

## A review on Concept of organelle ageing w.s.r to Rasayana therapy

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### Abstract

Since time immemorial, Scientists across the world have been concerned in how the longevity and youthfulness of an individual can be preserved and hence how can ageing be delayed, because as ageing occurs it is accompanied with a lot of health challenges including heart attacks, strokes, cancer, diabetes. From the last few decades it has been noticed that the average life expectancy of the population is not only in India but across the world has decreased to 70.19 years. But on the contrary it has been noticed that there are some regions in the world where till date the average living rate ranges from 90-100 years. After a lot of researches on the lifestyle of these people it was found that this was purely because of the concept of *Rasayana*. Ayurveda being the integrative mode of medicine and being the only field of medicine mentions about the rasayana therapy or the rejuvenative therapy.

Rasayan therapy is a holistic approach which includes usage of *Haritaki*, *Brahmi*, *Amalaki*, *Mandukaparni*, *Pippali* along with different methods like *Kutiprivasika* and *Vatatapika*. In this the person should avoid the aggravation of doshas in his/her body. The *Rasayana* drugs augment lifespan, mental capacity and the vitality of the individual. To see the relevance whether *Rasayan* Therapy works in increasing the longevity of people the data analysis of the blue zones of the world ( places with the highest living rate ) along with the red zones ( places with the lowest living rate ) were done. The *aahar-vihaar*, *dinacharya*, of these two populations were analyzed and then put up together and then statistically examined. The average life expectancy of people in the blue zones of the world were about 90-100 years whereas the average life expectancy of people in red zones were 50-60 years according to the data collected by the world population data 2022. It proved the fact that by following the *Rasayana* therapy including a healthy dietary lifestyle, improving the daily *dinacharya*, and proper sleep schedule can increase the longevity of the people.

**Keywords:** *Rasayana*, Average Living Rate, Blue zones, Red zones, *Dinacharya*.

### Introduction

Since time immemorial scientists have been in a quest in finding different ways in how can the ages of the person and hence the longevity of the individual can be increased.<sup>[1]</sup> Not

only in the ayurvedic system of medicine but also in the modern system of medicine it has been a big question in front of everyone in how can ageing can be reversed. There are no ways found in reversing the chronological ageing of the person but it has been seen that the biological ageing of the person can be surely reversed. In Ayurveda a very unique concept of *Rasayana* therapy has been seen which is believed to increase the longevity of the individual.

The sum total of physiological changes that progressively lead to the death of the person and is also defined as the irreversible process of associated loss of viability is called as ageing. There are lots and lots of physiological, biological, physical changes that take place in the ageing of the person.<sup>[2]</sup>

There are two main types of ageing which is seen the person-

- 1) CHRONOLOGICAL AGEING
- 2) BIOLOGICAL AGEING

The chronological age of the person is the actual age of the individual which is in years. This component of ageing is irreversible and takes place in all.

Individuals irrespective of age, sex, physiological or biological composition and hence this ageing type is irreversible.

The biological ageing is the type of ageing in the individual which cellular and molecular developments in the person lead too ageing. This ageing differs from person to person and depends on the built and lifestyle of the person.

From past some years, it has been seen that due to the sedentary lifestyle and the unhealthy style of living, people not only in India but across the world have been compromising with their health. It is also seen that they have been compromising a lot with their health due to which from a very young age they are seen developing a lot of lifestyle disorders and hence the average life span of an individual is seen to be decreased.

But it has been observed in some parts of the country and across the world that there is a group of population where the average life span is found to be higher than the normal life span in other areas. When the lifestyle, diet is compared to this set of people then it is found that it is the lifestyle, diet and regular inclusion of physical exercise of the person that is helping them to live such a healthier and happier life.

### **What causes ageing?**

The cells here , become large in some and no longer remains in the state to divide. The pigmented portion and the content of fat increases inside the cell .

As the age increases , the toxic and the waste products accumulate inside the tissue.

Lipofuscin is a brown pigment containing the fatty substance. This results into making all the specified organs ,blood vessels more and more rigid and compact.

