A REVIEW ON GERIATRICS - COMMON PROBLEMS OF OLD AGE PEOPLE AND THEIR MANAGEMENT
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ABSTRACT
Old age may have its challenges and limitations, but in spite of them, those latter years can be some of the most rewarding and fulfilling of our lives. Old age has deformities enough of its own. Aging is a progressive, universal decline in functional reserve of body. Process of aging varies widely in different individuals and in different organs within a particular individual. The incidence, prevalence, and burden of chronic diseases increase with age, and this increased burden of disease is also associated with an increased risk of disability and decreased ability to recover from disability once it occurs hence life-extending therapies are usually not offered to older patients because even when detected and treated, diseases often lead disabilities. In Ayurveda Jara has been considered as a part of life. To ease old age ordeal Acharya Charak and Sushruta has mentioned specific Rasayana and rejuvenating yogas like Chayavanprash, Brahmrasayana etc. To keep healthy according to Ayurveda one should do nidan parivarjana, pranayama, yogic exercises and should follow dincharya and ritucharya. In old age diseases overrule the life so it may be termed as geriatric syndrome. It is rightly said the excitement of learning seperates youth from old age as long as you are learning you are not old.
Keywords: - Jara, Rasayana, Pranayama, Dincharya, Ritucharya

INTRODUCTION
The advancement in science and technology as well as improvement in health services available has played an important role in increasing the number of elderly in the world. Consequently more and more people are surviving in old age with increased life expectancy. Ageing of the population has been one of the most important development of this century all over the world and will be one of the major challenge for next millennium. An increase in longevity and decline in fertility have contributed to people living much longer today than ever before in the last 50 years. Mortality rates have declined virtually in all the countries due to progress in preventing infectious diseases and improving hygiene and sanitation and over all social development and living standards.
The important aspects concerning the unique presentation of diseases in old age are concept of multiple pathology and the other is recognition of social presentation of disease. The term old age defines not only an individual’s bodily appearance but also loss of power, role & position. In India presently 7.5% of total population is above 60 yrs. with highest proportion of elderly in Kerala i.e. 8.77% & lowest in Andaman Nicobar Islands.

In most gerontological studies people >60 yr of age are considered as old & taken to be the elderly segment of population. United Nations has categorized elderly age segment as

- Between 60-69 - Young old
- Between 70-79 - Old
- > 79 yrs - Older

W.H.O. defines elderly > 65 yrs of age. Similarly in Ayurveda old age is described beyond 60 yrs of Age as per Acharya Charka

From disability point of view old age is defined as period >75 yrs of age. This disability is defined in term of difficulty faced in performing basic self care tasks. It includes difficulty in performing

1. PADL (Physical activities of daily living) like bathing, dressing, toileting, continence, feeding, etc.

2. IADL (Instrumental activities of daily living) like using phone, shopping, preparing meals, laundry, transportation etc

United Nations declared Oct. 5th as an international day of older people in 1991 and declared year 1999 as an international year of older people.

**Jara an Ayurvedic perspective**

The word Jara is derived from the root ‘jrusha vayohanou’ i.e. growing older. It may be defined in following ways

- "Vayah kruta shlathamamsadyavastha visesha"3

Meaning loosening of muscles and other tissues under the influence of aging.

- According to “Gurubalaprabodhika” commentary on Amarkosh.3

  “Jeeryant anayo angani iti jara” conveying the meaning of degeneration of bodily organ.

- In Shabda Sthoma Mahanidhi, the word ‘Jara’ has been defined as “Shaithilya Apadakavastha Bhedi” the Avastabhaveda, which brings shaithilya avastha

**Synonyms of Jara and Vridhha3**

Different synonyms have been described in Sanskrit literatures which illustrate the different facts of old age and the aged individual.

**Synonyms of Jara:**

- Sthaveeram - The aspect of being old.
- Vrisra - The degradation of the shareera.

**Synonyms of Vruddha:**

- Pravayaha - One who has crossed his youth.
- Sthaveera - One who has stayed for a long time.
- Jeenaha - One who is attaining deterioration.
- Jirna - One who is attaining deterioration.
- Jyaynha - One who is at the stage of 90 years.

