

PRINCIPLES AND PRACTICE OF GERIATRIC HEALTH CARE IN AYURVEDA - A CRITICAL REVIEW

Pawle Tribhuwan Singh^{1*}, Baghel P. K.² and Tripathi R. N.³

¹M.D. Scholar, Post Graduate Department of Kayachikitsa, Government Ayurved College
Raipur, Chhattisgarh, India.

²Assistant Professor, Post Graduate Department of Kayachikitsa, Government Ayurved
College Raipur, Chhattisgarh, India.

³Professor and HOD, Post Graduate Department of Kayachikitsa, Government Ayurved
College Raipur, Chhattisgarh, India.

Article Received on
19 March 2016,

Revised on 10 April 2016,
Accepted on 01 May 2016

DOI: 10.20959/wjpr20165-6199

*Corresponding Author

Dr. Pawle Tribhuwan Singh

M.D. Scholar, Post Graduate
Department of Kayachikitsa,
Government Ayurved
College Raipur,
Chhattisgarh, India.

ABSTRACT

Geriatric care has to address two-fold problems, firstly the basic anti-ageing care to retard the rate of physiological ageing and secondly the medical management of diseases specifically occurring in old age. The conventional modern medicine is apparently strong in terms of the second aspect, although the final outcome may not be as significant. Ayurveda, on the other hand has got the potential for prevention of diseases by promotion of health and management of diseases occurring in old age. Ayurvedic System of Medicine offers an excellent line management for ageing problem. It has a focused branch called 'Rasayana' which deals primarily with geriatric problems. It is an one of the important branch of *Asthanga Ayurveda*, for *Vayasthapana*,

Ayu-medha-bala-kara and *Roga Apaharana Samarthya*. Prevention and management of health problems could help the elderly to improve quality of life and remain self-dependent for their daily activities to maximum possible extent. Geriatrics or Jaracikitsa in Ayurveda is a unique therapeutic methodology to delay ageing and to minimize the intensity of problems occurring this degenerative phase of one's life by restoring physiological processes that influence metabolic and immunological status. Besides *Rasayana* and numerous single and compound plant based formulations, Herbo-mineral formulations, *Dincharya*, *Ritucharya*, *Pathy-Apathya*, modification of life style & behavior and practice of *Yoga* will help in the

effective management of Geriatric conditions. This paper review the detail concept of Ayurveda in the management of Geriatrics.

KEYWORDS: *Geriatrics, Ayurveda, Dincharya, Ritucharya, Rasayana, Panchkarma.*

INTRODUCTION

With the rise in elderly population world over including India, it is now felt necessary to develop newer strategies for Geriatric health care. Geriatric care has to address two-fold problems, firstly the basic anti-ageing care to retard the rate of physiological ageing and secondly the medical management of diseases specifically occurring in old age. *Ayurveda*, the Indian traditional holistic health science has got the potential for prevention of diseases by promotion of health and management of diseases occurring in old age. *Ayurveda* gives top priority to geriatrics. It has a focused branch called *Rasayana* (Rejuvenation) which deals with the problems related to ageing and methods for *Hitayu*, *Sukhayu* and *Dirghayu* in the concept of *Rasayana* to counter the same. Geriatrics or *Jarachikitsa* or *Rasayana* in *Ayurveda* is a unique therapeutic methodology to delay ageing and to minimize the intensity of problems occurring this degenerative phase of one's life. Prevention and management of health problems could help the elderly to improve quality of life and remain self dependant for their daily activities to maximum possible extent. *Ayurveda* has broad spectrum of preventing measures for combating the ageing process. There are ample formulations and single drug therapies available in *Ayurveda* for management of ageing process. Many herbal formulations are capable to ameliorate the process of ageing and undoubtedly play a noteworthy role in management of Geriatric disorders. Besides *Rasayana* and numerous single and compound plant based formulations, herbo-mineral formulations, *Dincharya*, *Ritucharya*, *Pathya-Apathya*, modification of life style & behavior and practice of *Yoga* will help in the effective management of Geriatric conditions.^[1, 3]

Definition: A branch of medicine dealing exclusively with the problems of ageing and the diseases of the elderly. It is derived from the Greek root “ger- gero- geronto” meaning “old age” or “the aged”.

Jara (old age) is from root “*Jrush Vayohanau*” explained as

(a) “*Vayah krita Slathamamsadyavastha Visheha*” meaning loosing of muscle and other tissues under the influence of ageing (*Vachaspatya*).

(b) “*Shaithilya Apadakavastha*” also conveying the same import. (Sabda Koustubha).

(c) “*Jeeryanti anayo angani iti jara*” conveying the meaning of degeneration of bodily organs (Gurubalprabodhika).^[12]

Type of Jara

Kalaja Jara - Jara coming at the proper age is *Kalaja Jara* (after 60 yrs.). It is ‘*Parirakshana Krita*’_means it occurs at the proper age even after following the daily and seasonal regimen mentioned in *Swasthavritta*. This is nothing but *chronological Ageing. Dhatu kshaya janya jara*.

Akalaja Jara - The Concept of Premature Ageing: *Akalotpanna lakshana Akalaja*, ‘*Akale jata iti Akalaja*’ means that thing which occurs *Akalaja* i.e. before its prescribed time. occurs before the proper age due to not taking the proper care of personal hygiene (*Swasthavritta*). This *Akalaja Jara* is of greater intensity, rapidly progressing one if neglected. This is *Biological Ageing. Marga avarodha janya jara*).^[12]

Demographic Profile

The World population of the elderly is increasing and by the year 2050, adults older than 65 years will comprise 1/5th of the global population. In India 3.8% of the population are older than 65 years of age. According to an estimate the likely number of elderly people in India by 2016 will be around 113 million and that by the year 2050, this would rise to about 324 million. Significant causes of morbidity among the elderly are Degenerative arthritis, Osteoporosis, Alzheimer’s disease, Depression, Parkinsonism, Hypertension, Diabetes Mellitus, Benign Prostate Hypertrophy, Cataract, Macular degeneration etc. and at the same time, they are vulnerable to infections involving respiratory (including TB), urinary and digestive tract. According to the Government of India statistics, cardiovascular disorders account for one third of elderly mortality. Respiratory disorders account for 10% mortality while infections including TB account for another 10%. Neoplasm accounts for 6% and accidents, poisoning and violence constitute less than 4% of elderly mortality with more or less similar rates for nutritional, metabolic, gastrointestinal and genitourinary infections etc.^[1]

Dimensions of geriatric care

Geriatric Care has two distinct dimensions, No. 1. Promotion of health and longevity, No. 2. Management of diseases of old age. The conventional modern medicine is apparently strong

in terms of the second dimension, although the final outcome may not be significant because most of the diseases of old age are incurable. *Ayurveda* is notably strong in terms of the first dimension of the problem as it has rich potential to promote health of the elderly, besides the scope of rejuvenation and promotion of longevity. As stated earlier *Ayurveda* is essentially the Science of life and longevity. The foremost classic of Ayurveda, the *Charaka Samhita* begins its deliberations in its very first chapter with *Deerghanjivitiya Adhyaya*).^[3]

Contemporary application of Geriatrics in Ayurveda

Ayurvedic treatment as such is very individualistic and general; sometimes physician may need to prescribe different formulations for patients having the same disease, considering their *Prakrti* (constitution), *Satmya* (habit/allergies), *Bala* (strength), etc. It is difficult to bring out generalised management plans for a particular disease condition and implement the same in a large scale geriatrics population. There is a need to come up with protocols to document, diagnose in an integrative frame work for the holistic management of geriatric problems. Prevention and management of health problems could help the elderly to improve quality of life and remain self dependant for their daily activities to maximum possible extent. *Ayurveda* has broad spectrum of preventing measures for combating the ageing process which is still widely practiced in our country. Ayurvedic literature record numerous single and compound plant based medicines, herbo-mineral, herbo-metalic (a few) formulations for general well being and in disease specific conditions relating to geriatrics.^[3]

Social and spiritual issues in the elderly

A. Social issues

Various issues influence the status of health in elderly and also physician's ability to deliver timely and optimum health care services. Marital status, financial status, work history, education, responsibilities, living atmosphere and arrangements are the prime issues to be considered while addressing the issues of elderly. Elderly patients living with their family members may face fewer problems when compared to others who are living alone. Because physical, economical and social health care services are provided by the family members.

