



VAYASTHAPANAM-2021



PROCEEDING OF INTERNATIONAL CONFERENCE

on 19 & 20 November 2021

Theme- Geriatric Diseases-Care and Cure to Celebrate



jointly organized by

Gujrat Board of Ayurvedic & Unani System of Medicine & Parul University

VAYASTHAPANAM-2021

Organized by : PG & Ph.D Department of Kriya Sharir, Parul Institute of Ayurved, Parul University.

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THEME-GERIATRIC DISEASES-CARE AND CURE

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ORGANIZED BY:

**PG & PH.D DEPARTMENT OF KRIYA SHARIR, PARUL INSTITUTE OF
AYURVEDA PARUL UNIVERSITY**



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FOREWORD

I feel honoured to be requested to write the foreword for this excellent work as special add on by the efforts from the Department of Kriya Sharira on conducting Pre International conference Vayasthapanam 2021 under Azadi ka Amrut Mahotsav on 19/10/2021 presiding eminent guest speakers.

I am indeed happy to write a foreword to the book which is combined efforts from the department of Kriya Sharira. It has taken a herculean task to compile this book after referring voluminous literature of past and present with reference to Geriatric practice: cure and care by the scholars. This is a genuine work compiling original references by the authors from Ayurveda and contemporary sciences. The resources provide comprehensive knowledge about the subject prepared in accordance with the diseases, drugs involved and its etiopathogenesis. It is also noteworthy that relevant modern literature is presented which makes it more useful for the readers. Ayurvedic system of medicine has been practiced in the country and globally from time immemorial and has stood the test of many adversities over centuries.

This book of proceedings from the Department of Kriya Sharira will be a timely contribution to students, practitioners, scholars and researchers of ayurvedic medicine. The purpose of this book will be served by the progressive discussions and constructive feedbacks from the readers. I am sure the readers will be benefited immensely by this book. I wish the department to get more such opportunities to convert such intricate subject into an interesting and readable one.

Dr. Parul Patel, BHMS ,M.D

Managing trustee and Vice President,

Parul University Member Central Council of Homoeopathy (CCH)

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FACULTY OF AYURVED
PARUL INSTITUTE OF AYURVED
EVENT NAME: PhD WEBINAR SERIES
DATE: 19-10-2021
ORGANIZED BY: DEPT OF KRIYA SHARIR
REPORT

Parul Institute of Ayurved has organized webinar on topic “ Vayasthapanam - 2021” on 19-10-2021, at 10am which was helpful for students to understand the details of the topic, Physiological Concept of Geriatrics of More than --- Students of 1st, 2nd, 3rd and 4th Year BAMS, Intern and PG, Ph.D. Scholars attended and got benefited.

The event was inaugurated by DEAN Dr Hemant Toshikane Sir, along with other guests. The Lecture on Physiological Concept of Geriatrics both Ayurveda and Modern view was delivered by, Dr Sampada Sandeep Sant (Professor & Hod, Kriya Sharir Department, Govt Ayurveda College, Nanded and Vaidya Raviraj Pardeshi Professor, Sharir Kriya Department, Jupiter Ayurveda Medical College Nagpur.

The Morning Scientific session was moderated by Dr, Vaidehi Roale, Professor, Kriya Sharir Dept, Parul Institute of Ayurved with Dr Kavyashree R.N (1st PG Scholar) and Dr Varshida Marwadi (final PG Scholar) Kriya Sharir Dept Parul Institute of Ayurved

The Afternoon Scientific Paper Presentation,

Session I – was moderated by Dr Sunil P Nikhate, Associate Professor, Kriya Sharir Dept, Parul Institute of Ayurved with Dr Devangi Doshi (1st PG Scholar) Kriya Sharir Dept Parul Institute of Ayurved

Session 2 – was moderated by, Dr Neha Gadgil Associate Professor And HOD, Kriya Sharir Dept Parul Institute of Ayurved with Dr Prachi Solanki (1st PG Scholar) Kriya Sharir Dept Parul Institute of Ayurved

All the Papers were Scrutinised by Dr Ravi Pandya Assistant Professor, Kriya Sharir Dept Parul Institute of Ayurved

The facebook and youtube live of the session was coordinated by Dr Harish Daga Assosiate Professor, Shalya tantra Dept Parul Institute of Ayurved

Overall, the event was well organized and appreciated by all.

Links to connect the session.

<https://+>

<https://www.youtube.com/user/drhemant/videos/>

www.paruluniversity.ac.in

A MACHINERY OF LIFE: UNDERSTANDING THE WATER AS BIOMOLECULE

DR. VAIDEHI RAOLE

ABSTRACT

The human body is composed of roughly 30 trillion cells that collectively perform the essential functions of life. The cells can perform these life-sustaining tasks with the help of several organic molecules present in them. These organic molecules are referred to as biomolecules. The biomolecules have a wide range of sizes and structures, and they are involved in a vast array of life functions. They are composed of more than 25 naturally occurring elements, with the primary elements being carbon, hydrogen, oxygen, phosphorus, and sulphur. Hydrogen and oxygen forms the basic molecule of life as water.

Water's extensive capability to dissolve a variety of molecules has earned it the designation of "universal solvent," and it is this ability that makes water such an invaluable life-sustaining force. On a biological level, water's role as a solvent helps cells transport and use substances like oxygen or nutrients. Water-based solutions like blood help carry molecules to the necessary locations. Thus, water's role as a solvent facilitates the transport of molecules like oxygen for respiration and has a major impact on the ability of drugs to reach their targets in the body.

Water is an essential body nutrient and its homeostasis is crucial for whole life. Early in the evolution, marine animals were surrounded by water, but survival on dry land required built-in, "portable" and potable drinking water. Dehydration is one of the ten most frequent diagnoses responsible for the hospital admission of elderly people all around the globe. It is associated with increased mortality, morbidity and an estimated cost of 1.14 billion per year. Dehydration is a contributing factor for delirium, a neurobehavioral syndrome recently demonstrated to be a strong risk factor for dementia. It is therefore crucial to recognize and diagnose dehydration quickly, however at the present time there are no specific biological markers for this condition.

INTRODUCTION

The human body is composed of more than 200 different kinds of cells, which are generally considered to be components of five main types of tissues: epithelial tissue, connective tissue, blood, nervous tissue, and muscle. The human body is composed of roughly 30 trillion cells that collectively perform the essential functions of life. Water is the basic biomolecule, without the origin of water on the planet; we would not have even took birth on the mother earth. Even the origin of first photobionts to prokaryotes to fist living eukaryotic cell to further struggled for survival and originated as multicellular organism to multiorgan human being. Because cells originated in a sea of organic molecules, they were able to obtain food and energy directly from their environment. But such a situation is self-limiting, so cells needed to evolve their own mechanisms for generating energy and synthesizing the molecules necessary for their biochemical processes. These organic molecules are referred to as biomolecules. Ref.

The cells can perform these life-sustaining tasks with the help of several organic molecules present in them. The biomolecules have a wide range of sizes and structures, and they are involved in a vast array of life functions. They are composed of more than 25 naturally occurring elements, with the primary elements being carbon, hydrogen, oxygen, phosphorus, and sulphur. Chemically Water is a simple molecule composed of two small, positively charged hydrogen atoms and one large negatively charged oxygen atom. When the hydrogens bind to the oxygen, it creates an asymmetrical molecule with positive charge on one side and negative charge on the other side. This charge differential is called polarity and dictates how water interacts with other molecules.

Water's extensive capability to dissolve a variety of molecules has earned it the designation of "universal solvent," and it is this ability that makes water such an invaluable life-sustaining force. On a biological level, water's role as a solvent helps cells transport and use substances like oxygen or nutrients. Water-based solutions like blood help carry molecules to the necessary locations. Thus, water's role as a solvent facilitates the transport of molecules like oxygen for respiration and has a major impact on the ability of drugs to reach their targets in the body.

Our body weight is fundamentally made up of 50-70% water. It is also very important for various ins and outs for our body as Blood – contains 83% , Lean muscles - are made up of 75%, Bones – are made up of 22% water Brain - contains 74% water and forms the basic composition of human body. A loss of just 4% of total body water leads to dehydration, and a loss of 15% can be fatal. Likewise, a person could survive a month without food but wouldn't survive 3 days without water. This crucial dependence on water broadly governs all life forms.

Metabolic water

Metabolic water, more precisely defined as an isotopically distinct flux of O (and H) produced during metabolism (Kreuzer HW, et al. ,2012) Bonding between the H and O makes water molecule cohesive molecule. The cohesion of water molecules helps plants take up water at their roots and high boiling point of water helps animals to regulate body temperature. Water is required by our body to hydrate the cells and tissues that the organs are made up of. Water helps regulate the body temperature. Water consumed is used up during the various processes of the body like breathing, sweating, absorption of minerals and nutrients, etc. Ref. Water is not only essential for all living beings, in whom it is the greatest component, it also constitutes an environment which is particularly favourable for the dissemination of food and for food chains to function.

Ayurveda, the oldest health caring system prescribed water for drinking purpose. Agnivesha (1998) compared water to nectar or vital breath. Sushruta Samhita (2002), considers water is an essential raw material for proper functioning for machinery of life. Water as such is always sacred in all regions and religions of the world. In all religious books it is mentioned about its purity and used for sprinkling and drinking few drops in all Hindu rituals, feed as a drop and termed as water from Zamzam, in muslims; it is used for baptism in Christianity and mentioned in Atharvaveda, Quran and bible respectively. In Atharvaveda it is mentioned as the

iota of life is created in water. Ayurveda considers water as the elixir of life. Therefore, it is termed as Jeevena – Enlivening, Tarpana – Satiating, Hrudya – good for heart, Bhuddi prabhodana – stimulating the mind, Mrushta – pure in Ayurveda and is capable of balancing all the 3 Doshas if used carefully. (Upadhyay,2009) These are the basic fluid and electrolyte supplementation according to the Ayurveda. Since lack of research work in this field we only make an effort on the concept of water as an essential biomolecule.

Our ancient researchers have documented in detail about the properties, types, methodology of purification, indication, contra-indication, utilisation in daily life as per the scientific principles of Ayurveda. Over and above its use in various therapeutic uses of water centuries ago as it has been considered as the potion of life (Jeeva) for all living beings (Sharma 1939). Water is explained as one of the five basic elements of life and called as Pancamahabhutas. Balanced intake of Food and water are essential and important for maintenance of strength and enhancement of life span of an individual (Acharya, 2001). It has also been mentioned that entire world is full of it; there is no survival without water for the healthy or even for the diseased (Upadhyay,2009). According to traditional Chinese medicine Water is one of the 5 elements i.e. Wood, Fire, Earth, Metal and Water explained as early as ancient China's "Warring States Period (476-221 BC)". The Water element is associated with the Kidney and its partner organ, Urinary Bladder. Over and above, they have suggested some major problems and ailments caused due to imbalancing of this major element. .

AYURVEDA AND PRAKRITI

Ayurveda concept talks about the relationship of human body constitution, function to nature and the elements of universe are act in coordination and affect the living being. According to Ayurveda Prakriti of Kapha Dosha composed of water and earth element which constitutes the Kapha and imbalance in water element creates numerous ailments in human Prakriti. Kapha is the heaviest of the three doshas. It provides structure and lubrication to the body. These qualities help to counter balance Vata's movement and Pitta's metabolism. Aging is not the disease. Perhaps the most challenging aspect of the research in biology of aging may be defined as the inability to maintain homeostasis in the face of challenges as a result of time-related changes in physiology.

Water and electrolytes

In modern physiology a contribution of metabolic water to body water can be detected using this linear relation based on deviation of the slope from a value of 1 as explained by Longinelli and Peretti (1983) and Luz and Kolodny (1989). Madigan and Martinko (2006) explained some basic idea based on slopes and modelling calculations, the percentage of metabolic water has been determined to vary between 7% and 56% among different mammal species. In contrast to macro-organisms and mammals, micro-organisms are primarily unicellular (e.g., bacteria and archaea), and, thus, body water is equivalent to intracellular water, which has traditionally been assumed to be identical to water in the surrounding extracellular medium without consideration of a metabolic water component.

Water and electrolyte imbalance is the one among medical emergencies, which needs intensive care management/ indoor patient management. Many clinical and surgical emergencies are complicated by derangement of water and electrolyte balance; the management depends on clinical assessment along with auxiliary laboratory values. The major part of the water content of the body is an integral part of the cell structure. Potassium and phosphate are main cation and anion respectively of the cells, while sodium and chloride preponderate in extracellular fluid. Sign and symptoms mostly exhibit of neuron pathway which disturbs normal physiological condition of the patients. Some of the disease pathology exhibits with manifestation of fluid and electrolyte imbalance symptoms like in disorders SIADH, Metabolic ketoacidosis, Ascitis, etc. So to understand the concept here attempt has been made to understand Ayurvedic concept of this for better outcome in diseased patients with integrated approach.

