

A REVIEW ARTICLE ON FACTORS WHICH DELAY JARA (AGEING) FROM
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ABSTRACT

According to data from World population prospects 2019 revision, by 2050, 1 in 6 people in the world will be over age 65 (16%) which is up from 11 in 2019 (9%). Thus, every individual is now looking forward to youthful, productive lifespan of 100 or more years filled with good health. Research by ageing experts is focussed on ways to against the natural order of ageing process in order to delay it. Interventions include options like anti-ageing pills, restricted food consumption and cloning body parts to stay young and delay biological ageing which are costly. Ayurveda has classified the *jara* (old age) in 2 types as *kalaj* i.e. one occurring at natural pace & not aided by any other pathological process *akalaja* i.e., early senescence as a result of various dietary factors, faulty lifestyle, physical & mental stress including pathologies. So, it can be prevented, stopped or delayed deliberately. Acharya Charaka has described many factors including dietary, lifestyle, purification and rejuvenation therapies which delay the process of ageing. So, the present article focusses on to study the factors which delay *jara* (ageing) from Charak samhita.

KEYWORDS: *Jara*, Ageing, *Kalaj*, *Akalaj*, Charak samhita.

INTRODUCTION

In Ayurveda, the term *jara* is used for senescence period & defined as *jiryati iti jara* i.e., which has become old by act of wearing out.^[1] It is described as natural and inevitable process and is classified under *swabhava balapravrutty vyadhi*.^[2,3] It is divided into 2 types viz. *kalaja* i.e. which comes at proper age after 60 years of life even after following the daily and seasonal routine described in *swasthavritta* & use of purification at proper time. It may be of less intensity, slowly progressive and thus may not be very troublesome. *Akalaj jara* i.e., one which occurs before its prescribed time. It is said to be *aparirakshankrut* i.e., occurs if you don't follow *swasthavritta* and not undergoing purification at proper time. It may be of greater intensity and progresses rapidly & is reversible one.^[4]

Ageing has been defined as the total sum of physiological changes that progressively leads to the death of an individual.^[5-8] It has 2 main components – chronological ageing which refers to the actual age of person in terms of years, months & days. This component of age is uncontrollable, unstoppable & irreversible. Physiological or biological ageing is the second component & refers to an individual's development & changes based on certain cellular or

molecular parameters. Thus, it is a set of process that triggers deterioration of health & untimely to death as a function of chronological age. It can be reversed, arrested or delayed.^[9,10]

Although, the rate of ageing is genetically determined but lifestyle, dietary habits, addiction, mental makeup, social & family life, medication and many other environmental factors may influence the ageing process and their unfavourable effects can accelerate the process of ageing.^[11] In India, 3.8% population are older than 65 years of age which are facing many age related problems.^[12] So, everyone is looking forward to develop and maintain youthful vigour & extend longevity by stopping or delaying the ageing process.

Modern researchers are also focussing on to delay the process of ageing or reverse the changes by using anti – ageing pills, restricting food consumption & cloning which are costly and not readily available to everyone.^[13] The holistic approach of Ayurveda provides many easily accessible day to day life measures like dietary, lifestyle, purification and rejuvenation therapies which delay the process of ageing, promotes longevity & strengthens the senses. So, the present article focusses on to study the factors which delay *jara* (ageing) from Charak samhita.

MATERIALS AND METHODS

Charak samhita along with Chakrapani commentary was studied for the references regarding the factors which delay the process of ageing. Apart from this various research articles from reputed journals and websites were studied for the same. The collected was studied, analysed logically and concluded.

Observation and result

The references suggesting factors which delay ageing, promotes longevity and strengthen the senses are as follows –