- Loneliness from losing a spouse and friends.
- Inability to independently manage regular activities of living.
- Difficulty coping and accepting physical changes of ageing.
- 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.

These changes may cause multiple problems with regard to physical, social, mental wellbeing. In addition, physical abuse, psychological abuse, neglect, financial abuse etc. are common on elderly patients, which further add to the agony.^[9]

B. Spiritual issues

In the elderly patients, religion and spirituality plays an important role. Belief on god, hopeful and positive attitude about the life and illness influence the health. Active involvement in religious activities helps the patient in active life style and socialising, which in-turn minimize the problems arising from isolation and chronic diseases. Religious and spiritual persons tend to recover from diseases more quickly. Elderly persons attending religious activities remain motivated to stop addictions like smoking, alcohol, which help in better health and social status. The common spiritual interventions are praying, reading religious books, visiting auspicious places, attending religious rituals, meditation, etc. This will increase the socialization, reduce isolation and promote the feeling of belongingness.^[9]

Screening for health issues

1. Bone mineral density (BMD) at least once after the age of 65 years, followed by once in every 2–3 years.
2. Blood pressure at least once a year, regular monitoring in patients with hypertension.
3. Serum glucose and hemoglobin A1C every 3 years, more often in patients who are obese or hypertensive.
4. Lipid profile every 5 years, more often in patients who are diabetics or any cardiovascular disease.
5. Stool occult blood test, sigmoidoscopy or colonoscopy, regularly up to age of 75 years.
6. Mammography every 2 years between ages 50 and 74 years.
7. Pap smear every 3 years up to age of 65 years.

Etiological Factors of Ageing

A. Related to Dietary Habits - Lavana (salt), Amla (sour), Katu (spicy) rasa pradhana, Kshara (alkali), Suska shaka & Mamsa (dry vegetable & Meat), Tila Samyoga, Pista Anna,

Viruddha Anna (Incompatible Diet), Asatmya Anna (Unfavorable Diet), Ruksha Anna (Dry Cereal), Abhisyandi Anna, Klinna & Guru Anna (Heavy Diet), Puti & Paryushita Anna (Polluted & Out dated Diet), Vishamashana (Improper Eating Habits), Adhyashana (Over Eating).

B. Related to Life style - Atimarga Gamana (Excessive Walk), Diwa Swapna (Day Sleeping), Nitya Stri Sevana (Excessive Intercourse), Nitya Madya Sevana (Excessive Intake of Alcohol), Vishama Vyayama Sevan (Improper Exercise).

C. Related to disturbed Mental Health - Bhaya (Fear), Krodha (Anger), Shok (Sorrow), Lobha (Greed), Moha (Affection), Ruksha Vani (Harsh words), Kalah Priya Bharya (Quarrelsome Wife), Kuputra/ Kuputri (Maladroit child).^[13]

Process of Ageing

Acharya Sushruta gives an elaborate and systemic classification of age, where he described old age as above 70 years. *Achaya Charaka* on the other hand mentioned old age above 60 years. *Ayurveda* considers ageing as the *Swabhavaja Vyadhi* i.e. It is inherent nature of the living being to get old. *Vagbhata* and *sharangdhara* has described the 10-Phasic sequential biological changes taking place during 1st to 10th decades of life which may be restored up to the workable extent by adopting age specific *Rasayanas* (see table below).

Table1.different biological factors during different decades of life-

Decades	Year	<i>Sarangadhara</i>	<i>Vagabhata</i>	<i>Restorative Rasayana</i>
First	0-10	<i>Balya</i> (Childhood)	<i>Balya</i>	<i>Vacha, Gambhari</i>
Second	11-20	<i>Vridddhi</i> (Growth)	<i>Vridddhi</i>	<i>Amalaki, Bala</i>
Third	21-30	<i>Chhabi</i> (Complexion)	<i>Prabha</i>	<i>Haridra, Kumari, Louha</i>
Fourth	31-40	<i>Medha</i> (Intellect)	<i>Medha</i>	<i>Sankhapuspi, Bralimi</i>
Fifth	41-50	<i>Tvaka</i> (Skin texture)	<i>Tvaka</i>	<i>Kumari, Somaraji</i>
Sixth	51-60	<i>Dristi</i> (Vision)	<i>Sukra</i>	<i>Triphala, Jyotismati</i>
Seventh	61-70	<i>Sukra</i> (Virility)	<i>Dristi</i>	<i>Kapikacchu, Agwagandha</i>
Eight	71-80	<i>Vikrama</i> (Strength)	<i>Srotrendriya</i>	<i>Amalaki, Bala, Pravala</i>
Ninth	81-90	<i>Buddhi</i> (Cognitive power)	<i>Mana</i>	<i>Brahmi, Mandakapartti</i>
Tenth	91-100	<i>Karmendriya</i> (Locomotive ability)	<i>Sparsendriya</i>	<i>Amalaki, Bala</i>

Ageing and Dosa, Dhatu and Mala

As per fundamental principles of "*Dosa dhatumala moolam hi sariram*". The three basic constituents of human body, *Vata*, *Pitta* and *Kapha*, in a balanced state structurally and functionally, maintain the health and in an imbalanced state produce disease. these *Dosas*, *Kapha* is predominant in *Balya* (growth activity), *Pitta* in *Madhya* (metabolic activity) and

Vata in *Vardhiikya / Vrddhavastha* (degenerative activity). This imbalance varies in velocity and intensity depending upon many factors such as life style, habits, age etc. The normal function of *Panchavidha Vata* such as *Utsaha*, *Ucchwasas*, *Nishwasas*, *Chesta* etc., are affected or deteriorated in old age. It precipitates atrophy and involution of tissues and is responsible for most of the manifestation of ageing.

The next component of *Sarira* is *Dhatu*s, which are responsible to maintain a state of equilibrium with the help of *Dosas* and *Malas*. *Heyamdna dhatu* " is a feature of old age. They basically perform two functions: (a) *Dharana* (b) *Posana*. In old age due to *Vikrita Vata*, *Visama Agni*, *Ksheena Kapha*, the first *Dhatu Rasa* is not formed properly and its function of *Preenana* to the rest of the *Dhatu*s is not performed, resulting in sequential weakening of all the *Dhatu*s i.e., *Dhatu kshaya*. Hence, due to this malformed *Rasa*, it sets off a chain of malformed *Upadhdtus* and *Dhatumalas*. The various *Ksheena Lakshanas* and *Vikaras* observed in old age are

Malas are equally important as that of *Dosa* and *Dhatu*s. They form the *Mula dravva* of the body. They arise out of *Kittapaka* at the *Pachakiigni* and *Dhatwagni* levels. The various *Malas* mentioned in *Astanga hrdaya* are *Vata*, *Pitta*, *Kapha*, *Khamala*, *Karnamala*, *Akshimala*, *Asyamala*, *Prajananamala*, *Nasikamala*, *Lomakupamala*, *Kesa*, *Smasru*, *Loma* and *Nakha* etc. These play vital role in the body dynamics, as elimination of *Mala* is an index of life activities. Hampered *Agni* in old age leads to *Malakshaya*. The common features such as pain in chest, dysuria, haematuria, excessive thirst, dryness of mouth, skin are found in *Malakshaya*.