**Classification of Jara -**

Sushruta has categorized the swabhavabala pravrutta vyadhi’s into 2 types i.e. Kalaja (timely occurring) and Akalaja (untimely occurring) jara.

Kalaja jara:-

Dalhana opines that Kalaja means “ye samayepraptabhavanti i.e the one which occurs timely. Hence appearance of signs and symptoms of aging at a particular scheduled age is considered as Kalaja jara i.e. normal aging. Sushruta further opines that this types of aging is inevitable and there are no causative factors exists as
such to prevent its occurrence, hence he called it as “pariraksha krita” that means it occurs even by following preventive health care measures”\textsuperscript{5} Charka also opines that the person who will follow strictly the health care measures like Dinacharya (Daily regimes), Rutacharya (seasonal regimes) and Hita vastu sevana (good nutritional practice) etc, will going to attain the kalamratyu i.e. senescence followed by death at a particular scheduled time in his life span. Such type of aging is considered as niyatayu (scheduled aging).\textsuperscript{6}

Akalaja jara (Premature Aging)
Dalhana explained that, Akalaja means “asamaye jata” i.e. one which occurs untimely.\textsuperscript{5} Hence appearance of signs and symptoms of aging prior to scheduled age is considered as Akalaj jara (premature aging). Sushruta further opines that this type of aging is acquired one. Hence he called it as “aparirakshanakrita” that means it occurs by following improper health care measures.\textsuperscript{5} Charaka opines that the process of aging will be accelerated in individuals who follow the improper health care measures and such individuals are prone to have “akalamrutyu” i.e. senescence followed by death prior to the schedule age. Such type of aging is considered as Aniyatayu (unscheduled aging).\textsuperscript{6} Chakrapani considered the occurrence of premature aging in persons having the features of short life span (Avarayu).

**Etiology**
Factors responsible for Kalaja Jara: -
There is no separate etiology mentioned in the classics for natural aging because it is naturally occurring phenomenon.

Nidana of Akalaja Jara :

<table>
<thead>
<tr>
<th>Age(yrs)</th>
<th>Loss of impact</th>
<th>Useful Rasayana</th>
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Madhava Nidhana explains the causes of jara as\textsuperscript{7},
1. Ati padgamana - Excess Walking
2. Ati Sitasevana - Excessive cold intake
3. Khadanna Bhojana – Improper food consumption
5. Manasika Dukha etc –Mental Stress

**Jara poorya roopa\textsuperscript{7}**
Acharya Madhavakara has mentioned followings purvaroopa of jara as
Shakti ksheenata – Diminuation of strength
Smriti nash – Diminuation of memory
Glani – lethargy
Vali –Wrinkling of skin
Paliya-Grey hair
Dantha shaithilya- Flabbiness of body tissues
Svabhava parivarthana etc – Change in mood

In Ayurvedic texts age above 70 is termed as vridhhavastha\textsuperscript{8} and doshik predominance is vata hence vata shaman lies the principal behind treatment. Charaka, while describing the scope of rasayana chikitsa, which aids in regeneration of Dhatus, has stated that the chief contributing factor of deterioration of the body is Gramyavasadosha

**Acharya sharandhara\textsuperscript{9}** has very distinctly described the loss of bodily structures and functions decade wise

**Decade wise ageing mentioned by Acharya Sharmgdhara**
Acharya Sushruta has mentioned jara along with hunger, thirst sleep and death as swabhavik vyadhi or naturally occurring disorders.