Water is the lifeblood of Mother Earth. Free-flowing H₂O is crucial for the survival of every organic species on the planet. Our Earth or “Prithvi” is made up of 71% water or “Jal” – just a little more than the human brain, which floats at 70%. In fact, water comprises up to 55-60% of our entire bodies. Numerous references on Dinacharya and Ritucharya talks about the balancing of fluid and electrolyte imbalance due to water in the human body Samanya vishesh siddhanta, Panchamahabhautic siddhanta, Lokpurush nyaya siddhanta etc. Different Jalaprayoga, Peyaprayoga, Pramathya etc. explaining with few examples Ushapan (Drinking of koshna jala in empty stomach). These are the basic fluid and electrolyte supplementation according to the various principles of Ayurveda. Ayurveda is a Science where lots of methodologies are narrated according to different Avastha of Swastha as well as Vyadhita Purusha. Samanya Vishesh Siddhanta is one of the leading concept which can be utilised while treating water and electrolyte imbalance. Samanya means having exact same qualities. In conditions like diarrhoea, vomiting body fluids lost from body which can be re-established by employing subjects having Samanya Guna, Dravya or Karma.

In diarrhoea Rice water can be given as it is having same properties that of body fluid. These preparations are based on the principle that salt absorption in the small bowel is linked to that of carbohydrate and is, therefore, enhanced by glucose, glucose polymers and starch (e.g. rice water). Kharjuradi Mantha is an example of Karma Samanya. Its Dehaanusarivta (Isotonic), Sadyasantarpana properties can prove beneficial in these imbalance condition. Dinacharya and Ritucharya are described for Samyavastha (Equilibrium) of Sharirastha Bhava. Concepts described under these heading can be beneficial in proper maintenance of body fluids and electrolytes. Ushapan, drinking of Koshna jala early in the morning, empty stomach. It maintain proper hydration of body. Hansodaka in Sharad Ritu have Samskara of Sunlight and moonlight which enhance its devine qualities we can prevent fluid and electrolyte imbalance by these aids of Dinacharya and Ritucharya.

While describing treatment protocol of various diseases Ayurveda Acharyas focused on concept of Siddha Jalaprayoga, pathyapthya etc. Water provides a medium for transporting substances such as hormones, enzymes, blood platelets, and red and white blood cells, facilitates cellular metabolism and proper cellular chemical functioning. It acts as a tissue lubricant. Water

is the principle body fluid which is essential for life. Considering these all points; application of such Ayurvedic preparations having markable amount of water content like Paniya kalpana, Siddha Jalaprayoga will be beneficial in conditions like water and electrolyte imbalance. These are some examples in which these kind of preparations are explained. Viscosity increases the contact time between the mucosa, intra and extra cellular membranes and drug, which enhance the potential of these Kalpanas along with the Aushadhi Dravyas.

CONCLUSION:

Currently, approximately 13% of the population living in industrialized countries is older than 65 years and will rapidly expand over the next several decades. It is the malfunction of the biomolecules which create the problem in metabolic reactions in the human body. Nevertheless, geriatric problems are increase in frequency with advancing age already recorded within the population. Although there are many reasons why this might be the case. Water and electrolyte imbalance causes various disorders as per the Desha, Kala, age, Dosha Avastha, Vyadhi avastha, are also important factor to be well thought-out during management of any ailment. Further correcting the neurological, endocrine or cellular circulatory functions thus showing systemic effects. Various delivery systems affect the site of deposition and degree of absorption. Water is the most omnipresent substance on our planet. Life as we know it could not exist without water. Yet some unique physical properties are poorly understood. For instance, why does water expand, instead of contracting, when it freezes? or why does water store heat better than virtually any other fluid? or how is it that two atoms of hydrogen and one atom of oxygen, both flammable gases, are able to combine and become a liquid. The unique properties of water place limits on our physiology and anatomy while simultaneously providing the opportunities for physical activity, exercise and life as we know it. Yet, there is so much more yet to learn about this mysterious molecule we call H₂O. However, to get significant conclusion clinical studies are needed to strengthen the concept. Keeping in view of the above factor it can be concluded that essential part of various aushadhis reaches to the intra as well as extra cellular compartment of the cells, which will be helping us to overcome from imbalance of electrolyte of the body by correcting the manifestation at cellular level.

Jwara - Vitiated Dosha is the basic factor in the manifestation and progress of any Vyadhi. Due to this Siddha jalaprayoga is mentioned according to types of Jwara, Dosha involved in that particular type of Jwara i.e. Ardhashesha Ushnodaka for vatpittaja jwara, Tikta dravyasiddha jala for madyottha and pttaja jwara. These siddha jalaprayoga has benifitial effect in trushnaprashamana due to its amapachana quality. Shadangodaka : In jwarachikitsa adhyaya chrakacharya has described Shadangodaaka which is having properties like pipasa and jwaranashana due to its amapachana, Shita, dahashamaka qualities. Raktapitta - In Raktapitta there is blood loss from body either from mouth, nose, ear, Urethra, vagina, anus or subcutaneous bleeding. In such condition to maintain equilibrium of the body Tarpana Dravyas can be implemented. Laja Tarpana, Kharjuradi Tarpana, Amla Tarpana have potency to overcome from these condition. Raktachandana , ushira , musta, parpata siddha jala can be given to

overcome thirst in Raktapitta Vyadhi. These drugs are kashaya, tikta raspradhana which leads to Raktastambhana, Amapachana, Trishnaprashamana.

Charakacharya indicated least water intake in Santarpanotha diseases like Prameha, Udara, etc. As we see in Udara there is extracellular fluid collection in third spacing of body so there is mandatory to avoid water intake in these diseases. With the rising prevalence of diabetes, particularly type 2, the perioperative fluid and metabolic management of diabetic patients has become increasingly important. In such cases Ayurvedic concept of Siddha jala can prove beneficial. In Prameha, Madhu and Khadir siddha jala is indicated which deals with Trushnaprashamana as well as kafanashanakledanashana. Udara - Takra and dugdhapana is indicated. Water is absolutely contraindicated. Ushgradugdha have Lavanarasa, so it can be used in dilutional hyponitraemia. Atisar – Pramathya (pachan dipan kashaya), Yavagu, vilepi, khadyusha are indicated. Chardi – Laja mand is indicated which is useful in pregnancy also without any harm. It is easily consumable and effective. Trushna – Mrudvika, sariva, pippali siddha jalapryoga mentioned. Due to its Amapachana property it leads to Trushnaprashamana. Krutanna varga – It is one of the speciality of Ayurveda. It is group of Pathyakara ahara like Manda, peya, vilepi, Yusha etc. Manda is having Sarvadhatusatmyakruta property. These preparations can be employed in mild dehydration condition as a oral rehydration.

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Aging: A Physiological Perspective

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Synopsis

Aging is an inevitable process. As we age, our overall efficiency and capability decreases over time. Advanced age is a consistent risk for morbidity and mortality. Chronic diseases also increase with age. There is age-related decline in the physiological reserve. Aging is the result of progressive accumulation of certain changes and there are different theories which have considered a particular biological process as a cause for the aging. Aging has both genetic and environmental aspects to it. Also, there are systemic, physiological and cognitive effects of aging. Biological aging is affected by lifestyle, nutrition, stress and environment. The aging process is related to the decline of the organ systems essential for the control and maintenance of other systems within individuals, and the ability of individual to communicate and adapt to the environment in which they live. Alterations of the biological clock also play an important role as there is decreased responsiveness to the stimuli driving the clock or excessive or insufficient coordination of responses which likely disrupt the clock and the corresponding adjustments. This article reviews the theories of aging and overall derangement in terms of core physiological functioning due to aging.

Keywords- Aging, senescence, biological age, stress, homeostasis, free radicals, biological clock.

Introduction

‘Theories of aging can be divided into two categories: those that answer the question “Why do we age?” and those that address the question “How do we age?” Only a few broad, overarching theories attempt to explain why we and nearly all living organisms age. These theories compete with each other, making it unlikely that more than one of them could be true. Over time, some theories have fallen out of favor as others have become more widely accepted.’

Aging is presented as an ontogenic issue; the process of growing old and experiencing and witnessing the sum of all changes that occur with the passage of time, from fertilization to death. These changes take place at physiological, genetic and molecular levels. There are various terms used in gerontology to describe various aspects related to growth, development, sustenance and decay. Frol Frolkis V.V. (1999) has explained the meaning of some related terms as described below.

- Etagenesis is an age-associated development of an organism from the zygote to death.

- Ontogenesis is the period of realization of the genetic program of the organism's development under effects of exogenic factors, the period of growth and shaping of its main structure and functions, and the period of formation of its reproductive function.
- Mesogenesis is the period of the relatively stable state which is characterized by changing the balance between the processes of aging and anti-aging.
- Gerontogenesis is the period during which destructive processes of aging prevail over anti-aging processes.

No strict borderlines between the above periods exist.

‘Aging is the time-related deterioration of the physiological functions necessary for survival and reproduction. The phenotypic changes of senescence (which affect all members of the species) are not to be confused with diseases of senescence, such as cancer and heart disease (which affect individuals).’ At this point, it becomes important to know the about the terms – life span and life expectancy. ‘Life span is an evolved life-history characteristic of an organism that refers to the duration of its life course. Application of the concept is straightforward at both individual and cohort levels: it specifies the period between birth and death for the individual and the average length of life or life expectancy at birth for cohorts (including both real and synthetic cohorts).’ ‘The life expectancy, the amount of time a member of a species can expect to live, is not characteristic of species, but of populations. It is usually defined as the age at which half the population still survives.’

It is a known fact that we all have to face this process of aging as it is inevitable and irreversible also. It is possible that all the people of the same age will not have a fixed timeline in their individual lives to experience the changes related to aging. In some, it may occur relatively early and some may keep it away for sometime depending on their lifestyle, environmental factors, socioeconomic status and comorbidities, if any. It's probably why there is the concept of chronological age and biological age. But in all these individuals, aging is characterized by the declining capability to counter and respond to stress and by rising homeostatic imbalance. Not only this, it is associated with increased susceptibility and vulnerability to develop pathology.

Theories formulated to explain aging processes

There are various theories which have been proposed and postulated to explain the process of aging.

• Programmed aging theory

‘Programmed (or adaptive) aging refers to the idea that humans and most other complex organisms possess biological mechanisms that purposely limit their internally determined lifespan beyond a certain species-specific age and that these mechanisms are adaptations in that they evolved because aging, per se, creates an evolutionary advantage. According to this concept, these senescence programs are ultimately responsible for most occurrences of highly age-related diseases and conditions such as cancer, heart disease, and Alzheimer's disease. Programmed aging refers to the idea that senescence in humans and other organisms is purposely

caused by evolved biological mechanisms to obtain an evolutionary advantage.’ ‘According to the “programmed” theories, aging depends on biological clocks regulating the timetable of the life span through the stages of growth, development, maturity, and old age: this regulation would depend on genes sequentially switching on and off signals to the nervous, endocrine, and immune systems responsible for maintenance of homeostasis and for activation of defense responses.’

• **The Error Catastrophe (Accumulation) Theory**

‘The error catastrophe theory of aging states that aging is the result of the accumulation of errors in cellular molecules that are essential for cellular function and reproduction that eventually reaches a catastrophic level that is incompatible with cellular survival.’

o **Wear and tear theory -**

‘The wear and tear theory of aging is an idea proposed by German biologist, Dr. August Wiesmann, in 1882. The theory suggests that aging results from a gradual deterioration of the cells and tissues of the body via wear and tear, oxidative stress, and exposure to radiation, toxins, or other deteriorative processes. It suggests that living organisms “wear out” over time with repeated use and increased stress on the body. This concept is similar to the idea that objects such as automobiles deteriorate or wear out as they are used repeatedly over time. Because people observe the wear and tear on these objects, this theory fits in with their perception of how humans age as well. Therefore, the concept is very popular and has been accepted by many.’

o **Genome instability theory –**

‘Genome instability has long been implicated as the main causal factor in aging. Somatic cells are continuously exposed to various sources of DNA damage, from reactive oxygen species to UV radiation to environmental mutagens. To cope with the tens of thousands of chemical lesions introduced into the genome of a typical cell each day, a complex network of genome maintenance systems acts to remove damage and restore the correct base pair sequence. Occasionally, however, repair is erroneous, and such errors, as well as the occasional failure to correctly replicate the genome during cell division, are the basis for mutations and epimutations. There is now ample evidence that mutations accumulate in various organs and tissues of higher animals, including humans, mice, and flies. What is not known, however, is whether the frequency of these random changes is sufficient to cause the phenotypic effects generally associated with aging.’

o **Cross-linkage theory –**

‘According to the cross-linkage theory of aging proposed by Johan Björkstein in 1942, aging results from the accumulation of intra- and intermolecular covalent bonds between molecules, termed “cross-links.” Over time, these cross-links result in the alteration of the chemical and biological properties of the cell. Although these changes occur at the level of individual cells, these cellular changes can translate into significant dysfunction of body systems. For example, cross-links are associated with the loss of elasticity in skin and muscle tissue, stiffening of blood vessel walls, changes in the lens of the eye, delayed wound healing, and

reduced joint mobility in aging individuals. Another mechanism by which cross-links occur is through a nonenzymatic process involving the addition of sugar molecules to proteins and nucleic acids (e.g., DNA), referred to as nonenzymatic glycosylation. The products formed by this reaction are unstable and can eventually lead to the production of substances known as advanced glycosylation end products (AGEs), which are themselves capable of cross-linkage reactions. AGEs are more likely to form in longer-lived molecules due to a series of degradation and dehydration steps that occur over time to produce these molecules. Cataract formation in the lens of the eye is one example of the negative effects of this type of reaction.’

o Rate-of-living theory

‘The ‘rate-of-living’ theory predicts that life expectancy is a negative function of the rates at which organisms metabolize. According to this theory, factors that accelerate metabolic rates, such as high body temperature and active foraging, lead to organismic ‘wear-out’. This process reduces life span through an accumulation of biochemical errors and the build-up of toxic metabolic by-products.’

o Free radical theory

‘The free radical theory of aging, one of the hallmarks of aging, implicates the gradual accumulation of oxidative cellular damage as a fundamental driver of cellular aging. This theory has evolved over time to emphasize the role of free radical induced mitochondrial DNA mutations and the accumulation of mitochondrial DNA deletions.’ ‘Several lines of evidence have been used to support this hypothesis including the claims that: (1) variation in species life span is correlated with metabolic rate and protective antioxidant activity; (2) enhanced expression of antioxidative enzymes in experimental animals can produce a significant increase in longevity; (3) cellular levels of free radical damage increases with age; and (4) reduced calorie intake leads to a decline in the production of reactive oxygen species and an increase in life span.’