Aging and Agni

There are 13 types of *Agni* described in *Ayurveda* which represents the digestive and metabolic fire in the body. It consists of digestive juices, enzymes, hormones etc. participating in metabolism. *Caraka cikitsa* 15/3 states that *Agni* is responsible for *Ayu*. *Varlfa*, *Bala*, *Svasthya*, *Utsdha*, *Upacaya*, *Prabha*, *Ojas*, *Agni*, *Prana* etc. Based on the *Bala*, *Agni* in turn is of 4 types: *Tiksnagni*, *Samagni*, *Visamiigni* and *Mandiigni*. In old age, due to the predominance of *\;(ita dosa*, *visamagni* prevails leading to *Visamagnijanya ragas* such as *Ajeerna*. *Adhmiina*, *Sula*, *Udavarta*, *Atisiira*, *Antrakuja*. *Pravahana* etc. In young adults, due to increased activity of *Pitta*, the digestive capacity will be at its peak. The optimum activity of *Agni* is responsible for growth and development of the body and maintains vitality and

vigor of an individual. So, in old age, due to *visamagni*, defective metabolism occurs within the body leading to involuntary changes such as *Ksaya* and '*Sosa*'.

Aging and Srotas: The Ancient *Acaryas* have stressed the fact that the whole body is composed of *Srotas* which act as a network in connecting the whole body. Transportation of various types of nutrition, waste materials, etc takes place through different channels. *Srotas* may be large, minute, long, cylindrical, etc, as their synonym indicates. There is no structure in the body devoid of *Srotas*. Hence, a structural deformity ensures the deformity within the stores and vice-versa, and hence, due to the *Khavaigunya / Srotovaigunya* the *Dosa-dusya sammorcana* occurs leading to different features manifested by the *Srotodusti*. *Caraka* has clearly discussed four types of Pathophysiological conditions of *Srotas* in terms of *Atipravrtti*, *Sanga*, *Yimarga gamana* and *Siragranthi*.

Aging and Indriyas: *Indriya* is defined as "*Lingamindrasya*" sign of life. *Indriyas* in turn are of three kinds: *Jnanendriya*, *Karmendriya*, *Ubhayendriya*. The *Tridosas* influences the *Indriya* in performing its functions as it has been described in *Caraka* that *Prdnavdta* does the function of *Sarvendriya yojana* and *Indriya tarpana* is done by *Tarpaka kapha* etc. Various disorders of *Jndnendriya* are observed in old age such as *Aksihundana*, *Karnandda*, *Supti*, *Kandu*, *Arasagnata* etc. The functions of *Karmendriyas* are also adversely affected in old age.

Aging and Ojas: According to *Ayurveda*, the quintessence of all seven *Dhatus* is *Ojas*. The same is *Bala* and is responsible for resistance against diseases i. e., *Vvadhiksamatva sakti*. The seat of *Ojas* is *Hrdya*. *Ojas* is able to nourish and strengthen the *Dhatus*, giving energy, provides happiness, and luster. and balances the function of *Indriyas*. In old age as the *Kshaya* of *Saptadhiitus* is observed, naturally it leads to *Ojokshaya* which is again of three types;

1. *Ojovisramsa*

2. *Ojovyapat*

Sandhivislesa, *Gatra sadan*. *Dosa chyavana*, *Kriya sannirodha*. *Stabda*, *Gurugatrata*, *Vatasopha*. *Glani*. *Tandra*, *Nidra*, *Varchobheda*.

3. *Ojokshaya Murcha*, *Moha*, *Manasakshaya*; *Praladpa*, *Marana*.

Thus, the aging (*Jara*) which is an inevitable process involves a structural & functional change in the body and the role of *Dosa*, *Dhatu*; *Mala*, *Satva*. *Agni*, *Srotas*. *Ojas* has been

considered with respect to the aging process. This unique concept, which is hidden in *Ayurveda*, shows that the methods to minimize or delay the inevitable process are already known by the ancient Acharyas and was the secrets behind a healthy longevity.^[3,9,10,12]

Chief complaints: *Twak Parushaka* (Dryness of skin), *Slatha sara* (Flabbiness of the body), *Slatha Mamsa* (Decreased muscle tone), *Slatha Asthi* (Bone weakness), *Slatha Sandhi* (Flaccid joint), *Dhatu Kshaya* (Loss of tissues), *Kayasya Avanamanam* (Bending of the body), *Vepathu* (Tremors), *Khalitya* (Falling of hairs), *Vali* (Wrinkling), *Palitya* (Graying of hairs), *Kasa* (Coughing), *Shwasa* (Short breath), *Medha hani* (Decreased functions of Intellect) - a. *Grahana* (Grasping Power), b. *Dharana* (Retention Power), c. *Smarana* (Memory Power), d. *Vachana* (Speech), e. *Vijnana* (Knowledge), *Utsaha hani* (Decreased Enthusiasm), *Parakrama hani* (Decreased Physical Strength), *Paurusha hani* (Decreased Virility), *Prabha hani/Chhavi Hras* (Changes in Complexion), *Shukra Kshaya*, *Dristi Hras* (Diminished Vision), *Karmendriya hani* (Decreased Loco motor Activities), *Buddhi hani* (Deterioration in Wisdom).^[12,13]

Disorders in Old age

Table 2. Disorders in Old age^[5,12,13]

<p>Cardio-vascular disorders - Hypertension (<i>Vyanabala vaisamy</i>), Ischemic Heart Disease.</p> <p>Endocrine Disorders - Diabetes mellitus (<i>Madhumeha</i>).</p> <p>Respiratory diseases - Chronic bronchitis (<i>Jeerna Kasa</i>), Emphysema, Bronchial asthma (<i>Tamaka svasa</i>), Pulmonary tuberculosis.</p> <p>Gastro-intestinal Diseases - Indigestion (<i>Ajeerna</i>), Acid peptic disease, (<i>Amlapitta</i>, <i>Parinamashula</i>). Constipation (<i>Vibandha</i>).</p> <p>Musculo-skeletal diseases - Osteoporosis (<i>Asthi sauseerya / Asthi dhatu kshaya</i>), Osteoarthritis (<i>Sandhi Vata</i>).</p> <p>Genito-urinary diseases - Benign prostate hypertrophy (BPH) (<i>Ashtheela</i>), Urinary incontinences.</p>	<p>Neurological / Neurodegenerative & Special senses disorders - Complications of Cerebro-vasculars disorders viz. Paraplegia, Hemiplegia etc. Parkinsonism disease (<i>Kampavata/Vepathu</i>)</p> <p>Neuro-psychiatric disorders - Anxiety neurosis (<i>Cittodvega</i>), Depression (<i>Mano-avasada</i>), Insomnia (<i>Anidra</i> or <i>Nidranasa</i>), Dementia (<i>Smrti nasa</i>) and Alzheimer's disease</p> <p>Surgical problems - Fistula in ano (<i>Bhagandara</i>), Haemorrhoids (<i>Arsha</i>)</p> <p>Woman specific geriatric diseases - Menopausal syndrome.</p> <p>Cataract, Macular degeneration, High cholesterol, certain cancers are some of the common conditions.</p>
---	--

Principles of Treatment^[10]

1. *Nidana Parivarjana* – Identify the cause of disease and eliminate the same, self healing may follow spontaneously.