Chikitsa:- It is possible to assume the principle ways of Rasayana treatment to senility from Ayurvedic stand point. The biological stimulation of Vata Dosha can be delayed by Rasayana treatment particularly Vayasthapana drugs. The treatment with Rasayana of aging will inhibit Kshaya apparently guarding the Dhatvagni maintaining characteristic of Dhatu thus delaying the aging process. The usage of Vatashamana drugs provides optimum control over vatic activity which is the product of vicious senile process out of Dhatukshaya. The usage of drugs which enhance “Bala” is of vital importance during aging

Ageing is progressive change related to passage of time free radicals cause oxidative damage to various biological molecules by lipid peroxidation which may contribute to ageing process. Certain Rasayana drugs like Ashwagandha inhibits lipid peroxidation and oxidative protein modification. Rasayana also acts as anti oxidants so they help in delaying ageing. Mode of action of Rasayan drugs in ageing:-

1. By immune stimulation
2. Quenching free radicals.
3. Enhancing cellular detoxification mechanisms
4. Repair damaged non proliferating cells
5. Inducing cell proliferation and self renewal of damaged proliferating tissues

Helpage International has defined following symbols of old age:

i) Greying of hair
ii) Presence of wrinkles
iii) Loss of eye sight
iv) Loss of memory
v) Ill health
vi) Dependency
vii) Walking with stick
viii) Menopause
ix) Physical limitations that hamper their daily activities.

Medical advancements has lead to demographic triumph, however number of medical, social and economical problem ac-
companied the burgeoning population of older people in world

**MEDICAL PROBLEMS**

Human Ageing is characterized by progressive constriction of homeostatic reserve of every organ system, this decline often referred to as homeostesis. Reduced reserve in physiological functions of several organ systems, as a consequent frail old people are at increased risk of disability from minor risk, By the age of 50 to 60 changes begin to reflect as functional limitations like decreased power of muscles, decreased vision, decreased memory, decreased locomotory functions, exertional breathlessness etc. In starting unclassified symptoms like general weakness, fatigue, loss of weight, breathlessness, body pains, decreased muscle strength, constipation, impotency, sleeplessness, depression, impaired memory go on long without disease. Many older people are not frail but they enjoy a healthy active life in advancing age due to their healthy life style. Also due to decreased physiological reserve older patients develop symptoms earlier e.g.

1. Heart failure may be precipitated by mild hyperthyroidism.
2. Cognitive dysfunctions by mild hyperparathyroidism
3. Urinary retention by mild prostatic enlargement.

Even presentation of disease in old age is somewhat different in following aspects:

1. Perception of pain is different
2. Typical way of illness
3. Early presentation of disease
4. Multiple pathological presentations
5. Disease may present silent or atypically.
6. Are often chronic & related to unhealthy life style.
7. Long term treatment requiring including physical therapy & rehabilitative care.

Moreover reduced immune status and declining homeostasis functions predispose them to infection; auto immune diseases, malignancies, and digestive problems. Minimal degree of anemia is always there even resting metabolic rate declines with age.

They are more susceptible to adverse drug reactions like:-

1. Antihistamines may cause confusion
2. Loop diuretics may cause incontinence
3. Digoxin may produce depression even with normal serum levels.

They may not experience chest pain in MI, high grade fever in infection.

In developing countries like India microbiological disease like Pneumonia, Septicemia, and Tuberculosis has not been yet overcome.

Common cause of death in old age in India includes respiratory, cardiac & malignant diseases. Geriatric giants are the major clinical syndromes that may result from any disease process

1. Urinary incontinence
2. Alzheimer’s disease
3. Falls
4. Pressure sores
5. Immobility
6. ARMD(acute retinal macular degeneration)

The holistic approach to care of the elderly recognizes that geriatric medicine has a lot to do with social problems. Approach of a clinician/physician should be in different way, it should be developing rapport with older people, art of history taking must be different, and clinician should be good listener, examining them carefully and should cover psychosocial parameters
too. They should not be exhausted by process of examination and investigation: Examination include
i) Mental state examination ii) Nutritional examination iii) Eyesight and auricular examination.

Systemic Changes and their Manifestations As Disease
In General :-
a) Increased total body fat leads to increased volume for distribution of fat soluble drug.
b) Reduction in total body water causing reduced volume for distribution for water soluble drugs which causes anorexia.

