

**GERIATRIC CARE IN SIDDHA SYSTEM OF MEDICINE -A REVIEW****Dr. S. Radha\***

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**ABSTRACT**

Ageing is the process of growing old. It is an inevitable and irreversible process that leads to progressive and generalised impairment of functions. The advanced development and discoveries in medical science has increased the life span of our society. It is now becoming a problem in developed and in developing countries as they have the high ratio of population ageing. Since we cannot stop the process of ageing, it has become a matter of urgency to look for ways that could improve the functional abilities of elderly and to have a healthy ageing. This can be achieved by following *kayakarpam* methods mentioned in our Siddha system of Medicine. This paper is to discuss about the herbs like *Withania somnifera*, *Tinospora cordifolia*, *Allium cepa*, *Allium sativum*, *Terminalia chebula*, *Zingiber officinale*

that are used in Siddha Medicine that act as rejuvenators and the habits to be followed in preventing age related complications in elderly.

**KEYWORDS:** Ageing, Siddha Medicine, Kayakarpam, Rejuvenation, Healthy ageing.

**INTRODUCTION**

Ageing is a biological process as we grow older. There is no way to prevent ageing process, but we can make it healthy. Sir James Saterling Rose in his journal quotes that " You do not heal old age. You protect it, you promote it, you extend it (Weir J.H 1967- Royal Society Health Journal 87, 144). Data from World Population Prospects 2017, Revision states that the number of older persons is expected to more than double by 2050 and more than triple by 2100. Declining fertility rate and increasing longevity plays a key role in the rise of population ageing. Geriatrics is an emerging science that deals with the problems of ageing including physiological, pathological, psychological and socioeconomic problems.

The Siddha system of Medicine is an ancient, traditional system of medicine practised in Tamilnadu. The drug formulations are purely based on natural resources such as herbs, metals and animal products. Siddhars not only practised Medicine, also they followed a unique method called *kayakarpam* to challenge the ageing process. *Kayakarpam* include herbs with rejuvenating property, breathing exercise (pranayama) and astangayogam.

### **DESCRIPTION ABOUT AGEING PHENOMENON**

Ageing is a progressive loss of adaptability of human beings as time passes. We become less able to react adaptively as we grow older, to the challenges from internal and external environment.<sup>[1]</sup> During this process structural and functional changes accumulate in a living being as a result of passage of time. The common physiological challenges faced by elderly include presbyopia, cardiovascular diseases, Alzheimer's disease, hearing impairment, bony changes that affect mobility, changes in mental outlook, Diabetes mellitus, hypertension, impaired memory etc.

Ageing is a universal phenomenon, the biological changes of which are clear but the mechanism behind it is still unclear. According to the Damage theory, the accumulation of damage (DNA oxidation) may cause biological systems to fail, whereas the Programmed theory states it may be due to programmed internal processes such as DNA Methylation. The famous theories are the Free radical theory which says, the free radicals derived from oxygen are responsible for damage associated with ageing and the Neuroendocrine Theory by Prof.Vladmir Dihran and Ward Dean.M.D states, the hypothalamus that controls various other glands, organs loses its regulatory Stability and the receptors which uptake individual hormones become less sensitive to them.

### **HEALTH PROBLEMS OF THE AGED**

Senile cataract, glaucoma, degenerative disease of heart and blood vessels, diabetes mellitus, hypertension, prostate enlargement, impaired memory are the major health issues faced by our elderly. A survey conducted by Indian Council of Medical Research (ICMR) on elderly people shows the following findings:

Table No: 1.

<i>S.No</i>	<i>Ailments</i>	<i>Reported percentage</i>
1.	<i>Cataract &amp; refractive error</i>	57%
2.	<i>Joint pain, stiffness</i>	43.4%
3.	<i>Dental chewing</i>	42%
4.	<i>Hearing</i>	15.4%
5.	<i>Hypertension</i>	14%
6.	<i>Chronic cough</i>	12%
7.	<i>Skin diseases</i>	12%
8.	<i>Cardiac diseases</i>	9%
9.	<i>Diabetes mellitus</i>	8.1%

Though the percentage of incidence of diabetes mellitus, hypertension, cardiac diseases and respiratory ailments are low, it should be of great concern as the mortality rate of the above said morbidity is high compared to other health problems.