2. *Samprapti Vighatana* i.e. Reversal of the pathogenesis of the disease by applying *Samsodhana* and *Samsamana* measures.

3. Samsodhana or biopurification of the body performed through *Pancha Karma* therapy restores the integrity of the channels or *Srotamsi* of the body which augments the inner transport system with improved nutrition, bioavailability of medications and clearance of excretable, toxins and metabolites affording improved physiological pattern and occurrence of self-healing.

4. Samsamana or palliative therapy is designed for balancing of *Dosas* and *Dhatu*s through appropriate use of **1. Planned diet, 2. Drugs and therapeutics and 3. Life-style management.**

5. Adjuncts- Exercise, rest, recreation, relaxation, yoga, meditation, nutrition, physical rehabilitation, occupation, counseling and supportive therapy and *Rasayana, Daria Vyapasraya* treatment for *Sahaja* and *Karmaja* diseases.

6. Referrals – Patients suffering from surgical diseases should be referred to surgical care units as advocated by Charaka. "*Tatra Dhanvantariyanama adhikarah*" which warrants clinical skill and clinical judgement in time.

7. The geriatric subjects should be subjected to soft care, geriatric *Panchakarma* and *Rasayana* therapy besides nutritional care, *Yoga* and social support as well as appropriate treatment of the associated diseases of old age by specialised referrals)

Health care plan in Ayurved: Prevention and Management^[4,6]

Hitacharya Geriatric - Modification of life style and behavior

Svasthanvritta and Sadvritta Codes of healthy living, i.e. *Svasthanvritta* and *Sadvritta* denoting personal hygiene and mental hygiene respectively in great detail. It is the promotive and preventive health care.

Dinacarya (Daily regimen): The Ayurvedic regimen of right living is designed for maintenance of health achievement of a long, healthy active life, providing relief from pain and disease thereby achieving satisfactory enjoyment of life and attainment of selfrealisation.

1. Time to wake up- It is advisable to wake up during *Brahma muhurta* (preferably between 4.00 a.m. to 5.30 a.m.).

2. Cleansing of teeth and mouth- Cleansing of teeth and mouth should be practiced after every meal in addition to early morning and before going to bed. The soft brushes made out of twigs of *Khadira*, *Karajja*, *Nimba*, *Arka*, *Apamarga*, etc. should be used for this purpose. Tongue and mouth should be cleaned by a long flexible strip of metal or plant material.

3. Drinking Water- Drinking water early in the morning according to one's capacity cleanses the body by enhancing the elimination of toxic wastes.

4. Bowels- One should attend the nature's calls. Elimination of urine and faeces cleanse the body and cheers up the mind.

5. Eye Care- Eyes should be cleaned with fresh water to prevent eye diseases and promote vision. Also wash eyes with *Triphala* water every day.

6. Betel Chewing- Chewing of betel leaves with small pieces of *Puga* (Areca nut) and fragrant substances like cardamom, cloves, refreshes the mouth and enhance digestion.

7. Abhyaga (Oil Massage)- It is highly beneficial to massage whole body including scalp with oil everyday to prevent dryness of body and stiffness of joints due to ageing in elderly. For massaging, *Tila taila* (gingelly oil), *Sarsapa taila* (mustard oil), *Narikela taila* (coconut oil) or any medicated oils like *Narayana taila* may be used. Oil massage ensures softness and unctuousness of skin, free movement of joints and muscles; renders nourishment, improves peripheral circulation and eliminates metabolic wastes.

8. Exercise- Regular exercise builds up stamina and resistance against disease, clears the channels of body (*Srotas*) and increases the blood circulation and efficiency of vital organs, promotes appetite and digestion and prevents obesity. Daily walking is the best exercise that can be advised to old people. Before starting any exercise programme consult with consultant physician.

9. Bath- Bathing improves enthusiasm, strength, appetite, span of life and removes sweat and other impurities from the body. After bath, one should wear clean clothes and smear the body with natural perfumes. One should have regular shaving, hair cut, clipping of nails etc.

10. Marital Life - Person should avoid extra marital sexual relationship and sexual intercourse with a woman during her menses, pregnancy, within one and half month after

delivery, devoid of passion, older than one and suffering from disease to prevent *Dhatu kshaya* in elderly.

Ritucharya (Seasonal regimen): Seasonal changes bring about diseases and they may be prevented by adopting certain seasonal regimen. According to *Ayurveda*, seasonal variations can have an impact on the elements of your body. Each *dosa* has an active season and by listening to the rhythm of the nature and making changes in your life style, it will help you to balance your constitution. Following is the importance of *Ritucharya*: It maintains the climatic homology in form of *Dosa samya* (equilibrium) in different seasons to promote *Swassthvrutha* (preventive & social medicine) on which *Ayurveda* has laid a great stress since prevention is better than cure. The year according to *Ayurveda* is divided into two *kaals*

- *Aadaan kaal (Uttarayan)* (Northern Solstice).
- *Visarga kaal (Dakshinayan)* (Southern Solstice).

This division is done according to the position of the sun. *Aadaan* means taking away and *Visarga* means giving. In *Aadan kaal*, the sun and wind are powerful. The sun takes away the strength of the people and the cooling qualities of the earth. It is the debilitating period. strength is weakened. In *Visarga kaal*, the sun releases the strength to the people. The moon is more powerful, the earth becomes cooled due to the clouds, rain and cold wind.

Hemanta Ritu (Winter Season) and Shishira Ritu (Cold and Dewy Season): This is the season of cold, where the atmosphere temperature drops down, the environment becomes chilly and this leads to the disequilibrium of *Vata Dosa* and *Kapha sanchay*.

Diet - Sweet, sour and salt taste food can be taken. In this season the digestive activity becomes more powerful. Increased *Vata* gets obstructed from spreading out due to cold atmosphere outside which can digest the tissues. More intake of sweet, sour and salt helps reducing the *Vata*. Wine prepared from *Jaggery* (molasses) can be taken. Wheat/gram flour products, milk products, sugarcane products and corn/edible oils can be taken as a part of food.

Life Style

Massage with oil, *Udvartan* with fine paste/powder of *Kumkum (kesar)*, Exercise (*Vyayama*), Clothing-leather, silk and wool, Exposure to sunlight and fire to ke.

Vasanta Ritu (Spring Season): In this season, increased *kapha* is liquified by the heat of sun which causes diminished Agni (digestive activity) causing diseases.

Diet - Easily digestible food. Barley, honey, roasted meat, mango juice can be taken as food. Beverages such as *Asava* (fermented infusion), *Arista* (fermented decoction), *Sidhu* (fermented sugarcane juice), Honey mixed with water and water boiled with extracts of *Chandan* (sandal wood). Avoid hard to digest and cold food, sour, sweet and fatty food. Such food increase *Kapha* causing *Dosa* imbalance and hence genesis of disease.

Lifestyle - Physical exercise, Dry massage, Nasal medication can be taken. After massage bath with *Karpura/Chandan/Kumkum*. Avoid sleeping during day time, *Vamana* (Therapeutic Emesis).