Cardio Vascular System:-
a) Decreased $\alpha$-adrenergic responsiveness results in reduced exercise tolerance.
b) Decreased Baroreceptor sensitivity results in orthostatic hypotension which can cause syncope resulting in falls.
c) Decreased SA Node automaticity results in reduced cardiac output and heart rate in response to stress which causes syncope.
d) There are more chances of atrial fibrillation which can cause stroke.
e) Decreased arterial compliance leads to rise in systolic blood pressure ultimately which causes left ventricular hypertrophy.$^{14}$

Respiratory System:-
a) Reduce lung elasticity, aleoveolar support and increased chest wall stiffness cause ventilation/perfusion mismatch and reduced VC, IRV.
b) Decreased arterial $O_2$ concentration causes dyspnoea/hypoxia.

Central nervous system
a) Due to atrophic changes in brain benign senescent forgetfulness occurs which causes dementia, confusion and delirium.
b) Reduced brain cathecol synthesis causes delayed response to stimuli.
c) Reduced brain dopaminergic synthesis leads to stiffer gait causing Parkinson’s disease.
d) Reduced reflexes causes increased body sway.

Renal System.
a) Due to loss of nephrons there is impaired fluid balance in body.
b) Reduced glomerular Filtration rate (GFR) causes impaired drug excretion.
c) Moreover tubular functions are also impaired.

Genito Urinary System:-
a) Vaginal/Urethral Mucosal atrophy causes dyspareunia/bacteriuria.
b) Due to Prostratic enlargement there is increased volume of residua urine in urinary bladder causing urinary incontinence/retention.

Musculoskeletal System:-
a) Reduction in lean body mass results in functional impairment.
b) There are more chances of osteoporosis due to decreased bone density.

Gastrointestinal system:-
a) Metabolism of drugs is altered due to reduced hepatic functions.
b) Reduced gastric motility causes constipation/faecal impaction.
c) Reduced gastric acidity causes decreased calcium absorption so more chances of osteoporosis and also causes $B_{12}$ deficiency.
d) Faecal incontinence occurs due to altered anorectal functions.

ENT/Eye:-
a) Lens opacification and increased lens rigidity causes decreased accommodation power leading to presbyopia and cataract.
b) Presbyacusis occurs due to cochlear degeneration.

**Endocrine system:**

- a) Reduced ADH, renin and aldosterone secretions cause decreased concentration of sodium and increased concentration of Potassium in serum.
- b) Reduced Vitamin D absorption and activation causes osteopenia so more chances of fractures are there.

- **Acute illness/Infection/drugs**
- **Elderly individuals**
- **Deterioration in functions**
- **Confusion**
- **Loss of**
- **Postural and**
- **Instability falls**
- **of urine/stools**
- **Incontinence**
- **Bowel Dysfunction**
- **Social Decreased**
- **confidence**
- **D-**
- DEFECT OF COGNITION, VISION, HEARING.
- **R-**
- SPECIAL CATEGORY RECURRENT FALLS.
- **O-**
- ORTHOSTATIC HYPOTENSION.
- **M-**
- MUSCLE WEAKNESS.
- **E-**
- EPILEPTIC SEIZURES.

Falls:

This is the common problem in old age and its magnitude increases with age, fairer sex, cognitive and sensory impairment, polypharmacy, poor psychosocial & environmental factors. Falls may be due to intrinsic factors or by extrinsic factors.

i. Extrinsic factors include: uneven floors, defective stairs, poor lighting, armless chair, walking aids etc.

ii. Intrinsic factors are shown below:

- **F-**
- FALL DUE TO ENVIRONMENTAL FACTORS/
- **A-**
- ARRHYTHMIA OF HEART
- **L-**
- LOWER LIMB NEUROPATHY
- **L-**
- LOWER LIMB DISEASE LIKE OSTEOARTHRITIS ETC.
- **S-**
- SYNOPE
- **I-**
- INSTABILITY OF POSTURE
- **N-**
- NEUROLOGICAL DISEASE

- **c)** Reduced tissue sensitivity to insulin and impaired glucose homeostasis result in increased level of glucose in response to acute illness.

**Summary:**

After understanding all these systemic physiological changes following most common encountered problem of old age can be understood.