| Sr. no. | Classical term used for age delaying | Factors which delay ageing | Reference |
|---------|--|--|---------------|
| 1. | <i>Indriyanam balam bhavati ch adhikam</i> | <i>Dhoompana</i> | Ch.su.5/31 |
| 2. | <i>Jara na labhate balam, sarvendriyanam vaimalyam balam bhavati cha adhikam</i> | <i>Anutaila nasya</i> | Ch.su.5/62 |
| 3. | <i>Indriyanam balapradam</i> | <i>Anutaila nasya</i> | Ch.su.5/70 |
| 4. | <i>Naro alpa jara eva cha</i> | <i>Nitya abhyanga</i> | Ch.su.5/81 |
| 5. | <i>Indriyani prasidanti</i> | <i>Nitya snehardra shiras</i> | Ch.su.5/83 |
| 6. | <i>Na karna roga vatotha, na ucchehi shruti na badhiryam</i> | <i>Nitya karnapuran</i> | Ch.su.5/84 |
| 7. | <i>Jara mandyam upaiti cha</i> | <i>Snehana swedan purvak Shodhana tat pashchat rasayana and Vrushya yoga</i> | Ch.su.7/49 |
| 8. | <i>Samaha shatam vyadhi ayusha na viyujyate</i> | <i>Sadvrutta</i> | Ch.su.8/31 |
| 9. | <i>Balya, punarnavakari sharir indriya chetasam</i> | <i>Uttam Sneha matra</i> | Ch.su.13/34 |
| 10. | <i>Jaram kruccheren labhate chiram jeevati Anamaya</i> | <i>Shodhan</i> | Ch.su.16/19 |
| 11. | <i>Indriya prasadakara</i> | <i>Vidhivihita annapana</i> | Ch.su.27/3 |
| 12. | <i>Ajara, nirvikara</i> | <i>Tailaprayoga</i> | Ch.su.27/288 |
| 13. | <i>Balakaram vya indriya ayusham</i> | <i>Mamsarasa</i> | Ch.su.27/314 |
| 14. | <i>Indriyani drudhikaroti</i> | <i>Hita bhojana</i> | Ch.vi.1/24/2 |
| 15. | <i>Chira jivino</i> | <i>Sarvarasa satmya</i> | Ch.vi.8/118 |
| 16. | <i>Deergha ayu, taruna vya, indriya balam param</i> | <i>Rasayana</i> | Ch.chi.1/1/7 |
| 17. | <i>Na jara</i> | <i>Rasayana</i> | Ch.chi.1/1/79 |
| 18. | <i>Vayasthapana</i> | <i>Rasayana</i> | Ch.chi.1/2/3 |
| 19. | <i>Ayu prakarshartha</i> | <i>Rasayana</i> | Ch.chi.1/2/22 |
| 20. | <i>Jara nibarhana</i> | <i>Rasayana</i> | Ch.chi.1/4/32 |
| 21. | <i>Sarva rasayana guna</i> | <i>Achara rasayana</i> | Ch.chi.1/4/35 |
| 22. | <i>Vaya sthapayita</i> | <i>Niruha basti</i> | Ch.si.1/27 |
| 23. | <i>Ayush vrudhi</i> | <i>Panchakarma</i> | Ch.si.1/53 |

DISCUSSION

Acharya Charaka has classified the age into 3 stages viz. childhood, middle age & old age. Out of which lifespan of 60 to 100 years is considered to be as old age. During this period, *dhatu*, sense organs, strength, energy, virility, prowess, acquisition, retention, recollection, speech and undergoes degeneration gradually or generally. This stage is predominated by *Vayu*.^[14] Old age is accompanied by a variety of health challenges and population study indicates that the elderly will use between 3 to 5 times more healthcare services compared to younger population.^[13] So, it is necessary to find ways to delay or halt the process of ageing. The logic behind how the factors which delay ageing, promote longevity and strengthen the senses is explained below.

1. **Dincharya** – For health and optimum health span, Ayurveda has given a set of daily routine which includes time of waking up, sleeping, defecation,

hygiene, mindful practices, diet, work, travel, etc. Daily observances were encouraged in order to maintain circadian rhythm with time of the day, night and seasons to help wipe off all acute or chronic conditions that have a deleterious effect on ageing process.^[15-20] scientists are only now beginning to understand the importance of routines, biological clocks & circadian rhythms & their role in ageing, wellbeing and morbidity. Researchers studying chronobiology have stated that increased longevity and improved health can be achieved by the time bounded routine.^[21,22] similarly, frequent long distance travels, shift work, jet lag, eating late in night destabilize the close coordination between the biological clock, circadian rhythms & the environment that has a serious impact on overall health and lifespan.^[23]