Grishma Ritu (Summer Season): In this season, Sunrays become powerful. *Kapha* decreases, *Vata* increases day by day.

Diet - Sweet, light, fatty and liquid food can be taken. Wine should not be taken as it can cause burning sensation and even debility. If necessary take in very little quantity. Boiled rice with meat, cornflour, curd (yoghurt) can be taken in food. Drink very cold water. *Panak Panchsara* (syrup prepared with *Draksha* (sugarcane), *Madhuka*, date, *Kashmarya* and *Parshuka* fruits all in equal quantity cold with cardamom powder.

Lifestyle - Anoint body with *Chandan* paste and take bath with cold water. Stay in cool places. Wear light dresses.

Varsha Ritu (Rainy Season): In this season the atmosphere is although cool due to rainfall but the humidity increases and this causes *Vata dosa prakopa*.

Diet - Easily digestible food to be taken. Pulses, meat juice, soups, old grains and *mastu* (thin water of yoghurt) can be taken in food.

Lifestyle - *Vasti* (Administration of medicated enemata). Avoid sleeping at daytime, exertion and too much exposure to sunlight.

Sharat Ritu (Autumn Season): Sudden exposed to sunlight after cold season aggravates *Pita*.

Diet - Bitter, astringent and sweet taste can be included in food. Take easily digestible food like rice, green gram, *Amla*, honey and sugar. Avoid heavy food, curd, oil, strong liquors.

Lifestyle - *Udvartan* with *Chandan*. Bath with warm water. Pearls give soothing effect from aggravated *Pita*. *Virecana* (Therapeutic purgation).

Sadvritta, Achara, Vega Vidharana: *Ayurveda* emphasises on psycho-social factors of good living and describe in detail the ethics and code of conduct conducive to good mental and social health. *Sadvritta*, *Achara* and *Vega Niyamana* provides comprehensive Psycho-social and spiritual code of conduct which can be suitably tailored and updated to suit the present condition as a social and mental health promotion regimen. Such practices render the life stress free promote health, longevity and immune strength.^[10]

Pathya-apathya

Concept of balanced diet in elderly: Ayurvedic balanced diet is one that not only nourishes the body, but also restores balance of *Tridosha*, which is very much essential for maintaining health and mental upliftment. The constituents of a well balanced diet includes good and fine *Shastik* and *Shali* rice (carbohydrate), *Mudga* (green gram, plant protein), *Saindhava lavana* (rock salt), *Amlaki* (vitamin-C), *Yava* (Barley), Milk (contains protein, fat, carbohydrate, vitamin etc.), *Sarpi* (ghee, fat), *Jangala Mansha* (flesh of animals living in dry forest, animal protein), Honey and *Jala* (sterile water).^[10]

Diet containing cereals, vegetables, legumes and fruits should be given to the elderly. The diet should be regulated taking into account the habitat, season, age, etc. the diet should be balanced and the quantity should be according to one's digestive capacity. Following points may be considered while planning/ advising dietary and other life style regimen.^[6]

1. The food should be tasty, nutritious, fresh and good in appearance.
2. Too spicy, salty and pungent food should be avoided.
3. It should neither be very hot nor very cold.
4. Liquid intake should be more frequent and in small amount.
5. Heavy food can be prescribed in a limited quantity.
6. Heavy food should not be given at night. The proper time. for night meals is two to three hours before going to bed after dinner, it is better to advice for a short walk.
7. Heavy physical work should be avoided after meals.
8. Mind should be peaceful while eating.

9. Eating only whenever hungry and avoidance of over eating.
10. Inclusion of sufficient amount of vegetables and fruits in diet.
11. Daily intake of vegetable soup and fruit juices.
12. Milk and ghee are the *AgrauAadha* (drug of choice) of *vardhakya* (senility).
Hence their daily usage is advisable. Patient with hyperlipidaemia, ischemic heart disease, obesity these use in moderate quantity is essential.

Yoga therapy: The following yogic practices are beneficial in old age; however, these should be performed only under the guidance of qualified Yoga therapist. Duration should be decided by the yoga therapist.

- i. Breathing exercises (hand stretch breathing, hand in and out breathing).
- ii. *Savasana*, *Vajrasana*, *Bhujangasana*, *Vakrasana*, *Salabhasana* *Gomukhasana*, *Pavanmuktasana*, *Katichakrasana*, *Ardhakati chakrasana*, *Tadasana*, *Sasangasana*, *Dhanurasana*, *Mayurasana*, *Paschimottanasana*, *Ustrasana* etc.
- iii. Practice of *Pranayama* (*Chandra anuloma viloma*, *Nadisodhana*, *Ujjai*, *Bhastrika*, *Bhramari*, *Suryabhedana*).
- iv. *Kunjala* with lukewarm water, *Sankha prakshalana*, *Jalaneti*. *Vastra dhauti*.
- v. Deep relaxation techniques, *Yoga nidra*.^[9]

Rasayana

The Rasayana therapy and its mode of action^[3]: *Rasayana* (*Rasa* = nutrition + *Ayana* = circulation and promotion) specially deals with the science of nutrition, geriatric care and rejuvenation. *Rasayana* signifies not a single drug or medication, rather refers to a rejuvenative regimen which of course uses rejuvenative remedies or drugs, dietetics and overall healthy life-style and positive psychosocial conduct. The use of *Rasayana* measures and remedies produces best qualities of *Dhatu*s, i.e. body-tissues by acting through one or all of the following three principal levels of biological system with net result of improved nutritional status leading, in turn, to better qualities of tissues, longevity, immunity, resistance against disease and improved mental faculties. The primary levels/modes of *Rasayana* effect are

1. At the level of *Rasa* (Promoting directly the nutrient value of plasma).
2. At the level of *Agni* (Promoting biofire system responsible for digestion and metabolism).
3. At the level of *Srotas* (Promoting microcirculation and tissue perfusion).

Table 3. Classification of Rasayana^[13]

Sr.N.	Classification	Types Of Rasayana		
01	Main division	<i>Dravyabhuta Rasayana</i>	<i>Adravyabhutas Rasayana</i>	
02	As per method of use	<i>Kuti Praveshika</i>	<i>Vatatapika</i>	<i>Droni- praveshik</i>
03	As per Scope of use	<i>Kamya Rasayana</i> - <i>Prana Kamya</i> - <i>Medha Kamya</i> - <i>Shri Kamya</i>	<i>Naimittika Rasayana</i>	<i>Ajasrika Rasayana</i>
04	As per content of Rasayana	<i>Ahara Rasayana</i> (Dietary Rasayana)	<i>Aushadha Rasayana</i> (Medicinal Rasayana)	<i>Achara Rasayana</i> (Conduct of Rasayana)
05	Specific Rasayana drugs & measures	<i>Medhya Rasayana</i>	<i>Achara Rasayana</i> - <i>Buddhi Medha Vardhaka</i> - <i>Ayu Vardhaka</i>	
06	According to Prabhava	<i>Samshodhana Rasayana</i>	<i>Samshamana Rasayana</i>	
07	According to Satmya	<i>Ritu Satmya</i> - <i>Aadana Kala</i> - <i>Visarga Kala</i>	<i>Desh Satmya</i> - <i>Sadharana Desha</i> - <i>Jangala Desha</i> - <i>Anupa Desha</i>	
08	Acc. to <i>Sapta Dhatus</i>	<i>(1)Rasa (2) Rakta (3) Mamsa (4) Meda (5) Asthi (6) Majja (7) Shukra</i>		
09	According to Modern Medical Science	To Promote Immunity	To improve metabolism	To improve Endocrine sand exocrine secretions