**Urinary incontinence:**

It is also a common problem leading to pressure sores, UTI, & depression. It is more common in women. Main causes of this are given below (which can be reminded by pneumonic DIAPPERS):

- **D-**
- DELIRIUM
- **I-**
- INFECTIONS OF URINARY TRACT.
- **A-**
- ATROPHIC SENILE VAGINITIS
- **P-**
- PHARMACEUTICAL DRUGS.
- **P-**
- PSYCHOSOCIAL CAUSES.
- **E-**
- EXCESSIVE URINARY OUTPUT.
- **R-**
- RESTRICTED MOBILITY.
- **S-**
- STOOL IMPACTION.
Diagnosis is mainly made by history taking or physical examination. Investigations required are urine examination, sphincter electromyography & cystometry. Treatment is mainly supportive which includes:- Psychosocial support, behavioral modifications, frequent toileting schedule, provision of bed pans and urinals, urethral sphincter exercises etc.

**Dementia**
This is decreased cognitive. Intellectual, memory functions due to atrophic changes. This leads to difficulty in problem solving, judgement, abstract thinking, geographical orientation, inability to carry out daily activities. Minor memory lapses like forgetting keys or forgetting names does not means dementia. But if one gets lost in familiar surroundings, fails to recognize his or her spouse suggests dementia. Main cause is cerebral atrophical changes with enlarged 3rd & lateral ventricles. Senile plaques and neurofibrillary tangles characterize the Alzheimer’s disease which is main cause of dementia in old age. It is characterized by slow onset of forgetfulness, loss of interest in surroundings’, impaired social skills, personality, disorientation in time later followed by language impairment, aphasia & ataxia.

Management includes care of patient rather than disease. Social support & family support is main treatment.

**Pressure sores**
These occur in them whose body parts are subjected to pressure, frictions, shearing, macerations etc. Main causes are:- Immobility, inactivity, faecal & urinary incontinence, reduced level of consciousness, poor nutritional status.

Management includes: - nursing care with devotion, frequent change of posture, not raising head end more than 30 degree, using special mattresses.

**ARMD (acute retinal macular degeneration)**
This is pigmentary, atrophic changes in macula which are bilateral and progressive in nature.

**Iatrogenic drug reactions**
These are due to: - reduced GFR, reduced hepatic functions, reduced drug metabolizing microsomal enzymes, increased concentration of water soluble drugs due to decreased total body water. Pharmacotherapy should begin at lower dose than adults and dose should increase gradually.

These were few medical problem faced by older people.

**SOCIOECONOMIC PROBLEMS**
The elderly belongs to heterogeneous group of population, different in health, ability, socioeconomic & cultural background. Childhood and old age are similar in many aspects; both age groups are dependent on others for financial and emotional support.

Fast social & cultural changes have placed elderly in highly vulnerable position, declining social support. Deteriorating health exposes old to various socioeconomic problems and age related changes. The social, physical & economical levels have an important bearing on adjustment in old age. The situation is further complicated by rapid changes in social matrix of society though aging is a gradual process of progressive manner but all of a sudden an aged person realizes he is no more liked or wanted. Children feel ashamed and are reluctant to move with their old parents.
Few problems faced by older are as follows:

1) Financial inadequacy or insecurity: Financial inadequacy or insecurity is main cause of psychosocial problem in old age. Only source for income for elderly people is their pension which is often not enough to meet their requirements so financial dependence increases which if is unfulfilled leads to disappointment.

2) Though a person is functionally capable enough to resume his job efficiently after retirement, but he is deprived of that because of chronological age leading him to financial crisis. In some cases due to advent of urbanization, children leave parents for better Job Avenue and get settled abroad. This causes financial and psychological constraints to them causing their irreparable loss because a child is supposed to be helping stick of old man.