This theory proposes that aging is due to the buildup or accumulation of oxidative stress, which is caused by free radicals. As a variation to the free radical theory, there is mitochondrial theory also which says that mitochondrial damage releases free radicals and causes aging.

Overall, the aging process is related to the decline of the organ systems essential for the control and maintenance of other systems within an organism, and the ability of organisms to communicate and adapt to the environment in which they live. In humans, all systems may be considered indispensable for survival. However, the nervous, endocrine, and immune systems play a key role by their actions in coordinating all other systems and in their interactive and defensive responsiveness to external and internal stimuli. If we look from the core physiological perspective, the aging appears to be related to the changes in neural and endocrine functions that are crucial for coordinating communication and responsiveness of all body systems with the external environment; programming physiological responses to environmental stimuli; and maintaining an optimal functional state for reproduction and survival while responding to environmental demands.

These changes, also affect the physiological systems that regulate survival through adaptation to stress.

Alterations of the biological clock

‘The circadian clock synchronizes metabolism and physiology of an organism to enhance fitness and to optimize energy expenditure. Consequently, it optimizes the functioning of an organism by helping to avoid damage to its cells and the accumulation of toxic products. Unfortunately, the circadian clock is not resilient to the aging process and its synchronization abilities steadily decline.’

HPA axis

An important component of this theory- the hypothalamus-pituitary-adrenal (HPA) axis as the master regulator, the “pacemaker” that signals the onset and termination of each life stage. ‘Hypothalamic-pituitary-adrenal (HPA) axis function may change over the course of aging, and altered diurnal or stress-induced secretion of the hormone cortisol could predispose older adults to negative health outcomes. Psychological resilience may interact with diurnal cortisol to affect health outcomes later in life. Emotion regulation and social support are two constructs that contribute to resilience and exhibit age-specific patterns in older adults.’

Sympathetic responsiveness

‘The function of the human sympathetic nervous system is altered in important ways by aging. These changes involve both the properties of the adrenergic receptors and the outflow of sympathetic neural traffic to individual organs’.

Heat Shock Proteins

‘Heat shock proteins are molecular chaperones and have been implicated in longevity and aging in many species. These proteins are expressed constitutively and can be induced by stresses such as heat, oxidative stress and many more. The induction of heat shock proteins in aging could potentially maintain protein homeostasis and longevity by refolding the damaged proteins which accumulate during aging and are toxic to cells. Decrease in HSP in aging is associated with disruption of cellular homeostasis which causes diseases such as cancer, cell senescence and neurodegeneration. HSP levels are decreased with aging in most organs including neurons. Aging also causes attenuation or alteration of many signalling pathways as well as the expression of transcription factors such as heat shock factor.’

Immunosenescence

‘Aging is accompanied by remodelling of the immune system. With time, this leads to a decline in immune efficacy, resulting in increased vulnerability to infectious diseases, diminished responses to vaccination, and a susceptibility to age-related inflammatory diseases.’ The immune system must control and eliminate foreign organisms and substances in the host body while at the same time recognizing and therefore sparing from destruction the molecules (cells and tissues) from oneself. In most elderly humans, immunosenescence is characterized by a decreased resistance to infectious diseases, a decreased protection against cancer, and an increased failure to recognize self (hence, autoimmune pathology).

Characteristics of aging

- Mortality increases exponentially
- Biochemical composition of tissue changes
- Physiologic capacity decreases
- Ability to maintain homeostasis diminishes
- Susceptibility and vulnerability to disease increases

Effects of aging on different organ systems ' '

Physiological changes occur with aging in all organ systems.

- The cardiac output decreases, blood pressure increases and arteriosclerosis develops. Aging results in an increase in cardiovascular disease and a decrease in cardiac reserve at the same time that the repair processes designed to deal with these problems become less active. These factors combine to set the stage for heart failure. Structurally, the heart thickens and stiffens with age resulting in the increased imposition of a number of functional demands. Functionally, a number of changes which assist the resting heart to deal with the effects of aging cause significant functional deficits with exercise or stress, thereby lowering the cardiac reserve that the younger heart can call on to deal with disease or insult. Finally, while the increased incidence of disease, less structurally efficient heart, and decreased cardiac reserve associated with aging would be well served by an effective repair system- this too declines with age.
- The lungs show impaired gas exchange, a decrease in vital capacity and slower
- expiratory flow rates. Lung function diminishes with age. The major contributing factors are the progressive loss of elastic recoil within lung tissue, the chest wall becomes stiff, and there is a decrease in alveolar surface area. These changes diminish the efficiency of gas exchange and make it more difficult to exercise.
- The creatinine clearance decreases with age although the serum creatinine level remains relatively constant due to a proportionate age-related decrease in creatinine production.
- Functional changes, largely related to altered motility patterns, occur in the gastrointestinal system with senescence, and atrophic gastritis and altered hepatic drug metabolism are common in the elderly.
- Progressive elevation of blood glucose occurs with age on a multifactorial basis.
- Osteoporosis is frequently seen due to a linear decline in bone mass after the fourth decade. The epidermis of the skin atrophies with age and due to changes in collagen and elastin the skin loses its tone and elasticity.
- Lean body mass declines with age and this is primarily due to loss and atrophy of muscle cells. Muscle fibers continue to become smaller in diameter due to a decrease in reserves of ATP, glycogen, myoglobin and the number of myofibrils. As a result, as the body ages, muscular activity becomes less efficient and requires more effort to accomplish a given task. The elderly are less efficient at creating the heat necessary to drive the important biochemical reactions necessary for life.
- Degenerative changes occur in many joints and this, combined with the loss of muscle mass, inhibits elderly patient's locomotion.

- Metabolism is altered; changes in response to commonly used drugs make different drug dosages necessary.
- Skin acts as a barrier that regulates temperature, retains fluid and absorbs shock and ultraviolet radiation, among other things. As we age, the dermis decreases in thickness. It loses vascularity, cellularity and sensitivity. The skin's ability to dissipate or retain internal heat is diminished. The skin becomes thin, fragile and slow to heal. Evaporative heat loss is reduced due to reduced efficacy of sweat glands and diminished peripheral circulation.
- Neurosensory- There is loss of neurons in both the brain and spinal cord. There is loss of neuronal dendrites which reduces the amount of synaptic transmission. The sense of smell, taste, sight, touch and hearing are all diminished over time. Decreased temperature sensitivity can increase the risk of injury from hyperthermia and hypothermia.

Conclusion

Many theories have been proposed to explain aging. Currently, the most important theories, it appears to be that of a genetic control, deterioration of the immune system, accumulated damage by free radicals, cross-linkage of macromolecules, and metabolic causes. We have to accept that no single theory accounts for all of the observations about aging, as there are few scientific evidences for and few evidences against most of these theories and no final conclusion can be drawn for or against any particular theory, but recent research suggests that the primary process is under genetic control, with contributions from environmental factors. This is highlighted in genome instability theory which proposes that the aging happens because the body loses its ability to repair DNA damage. This can be further extended to wear and tear theory, where the concept that cells break down and become damaged over time, is considered as a cause for aging. However, this wear (or damage) should not be linked with the body's ability to repair, which is there when we are young. Cross-linkage theory also places some rational aspects to get it accepted, in some way. This theory claims that aging is due to the buildup of cross-linked proteins, which damages cells and slows biological functions. There is a growing amount of direct evidence and much indirect evidence for postulating the relationship between crosslinking and aging. There is not much evidence available for considering the rate-of-living theory as a basis for aging, a simple link between metabolic rates, oxidative damage and life span is not supported by strong scientific evidence. The rate of living theory basically states that the faster an organism's metabolism is, the shorter its lifespan should be (and vice versa). Theories related to oxidative damage provides epidemiological evidence supporting the free radical/oxidative stress theory of ageing. Ben Schöttker et al have demonstrated that during life span, chronic exposure to severe stress from a multitude of physical, biological, or emotional stimuli may exhaust or weaken the capacity to adapt and lead to the so-called "diseases of adaptation" and death (Evidence for the free radical/oxidative stress theory of ageing from the CHANCES consortium: a meta-analysis of individual participant data). Overall, to understand the evolution of ageing, we have to understand the environment-dependent balance between the advantages and disadvantages of extended lifespan. In complex, multicellular organisms, like humans, the study of communication and interactions among intrinsic (genetic), extrinsic (environmental), and stochastic (random damage to vital molecules) causes provides a fruitful approach conducive to a comprehensive and realistic understanding of the aging process.

Conflict of Interest-None

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A CONCEPTUAL STUDY ON PHYSIOLOGICAL CHANGES IN THE JARA (AGING) – AN AYURVEDIC APPROACH

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Introduction:

Geriatric is emerging as a main challenging specially because of ever growing population of aged people all over the world including India. The world's elderly population is increasing. A study says that by 2050, one-fifth of the world will be having people of older than 65 years. Ayurveda describes old age as Vriddhavastha or Jeernavastha and is the last phase of life i.e. it is a natural and inevitable process and is represented by the decay or degradation of the body. According to Ayurveda Jara is the outcome of Kala or Parinama and described under 'Swabhava Bala Pravritta Vyadhi', those diseases which are produced by the strength of nature as Kshudha, Pipasa, Jara, Mrityu, Nidra etc. In modern science Aging is defined as progressive failure of the body homeostatic, adoptive response. In the same way Ayurveda says, in Jara homeostasis between the Tridoshas are disturbed, Vata Dosha is the most important factor in the pathophysiology of aging obviously because of its natural predominance at this stage of life. Advancement of age usually creates numerous problems in the individual and these Geriatric problems are mainly studied under four categories i.e. physical, psychological, emotional and social. The major changes seen at this stage are wrinkling of skin, graying of hair, baldness, diminished ability to do physical work, diminished memory, emotional distress etc. Ayurveda has got the potential for prevention of diseases occurring in old age. Hence understanding the physiological changes in aging is need of hour to adopt appropriate measure to slow down the process of aging and to cure the diseases of aging.

Etymology:

The term Jara comprises of Jr+Ana + Tap. The term Jara has been derived from the Sanskrit root, "Jrish Vayohanow" which can be explained as "Vayah Krta Slata Mamsadya Vastha Vishsha" which means the muscles and others tissues are loosened under the influence of aging. Totally this term indicates of the 'loss' in the period of life span. The synonym of Jara 'Visrasa' is derived from the word 'Srams Adahpatane" which means degradation / retardation in the physical, physiological and psychological well being.

According Modern: Aging can be defined as the normal process of life which is characterized by degeneration of organs of various systems and consequently losing their anatomical and physiological functions.¹

Period of Jara (Aging): The Vaya has been divided into three stages. Balyavastha (childhood) which lasts up to the age of 16 Years, Madhyamavastha (middle age) which lasts up to the age of 60 years and Vriddhavastha (old age) after 60 Years up to 100 years.²

Materials and methods:

Classical texts of Ayurveda viz. Charaka, Sushruta and vagbhata Samhita with commentaries were consulted s reference of Jara. Literature available regarding physiological changes from various journals, books and internet were collected. The references from both the streams of knowledge were compared and analyzed critically.