Tissue and organ specific rasayana: Besides the above mentioned three generic modes of action of *Rasayana*, some *Rasayanas* are organ and tissue specific and are used for specific indications like *Medhya Rasayana* as brain tonics, *Hrudya Rasayana* as cardiotonics, *Vrusya Rasayana* as sex tonics, *Tvachya Rasayana* as skin tonics, *Stanya Rasayana* as lactogenic tonics, *Keiya Rasayana* as hair tonics, *Chaksusya Rasayana* as eye tonics, *Kanthyas Rasayana* as tonics for throat and speech and so on.^[3]

Age specific rasayana: Some *Rasayanas* are also age-specific and can be prescribed for particular age groups. As stated earlier *Ayurveda* describes the qualities of each decade of the 100 years of estimated life-span. During the process of aging an individual goes on losing these age-related bio-qualities and if this loss is compensated by agespecific *Rasayana* in specific age groups the rate of aging can be retarded to some extent and one can promote longevity. The decade-wise bio-losses described by *Sarangdhara* and *Vagbhatta* are as mentioned earlier in table-1 with suggested *Rasayana* remedies to compensate the losses.^[3]

Ayurvedic Management of Diseases of old age

Besides the rejuvenative approaches *Ayurveda* has notable potential to afford significant complementary therapeutic care in a range of diseases of the elderly and the same needs to be known to the practicing physicians of all streams. *Arjuna*, *Guggulu* and *Puskarmula* as cardioprotectives in cases of Ischemic heart disease, *Brahmi* and similar other *Medhya* drugs in treatment of senile dementias, *Varuna* and *Sigru* in treatment of senile enlargement of Prostate, *Triphala* and *Jyotismati* in senile visual disorders, *Kapikacchu* in treatment of Parkinsons disease, *Amrita* and *Amalaki* in immunodeficiency, *Shirodhara* and *Shirobasti* in tension headaches and different kinds of neurodegenerative conditions are some of the potential areas where Ayurvedic treatment has promise. Similarly the *Pindasweda* procedure of *Keraliya Panchkarma* therapy is known for its rehabilitative effect in many neurodegenerative conditions and myopathies.^[3]

Panchakarma Therapy^[3,13]

Panchakarma is a radical approach of *Ayurveda* designed to cleanse the micro- channels of the body, thus enabling better nutritional status with rejuvenative activity. It is beneficial for preventive, promotive and rehabilitative health purposes and management of various systemic diseases. In geriatric care, selective *Panchakarma* therapy like *Abhyanga* (medicated massage), *Sarvanga dhara (Kayaseka)*, *Nadi Sweda*, *Pinda sweda*, *Shirodhara*, *Bringhana vasti*, *Matra vasti* etc. may be advised to counter the degenerative processes, thereby improving the quality of life. Besides the rejuvenative approaches of *Rasayana* and *Panchakarma* therapies, *Ayurveda* has notable potential to afford significant complementary therapeutic care in a range of diseases of the elderly through various Ayurvedic formulations along with dietary and life style guidelines.

Indications/contraindications of Panchakarma in geriatric care^[13]

Table 4. Panchakarma in geriatric care

Name of organ system	Elderly ailments	Procedures
Cardiovascular system	Hyper cholesteraemia	Lekhana vasti
Urogenital system	BPH, Atonic bladder, oligospermia	Vasti- Anuvasana, Niruha
Respiratory system	Bronchial asthma, Tropical pulmonary eosinophilia, Respiratory allergies etc.	Vamana, Virechana
Nervous system	Neurodegenerative diseases	Vasti, Sirovasti, Sirodhara, Kayaseka, Pinda sveda
Skin	Wrinkling, Pigmentation, Dryness of skin	Snehana, svedana, Vamana, Virechana, Raktavisravana

Locomotor system	Àmavata, Sandhigata vata, Osteoarthritis, Cervical and lumber spondylosis, Gout etc.	Snehana, Svedana, Patra Pinda Sveda, Pinda Sveda, Vasti, Raktavisravana
ENT Diseases	Pratisyaya, Karnaksveda, Headache, Karnanada, Deafness, Sinusitis etc.	Nasya, Karnapurana, Sirodhara, Vasti
Gastrointestinal system	Gulma, Yakrtavikara, Plihavikara, Digestive disorders, Costipation etc.	Vamana, Virechana, Vasti,

Disease specific rasayana^[3]: Some *Rasayanas* are also disease-specific and are used in specific disease states as they induce specific immune and bio-strength to combat a particular disease. Such *Rasayanas* are called *Naimittika Rasayana*. The classical *Naimittika Rasayanas* are *Silajatu* for diabetes mellitus and *Tubaraka* for skin diseases and leprosy. There can be many other *Naimittika Rasayanas* identifiable by proper *yukti*.

Single and compound herbo-mineral formulations^[11]

Plant Based Formulation

Single Rasayana drugs for some specific Disease conditions

- **Diseases of Eye:** Jyotishmati (*Celastrus paniculata*), Triphala (Three myrobalans), Satavari (*Asparagus racemosus*), Yastimadhu (*Glycyrrhiza glabra*) and Amalaki (*Emblica officinalis*).
- **Diseases of Heart:** Salaparni (*Desmodium gangaticum*), Arjuna (*Terminalia arjuna*), Guggulu (*Commiphora mukul*), Pushkaramula (*Inula racemosa*).
- **Skin diseases:** Bhallataka (*Semecarpus anacardium*), Vidanga (*Embelia ribes*) and Bakuchi (*Psoralea corylifolia*).
- **Rasayana for overall Health:** Guduchi (*Tinospora cordifolia*), Amalak (*Emblica officinalis*), Aswagandha (*Withania somnifera*), Cow's milk and Takra.
- **Asthma:** Sirisha (*Albezia lebbeck*), Agastya (*Sesbania grandiflora*), Haridra (*Curcuma longa*), Haritaki (*Terminalia chebula*).
- **Arthritis:** Rasona (*Allium sativum*), Sallaki (*Boswellia serrata*), Guggulu (*Commiphora mukul*), Aswagandha (*Withania somnifera*) and Sunthi (*Zinziber officinale*).
- **Neuropathies:** Rasona (*Allium sativum*), Guggulu (*Commiphora mukul*), Bala (*Sida cordifolia*), Aswagandha (*Withania somnifera*).

- **Diabetes:** Silajitu (Black bitumen), Amalaki (*Embllica officinalis*), Haridra (*Curcuma longa*), Tejpatra (*Cinnamomum tamala*), Methika (*Trigonella foenum graecum*).
- **Lipid disorders:** Guggulu (*Commiphora mukul*), Haritaki (*Terminalia chebula*), Pushkaramoola (*Inula racemosa*), Vacha (*Acorus calamus*).
- **Hypertension:** Rasona (*Allium sativum*), Sarpagandha (*Rauwolfia serpentina*), Aswagandha (*Withania somnifera*), Jatamansi (*Nardostachys jatamansi*).
- **Brain and Memory Disorders:-** Brahmi (*Becopa monnieri*), Mandooka parani (*Centela asiatica*), Jyotishmati (*Celastrus paniculata*), Kapikachhu (*Mecuna pruriens*), Tagara (*Valeriana wallichii*).