### SIDDHA CONCEPTS OF AGEING

According to Siddha concept, ageing is an inevitable process that is decided even before birth. "*peru, ilamai, inbam, moopu, pini, sakadu arum karuvil ammaipu*". Here *moopu* means ageing. The stages of growth- and age-related changes are well explained in *Vallathi naadi* under *karu urpathi*. It says that, the life span of every individual is 100 years. The changes of ageing occur at the early stage of thirty years, the lustre decreases in this age. During 40-50yrs general debility develops. In 60yrs problems in vision, 70yrs - mental in stableness, in 80yrs breathing difficulties appear. Finally, death occurs at 100yrs. The life stage of any human can be divided into three – *vatham, pitham and kapham*. The terminal stage is the period for *kapham*. It gets vitiated and produces symptoms like *shyam, ellai, irumal, mantharakasam, vikkal, irudhaya rogam, melmoochu, vellupu and kaamalai*.

### GERIATRIC CARE IN SIDDHA MEDICINE

To prevent the geriatric complications Siddha Medicine prescribes many *kayakalpa* medicines. *Kayakarpam* is one of the reputed therapies that deals with preventing mortality, decreasing morbidity and increasing life span. Literature on *kayakalpa* include *Karuvoorar vatha kaviyam, Theran yamaha venba*. *Kayakarpam* medicines prolong life, enhance memory, intelligence, lustre, strengthens physical body and sense organs. Researches conducted worldwide has proved that *kayakarpa* medicines are free radical scavengers and prevent body cells from oxidative injuries. Here are some herbs that regulate the vitiated *kapha* and rejuvenates the body.

Table No: 2.

S. No	Botanical name	Phytochemicals	Uses
1.	<i>Aegle marmelos</i>	Alloimperatorin, marmelosin, dicotamine, $\beta$ sitosterol, maremin xanthoxin, linoleic acid, aegeline, argelnine.	Drives pitha & kapha disease, loss of appetite, promotes vigor, strengthens body
2.	<i>Centella asiatica</i>	Brahimonside, brahmoic acid Flavanols, quercetin, kaempferol, catechin, rutin, naringin, asiaticoside, asiatic acid, madecassic acid, brahmic acid	Used in stomatitis, dysentery, nerve disorders, hypertension.
3.	<i>Withania somnifera</i>	Withanine, somniferine, choline, somnine, somniferinine, pseudo withanine, anaferine, anahydrine	Used in rheumatism, gout, hyperlipidemia, hyper tension.
4.	<i>Citrus limon</i>	Ascorbic acid, linoleic acid, limonin, hesperidin	antidiarrhoeal, astringent antidysenteric. Used in scurvy, rheumatism, gout.
5.	<i>Cissus quadrangularis</i>	triterpenic alcohol, ketosteroids, vitC, onocer-7-en-3 $\alpha$ $\delta$ amyryn, $\delta$ amyrone, $\beta$ sitosterol	Promotes callus formation, early healing of fracture. Increases activity of endocrine glands
6.	<i>Phyllanthusamarus</i>	Phyllanthin, hypophyllanthin, nirphyllin, nirurin, phyllniruin, lintetralinamarulone, amarinic acid.	Eye diseases, dysentery, diabetes, jaundice.
7.	<i>Terminalia chebula</i>	anthraquinone glycoside, chebulinic acid, tannic acid, terchebbin, arachidic acid, palmitic acid, oleic acid, gallic acid, chebulinic acid, casuarin, 3,4,6triogalloyl D glucose, terchebulin, coumarin punicalagin, neochebulinic acid ellagic acid.	Cures anaemia, jaundice, oedema, vatha, pitha & kapha diseases.
8.	<i>Alternathra sessilis</i>	$\beta$ sitosterol, stigmasterol, campesterol, $\alpha$ spinosterol, oleanolic acid, lupeol, oxalic acid.	Improves vision, cures eye diseases, burning sensation of palm & sole.
9.	<i>Eclipta prostrata</i>	$\beta$ amyryn, stigmasterol, tyrosine, cystine, glutamic acid, methionine, phenylalanine, ecliptabine.	Used in diseases of liver & spleen, dental ailments, anaemia, jaundice.
10.	<i>Tinospora cordifolia</i>	Tinosporine, tinosporal, giolin, Tinocordifolin, tinocordifolioside, giolinsin, cordioside, syringin, cordifolioside A & B.	Rheumatism, jaundice, anaemia, cancer, diabetes mellitus.
11.	<i>Phyllanthus emblica</i>	Rich source of vit c, tannins, terchebin, corialgin, ellagic acid, emblicol, phyllemblic acid, phyllantidine, phyllantine.	Good tonic, hypolipidemic, antiatherosclerotic, antimutagenic.
12.	<i>Allium cepha</i>	Sapogenin, cepagenin, apigenin, ascalonicoside, kaempferol, luteolin	Prevent coronary heart disease, obesity, hypercholestremia.