Physiological changes in old age as per Ayurveda:^{3,4,5}

1. Role of Tridosha in Aging:

Doshas or biological energy systems determine the longevity at the cellular level. Vata, which is closely related to pranic life energy, governs all life functions and biological activity and is the energy of movement. Pitta governs digestion and metabolism. Kapha controls anabolism and is the energy of building and lubrication that provides the body with physical form, structure, and the smooth functioning of all its parts. Health and disease is a direct reflection of the status and interaction of the Doshas in the body that in turn provokes or delays the aging process. Proper diet, exercise and a harmonious lifestyle can create a balance among these Doshas ensuring a healthy healthspan. Thus the phenomenon of ageing is also related to principle of tridosha. These Doshas exists in the body all the time but it varies as per age, day or night period and after taking meals. During childhood Kapha Dosha predominates, in the middle age Pitta Dosha and in the older age Vata Dosha is said to be dominant. The properties of Vata Dosha are described as Ruksha, Laghu, Sheeta, Khara and Vishada. So Vata Dosha by nature, decreases luster of skin, lessens body strength, dries and decays the body and hastens ageing process. Thus the process of ageing can be evaluated in terms of the Tridoshika physiology and can be analyzed as per modern as, due to increase of Vata Dosha the central nervous system results in irreversible loss of functions and decrease in ability of doing normal functions. Memory problems are increased after the age of 40 years. Reflexes, sensory and motor responses of the body become slow. Visual and hearing impairment are very common in elderly people. Due to decrease in the Pitta Dosha Iris becomes more rigid with reduced tear formation causing dry eyes. With the reduced pupil size and decrease in cone number vision hampered in night. The labyrinth and vestibule begins to degenerate with age and older individuals may complain loss of balance. Sensation of smelling is lost gradually due to decrease in smell receptor. Taste diminishes with the age because of atrophy of taste buds. In old age sense of touch is also diminished.

2. Role of Agni in ageing

Jatharagni (digestive fire) not only regulates the digestion, absorption and assimilation of food but also has a profound influence on the lifespan and healthspan of an individual. Jatharagni is the root of all the digestive fires in the body. Jatharagni serves as the central digestive fire and is the representation for all metabolic functions in the body. This includes the digestive function, cellular metabolism, sense perception, thought function and transformation of mental and

emotional impressions. If Jatharagni is too weak, the digestion of food is compromised resulting in mal absorption and accumulation of toxins (Ama). If Jatharagni is too strong, it burns out the associated tissues resulting in tissue degeneration. Thus, apart from Doshas the state of Jatharagni influences the aging process. Body tissues are regularly nourished by dietary substances and Agni is said to be responsible for the conversion of dietary substances into tissue elements. In old age, more vitiation of Vata Dosha occurs which is responsible for Vishamagni which affects the digestion and creating under nourishment of the tissues. This under nourishment of the tissues may have an impact on low status of Dhatwagni which creates diseases in elder people. According to modern in old age, stomach shrinks with inflammation of the mucosa called as atrophic gastritis. Due to lack of vitamin B12, stomach produce insufficient amount of acid which may lead acid deficiency called as achlorhydria. Thus ageing effects are more closely related to Agni having Vishamagni.

3. Role of Dhatus in ageing

Though the classical text do not explain the exact role of Dhātu in ageing process but it is clearly mentioned in classics that during old age quantity as well as quality of Dhātu is decreased. Oja (the essence of all the Dhātu) is also termed as Bala which is responsible for resistance against diseases or Vyadhikshamatva (immunity) is also decreased. So the Dhātu Kshaya and Oja Kshaya are also responsible for process of ageing and diseases in old age. In modern these Rasadi Dhātu Kshayas can be interpreted by the physiological changes such as the elder persons generally have thin skin because of the atrophy of the epidermis occurs with age and it is predominantly found in exposed areas of neck, face, upper part of the chest, and outer parts of the hands and forearms (Rasa Kshaya). Hair becomes gray because of the decrease in melanin production. Nails develop striations and grow slowly. Arthritis is the common painful condition that occurs with age and leads to reduced mobility of joint. Long bones appear to be disproportionate in size due to decrease in the stature. Shortening of the trunk may occur due to thinning of vertebral disk. Many old persons assume forward bending with flex knees and bending of arm at elbow. These structural changes occur because of calcium loss from bone (Asthi Kshaya). In female at the age of 45 to 50 years there commences the menopause and estrogen levels falls by 90% as ovulation ceases hence women are more susceptible for osteoporosis after menopause. Vaginal wall becomes thin due to delicate epithelium. Women experience decrease in lubrication of vagina. After 30 years of menopause FSH and LH levels falls down slowly which causes loss of muscular tone of breast. In males the rate of sperm production and size of testes is decreases with aging. There may be reduction in sex drive and erectile dysfunction affecting 42% of the adults between the ages of 40 and 60 years (Shukra Kshaya).

4. Role of Srotas in ageing

Charaka has described that various pathological conditions arise in the body due to Srotodusti of different Srotasa. The main function of Srotasa (channels of body) is to transfer the body fluids. In Srotodushti there are four pathological conditions that take place i.e. Atipravritti, Sanga, Siragranthi and Vimargagama. The main cause for Sroto Dushti is vitiation of Vayu and Mandagni which are prominent in aged. These srotodushti can be interpreted in modern by the

clinical changes such as in old age blood vessels become stiff and less responding to hormones which relax the valve of vessel and thus result in increasing systolic blood pressure. Due to lipid deposition and collagen degeneration, valve in the chamber of heart becomes thick and stiff. In respiratory system lungs become rigid due to loss of elasticity. The functional unit of lung alveoli enlarges in size and the vital capacity decreases. In the urinary system Kidneys are the principal organs which are responsible for the regulation of the chemical composition of blood and fluid volume of the body by formation of urine. The size and function of the kidneys begins to decrease in forty years of age and significantly decreases by sixty years. Decrease in the secretion of vasopressin declines the ability to conserve salt which may lead to dehydration. The urinary bladder with age is characterized by a decrease in storage capacity and urinary flow, increase in residual urine and frequency.

DISCUSSION:

Aging is one of the unavoidable processes occurring in each and every living being and one cannot prevent it. Classics have mentioned it as a Svabhavika Vyadhi (naturally occurring disease) because risk of developing various diseases increases in old age. There are structural and functional changes at cellular level, tissue level and organ level. The biochemical composition of cells and tissues undergo changes with age, physiological capacity reduces and the ability to maintain homeostasis in adapting to various stressors decline there by person becomes more vulnerable to diseases. For understanding the process of aging in terms of Ayurveda, needs the analysis of the physiological changes occurring at the level of Tridoshas, Saptadhatus, Malas, Srotas, Indriyas, Agni and Ojas. The main Dosha involved is Vata and there is Agnimandya leading to improper nourishment of various entities of body. There are different patterns of functional deteriorations occurring with aging. There may be gradual and partial functional loss or complete functional loss. The dependent Dhatus also undergo improper nourishment. This process is gradual and leads to irreversible process of aging. Nidanas (causative factors) such as Ati Ahara Vihara (excess food intake and improper lifestyle), Manasika Vega Adhaarana (non-suppression of unpleasant emotions) leading to Srotolepa (blocks the body channels) which in turn causes Agnimandya and Ama. When the function of Agni is vitiated, there is improper nourishment of Rasa and successive Dhatus. Finally leads to Shareera Apachaya (improper nourishment of body) and Ojo Haani (damages the Ojas) resulting in Akaala Jara (premature aging).

CONCLUSION:

The concept of aging (Jara) has been dealt with, keeping in view of the Tridoshas, Saptadhatus, Mals, Srotas, Indriyas, Agni and Ojas. When all of these are in homeostasis the body body functions well. But due to old age, increase of Vata, Vitiating of Pitta and decrease in Kapha causes an impact on the various other components of body, thus different physiological changes occur by age. These changes often lead to health problems and even death in elderly. In order to ensure health and wellbeing of this growing age group, it is important that health care professionals, the government, the community, their families and the elderly themselves understand the changes that are happening and adapt the preventive measures such as to avoid the suppression of natural urges, follow the Dincharya, practice of regular Yogic

exercise, meditation, Shodhana according to Ritu and consumption of Rasayana drugs at proper time. All these things will help to avoid increased risk related to aging. Hence understanding the physiological changes in Jara (aging) is utmost important.

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CONCEPTUAL STUDY OF INTERVENTION TO THE AGING PROCESS THROUGH AYURVEDA LIFESTYLE ADAPTATIONS

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ABSTRACT

Aging is a natural process; the body is decaying continuously, as shown by its etymology, that is, Shiryate Iti Shariram. Untimely aging is totally manageable if the principles of Ayurveda are strictly followed. The aging process is influenced by lifestyle which includes diet, regimens and daily routines and therefore, this process of aging can be slowed down by correct diet planning and lifestyle regimen. Vriddhavastha can be managed by palliative treatment. It is even likely to treat Vriddhavastha according to the principles of Rasayana, specially in line with Swabhava-vyadhi-pratishedhiya chapter of Sushruta Chikitsasthan.

This study focus on enhancing the concept of geriatrics through the principle of ayurveda related to lifestyle management. To minimize the functional decline and to enhance the quality of life in geriatric age group through the incorporation of ayurveda lifestyle adaptation is the main goal of this paper.

Keywords: Geriatrics, Ayurveda lifestyle adaptations, Aging,

INTRODUCTION:

Lifestyle diseases are related with the people's way of living. This is generally caused by lack of physical activity and unhealthy food habits. A healthy lifestyle must be adapted to fight the various diseases like diabetes, hypertension, cholesterol, liver diseases, heart diseases, COPD etc. with a proper balanced diet and physical activity. Ayurveda analyzes the prakruti (body constitution) and the existing health problems of the individual before suggesting a proper food and lifestyle advice. Every human is a distinctive individual, full of idiosyncrasy. Ayurvedic principles of health and disease emphasize on the concept of three doshas - Vata, Pitta and Kapha. These are three active energy forces that govern the functions of our body and mind. Although every individual has all the three doshas, each one of us inherits them in differing proportions. This is responsible for our differences in appearance, preferences, aversions, behavioral patterns and emotional tendencies. On account of these differences, Ayurveda divides human into seven basic prakruti (body types). The results of a lifestyle modification differ from person to person as per their body type. The basic knowledge of the body type helps one to determine the most auspicious lifestyle that will ensure health and longevity, appropriate foods, herbs, exercise regimes, medicines, therapies and even suitable professions 1,2.

AIM

- To discuss the most common problems of GERIATRIC age groups.

- To emphasis on managing geriatric age group with lifestyle adaptations given in the ayurveda.

MATERIALS AND METHODS:

- This article is based on a review of Ayurvedic literatures and texts. Materials related to aging, jara, and other relevant topics have been collected.
- The main Ayurvedic classics used in this study are Charak Samhita, Sushruta Samhita, Ashtang Samgraha, Ashtang Hridaya, Bhava Prakash, and Sharangdhara Samhita, and available commentaries on same.
- Modern Science texts, trials, pubmed, lancet and searched various websites to collect information on the relevant topics.

INCIDENCE³ RELATED TO GERIATRIC AGE GROUP:

Twenty-first century is observing a gradual decline in fertility, and with increase in life expectancy, the society will need to tackle with issues of longevity. 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. The number of elderly people in India that by the year 2050, would rise to about 324 million³

Therefore, the well being and quality of life of elderly age group is matter of concern.

PHYSIOLOGICAL CONCEPTS OF AGING(JARA) IN AYURVEDA :

The concept of aging (Jara) has been dealt with, keeping in view of the Tridosas, Saptadhatus, Malas, Srotas, Indriyas, Agni and Ojas. When all of these are in homeostasis the body functions well. But due to old age, increase of Vata, vitiation of Pitta and decrease in Kapha causes an impact on the various other components of body, thus allowing the aging to take over. The whole biology of aging has been dealt with, within the Ayurvedic frame⁴

Geriatrics and Agni 4 :

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 says that Agni is responsible for Ayu, Bala, Svasthya, Utsaha, 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 Vata dosa, visamagni prevails leading to Visamagnijanya disorders 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 Ksaya⁴

Sequential Ksaya in Aging has been detailed in ayurveda classics. Vagbhaata and Sharangdhara presented an interesting scheme for loss of different factors during lifetime, as sign of aging in different decades⁴.

THE MODERN CONCEPT: PHYSIOLOGICAL CHANGES IN AGING⁵

Physiological changes occur with aging in all organ systems. The cardiac output decreases, blood pressure increases and arteriosclerosis develops. The lungs show impaired gas exchange, a decrease in vital capacity and slower expiratory flow rates. The creatinine clearance decreases with age although the serum creatinine level remains relatively constant due to a proportionate age-related decrease in creatinine production. Functional changes, basically related to altered motility patterns, occur in the gastrointestinal system, and atrophic gastritis and distorted hepatic drug metabolism are common in the elderly. Progressive increase in blood glucose occurs with age on a multiple basis and osteoporosis is commonly seen due to a linear decline in bone mass after the forties of age. The epidermis of the skin weakens with age and due to changes in collagen and elastin the skin loses its tone and elasticity. Lean body mass lowers with age and this is mainly due to loss and atrophy of muscle cells. Degenerative changes happen in many joints and this is accompanied with the loss of muscle mass, inhibits elderly patients' locomotion. These changes with age have important practical propositions for the clinical management of elderly patients: metabolism is altered, changes in response to normally used drugs make different drug dosages necessary and there is need for rational preventive programs of diet and exercise in an effort to reverse or delay few of these changes.⁵

MOST COMMON GERIATRIC PROBLEMS:

1. Decline in Cognitive functions⁷
2. Bladder control problems⁶.
3. Sleep problems⁶.
4. Dementia & Delirium⁶
5. Falls⁶
6. Osteoporosis⁶
7. Weight loss⁶

FINGER STUDY ON GERIATRICS⁷(from LANCET)

The Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) trial is the first randomized controlled trial (RCT) showing that it is possible to prevent cognitive decline using a multi-domain lifestyle intervention among older at-risk individuals⁷.