Rasayana Groups^[10]

- **Jivaniya Mahakasaya Varga:** *Jivaka, Risibhaka, Meda, Mahameda, Kakoli, Kshirakakoli, Mudgaparni, Mamsaparni, Jivanti, Madhuka.*
- **Brimhaniya Mahakasaya:** *Ksirini, Rajakshavaka, Vatyayani (Sweta Bala), Bhadraudani (Pita Bala), Aswavandha, Kakoli, Ksirakakoli, Bharadwaji (Vanakaprasi), Payasya (Vidarikanda), Risyagandha.*
- **Balya Varga:** *Aindri, Risabhi, Atirasa (Satavari or Riddhi), Risya, Prokta (Masaparni), Payasya (Kshira Vidari or Kakoli), Aswagandha, Sthira, Rohini, Bala, Atibala.*
- **Varnya Varga:** *Chandana, Tunga (Punnaga), Padmaka, Usira, Madhuka, Manjistha, Sariva, Payasya, Sita (Sveta Durva), Lata (Syama Durva).*
- **Kanthya Varga:** *Sariva (AnantamÚla), Iksumula, Madhuka, Pippali, Draksha, Vidari, Kaitarya (Katphala), Hansa padi, Brihati, Kantakari.*
- **Stanya Janana:** *Virana, Sali, Saastika, Ikshubalika, Darbha, Kusa, Kasa, Gundra (Guluncha), Itkata, Trinamula.*
- **Sukra Janana:** *Jivaka, Risabhaka, Kakoli, Kshirkakoli, Mudgaparni, Masaparni, Meda, Vriddharuha (Satavari), Jatila, Kulinga.*

- **Prajasthapana:** Aindri, Brahmi, Satavirya, Sahastra Virya, Amogha (Patala), Avyatha, Siva, Arista (Katu rohini), Vatyapuspi, Visvakshenakanta (Priyangu).
- **Vayahsthapana:** Amrita, Abhaya, Dhatri, Mukha (Rasna), Sweta (Rasna Bheda), Jiwanti, Atirasa (Satawari), Mandukparni, Sthira, Punarnava.
- **Charakokta Divya Rasayana:** Brahma Suvarchala, Adityaparni, Nari, Kasthagodha, Sarpa, Soma, Padma, Aja, Nila.
- **Susrutokta Divya (Soumya) Rasayana:** Ajagari, Swetakapoti, Krisna Kapoti, Gonasi, Varahi, Kanya, Chhatra, Atchhatra, Karenu, Aja, Chakra, Adityaparni, Brahma Suvarchala, Srawani, Maha Srawarni, Golomi, Ajalomi, Mahavegawati.

Classical Compound Rasayanas^[10]

1. Charaka Chikitsa Sthana Chapter 1/1

1. Brahma Rasayana (1 & 2)
2. Chyavanaaprasa
3. Amalaka Rasayana
4. Haritakysdi Yoga (1 & 2)

2. Charaka Chikitsa Sthana Chapter 1/2: Satapaka Amalaka Ghrita, Atibala Rasayana, Sahasrapaka Amalaka Ghrita, Chandana Rasayan, Amalakawaleha(1&2), Aguru Rasayana, Amalaka Curna Rasayana, Dhava Rasayana, Vidangawaleha, Tinisha Rasayana, Nagabala Rasayana, Khadira Rasayana, Bala Rasayana, Shinshapa Rasayana, Asana Rasayana, Punarnava Rasayana, Amrita Rasayana, Bhallataka Kshira, Abhaya Rasayana, Bhallataka Guda, Dhatri Rasayana, Bhallataka Yusa, Mukta Rasayana, Bhallataka Sarpi, Swetaparajita Rasayana, Bhallataka Taila, Jiwanti Rasayana, Bhallataka Palala, Atirasa Rasayana, Bhallataka Saktu, Mandukaparni Rasayana, Bhallataka Lavana, Sthira Rasayana, Bhallataka Tarpana.

3. Charaka Chikitsa Sthana Chapter 1/3 : Amalakayasa Brahma Rasayana, Kewalamalaka Rasayana, Lauhadi Rasayana, Aindra Rasayana, Mandukparni Medhya Rasayana, Yastimadhu Medhya Rasayana, Guduchi Swarasa Medhya Rasayana, Sankapuspi Kalka Medhya Rasayana, Pippali Rasayana (1 & 2), Pippali Vardhamana Rasayana, Triphala Rasayana (1, 2, 3, 4th).

4. Charaka Chikitsa Sthana Chapter 1/4 : *Indrokta Rasayana (1 & 2), Droni Pravesika Rasayana.*

5. Astanga Hridaya Uttara Tantra Chapter 39: *Brahma Rasayana, Bhallataka Swarasa Yoga, Haritakyadi Rasayana, Amrita Bhallataka Paka, Àmalaki Rasayana, Kustha Nasaka Bhallataka Taila, Chayavanaprasa, Tubaraka Rasayana, Triphala Rasayana, Pippali Rasayana, Medha vriddhikara Rasayana, Vardhamana Pippali Yoga, Pancharvinda Rasayana, Sunthyadi Yoga, Brahmyadi Rasayana, Bakuchi Rasayana, Nagabala Rasayana, Lasuna Prayoga, Varahikanda Rasayana, Silajita Rasayana, Lauha Silajitu, Jarahara Lohadi Prayoga, Sitodaka, Purnarnava Kalpa, Haritaki Sewana, Bhrinigaraja Kalpa.*

Popular formulations and Kalpa Rasayanas^[10]

Chyavanaprasa, Brahma Rasayana, Àmalaka Rasayana, Amrta Bhallataka, Bhallataka Kshirapaka, Haridra Khanda, Bala Rasayana, Amrta Rasayana, Punarnava Rasayana, Louhadi Rasayana, Aindra Rasayana, Triphala Rasayana, Silajatu Rasayana, Ritu Haritaki Kalpa, Pippali Vardhamana Kalpa, Bhallataka Kalpa, Panchamrta Parpati Kalpa etc.

Rasa Preparations: *Makardhwaja Rasayana, Siddha makardhwaja, Mahalaxmi Vilasa Rasa, Vasantkusumakar Purnachandrodaya Rasa.*

Woman specific geriatric diseases^[9]

A. Prevention

1. Consumption of *Godhuma* (wheat), old rice, *mudga* (green gram), *soya*, fresh seasonal fruits, ghee, nuts, milk etc..
2. Regular medicated oil massage and exposure to mild sun light.
3. Practice personal and social good conduct.
4. Maintain healthy body weight.
5. Regular exercises, yoga and meditation.
6. Control of blood pressure and cholesterol levels.
7. Use of calcium supplements and diet rich in calcium and antioxidants.
8. Use of *Rasayana* drugs.
9. Avoid heavy and unwholesome food, excess pungent, salty and sour food items, mustard oil etc.
10. Avoid excessive physical exertion.

B. Line of treatment-

1. *Sansodhana chikitsa* / other therapeutic procedures followed by *Samana chikitsa* should be advocated.
2. *Snehana*: Gentle massage with medicated oils such as: Mahanarayan taila, Mahamans taila, Bala taila.
3. Internal *Snehana* with medicated *ghrta* (*Sukumara ghrta*/ *Dadimadi ghrta* etc) 50 ml with 2-3 gm *Saindhava* lavana daily for 3-7 days before *Panchakarma*.
4. *Shirodhara* with *Yasthimadhu kasaya* and milk 45 minutes daily for 15 days.
5. *Takra dhara* 45 minutes daily for 15 days.
6. *Matra vasti* with *Dhanvantara taila* / *Sukumara ghrta* 50 ml daily for 15 days.