3) It is very sad to know that most of elderly focuses on their primary needs and refrains themselves from other higher sets of needs

4) Any older person can be a victim of abuse of any type physical, financial psychological and neglect. Due to prevailing circumstances, they are forced to reorganize their lifelong attitudes and habits, but these sacrifices are perceived as normal changes in old age by their children and society but it is actually transformation of personality due to social negligence and maltreatment meted on them

5) Another dimension in their life is interpersonal relationships, as after retirement they attain the status of non earning member & highly depend upon children for economical as well as emotional support leading to intergene- rational conflicts.

6) In old age most of people become emotionally friable so they become over expecting and demand time devotion from their family but young children cannot understand this change in behavior of their parents and often neglect them. This negligent behavior causes physical isolation of old people, which leads them into psychological problems.

7) Approximately 38% of golden age group i.e. 70 plus are subjected to malnutritional deficiency; this malnutritional status causes emaciation leading to certain medical problems

8) Reduced status, income, confidence and dependency become old age friends and they easily fell as a target to loneliness and depression.

9) Whenever there is a get together in house the old people are kept isolated as they may ruin the party. What a pity he is considered unfit to be part of that society.

10) Beside homely disparities these senior citizens are also not consider worthwhile sitting in crowded buses also; though they have their right on reserved seats. Even in banks the babus do rejects their own signatures just because they are suffering from tremors. They have to face the humiliations of malingering.

11) Their needs are taken as secondary and their privacy is not considered, they have to share the room either with maids or to sleep in servants quarters.

12) It is automatically taken that they are given meals 2 or 3 times a day and it is more than enough for them but old people do have desire to go out, dine and have fun. He is devoid of wearing
new clothes, new shoes simply because he is old one.

13) If they are ill, children are restricted to go meet them as they might catch infection but they forget it is not contagious or communicable disease. Their mild illness leads them in full isolation. They are devoid of respect which they deserve.

14) Exhibition, parties, fares, movies are not meant for them. They are not expected to be at such places and enjoy their life. They are strictly supposed to be only at religious places.

To sum up, old people lose social influence and recognition.

So apart from curative means we all should try to provide good quality of life by non curative methods such as preventive, rehabilitative & terminal care.

a) We should encourage healthy ageing by:-
   - Regular physical exercise.
   - Eating Balanced diet.
   - Avoiding stress .
   - Avoiding smoking & alcohol intake.
   - Joint family system.
   - Social and spiritual enrichment.

b) Rehabilitative care can be done by psychiatric counseling, social and economic counseling

c) Terminal care:-Palliative care is only care of terminally ill patients suffering from untreatable disease which can be done at home, hospital or in hospice.

DISCUSSION

Jara can be considered as Kalaj Jara and Akalaj Jara. In another aspect Sukhayu and Dukhayu. This can also be interpreted as natural and premature. Sukhayu and Kalaj Jara as the name suggests are healthy ageing, normal ageing lived by a person who follows all the pathya and apathy or it is the aging followed by maximum physiological changes and minimum pathological changes. But Dukhayu and Akalaj Jara are inevitable ageing, unhealthy in nature and it occurs due to not following the pathya and apathy. Jara is the commencement of deterioration of body at particular stage of life but some says that it starts from the childhood only. The Jara itself is considered as disease and various pathophysiological changes occurring as a result of Jaravastha, are considered as the diseases. A vague symptomatology of Jara and some of the diseases caused by Jara like Jara Kasa, Jara Klaibya, etc. are also having a particular symptomatology. Jara has to be tackled medically by using Rasayana therapy as well as by certain specific amendments in our diet and lifestyle. Its progress may be prevented if cared at an early stage and the progressive stage may or may not be checked totally.

CONCLUSION

Jara tantra is one among the eight branches of Ayurveda. None of the classics have described the Jara as a separate vyadhi or as a separate context. From the available literature in Ayurveda, the state of Jara has been narrated as Swabhavaja Vyadhi or Kalaj avastha vishesh of Jara. Thus in conclusion, the control of aging is possible by Ayurvedic treatment Rasayana which by some of the other way improve the life expectancy. They can be used as preventing in prolonging the onset virulence of aging. Though modern medical science theoretically assumes the management part of aging, the empirical value does not appear to be on regular clinical use. Palliative Care should be made mandatory in every aspect of old age.

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