LIFESTYLE ADAPTATIONS AND AYURVEDA^{9,10,1:}

Ayurveda describes several processes to address control and prevention of aging. Pancha Karma is one of the popular rejuvenation and detoxification process. It consists of three stages including Purva Karma (pretreatment), Pradhana Karma (primary treatment) and Paschat Karma (posttreatment). Snehana (oleation) and Swedana (sudation) are the two Purva Karma procedures. The four Pradhan Karma include Vamana (medical emesis), Virechana (purgation), Nasya (nasal administration), Basti (enema).

A school of thought from Sushruta also considers Raktamokshana (bloodletting) as one of the Pancha Karma. Paschat Karma (posttreatment) mainly deals with Ahar (diet) regimens, Vihar (exercise) and use of health-promoting Rasayana and other medicines.

There have been few studies indicating physiological benefits to Panchakarma. Ayurveda describes various rejuvenative therapies with help of special class of medicinal preparations called Rasayana that are believed to rebuild the body, mind, prevent degeneration and postpone aging or rather reverse the aging process.

Charaka has described two methods of rasayana karma, the first method—intramural (kutipravesika) required the individual to remain inside a chamber in isolation and second method which was less rigorous and was carried out in open air—extramural(vatatapika). The intramural method is appropriate for healthy, self-controlled, wise, strong and affluent persons whereas extramural method is advisable for others. In intramural method, a special cottage is created on an auspicious land facing east or north, it is safe and supplied with all the necessary articles for treatment and the procedure is started on an auspicious day. In extramural therapy, its basically the use of various medicinal plant formulations. According to Ayurveda, the practice of yoga, which is a disciplined science of life, is a very important, natural, preventive measure to ensure good health.

Listing the measures suggested in ayurveda for quality of life in geriatric age group:

1. Nutrition and Metabolism¹⁰ – A regulated Agni (digestive and metabolic fire) has a profound impact on healthy aging. Nurture this by eating easy to digest appropriately spiced fresh food at regular meal timings; avoid skipping meals, overeating, eating late, or having incompatible, junk, or processed food.
2. Sleep is revitalizing – Poor sleep disrupts circadian rhythms and can trigger depression, chronic inflammation, and metabolic disorders like diabetes, obesity, and cardiovascular diseases. Meditation and Yoga, Pranayam are great sleep aids.
3. Follow a routine¹⁰ – Researchers have found that following circadian rhythms improves longevity. Ayurveda accords high importance to a routine with Dinacharya (daily rhythms) and Ritucharya (seasonal guidelines) for healthy aging. Stay grounded but avoid inertia with creative hobbies and learn new things that challenge the mind.
4. Oleation¹⁰ – Snehana or oleation in Sanskrit also means self-love and helps fight Vata-triggered dryness, Abhyanga¹⁰ (Massage) – Self-massage with warm oil improves circulation, skin and joint health, balances Doshas, and is suggested for CNS conditions and stress reduction. Internal oil/hydration¹⁰ – Add healthy fats, ghee, and oils in your diet and hydrate enough.
5. Yoga and Exercise¹⁰ – Yoga improves flexibility, joint health, bladder control, digestive disturbances like constipation, sleep, and mental health. Researchers at Duke found that long-term yoga practitioners (who practiced 45 minutes 3-4 a week) had protective effects on the aging brain and greater gray matter in parts related to emotional regulation and stress. For women, the transition to menopause can be eased by Ayurveda and Yoga. Similarly, moderate physical exercise in older people helps retain cognitive abilities longer.

6. Meditation 10 – Ayurveda recommends meditation to protect and boost Ojas. There are multiple studies about how meditation delays the process of aging through stress reduction, physical and mental benefits, improved cognitive function, enhanced neuroplasticity, and offsetting age-related cortical thinning of the brain.
7. Panchakarma 10- Panchakarma is a powerful rejuvenating, detoxifying treatment in Ayurveda, individualized to help chronic and degenerative disorders. It aids circulation, cerebral blood flow, lymphatic drainage and helps check the recurrence of ailments. Panchakarma involves a pretreatment, primary treatment, and most importantly, posttreatment rejuvenation with herbs, dietary, and lifestyle changes.
8. Rasayana herbs: Formulations like Chyawanprash (named after Sage Chyawana who is said taken Chyawanprash to restore vitality after marrying a young damsel) Several herbs like Ashwagandha, Triphala and Amruth are immune-boosting daily tonics.¹⁰
9. Protect Sense Organs: Attend to senses organs in your daily regimen through practices like splashing the eyes with water, an eye-care routine, tongue cleaning, oil pulling, and oiling ears and nostrils (Nasya). Avoid sensory overload and schedule break from social media. ¹⁰
10. Stay connected – Loneliness is the bother of our society that needs proper attention.

Foster social connections with your community or spiritual group. Connect with yourself through nature walks, meditation, and creative pursuits. Connect with a higher purpose (Brahmacharya), one of the pillars of health in Ayurveda that lends resilience. ¹⁰

Sadvritta is a code of ethics focused on social values and service that strengthen our mental fabric. ¹⁰

DISCUSSION:

The results of a lifestyle modification differ from person to person as per their body type. The basic knowledge of the body type helps one to determine the most auspicious lifestyle that will ensure health and longevity, appropriate foods, herbs, exercise regimes, medicines, therapies and even suitable professions. Ayurveda offers various methods to manage lifestyle disorders by following daily regimens, seasonal regimens, herbal medicines, Panchakarma (detox therapies) and or with help of Rasayana (Tonics). A standard or general protocol can be developed on the basis of various parameters for conducting the trial, considering particular sets of geriatric related problems.

The Indian traditional holistic health science has broad spectrum of preventive measures for fighting the ageing process. It has a focused wing called Rasayana which deals mainly with geriatric problems. 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.

Hence what all is needed is to retard the rate of aging to a limited extent and, to promote healthy aging by following the lifestyle modifications and adaptations suggested in ayurveda.

CONCLUSION:

Currently Ayurveda is one of the official systems of treatment and is fundamentally being the science of life and longevity, geriatric health care is its prime concern which reflects well in its Rasayana branch, which is one of the eight branches of ancient Astanga Ayurveda. This process of Aging is the very nature of the living body. Beside this there can be a range of environmental factors which accelerate aging process such as nutritional deficits, stress, climatic factors, free radical injury, immune disorder and endocrinal factors etc. The aging is a continued process of involution overpowering the evolutionary processes which originally set-in to allow the growth and development of the body-mind system. This involution is marked with a range of biological changes which can be identified in relation to Dosha, Dhatu, Ojas, and Agni⁸

Concluding, There is considerable scope to develop a safe and cost-effective protocol for geriatric care on the basis of Ayurvedic life-style management and adaptations. This paper can be torch bearer for researchers who want to carry multidomain ayurveda lifestyle adaptation randomized control clinical trial in ayurveda and geriatrics.

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PHYSIOLOGICAL EFFECT OF RASAYANA IN GERIATRICS

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ABSTRACT

Geriatrics is a field of medicine that deals with the issues of ageing and illnesses that affect the elderly. Aging is a normal part of life. So yet, no amount of medical study or progress has been able to preserve humanity from ageing. There are several physiological and psychological changes that occur in the aged. Many studies on this age range have found an increased dread of sickness, sadness, and death. Normally, this age is associated with discomfort and sickness in a variety of systems. The population of the elderly is quickly increasing in emerging countries due to a variety of factors.

KEY WORDS: Geriatrics, Ayurveda, Physiological etc.

INTRODUCTION

Ageing is a continuous process that begins at conception and ends with death. Due to improvements in health care and living standards, the world's population has continued on its noticeable transition pathway from a condition of high birth rate to low mortality rate during the previous several years. As a result, the number of elderly people in society continues to rise. In the history of civilization, such quick and widespread expansion has never been observed. Gerontology is a field of research that studies the social aspects of ageing, as well as the policies that govern it.

Due to a lack of health insurance and health policies for elderly people in our country, which has a population of over one billion people, the situation of geriatric health care is dire. The cost of health care may become unbearable, as our medical centres are already overburdened with patients suffering from a variety of infectious and noncommunicable diseases, as well as trauma suffered by younger and middle-aged patients.¹ Aside from that, the nuclear family trend, inadequate health care in rural areas, migration of the middle generation to urban areas, a lack of education, and poverty exacerbate the situation.

Cataract and visual impairment account for 88 percent of Geriatrics problems in the elderly, followed by Arthritis and locomotory disorders at 40 percent, cardiovascular disease (CVD) at 18 percent, Hypertension at 18 percent, Neurological problems at 18 percent, respiratory diseases including chronic bronchitis at 16 percent, GIT problems at 9 percent, and psychiatric problems at 9 percent.

Methodology

The Geriatrics material collected from authentic websites, article, Literatures, Samhitas, Textbook etc.

Gastro Intestinal Tract Disorders

Poor dentures, hampered digestive functions, appetite & gut absorption, intestinal dysmotility, decreased mucosal immunity barrier, weakness of pelvic floor, reduced sphincter control, and these all contribute to common digestive problems like flatulence, indigestion, and constipation in the elderly.

Respiratory Disorders

The following are some of the most common causes of respiratory difficulties in the elderly. Reduce mucosal protection and respiratory tract ciliary mucosal clearance. Recurrent infections such as chronic bronchitis, bronchiectasis, empyema, emphysema, pneumonia, and trouble breathing on modest exertion are caused by increased residual lung volume, reduced chest mobility, alveolar elasticity, and physical activity.² Smoking and many forms of pollutants exacerbate the problem. Avoid smoking and do frequent breathing exercises such as pranayama, anulomvilome, and kapalbhati to maintain lung health and improve ventilation and gaseous exchange.

Bone and Joint Disorders

The locomotory system is a frequent elderly health issue. The most prevalent issue is discomfort and inability to conduct everyday tasks. Reduced muscle mass and bone marrow density, power tone, bony degeneration, lack of physical activity, fractures, and spondylosis are all common reasons.³ Walking, oiling, and stretching exercises should be done on a regular basis to keep bones and joints in good shape. Risk factors for falling, such as wet, slick ground, stairs, and uneven ground, should all be closely monitored.

Neurological Disorders

Senile dementia, Parkinsonism, Alzheimer's disease, Insomnia, regression of brain processes producing incoordination of motor movements, tremor, and cerebellar ataxia are all common issues in the elderly. Higher sensory functions have been harmed.

Renal System Disorders

These issues are particularly prevalent among the elderly. Increased urinary frequency, incontinence, retention of urine, urgency of Micturation, recurring need to urinate, sense of fullness in the bladder, and recurrent urinary tract infection are all symptoms of BPH in guys. Using a condom catheter with an adult diaper can help you stay dry.⁴ During the day, drink plenty of water to keep your intestines clean and clear of infections, as well as to exercise your pelvic floor.

Cardiovascular Disorders

This age group's medical issues include hypertension, inadequate right ventricular function, cardio megaly, dilated cardiomyopathy, cardiac asthma, heart block, and conduction abnormalities.5 Arjun bark – Terminalia arjuna, Pushkarmuala – Inula racemosa, Karveer – Nerium indicum, Rasona – Allium sativum, Tagar, Jatamansi, Drakshaarishta, Tagar, Jatamansi, Drakshaarishta, Tagar, Jatamansi.

Table - System wise Disease

S.No.	System wise Disease ⁶	SpecificDiseaseConditions
1.	HealthyAgeingRasayanaTantra	Preventive &PromotiveMeasuresinGeriatrics
2.	Musculo-skeletalDisorders	(a) RheumatoidArthritis,Osteoarthritis\Spondylo tic (b) Osteoporosis
3.	DigestiveDisorders	(a) PoorAppetite,Indigestion (b) Constipation (c) IBS
4.	RespiratoryDisorders	(a) ChronicBronchitis,COPD (b) Asthmaetc.
5.	NeurologicalDisorders	(a) Depression,Insomnia (b) Alzheimer’sdisease,Dementia,Ataxia, (c) Parkinsonism
6.	Urogenitaldisorders	(a)BPH(b)RecurrentUTI (c)lossofflibido
7.	Cardiacdisorders	(a) Hypertension (b) Cardiomegaly (c) CAD (d) Atherosclerosis

Conclusion

It is a normal part of life to get older. For a family and a country, senior citizens are a boon. They have a wealth of knowledge and experiences from which the next generation might learn. The senior population has been growing globally for the past two decades due to a variety of factors. Because India is a developing country with numerous villages, our elderly people in rural regions are neglected and defenseless as a result of a variety of family and societal factors. Due to the scarcity of medical services, geriatric health care is in the worst shape. reaction to our country's enormous population other factors contributing to the worsening of situations include nuclear families, expensive health care, older generation ignorance, and poverty. Because it is rooted in India's spirit, Ayurveda, the natural healer, may be a cornerstone in this sector. Ayurveda is a living science in addition to a medical science. Ayurvedic medicines are widely used, widely available, safe for the elderly, and widely understood.