C. Drug therapy**Single drugs**

Drug	Dosage (per dose)	Anupan	Duration*
For debility			
Satavari churna	1 -3gm	Water/ milk	15 days
Amalak churna	1 -3 gm	Water	15 days
Madhuyasthi churna	1-3 gm	Water	15 days
Asvagandha churna	3gm	Milk	15 days
For fragile bones:			
Asthisrnkhala churna	1-3 gm	Water	15 days
Kukkutanda tvak bhasma	250 mg	Milk / water	15 days
Compound formulations			
For excessive bleeding			
Pusyanuga churna	1-3 gm	Rice water	15 days
For hot flushes / night sweats/ burning sensation			
Praval pisti	250-500mg	Water	15 days
Mukta pisti	250-500 mg	Water/ milk	15 days
Candanasava	10-20 ml	Water	15 days
Usirasava	10-20 ml	Water	15 days
Kamadudha rasa	125-250 mg	Water	15 days
Dhanvantara taila	for matra vasti	-	15 days
For debility/ anaemia			
Asvagandharista	10-20 ml	Water	15 days
Satavari guda	6 gm	Milk	15 days
Lohasava	10-20ml	Water	15 days
For insomnia/ mood swings			
Manasa mitra vataka	125 mg	Milk	15days
Brahmi vati	125-250 mg	Milk	15 days

Brahma Rasayan	10gm thrice daily	Milk	15 days
For fragile bones			
Laksha taila	for matra vasti	-	15 days
Dhanvantara taila	for matra vasti	-	15 days

Mode of administration- *Initially 2 times in a day after meal for 15 days followed by condition of patient and physician's direction.

Rehabilitation in the elderly^[9]

Rehabilitation means development of a person to the fullest potential consistence with his or her impairment and environmental limitations. The main goals of rehabilitation are to prevent complications of bed rest and promote self dependence. Unnecessary bed rest and immobility lead to negative psycho-physiological changes i.e.

1. Reduction of the muscle strength, endurance, joint mobility and functional reverse of musculoskeletal system.
2. Deminition of the functional capacity of cardiovascular system.
3. Thrombotic complication.
4. Intellectual deficit and emotional disturbances.
5. Peripheral neuropathy.
6. Weakness etc.
7. Amputation.

Co-morbid conditions such as urinary tract infection, confusion and depression, visual impairment, loss of balance may interfere with rehabilitation activities. The following interventions may reduce the risks and are integral part of rehabilitation.

1. Avoiding prolonged immobilization, chronic use of indwelling catheters and unnecessary medications.
2. Control over diabetes.
3. Audiometric evaluations and adaptation techniques for vision and hearing.

In addition, the successful application of *Panchakarma* procedures like *snehana* (oleation), *svedana* (fomentation) etc., yoga practices and active exercises to enhance orthostatic stability, daily endurance exercise to maintain aerobic capacity or specific resistance exercise to maintain musculoskeletal integrity constitute effective rehabilitation management of patients.

Suggested package^[3]

A suggested package of Geriatric care The *Ayurveda*-based package of geriatric care may consist of:

1. Recording of the *Prakrti, Vaya, Agni & Ojas status, Desa-Kala, Vyadhi* and overall health status to help in planning the geriatric care.
2. *Swasthavrutta & Sadvrutta* i.e. codes of personal and social hygiene.
3. Dietary care avoiding too much of fat and heavy proteins preferring easily digestible nourishing *satvika* diet.
4. Regular exercise according to *Vyayama-Sakti*.
5. Regulated rest and relaxation.
6. Yoga and meditation.
7. Geriatric *Pancha karma* Therapy.
8. *Rasayana* therapy prescribed in consideration of individual needs considering the findings recorded under item 1 mentioned above.
9. Medical management of associated age-related diseases if any.
10. Supportive therapy and socio-economic support and care of social and spiritual health.

CONCLUSION

Increased life expectancy, rapid urbanization and lifestyle changes have led to an emergence of varied problems for the elderly in India. So, Geriatric health care must be made a part of the primary health care services. It must be remembered that complete health care to the elderly is possible only by comprehensive and multidisciplinary approach. It is obvious that the process of ageing was elaborately described in Ayurvedic texts and a separate medical discipline called Rasayana-Tantra was developed which described a variety of methods and measures to promote healthy longevity. The central focus of strength of Ayurveda in geriatric health care swings around the concept of Rasayana therapy which compensates the age-related biological losses in the mind-body system and affords rejuvenative effect to a notable extent. Combining Ayurvedic *Rasayana, Panchkarma*, rehabilitation, *Pathya-apathya* (dietetics), *Swasthavrutta, Sadvrutta*, Ayurvedic medicines, lifestyle, *Yoga* and spirituality. it is possible to develop an effective package for geriatric care today for global use. These measures are for preventing and curating the diseases as well as for promoting the health in old age. Proper observance of these principles leads to the perfect physical, mental and spiritual well being. There is a need to generate awareness among the masses about the

consequences of Population ageing and about the strength of *Ayurveda* in Geriatric health care.

REFERENCES

1. Rai Amit Kumar. Geriatrics: A Ray of Hope Through Ayurveda. World Journal of Pharmaceutical Research. 2014; 03(9): 335-351.
2. Singh Reeta. Geriatric Health Care By Use Of Rasayanas. Internatinal Ayurvedic Medical Journal. 2015; 03(11): 2364-2368.
3. Singh Ram Harsh. The Contemporary Strength of Ayurvedic Geriatrics. Annals of Ayurvedic Medicine. 2012; 01(1&2): 22-30.
4. Ujwala Vamanrao Pawar. Lifestyle Modification Plan As Per Ayurveda In Geriatric. International Research Journal of Pharmacy. 2013; 04(10): 7-11.
5. Chavan Shital O. Approach towards Life Style Modification Plan as Per Ayurveda And Modern Technique For Prevention Of Geriatrics. International Research Journal of Pharmacy. 2013; 04(10): 12-15.
6. Chapal Jagruti. Prevention Health Care In Geriatrics. Unique Journal of Ayurveda And Herbal Medicine. 2013; 01(3): 21-25.
7. Data Nilanjana. Diet In Elderly: An Ayurvedic Perspective. Scholars Journal of Applied Medical Sciences. 2014; 2(2B): 660-663.
8. Agrawal Viveka. An Ayurvedic Insight towards Ageing With Its Preventive Measures. www.ijrap.net. 2013; 4(1): 31-33.
9. Srikanth N. Ayurvedic Management of Select Geriatric Disease Condition. CCRAS New Delhi. 2011.
10. Singh Ram Harsh. Manual on Geriatric Health Care. Department Of AYUSH, Ministry Of Health and Family Welfare, Govt. Of India, New Delhi, India and Faculty Of Ayurveda, Banaras Hindu University, Varanasi, 2009.
11. Srikanth Narayanam. Ayurveda And Siddha For Geriatric Care. Researchgate. 2008.
12. Babu Suresh. Geriatric In Ayurveda Chaukhambha Orientalia, Varanasi. 1st Edition 2001,
13. Panda Nutan. A Clinical Study on The Concept Of Jara W.S.R. To Ageing Process And Its Management By Rasayan Yoga. PG Department of Kayachikitsa Government Ayurveda College Raipur, Chhattisgarh. 2011.