This further adds up in changing the constituent part of the cell membrane and thus face difficulty in getting oxygen and nutrients while removing the waste products.

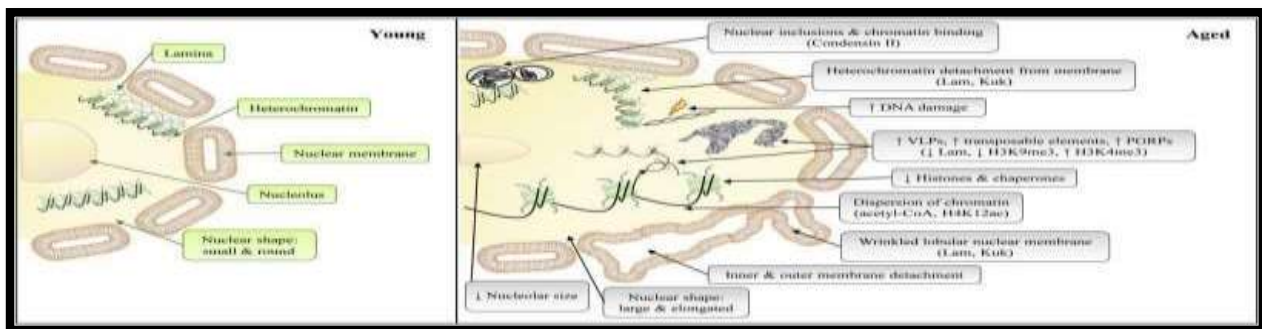
This process is called as atrophy which further leads to the process of Ageing.

Reasons of ageing according to Ayurveda

Due to sedentary lifestyle, inclusion of *virudh aahar* in diet, excess use of sour substances, not indulging in any type of physical exercise are believed to be the major causes of ageing. Here in is the place a very unique system of ayurveda comes into place about the *Rasayana* Therapy which is believed to include healthy food, lifestyle and some procedures which can definitely increase the longevity of the person.[4]

As a result, the dhatus of the body start to vitiate that is from *rasa dhatu* to *rakt dhatu* and hence the *ojas* and the strength of the individual starts decreasing.[5]

Hence the person becomes weak, lethargic, lazy and his ageing is propped and hence the average life span of the individual is decreased.



*Rasayana* therapy-a preventive measure to prevent organelle ageing.

When the biological ageing of the person is said to be increased or in other words the organelle ageing is said to be delayed then this unique system of medicine comes in place which is the *Rasayana* Therapy.

The *Rasayana* Therapy is said to be taken right from the young age of the person or by the middle age so as to get the miraculous effects and outstanding results. Basically, in this procedure the aggravation of dhatus is avoided by the inclusion of healthy habits and also physical exercise including of some purificatory measures as explained in ayurveda.[6]

Etymology and definition of *rasayana*-

The term '*Rasayana*' means elixir or a medicine to prevent old age and prolong life. It is one of the eight specialties of Ayurveda that aims to preserve health. It aims at proper nourishment and transportation of nutritive fluid (*rasa*), blood (*rakta*) etc.<sup>[7]</sup> The primary objectives of knowledge of life (Ayurveda) are preserving health and preventing diseases. *Rasayana* treatments are important in the preservation of health, prevention of diseases, speedy recovery and rehabilitation from disease conditions. In current practices, antioxidant, immunomodulatory, adaptogenic, anabolic, nutraceuticals, anti-ageing therapies are considered forms of *rasayana* therapy.