Conflict of interest -Nil

Source of Support -None

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PHYSIOLOGICAL EFFECT OF RASAYANA IN GERIATRICS

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Abstract

The growth of any country or society depends on the number of youth dwelling in that country but according to recent statistical data we soon will have older people more than children and more people at extreme old age than ever before. The number of people aged 65 or older is projected to grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050. Geriatrics (Jarachikitsa) is the branch of medicine dealing exclusively with the problems of aging and the diseases of elderly. The term Rasayana (rejuvenation) refers to nourishment or nutrition. Rasayana therapy act essentially on nutrition dynamics and rejuvenate the body on both physical and mental levels. The problems of health due to modernization can be solved by increasing resistance against diseases and psychological improvement by implementing Rasayana therapy. Aging (Jara) is one among the Swabhavika Vyadhis. Jara Chikitsa is one among the Astanga of Ayurveda which is specifically dedicated for geriatric care. As per estimation, India currently has around 75 million persons over 65 years. By proper administration of Rasayana therapy as preventive tool one can delay Jara Janita Vyadhis to occur. This paper highlights the role of Rasayana in geriatric care.

Keywords : Vayasthapanam, Geriatrics, Rasayana

Introduction

Geriatrics (Jara Chikitsa) is a branch of medical science which aims at promotion of health by preventing, treating diseases and disabilities in old age. Acharya Charaka has considered age above 60 years to be Vridhavastha . Acharya Sushurta and Vagbhata considered it as age more than 70 years. As per Acharya Vagbhata, Vata Dosha is predominant in old age .

Characteristics

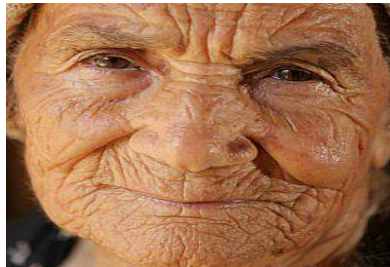
Loss of sensation like loss of Hearing and vision



Loss of strength



Develops wrinkles



Develops grey hairs



Baldness



Secondary disorderscough



Inability to perform all activities



Dyspnoea



Discussion

Geriatric Care has two distinct dimensions:

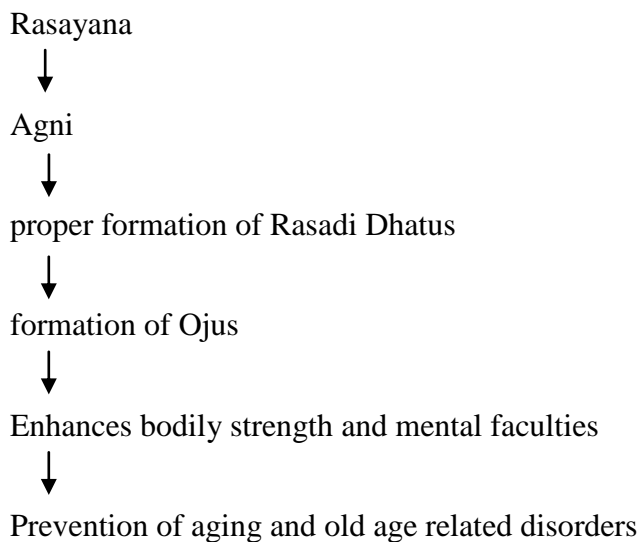
1. Promotion of health and longevity
2. Management of diseases of old age

So to fulfil the aims of geriatrics Rasayana therapy is considered to be the main line of treatment as it prevents most of the geriatric diseases.

Rasayana

Rasayana is a dynamic process which nourishes the body from properly formed Dhatus and increases the vital process and prevents the degenerative process. Acharya Sushruta defined Rasayana as Vayasthapaka which retards aging process (increases longevity of life). Acharya Charaka has mentioned are Rasayana is one which increases longevity, which increases Smriti, Medha, and one which helps in maintaining health (Arogya), maintains youthfulness, which enhances Prabha, Varna, etc.

Mode of Action



Forms of Rasayana

Antioxidant action – Amalaki

Immunomodulatory action – Guduchi

Haematopoietic effect – Amalaki, Bhringaraja, Mandura, Lauha Bhasma

Adaptogenic action- Ashwagandha

Antiaging action – Ashwagandha, Bala

Anabolic action –Vidarikanda

Nutritive function –Gritha, Ksheera

Neuroprotective action – Ashwagandha, Swarna Bhasma, Rajata Bhasma

Conclusion

Rasayana therapy act essentially on nutrition dynamics and rejuvenate the body on both physical and mental levels. To maintain homeostasis, physical strength and mental activities Physician should advice Rasayana during old age.

Action	Indicated Rasayana
Balya (Growth and development)	Kashmari , Bala ,Ashwagandha
Chavi (Luster \ Complexion)	Amalaki, loha
Meda (Sharpeness in perception)	Shankapusphi
Drushti (Visual acuity)	Triphala, shatavari

THEORY OF AGEING (REVIEW ARTICLE)

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ABSTRACT

Ageing is universal process that probably began with the origin of life. It is complex phenomenon, a sum total of changes that occur in a living organism with the passage of time and lead to decreasing ability to survive stress, increasing functional impairment and growing probability of death. There are many theories of aging and they are mutually exclusive, no one theory is sufficiently able to explain the process of ageing, and they often contradict one another. This literature review article highlights the theory of ageing and discuss healthy ageing which play important role in longevity.

INTRODUCTION

Aging is Process that occurs in the lifespan of every creature. It Involves every molecule, cell, and organ in the body. Unlike senescence it includes problematic and no problematic changes in the body. It is Progressive deterioration of many bodily functions over time.

AIM: To understand definition of aging

To understand the theories of aging

DEFINITION OF AGING

Aging is a syndrome of changes that are deleterious, progressive, universal and thus far irreversible. Aging damage occurs to molecules (DNA, proteins, lipids), to cells and to organs. Diseases of old age (diseases which increase in frequency with age, such as arthritis, osteoporosis, heart disease, cancer, Alzheimer's Disease, etc.) are often distinguished from aging per se. But even if the aging process is distinct from the diseases of aging, it is nonetheless true that the damage associated with the aging process increases the probability that diseases of old age will occur.

Life Expectancy

Some Factors Influencing in Life Expectancy

- Heredity
- Disease Processes
- Medical Treatment
- Lifestyle Choices
- Nutrition

Difference between Normal vs Healthy Ageing

Normal Aging	Healthy Aging
<ul style="list-style-type: none"> ■ Diseases & impairments of elderly ■ People age differently ■ Diabetes may be a common disease of adulthood, but is not experienced by all aging adults. 	<ul style="list-style-type: none"> ■ Minimize and preserve function ■ Influenced by lifestyle choices ■ One may have a healthy life until senescence makes life impossible

Myths about Ageing-Physiological Aspects

Myth	Best Available Evidence
<ul style="list-style-type: none"> ■ Our physiological processes remain at a fairly constant level of efficiency until we approach old age, at which time they undergo a drastic decline. ■ Most adults proceed at much the same rate through a series of similar physical changes. ■ Most adults past age 65 are so physically incapacitated that they must depend to a great extent on other people. ■ Taking large doses of antioxidants (or ginseng, selenium, pantothenic acid or vitamin C) will extend the length of your life. 	<ul style="list-style-type: none"> ■ Most of our bodily functions reach their maximum capacity prior to or during early adulthood and begin a gradual decline thereafter. ■ Age related physical changes do not occur according to a strict timetable. Adults age at different rates, and such groupings as “the elderly” are more heterogeneous than is commonly believed. ■ Helplessness and dependency are not characteristic of old age. Some 87% of adults over 65 are able to cope more than adequately with the demands of everyday living. ■ There are no drugs, pills, powders, vitamins, dietary supplements, or diets with PROVEN anti-aging capacities.

Theories Of Ageing

The link between genes and lifespan is unquestioned. The simple observation that some species live longer than others – humans longer than dogs, tortoises longer than mice -- is one convincing piece of evidence.

Theories Of Ageing

- Biologic
- Sociologic
- Psychological
- Nursing

1] BIOLOGICAL

1. cellular theory-cells has been subject of much scientific inquiry in exploring aging phenomena.
2. Programmed theory-according to this theory aging and death are natural and necessary part of genetics. The human are programmed to age and die
3. Error theory- Aging is a result of internal and external assaults that damage cells or organs so they can no longer function properly. Mistranscription and mistranslation of certain genes products result in self amplifying error producing derangement
4. Somatic theory- the theory states that aging is an imbalance between DNAs ability to repair itself and accumulating DNA damage. When the damage exceeds the repair, the cell mutation occur this leads to senescence.
5. Wear & tear theory- Years of damage to cells, tissue and organs eventually them out. It can be viewed as a result of aging and not the cause of it.
6. Auto immune theory- Postulates that with age, immune system produces auto antibodies that causes cell death or changes that foster the aging process.
7. Free radical theory- During ageing, damage produced by free radicals cause cells and organs to stop functioning. Molecules that are damaged by free radicals are proteins and DNA. This theory purpose that little by little small damage accumulates and contributes to deterioration of tissue and organ.
8. Cross linkage theory- also known as collagen theory. With age, protein, DNA and other structured molecules develop inappropriate cross links to one another which decreases the elasticity of protein and other molecules. Damage and unneeded protein stick around and can cause problem.

B] SOCIOLOGIC

- Activity Theory: - “A person must remain as active as possible. This falls under the category of “activity theory.”
 - People need to stay active if they are to age successfully
 - Promotes life satisfaction and positive self concept
 - Can be either physical or intellectual
- Disengagement : - This theory is controversial and has these features:
 - Both older people and society mutually withdraw from each other.
 - A person gradually disconnects from other people in anticipation of death.
 - Intrinsic changes in personality occur which allow a person to psychologically withdraw from society’s expectations.
- Continuity : -
 - How a person has been throughout life so he/she will be throughout the remainder of his/her life
 - As people age they try to maintain or continue pervious habits, preferences, commitments, values and beliefs

C] PSYCHOLOGIC

- **Full-Life** Development Theories - Eric Erickson was one of the first psychological theorists to develop a personality theory that extends to old age. The ego is a positive driving force for development
- **Mature-Life Theories**
 - Robert Peck's Theory- The elderly go through three developmental stages to reach full psychosocial development.
 - Stage 1 - Ego Differentiation vs. Work Role Preoccupation
 - Stage 2 - Body Transcendence vs. Body Preoccupation
 - Stage 3 - Ego Transcendence vs. Ego Preoccupation
 - The Activity Theory (Neugarten's Theory will be the only one discussed.)- Bernice Neugarten describes tasks that must be accomplished for successful aging. E.g Accepting reality and the imminence of death.
 - The General Theory of Disengagement- This theory is controversial and has these features:
 - Both older people and society mutually withdraw from each other.
 - A person gradually disconnects from other people in anticipation of death.
 - Intrinsic changes in personality occur which allow a person to psychologically withdraw from society's expectations.

NURSING – Self Care

Self-care is the practice of activities that individuals initiate and perform on their behalf in maintaining life, health, and well-being”(Orem, 1991)

Wholly compensatory -

The nurse compensates for the individual's inability to perform self-care by accomplishing it or him or her.

Partly compensatory -

The nurse and the patient work together to meet the patient's self-care needs.

Supportive-educative -

The patient acts as a self-care agent but requires assistance with decision making, behavior modification, and acquisition of knowledge and skills.

Physiologic Clues

■ **Rates of Aging:**

- Aging is different from person to person.
- Within the same individual, organs and tissues age differently.
- Normal Aging: Normally ageing signs occur in every person. E.g

Heart tissue thickens with age or Maximum breathing declines 40% between ages of 20 and 70.

Conclusion

Ageing is the progressive decline in the function and performance. All theories of thriving and functionality contribute to understating process of ageing. All the theories share the idea that ageing is natural and programmed into the body. For the healthy ageing understanding of ageing theory is important.

ANTIOXIDANTS - A SCIENTIFIC APPROACH ON GERIATRICS

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ABSTRACT

Nutrient deficiency such as antioxidants is a common problem in the elderly; it can result in different diseases such as cancer. Accordingly, assessment of the dietary intake of antioxidants is necessary to design a specific plan for solving this problem. The most important complications of aging include increased level of oxidative stress and reduced intakes of energy, protein, and other nutrients.

Although oxidants are the normal products of aerobic metabolism, they increase under pathophysiological conditions of the body. Oxidation is a type of chemical reaction which can generate free radicals and result in chain reactions ultimately damaging cells.

Antioxidants are components of the herbal plants which can delay, eliminate, or prevent oxidation processes. Antioxidant compounds such as vitamin A, ascorbic acid, phenolic compounds, tocopherols, carotenoids, zinc, selenium, and glutathione can also be found in various animal and plant sources.

Generally, antioxidants play an important role in age-related diseases, and nutritional care may play an important role in improving the levels of these components of the diet.

INTRODUCTION

Herbs and spices are traditionally defined as any part of a plant that is used in the diet for their aromatic properties with no or low nutritional value. However, more recently, herbs and spices have been identified as sources of various phytochemicals, many of which possess powerful antioxidant activity. Thus, herbs and spices may have a role in antioxidant defense and redox signaling. Here we discussed about some antioxidant drug.

AIM

To understand importance of Antioxidant drug in geriatric.