13.	<i>Allium sativum</i>	<i>Allinin, allicin, Diallyl sulphide, protoeruboside, <math>\beta</math> spirostanol, rutin quercetin 3 glucoside, luteolin, quercetin</i>	<i>Has carminative, expectorant, diaphoretic, disinfectant, stimulant, diuretic, antioxidant, antibiotic property.</i>
14.	<i>Zingiber officinale</i>	<i>Gingerols, sesquiterpenes, cineol, zingiberine, zingiberol, heptane, octane, camphene, <math>\beta</math> pinene, glycine, sabinene, <math>\beta</math> phellandrene, gingerol, zingerone, geranial, geraniol, valine cystiene, threonine.</i>	<i>appetizer, aphrodisiac, carminative. Used in dyspepsia.</i>

### **Aegle marmelos**

Marmelide has tyrosinase accelerating and tryptophan pyrrolase inhibiting effect.<sup>[3]</sup> Fruit extract has prominent antidiabetic activity.<sup>[4]</sup> The amide alkaloid, aegeline has antihyperglycemic activity (Karawya et al 1980, Narendar et al 2007.<sup>[5]</sup> Aegele marmaleos has cardio protective action.<sup>[6]</sup> It also possesses antiviral, anti-diarrheal, gastro protective, anti-diabetic property.<sup>[7]</sup>

### **Centella asiatica**

Improves skin texture, maintain and regenerate the skin of elderly people. Asiaticoside promote wound healing, has sedative, tranquilising activity. Brahimonside, brahmoic acid are immunity promoting agents.<sup>[4]</sup> Trail using Centella asiatica showed increase in general ability and behavioural pattern in mental retarded children even on administration for a period of 12 weeks (Rao & Rao 1973), (Wijeera et al 2006, Inamder et al 1996). Has direct effect in lowering BP and is a rejuvenating medicine (Jayaweera 1982).<sup>[5]</sup> Plant extract is used in senile pruritus.<sup>[3]</sup> Heal diabetic ulcer, also has antidiabetic property.<sup>[8]</sup>

### **Withania somnifera**

Sedative, hypnotic, hypotensive, respiratory stimulant, immune modulating agent. Root of Withania somnifera is used in powder form or as medicated ghee to strengthen body. Also act as nervine tonic if given in cow's milk.<sup>[9]</sup> Sitenodoside has anti stress activity. Prevents bony degenerative changes like arthritis. Used as sex stimulant & rejuvenator, promotes strength especially in geriatric cases.<sup>[10]</sup> It stimulates the function of immune system.<sup>[11]</sup>

### **Citrus limon**

Prevents greying of hair, relieves spasm, abdominal pain and giddiness.<sup>[12]</sup>

**Cissus quadrangularis**

Lowers cholesterol level, promotes function of bone cells.<sup>[13]</sup>

**Phyllanthus amarus**

Whole plant if consumed with curd purifies blood, reduces thirst, promotes health.<sup>[4]</sup> Hepato protective activity against Hepatitis B due to the presence of phyllanthin, hypophyllanthin. The flavonoid compounds also have hypoglycemic activity.<sup>[9]</sup> Antiseptic, diuretic, antidiabetic, hypotensive Calixto et al 1998, Santos et al 1995. Aqueous extract has potent anti-carcinogenic activity against 20 methyl cholanthrene induced sarcoma & increased survival of tumour harbouring mice.<sup>[14]</sup>

**Terminalia chebula**

It should be taken in evening. Has all the five tastes except salt. It regulates the deranged three humours.<sup>[9]</sup> Has hepato protective activity and prevent hepatotoxicity caused by administration of rifampicin.<sup>[15]</sup> Reduces total cholesterol, triglycerides, total protein and increases HDL level.<sup>[16]</sup>

**Alternanthera sessilis**

It is a kayakalpa herb. The leaves are cooked in ghee and consumed. While taking this drug salt restriction is advised. If taken regularly it prevents eye disease, disease of liver, promotes lusture of skin.<sup>[9]</sup> Has hepatoprotective, reduces high level of SGOT, SGPT- Song chow Lin et al. Possess anti-inflammatory activity, may inhibit prostaglandin synthesis- Rajani et al.