2. **Nasya** - As mentioned in Charak samhita, one who practices *nasya*, as per the scientific prescribed method, at the proper time will keep his sight, smell & hearing unimpaired, his hair and beard will never become white or grey, his hair will not fall off rather will grow in abundance. It will nourish the blood vessels, joints, tendons and ligaments of cranium giving them great strength. All senses will become clearer and strengthened and hence the effect of senility would not affect the head i.e., will delay the process of ageing.^[24,25]
3. **Abhyanga** – Daily oil massage is said to alleviate the *Vata* which is predominant in process of ageing. So, it slows this process.^[26] In particular, one who has got his head daily well oiled alleviates premature greying and alopecia and strengthen cranial bones significantly.^[27] By filling the ears with oil daily, there will be no ear disease of *Vata* type, no difficulty in hearing and reduced chances of deafness i.e., age related changes which may occur in ear can be arrested or delayed.^[28]
4. **Dhumpana** – It augments the strength of senses. As the senses lose their power in ageing, it may prevent, delay or arrest process of ageing.^[29]
5. **Nidra** – It is one of the main pillar of good health in Ayurveda and is as important as diet in sustaining a quality health span.^[30,31,19] Ayurveda cautions that poor sleep pattern can be debilitating as it triggers age related pathological conditions that hasten ageing process.^[32,33] Previous carried researches agree with Ayurveda's emphasis on good quality sleep as a staple of optimum health and longevity.^[13]
6. **Sadvrutta or achar rasayana** – Moral reasoning, code of ethics or good conduct and is required to guide daily living and maintain a balanced state of physical and mental life.^[13] One who follows the code of good conduct for the maintenance of positive health lives for hundred years without any abnormality^[34] and likewise the *Achar rasayana* is said to have all benefits of *Rasayana* i.e. maintaining youthfulness and longevity.^[35] Previous research shows that those individuals who had performed selfless services regularly lived long as compared to those who did not render any selfless service. Additionally, participants who volunteered only for compassionate reasons achieved the most health benefits compared to those who performed the service purely for personal gain or self-growth.^[36] The findings of the research study confirm the Ayurvedic concept of *sadvrutta* and suggest that ethical regimens & good conduct stabilize body – mind function, help to ward off mental disorders & helps to overcome life's challenges that accompany the ageing process.^[13]
7. **Proper dietary habits** – Food and beverages that poses apt colour, smell, taste and touch, taken in right quantity, at the right time, season and location, are a source of life and vitality for all living beings. The wholesome food is the fuel that maintains *agni* (digestion & metabolism process), invigorates the mind, promotes proper distribution of body elements, vitality complexion & acuity of sense organs.^[37]
The unctuous food in particular provides firmness to sense organs & increases strength.^[38] Use of meat juice in food promotes or enhances youth, functions of sense organs and longevity.^[39] Also one who is suited to all tastes by practice is strong, enduring and long lived.^[40] Nutritionist & other researchers are also realizing the importance of relationship between the time of feeding, metabolism, weight regulation and aging.^[41,42]
8. **Sneha** - Consumption of large dose of *Sneha* removes excess of vitiated *dosha* out of body, reaches all body channels, improves strength & rejuvenates the body, sense organs and mind.^[43] Use of sesame oil in any form is said to overcome ageing and fatigue as is best remedy to combat vitiated *Vata*.^[44,45]
9. **Panchakarma or shodhana** - *Jara* is a degenerative stage of life marked by progressive decline of qualities of *dhatu*. *Vata prakopa* occurs as a result of *dhatu kshaya* and *margaavarana*.^[46] Apart from this, *manda agni* also results in improper formation of *Rasa dhatu* and decline in qualities of successive *dhatu*s thereby making body more susceptible for degeneration and degradation of defence mechanisms of body. This is a vicious cycle of *dhatukshaya* which needs to be broken at some point in order to slow down the process of gradual decline and ultimately leading to a longer healthy life. *Panchkarma*, the group of purification procedures, can be a handful in managing the above condition. Periodic and seasonal use of *Panchkarma* procedures will not allow the *agni* to get vitiated by regular eradication of *sanchit dosha* from its *sanchaya sthana* itself. As a result, *doshas* will never enter the stage of *prakopa avastha* which is responsible for vitiation of *agni*, *khavaigunya* and finally production of a disease. Devoid of this process, the degeneration of will occur at a slow pace as the factors responsible for the process will not be available on a regular basis to accelerate the process of damage.^[47] *Niruha basti* is said to act as *vayasthapana* due to its microchannel cleansing property.^[48] Hence, seasonal use of *panchakarma* leads to vigour & longevity.^[49]
10. **Rasayana** – It stands as an aid to attain healthful longevity and delay the process of ageing. It acts at 3 levels –
 - *Rasa* – by enhancing the nutritional intake of body

- *Agni* – it improves digestion, absorption and metabolism and have some anabolic effects.
- *Srotasa* – cleanse microcirculatory channels leading to improved tissue health and quality.^[50]

According to previous research

- It increases the free radical scavenging of antioxidant effects.
- Decreases the oxidative stress level.
- Decrease the inflammation level.
- Decrease the lipid peroxidation level.
- Decrease the mutagenesis DNA and clast genesis.
- Increases the antioxidant enzymes.
- Increases the adaptogenic effect.
- Increases the immune modulation and stimulants.^[51]

Hence Acharya Charaka has mentioned that sequential use of oleation, fomentation, emesis, purgation, enema, nasal instillation, rejuvenation and aphrodisiac therapies slows down the process of ageing.^[52] The historical evidence also suggests that old sage Chyavana regained youth by use of Chyavanprash like *rasayana*.^[53]

CONCLUSION

Jara is accompanied by the process of decay and manifest in the form of various degenerative changes. Although these changes are natural, they are not pleasant in case of *kalaj jara* and are present before time in *akalaj jara*. Acharya Charaka highlighted the importance of longevity and youthfulness at different places. Unlike the modern medicines approach, the holistic approach of Ayurveda incorporates dietary, lifestyle, behavioural, psychological, purification and rejuvenation therapies to delay ageing and promoting longevity. Shortly, maintenance of state of *agni* and equilibrium of *dosha* and *dhatu* by all these means leads to delayed ageing and longevity of life.

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