TYPES OF ANTIOXIDANTS

Antioxidants from our diet appear to be of great importance in controlling damage by free radicals. Each nutrient is unique in terms of its structure and antioxidant function.

Vitamin E is actually a generic term that refers to all entities (eight found so far) that exhibit biological activity of the isomer tocopherol (an isomer is one of two or more molecules that have the same chemical formula but different atomic arrangements). Alpha-tocopherol, the most widely available isomer, has the highest biopotency, or strongest effect in the body. Because it is fat-soluble (and can only dissolve in fats), alpha-tocopherol is in a unique position

to safeguard cell membranes -- largely composed of fatty acids -- from damage by free radicals. Alpha-tocopherol also protects the fats in low-density lipoproteins (LDLs, or the "bad" cholesterol) from oxidation.

Vitamin C, also known as ascorbic acid, is a water-soluble vitamin. As such, it scavenges free radicals that are in an aqueous (watery) environment, such as inside your cells. Vitamin C works synergistically with vitamin E to quench free radicals. Vitamin C also regenerates the reduced (stable) form of vitamin E.

Beta-carotene, also a water-soluble vitamin, is the most widely studied of the 600 carotenoids identified to date. It is thought to be the best quencher of singlet oxygen (an energized but uncharged form of oxygen that is toxic to cells). Beta-carotene is also especially excellent at scavenging free radicals in low oxygen concentration.

***Semecarpus anacardium* (Bhallatak)**

Extract of nuts possess anticancer activity due to its strong cytotoxic effects.

The nuts of *S. anacardium* on preliminary chemical analysis are found to contain alkaloid, tannins, saponin, flavonoids, anthraquinones, ascorbic acid.

***Allium Sativum* (Rason)**

Sulphur-containing compounds and their precursors allicin, diallyl disulphide and diallyl trisulphide appeared to be the main antioxidative compounds shows anticancer properties. Garlic is a seleniferous plant which has many anticancer actions. It provides protection against ethanol-induced liver injury

***Bacopa monniera* (Brahmi)**

Phenolic compounds in plants serve as one of the key roles as primary antioxidants or free radical scavenger. It has been proposed that polyphenolic compounds provide antimutagenic and anticarcinogenic properties in humans natural scavenger of Peroxynitrite (ONOO⁻) as well as ROS

***Tinospora cordifolia* (Guduchi)**

It shows inhibition of lipid peroxidation and superoxide and hydroxyl radicals.

It increased the erythrocytes membrane lipid peroxide and catalase activity.

It has strong free radical scavenging properties against superoxide anion (O₂⁻), hydroxyl radicals (OH), NO radical, and peroxynitrite anion (ONOO⁻)

***Glycyrrhiza glabra* (Yashtimadhu)**

It reduces plasma and hepatic total lipids, triglycerides LDL, VLDL & cholesterol accompanied by significant increase in HDL cholesterol level.

It contains Isoliquiritigenin (IL), a potent antioxidant agent, saponin, flavanoides, and steroids. It possess significant hepatoprotective properties and has been reported restoring capacity of Liver in toxicity.

Curcuma longa (Haridra)

curcumin blocks a key biological pathway needed for development of melanoma and other cancers. Curcumin was found to suppress cancer cell proliferation and to induce cell cycle arrest and apoptosis (cell suicide) in the lung cancer cells. Curcumin's antioxidant actions enable it to protect the colon cells from free radicals that can damage cellular DNA. Curcumin may be able to prevent the oxidation of cholesterol which lead to heart attack or stroke, of vitamin B6, which is needed to keep homocysteine levels low.

Emblica officinalis (Amalaki)

Emblica fruit contains ascorbic acid (0.40%, Vitamin C accounts for approximately serum cholesterol level¹⁵. study also shown that amla supplementation has cholesterol lowering effect.

Piper nigrum (Marich)

The antioxidant and the antibacterial activities of different solvent extracts from *P. nigrum* and purified piperine and piperic acid .piperic acid was found to have the highest antioxidant power and was the most effective with the minimum inhibitory concentration against all strains tested.

Citrus lemon (Nimbuka)

The juice of one large lemon yielding about 18.6 g of vitamin C. Vitamin C, also known as ascorbic acid or L-ascorbic acid, is one of the most important antioxidants. It's essential for protein metabolism, production of neurotransmitters and collagen is a key component of connective tissue. Lemon also contains carotenoids which convert into vitamin A. by body .it's also important for bone growth, cell production, reproduction and regulating the immune system immune system-booster

CONCLUSION

Oxidative stress is thought to contribute to the development of a wide range of diseases including Alzheimer's disease, Parkinson's disease, the pathologies caused by diabetes, rheumatoid arthritis and neurodegeneration in motor neuron diseases. Herbal plants play a vital role in antioxidant properties. Therefore, the role of antioxidant activity that promote healthy aging and counteract oxidative stress.

ADAPTATION OF AHARA PADDATI IN GERIATRICS

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Introduction

The term geriatrics is derived Greek word, Geri - old age and iatrics - care. It is the branch of medicine concerned with the care and treatment of elderly. The word geriatric has also a close link with the Sanskrit word 'jiryadi' which means degenerated. In Ayurveda the human body has been described as a living subject where the wear and tear is a continuous and perpetual phenomenon.

Regeneration and degeneration go simultaneously right from the neonatal life to young age where growth and development occurs, after wards this process is altered and degeneration takes upper hand. As the age advances body becomes fragile, digestion and metabolism gets weakened and the body succumbs to various diseases.

CONCEPT OF DIET IN AYURVEDA: Older people are particularly vulnerable to malnutrition and many problems that affect older patients can be addressed by dietary modifications.

THE 'SADA RASA' CONCEPT IN DIET: Ahara must contain these sada rasas in single and combined form to add to the nutritive value & taste of food. Also they have few specific properties that is very significant in context of selection of a particular diet for old.

Madhura Rasa: Sukravivardhan, Indriya prasadan, daha-murcha prashaman, ksata-kshina sandhana kara. 2. Amla Rasa: Vata anuloman, Hriday Tarpan. 3. Lavan Rasa: Sarvarasa pratyantikbhuta, Pachan, kledan. 4. Katu: vaktrang sodhayati, kandu vinashayati, Shonota sanghat vinnati, Chakshu virechayati. 5. Tikta: Vishaghna, Stanyasodhan. 6. Kshayay: Sanshaman, sangrahi, Sandhankara, Kledassyapokta

INTEGRATED APPROACH TO THE DIET IN ELDERLY: Encourage consumption of fruits and vegetables as they are rich in micronutrients, minerals and fibers. Whole grains are good as they reduce cholesterol, regulate bowel movement. It should be kept in mind that some of these fruits are costly & thus less accessible to low income groups.

- Good hydration is essential. Fluid intake is at least 1L/day
- Encourage the use of fat free and low fat dairy product, legumes, poultry and lean meats. Encourage consumption of fish at least once a week.
- Match intake of energy (calories) to overall energy needs in order to maintain a BMI (20-27)
- Limit consumption of food with high calorie density, high sugar & high salt intake.
- Limit intake of food with high content of saturated fatty acids & cholesterol.
- Limit alcohol consumption (one drink per day or less).
- Vitamin D fortified foods should be introduced in diet

- Food should rich in vitamins
- For constipation: increase dietary fiber and fluid intake.

DIET FOR CARDIOVASCULAR SYSTEM: After the age of sixty years, people are at greater risk of cardiovascular diseases such as Hypertension, atherosclerosis of coronary and carotid arterperies and vascular damages. Milk and milk products, Tulsi, Amalaki fruits, Pomegranate, Apple, seasonal vegetables are good for heart. Fruits that are most beneficial for keeping the heart healthy are oranges, Papaya, grapefruits. Garlic is beneficial for blood pressure. Dhamani pratichaya signifies the atherosclerotic changes of vessels, which occurs due to building up of lipid particularly cholesterol and cholesterol components in the walls of the vessels.

DIET FOR BRAIN AND MIND FUNCTION: Brain needs four basic nourishments i.e. oxygen, glucose, fat and protein. Medhya rasayan , vayasthapan, valya, jeevaniya aahara or aushadha is beneficial for brain and mind. Fresh fruits and vegetables, black peeper enhance oxygenation of brain, whole grain is the source of glucose. Fruits like nuts especially walnuts and pure cow's ghee in balanced amount, turmeric and amlaki is good for brain. Use of protein food such as milk, yogurt, soyabean stimulate brain activity.

DIET FOR MUSCULOSKELETAL HEALTH: According to Ayurveda, Vataparkopa is the main cause of all problems related to musculoskeletal problems. So, vatanashaka ahara (e.g. snigdha bhojan) and vihara is the mainstay. They are- sarcopenia (reduction of muscle mass causes debility), Osteoporosis and arthritis (specially degenerative) along with soft tissue rheumatism. So, daily physical activity associated with grains, vegetables, fruits, oils, dairy products, meat, fish and beans should be consumed regularly to strengthen the musculoskeletal health.

DIET FOR ENDOCRINOLOGICAL PROBLEMS IN OLD AGE: Endocrine glands are related to metabolism, immune function, bone density, energy level, sexual desire and brain function. For healthy functioning of endocrines ayurvedic texts mentioned vrishyas and vajikaran diets with adjuvents. Sastik variety of rice, milk and milk products, kharjur, pure cows ghee, mangsha ras, rohita and puti fishes, dadimba and amlaki. Garlic and onion will add in keeping a

DIETS FOR balanced endocrine system. **DIABETES IN AYURVEDA:** Ayurveda prescribes that patients with Madhumeha reduce or avoid sweet and heavy foods. Tikta shaka, Sarshapa (mustard), Methi, Karabellak patola, Sobhanjana, Karkotaka, Udumbara, Rasona (Garlic), Kadali, Jambu (black berry), Talaphala, , Kharjura, Tinduka. Kamala, Utpala are good. In mangsha ras, Harina (deer flesh), Shashaka (rabit), Birds like Kapota, Titira, lavaka provide good results. Liquids like Old sura (old wine). Oils- Sarshapa (mustard), Danti, Ingudi, best for vatic & kaphaj prameha. Ghrita (ghee) may be used in Pittaja Prameha ghritta & taila in sannipatika Prameha

Conclusion: Adequate nutrition and as well as balanced diet is very vital in old age to prevent and control the common hazards after the age of sixty years, because after that, many metabolic and physiological changes impact on nutritional needs of the individual. Special consideration should be given to appetite, cardiac status, renal status, and use of medications.

Small quantity of food in fixed time interval, varieties of foods should be chosen. A Sattvik food comprises of fresh fruits, vegetables, milk products, nuts, minimum fats and spices should be recommended after the age of 60 years. These guidelines of diet after the age of sixty should be maintained properly in order to live a healthy and peaceful life.

ADAPTATION OF LIFE STYLE IN IMPROVING QUALITY OF LIFE IN GERIATRICS

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ABSTRACT

In present scenario of lifestyle with advanced techniques many people are facing with early aging and different problems so to prevent such problems as we know Ayurveda is one of oldest system of Medicine in the universe which deals with every aspect of the life, which has two main aims I.e Prevention & cure from the diseases by promoting one's own health. Ayurveda is broadly classified into the eight branches among them the Jara Chikitsa is the one in which Rasayana therapy plays a major role in maintaining the systematic and scientific medical discipline. In this paper am trying to explore few approaches for prevention of ageing by good conduction of Dinacharya, following Ritucharya, utilizations of Rasayana therapy ,Balanced healthy diet & yoga therapy all these help in Quality of life and adaptation for healthy life style in Geriatrics.

KEY WORDS- Jara Chikitsa, Rasayana Therapy, Dinacharya, Ritucharya, Yoga Therapy, Geriatrics.

INTRODUCTION

In spite of advancement of medical science with new invention, sophisticated lifestyle still we are lacking in maintain the quality of Life. Ayurveda specially have two main aims such as prevention and cure the diseases by promoting the health of the individual¹. Everyone wants to look young forever and increase their life span by staying healthy², but there is a life cycle process of kala (time factor) ³, the stage called Vriddhawastha ⁴(old age) is considered as the stage when Dhatus diminishes which is a progressive and generalized impairment of body functions resulting in, loss of adaptive response to stress called as the condition of ageing under the heading Geriatrics⁵. So it is necessary to rejuvenate the body systems where as Rasayana Chikitsa is the best rejuvenation therapy which aims at achieving a healthy life, and maintain the quality of life as Rasayana claims that it retards the process of aging⁶. This basically boost up the Immune system and maintains the health of the individual. Most of these Rasayana can be used as a regular deictic form, following Achara Rasayana, it is a unique concept of mind rejuvenation behavioral therapy for calm mind and long life⁷, following Rules of Dinacharya⁸, Ritucharya⁹, performing the yoga etc, which is going to balance both the mental status and physical health of the individual which is must in adapting these things to maintain the quality of life in aging.

AIMS AND OBJECTIVES

1. Adaptation of Rasayana Therapy, its benefits in different systems, Dhatus, Indriyas and maintaining the quality of Life,
2. To enhance the life style by following Dinacharya, Ritucharya, Yoga Therapy etc.

MATERIALS AND METHODS

Publishing and presenting the information from the classical textual references, several other texts, journals, few Review articles are being collected for presenting this paper.