**Eclipta prostrata**

Powder of whole plant is taken in tender coconut water for one month and in honey for one month.<sup>[9]</sup> Promotes the lusture of body, eye sight, mental function, prevents greying of hair.<sup>[17]</sup>

**Eclipta alba**

Reduces total cholesterol level, Triglycerides, VLDL fraction.<sup>[18]</sup>

**Tinospora cordifolia**

Cordiol has anticomplement and immune stimulating activity. It is an important constituent in the compound preparations used for general debility, fever. The leaf extract has insulin like action in reducing blood glucose level. Also reduces BP and blood urea level in human. Has antistress activity. Syringin, cordifolioside has immunostimulant potential.<sup>[4]</sup> Root is used in hypertensive disorder.<sup>[9]</sup> It has been found that Tinospora cordifolia is more effective than

acetyl salicylic acid in acute inflammation.<sup>[19]</sup> *Tinospora cordifolia* significantly reduce pain in patients suffering from rheumatoid arthritis.<sup>[20]</sup>

### **Phyllanthus emblica**

Taken as juice/ pickle improves immune power. Has antioxidant property and free radical scavenging property due to presence of high level of superoxide dismutase.<sup>[4]</sup>

### **Allium cepha**

Fresh onion juice has hypoglycemic activity its action is found to be similar to tolbutamide. Regular use reduces insulin requirement of diabetics from 40-20 units/day. Onion produces sustained hypochlostermic and fibrinolytic enhancing effect (Shama et al Indian Journal Research 1975).<sup>[3]</sup> Dried onion skin is a best source of quercetin and has antioxidant property.<sup>[5]</sup> Bulb is used to reduce body heat, prevent hypertension. The flowers of onion promote vision. The bulb is made into paste, mixed with mustard oil and applied for joint diseases.<sup>[9]</sup> Has anti thrombotic, anti-diabetic, anti-atherogenic, anticancer property.<sup>[21]</sup> Improves sperm health in man.<sup>[22]</sup>

### **Allium sativum**

Juice is used in pulmonary conditions. Garlic juice has antihyperlipedemic activity, increases blood fibrinolytic activity and inhibits platelet aggregation.<sup>[4]</sup> Diallyl sulphide, protoeruboside, rutin,  $\beta$  spirostanol, quercetin 3 glucoside, luteolin, quercetin.<sup>[5]</sup> Allicin inhibits aflatoxin B<sub>2</sub> DNA binding, has hypoglycaemic action due to the presence of thiol group disulphides which act as sparing agent for insulin. Garlic reduces serum cholesterol level, can thin the blood as similar as aspirin, maintains the suppleness of vascular cells. Also, it reduces the platelet affinity to aggregate. A small pilot study indicated the potential ability of aged garlic extract to inhibit the rate of progression of coronary calcification.<sup>[23]</sup> In a study garlic appeared to be a good adaptogen to be utilized in patients with coronary artery disease.<sup>[24]</sup>

### **Zigiber officinale**

It is a kayakalpa drug taken after processing in honey, improves vision, normalise the vitiated kapha.<sup>[9]</sup> Zingerone inhibits platelet aggregation by reducing platelet thromboxane production. Ginger extract is a better choice than placebo/ ibrufen in treating osteo arthritis.<sup>[5]</sup>

## HABITS TO BE FOLLOWED

Siddha literature recommends the following habits to prevent ailments in old age.

Milk, honey is highly beneficial for them. Regular use of garlic, amla is essential as they contain more antioxidant and has hypolipidemic activity. The food must be easily digestible.<sup>[25]</sup>

**Sleep:** It is said that persons of 30-50 yrs. must have sleep for 6hrs, above 50yrs for 8 hrs.

**Exercise:** Some asanas and walking are advised for them. Asanas like Padmasana, Halasana, Machasana, Pujangasana, Savasana, Paranyama refreshes mind and body, boost our immune system. Those who are extremely old can-do simple exercise and walking. Exercise benefits some physical disorders, improves mood and social involvement of the individual.<sup>[25]</sup>

**Others:** A regular purgation once in four months using mild purgatives also helps in promoting the health by removing the toxins in our body. Using *panchakarpam* regularly prevents many diseases. *Panchakarpam* contains kasturi manjal, pepper, Myrobalan, amla seeds and neem seed. These ingredients are powdered and mixed with cow's milk, applied on head before bath.<sup>[25]</sup>

## CONCLUSION

Numerous single herbs and formulations, regimens are quoted in Siddha literature for the wellbeing of every individual and also for specific diseases. Taking in account the various aspects of geriatric problems, it can be considered that an integrated approach including life style modification and adhering to the principles of Siddha system of Medicine can prevent illness, rejuvenate the health of elderly achieving the goal Healthy Ageing which means, "*Optimising opportunities for good health, so that elderly people can take an active part in the society and enjoy an independent and high quality of life*" as said by the World Health Organisation (WHO).

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