye doctor and foot doctor, especially for people with diabetes.
- Being aware of potential medication side effects and drug interactions including over-the-counter drugs, herbals, and alternative medicine.
- Adhering to routine sleep schedule and using good sleep hygiene.
- Engaging in routine and scheduled social activities.
- Taking vacations.

### Meditation

Physical and mental relaxation can be achieved in many different ways. Like music therapy, bhaktiyoga, following Pratyahara, Dhyana, Dharana, Tapa, Trataka etc. Some yogasana are also helpful in the practicing the meditation like Pdmāsana, Siddāsana, Swastikasana etc.

### Walking

One of the prescriptions for a healthy and healthy life is that one should start morning and evening walk at least for half an hour. It makes physical and mental relaxation. It is good for appetite. During walk there is a company of near and dear who plays an important role for mind freshness another side is share of thoughts with each other leads to loneliness.

### Sleep

Having eight hours of sleep preferably between 9 pm and 5 am; in fact getting up at 4 am during Brahma Muhurtam is strongly recommended and does some yoga befitting your age and health status, it will be most beneficial. Daily routine for Surya namaskar; if there is complaint of sleeplessness take glass of hot buffalo milk before go to bed, Padabhyanga with any kind of oil should be beneficial for good sleep.

### Yoga

In old age daily practicing of yoga including Asthang Yoga are beneficial. Surya- namaskara and other asana are helpful for healthy long life. Asanas are not only a form of physical exercise but also the method of gaining the perfect mental and physical relaxation. Yogasana influence various internal organs and make them functionally more efficient. Yogasana is effortless activity

### Activity for retired person

- Join any health club, Be a member of any religious part
- Make a club of retired person
- Do any part time job for spending time
- Create any hobby as per time like Gardening, cooking, drawing, music etc. that make you happy and healthy.

### Suggestions for prevention of disease and healthy aging

- Get regular exercise, walk and meditation
- Regular annual physical check-up
- Maintain weight and cholesterol level
- Always free from stressful life.
- Don't smoke, drink, habits of smoking, tobacco chewing is dangerous for health.

### Dietary guideline

- Excess salt intake should be avoided.
- Soft well cooked foods are preferred.
- Gas forming foods like certain types of pulses have to be avoided.
- Easily digestible steamed foods can be part of the diet.
- 2-3 serving of low fat milk should included in the diet.
- Plenty of fluids and semisolid foods should be taken.
- Fried and concentrated foods be avoided.
- A minimum five serving of seasonal vegetable and fruit should be taken.
- Foods rich in proteins, vitamin and mineral should be included.

### CONCLUSION

The biological age of a person is not identical with his chronological age. The ageing population is both medical and sociological problem. Many factors that contribute to decrements of aging and the burden of illness are potentially responsive to preventive interventions. In view of this evidence, the above designs of preventive strategies are small step to prevent ageing and complications of old age.

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