Ayurveda advises body purification before administration of *rasayana* therapy to achieve optimum benefits.<sup>[8]</sup>

Types of *rasayana* therapy

Based on the method of administration:

Indoor admission regimen (*kutipravesika*)

Outdoor regimen (*vataatapika*)

**1. Indoor admission regimen (*kutipravesika*):**

The *rasayana* therapy is administered in a specially constructed chamber (*kuti*). The person is isolated in the chamber. Strict regulations in diet, mental and physical activities are prescribed with a suitably controlled atmosphere. The therapy is wholly focused on physical, mental and spiritual upliftment of the person avoiding all external factors that can affect health. <sup>[9]</sup>

**2. Outdoor regimen (*vataatapika*):**

In this type, the *rasayana* therapy is administered in the outdoor regimen. The person is exposed to the external atmosphere (*vata*) and sunlight (*atapa*). The person can live everyday socially with *rasayana* therapy. The restrictions are comparatively less.<sup>[10]</sup>

In terms of efficacy, the indoor regimen (*kutipravesika*) is superior to the outdoor regimen (*vataatapika*).<sup>[11]</sup>

**Classification based on effect :**

*Kamy rasayana*: It is aimed to attain desirable specific benefits such as long life, great intelligence, wealth etc.

*Naimittika Rasayana*: It is a therapy aimed to treat specific diseases.

*Ajasrikam*: This therapy is advised to follow daily, and the person is habituated to the substance.[12]

Classification based on treatment principle:

Attaining *rasayana* effect through purification therapies (*samshodhana*)

Attaining *rasayana* effect by pacifying the aggravated dosha or disease (*samshamana*) [13]

Methodology of *rasayana* therapy-

The results of *rasayana* therapy solely depends on the fact in how properly and systemically the procedure has been performed.

The whole methodology of *rasayan* therapy includes 3 steps as explained in ayurveda as *purv karm*, *pradhan karm* and *paschat karm* which includes certain steps and procedures in each single step.

<i>Purva karma</i>	<i>Pradhana karma</i>	<i>Pashchata karma</i>
building a kuti	administration of <i>Rasayana</i> yoga	management of the dietary, life-style and social conduct of the patient including <i>parihara kala</i>
collection of necessary drugs and other materials		niskramana of the patient
kuti pravesha of the patient		observance of <i>nitya Rasayana</i> for the rest of the life
preparation of the patient including <i>samshodhana</i>		

Herbs used in *rasayana* therapy

Daily intake of milk and ghee is the best food for attaining *rasayana* effect. [15]

Dhatu specific *rasayana* herbs.

Nourishing fluid (*rasa dhatu*)-*Tinospora cordifolia*

Blood (*rakta dhatu*)-*Piper longum*

Muscles (*mamsa dhatu*)-*Asparagus racemosus*

Adipose tissue (*meda dhatu*)-*Terminalia chebula*

Bones (*asthi dhatu*)-*Commifora mukul*

Marrow and nerves (*majja dhatu*) *Bacopa monnirei*

Reproductive elements, Sperm, Ovum (*shukra dhatu*)-*Withania somnifera* [16]

Herbs promoting intellect and memory functions (*medhya rasayana*)

Juice of *Centella asiatica* (*mandukaparni*)

Juice of *Tinospora cordifolia* (*guduchi*) with its root and flower

Powder of *Glycyrrhiza glabra* with milk

### Paste of *Convolvulus prostrates* (*shankhapushpi*)

These herbs promote intellectual and memory functions. These *rasayana* herbs are life promoting, disease alleviating, promoters of strength, *agni*, complexion, voice. They promote intellectual functions. *Shankhapushpi* is known explicitly for promoting intellectual functions [17]

### Case study on the healthiest people of the world

According to the world population data collected till 2022 there have been several places recorded till date which have a very high average life span. These places are officially being named as the blue zones which have the highest life expectancy rate across the world. And on the other hand, there have been several places recorded which have the lowest life expectancy rate across the world.

When the lifestyle, dietary habits were analyzed and collected at a place then it was seen that the lifestyle of this group of people was found similar to practicing *rasayana* therapy practicing every day. [18]

Specifically according to the data collected the blue zones of the world are *GREECE*, *OKINAWA*, *OGLIASTARA*, *LOMA LINDA*, *NICOYA PENNINSULA* AND *COSTA RICA*.



### Conclusion and Discussion-

Hence it is seen that *rasayana* therapy if performed with full discipline and regularly gives miraculous results and is also found to be helpful. Not the chronological ageing of the person but the biological age of the person can surely be reversed with the application of certain specified drugs and the purificatory methods.

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