RESULTS

Ageing is basically a physiological process which results because of time bound inherent evolutionary processes by the mind-body system. Adaptation of the Dinacharya, Ritucharya, Rasayana therapy, Yoga therapy etc helps in enhancing the strength, immunity, luster, nourishes the Dhatus and prevent chronic degeneration changes and illness of the body. Rasayana is the best way to increase the metabolic processes by which it results in the best possible biotransformation and produce the best quality of life. It also eradicates the senility and other ageing factors up to some extent. Rasayana invigorates the body in general by sustaining the required balance between anabolism and catabolism, through which it regulates the circulation of vital fluid and eliminates the waste materials, rejuvenate the nervous system, prevents the wasting of muscle, delays the ageing process, prevents the osteoporosis, prevents early graying of hairs, gives good nourishment to the indriya(sense organs) and finally helps in attaining good sleep and appetite.

DISSCUSSION

Rasayana therapy is mainly used as rejuvenation therapy, which literally means to return to the youthful life, this therapy helps in the preservation and promotion of positive health, even this therapy stands as an answer to solve the problems of geriatrics and helps in longevity, boosting the immunity including mental development and resistance against the disease. This can be considered as the specialized type of treatment influencing the fundamental aspect of the human body i.e Dhatus, Agni, Srotas etc. It may ultimately be leading to the achievement of the comprehensive effect as stated by Acharya Charaka “Labhopayo Hi Shastanam – Rasadinam Rasayanam”. Hence Rasayana produces the effects in terms of Vayasthapana and Ayushkara, Medhakara upto Ojaskar. Rasayana drugs act upto the Dhatus level, by promoting the mechanisms of antioxidant action, Hemopoetic effect, Antiaging action, Anabolic action, Nutritive function, Neuro protective action, by these Rasayana therapy, following Dinacharya Ritucharya, Sadvritta and Yoga therapy it helps to prevent the ageing and maintain the quality of life in Geriatrics.

CONCLUSION

To live a long and healthy life is every individual's wish. Due to changing lifestyle and advance technologies, modifications every individual not able to follow the rules in life which are very much necessary to maintain the early aging, it is obvious that the process of ageing is a natural process, but in our Ayurveda we have a special branch called Jara Chikitsa which specially deals with the geriatrics, and many other measures which should be followed such as

Dinacharya, Ritucharya, Sadvritta, Acharya Rasayana and yoga therapy plays a major role in maintain the quality of life and adaptation of life style in Geriatrics.

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ROLE OF DOSHA,DHATU,MALA AND AGNI IN AGEING

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ABSTRACT

The demand for concern for the elderly sector of our country in whole is increasing and is very much needed too. The Life in Balance is a terminology which overall creates some good healthy happy years (HHY) for the retired and old people and for this purpose Ayurveda presents itself with its enormous treasure of the knowledge of its fundamentals in the form of , Dosha , Dhatu , Mala and Agni .Here in the following paper we shall discuss how these can be dealt with to promote longevity and maintain good health in the golden ripe years of life.

KEY WORDS

Geriatrics,Dosha,Dhatu,Mala,Agni,Ageing,health,ayurveda.

INTRODUCTION

Geriatric Care has two distinct dimensions,

- 1. Promotion of health and longevity**
- 2. Management of diseases of old age**

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 Deerghamjivitiya Adhyaya).

The contemporary modern medicine is apparently strong in terms of the second dimension, although the final outcome may not be very significant because most of the diseases of old age are chronic and incurable.

MATERIALS AND METHODS

Most of the material required for this presentation was looked into from the various classical texts of Ayurveda in the Library for PG Scholars at Government Ayurvedic College Patiala.

ROLE OF DOSHA ,DHATU ,MALA AND AGNI IN AGEING

Types of Jara

1. 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.
2. 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).

Sequential Kshaya in Aging

Acharya Vagbhata and Acharya Sharangadhara presented an interesting scheme for loss of different biological factors during the lifetime of an individual, as a function of ageing in different decades of life.

Milestones of ageing or sequential loss of biological factors in Aging are as follows

Decade	Year	Vagbhata	sharangadhara
first	0-10	balya	Balya
Second	11-20	vridhhi	vridhhi
Third	21-30	prabha	Chavi
Fourth	31-40	medha	medha
Fifth	41-50	tvacha	Tvacha
Sixth	51-60	shukra	drishti
Seventh	61-70	drishti	shukra
Eighth	71-80	shrotendriya	Shukra
Ninth	81-90	Mana	buddhi
tenth	91-100	sparshnendriya	karmendriya

ACHARYA	BALYA	MADHYA	VRIDDHA
<ul style="list-style-type: none"> • Charaka 	<ul style="list-style-type: none"> • Aparipakva dhatu (Birth -16yrs) • Vivardhamana dhatu (16-30yrs) 	30-60yrs	60-100yrs

Sushrutha	<ul style="list-style-type: none"> • Ksheerapa (0-1yr) • Ksheerannada (1-2yrs) • Annada (2yrs above) 	16-70yrs Vridhhi (16-20yrs) Yauvana (20-30yrs) Sampoorna (30-40yrs) Hani (40-70yrs)	70yrs and above
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Pathophysiology of Ageing

PACHAKA PITTA	annapachana	Loss of appetite
		indigestion
	Kshudha,	Ama formation leading to ama janya roga
	ojas	Improper formation of Rasadi dhatu
RANJAKA PITTA	Formation of rakta dhatu	Anaemia, skin disorders, haemopoetic system disorders etc
ALOHAKA PITTA	Roopa grahana (visual psychology)	Myopia, glaucoma, cataract etc
BHRAJAKA PITTA	prabha	Loss of lustre of skin
	Chaya	wrinkles
	Deha mardavam	Loss of elasticity
SADHAKA PITTA	Buddhi, medha	smritinasha
	Abhiprarthita manoratha	Bhaya, kridha, harsh, moha etc

Depression/
psychosomatic disorders

Sarira : "Dosa dhatu mala moolam hi sariram " (Su. S .15/3)

According to Ayurveda the three basic constituents of human body, Vata, Pitta and Kapha, in an equilibrium state , structurally and functionally, maintain the health of any individual, and in an imbalanced state produce disease.

Ageing and the Tridosas

Dosha	balyavastha	madhyavastha	vriddhavastha
kapha	+++	++	+
pitta	++	+++	++
vata	+	+	+++

Ageing and Saptadhatus

- The next component of Sharira is Dhatus, which are responsible to maintain a state of equilibrium with the help of Doshas and Malas. " Heyamana dhatu " is a feature of old age. They basically perform two functions: **a) Dharana**

b) Poshana

In old age due to Vata Vikriti, Vishamagni, Ksheena kapha, the first Dhatu, Rasa is not formed properly and its function of Preenana to the rest of the Dhatus is not performed, resulting in sequential weakening of all the Dhatus i.e., Dhatukshya takes place. Hence, due to this malformed Rasa, it sets off a chain of malformed Upadhatus and Dhatumalas.

Ageing and malas

Malas are equally important as Dosha and Dhatus. They form the Mula dravya of the body. They arise out of Kittapaka at the Pachakagni and Dhatwagni levels. The various Malas mentioned in Ashtanga hrdaya are Vata, Pitta, Kapha, Khamala, Karnamala, Aksimala, Asyamala, Prajananamala, Nasikamala, Lomakupamala, Kesha, Shmashru, Loma and Nakha etc.

These play a vital role in the body dynamics, as elimination of Mala is an index of life activities. Hampered Agni in old age leads to Malaksaya. The common features such as pain in chest, dysuria, haematuria, excessive thirst, dryness of mouth, skin are found in Malaksaya

Ageing and agni

- There are 13 types of Agni described in Ayurveda which represent the digestive fire and metabolic energies 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. Varna, Bala, Svasthya, Utsaha, Upacaya, Prabha, Ojas, Agni, Prana etc.

- Based on the Bala, Agni in turn is of 4 types: Tikshnagni, Samagni, Vishamagni and Mandagni.

In old age, due to the predominance of Vata dosa, vishamagni prevails, leading to Visamagnijanya rogas such as Ajeerna. Adhmana, Shula, Udavarta, Atisara, 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 vigour of an individual. So, in old age, due to vishamagni, defective metabolism occurs within the body leading to involuntary changes such as Kshaya and 'Shosa.

Theory of ageing in contemporary science

The theory of free radicals stated that one of the important cause of aging at a cellular level in excessive liberation of free radicals. Free radicals are unstable variation of Oxygen atom, having an extra electron in its outermost orbit. They become stable by binding with molecules, which are generally cellular structures, and causes cell damage. To protect themselves from damage, cells produce enzymes to neutralize or detoxify the free radicals. These enzymes are known as free radicals scavengers or antioxidants. Thus, an imbalance between free radicals and antioxidants results in disease.

Ayurvedic perspective

- As old age sets in, homeostasis between the Tridoshas are disturbed. Vata is responsible for the fine or gross movements where as Pitta for the chemical & enzymatic activities and Kapha for the structural integrity & moistness etc. Thus, a disturbance in Pitta along with an increased Vata and decreased Kapha results in damage to the structural integrity, resulting in a disease.
- Ayurveda has emphasized in its Upasthambhas, the importance of Ahara. Astavidha ahara vishesh ayatanas emphasizes the importance of diet on aging process.
- Matrashana is important for a healthy longevity. Thus the diet plays an effective role in ageing.

Summary/Conclusion:

The concept of aging (Jara) has been dealt with, keeping in view the Tridosas, Saptadhatus, Malas and Agni.

When all of these are in homeostasis the body functions well.

But due to old age, increase of Vata, vitiation of Pitta and decrease in Kapha causes an impact on the various other components of body, thus allowing the aging to take over. The whole biology of aging has been dealt with, within

the Ayurvedic frame of its basic concepts of Dosha, Dhātu, Mala and Agni.

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IMPROVE YOUR QUALITY OF LIFE WITH YOGA

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Abstract-

Yoga refreshes your mind and spirit. Tones your body. It keeps your internal organs and the hormonal system limited. All the reasons people of all ages do yoga. In fact, yoga asanas are one of the few exercises you can do as you grow older.

Doing a few yoga poses and daily exercises can make a difference in your well-being. It can reduce menstrual discomfort and pain in women's genitals. The chanting of the 'Om' mantra in the lotus pose can cleanse, relax and include the body, mind and soul. It is good to start your yoga program. It is very helpful to senior citizens to increase physical as well as mental health.

Introduction-

Yoga is an ancient Indian method that creates strong connections between body, mind and soul. One can start learning this art at any age; in fact, experts believe that Yoga helps one age better and improves flexibility and strength in simple and uncomplicated ways as well as staying physically fit, mentally alert, and spiritually advanced. The aspect of health quality is considered important in Yoga and other Indian medical systems. Geriatrics is called Rasayanatantra according to Ayurveda and an aging treatment called Rasayana chikitsa is very close to Yoga Therapy. Many health concerns in the elderly have been linked to sedentary lifestyles and inactivity leads to muscle loss, stiffness, and weight loss. Lack of mobility leads to joint degeneration and loss of flexibility. Therefore with the help of yogasana quality of life and geriatrics related health problem is reduced.

Material and methods-

This is a kind of research concept. All types of references have been collected and compiled from various available Ayurvedic texts such as Charak samhita, Sushruta Samhita, Ashtanga Sangraha, Ashtanga Hridya and the comments available on it. The whole matter is analyzed in the discussion and an effort is made to draw conclusions.

Type of yogasana helpful in geriatrics-

surya Namaskar:

Benefits: It can keep you young and healthy even in old age. This baby is one of the best ways to start your new day. It gives you rock-hard abs, improves digestion, helps you detoxify the body, improves metabolism, promotes the menstrual cycle, tones arms and legs, strengthens the spine, improves weight loss and overall health.

Warning: Pregnant women, patients with hernia, high blood pressure and backache should not do this.

Vajrasana:

Benefits: The baby helps digestion, relieves constipation, fights stomach disorders, calms the brain, increases blood circulation, and helps to reduce weight.

Warning: A person suffering from joint pain should avoid this baby. People with spinal column disease especially in the lower vertebrae should not try this pose. Those who suffer from hernia, intestinal ulcers, and other small and large bowel diseases should consult a specialist before doing so.

Dhanurasana:

Benefits: Dhanurasana strengthens the back and abdomen muscles, rejuvenates the genitals, opens the chest, neck and shoulders, relaxes the legs and arms, relieves stress and fatigue, eliminates menstrual irregularities and constipation and helps treat kidney disorders.

Warning: Patients with heart problems, high blood pressure, hernia, duodenal ulcer, appendicitis, colitis should be avoided.

Trikonasana:

Benefits: This baby is good at burning fat, improves digestion, relieves back pain, relieves stress, improves joint mobility, neck and spine, strengthens muscles in the thighs, buttocks and back, and gives strength and stamina.

Warning: Avoid asana if you have a headache, severe back pain, diarrhea, high blood pressure, neck or back injury, cervical spondylitis and knee problems.

Natarajasana:

Benefits: Natarajasana rejuvenates and stretches the spine, tones leg muscles, strengthens the ankles, strengthens the arms, opens and expands the chest.

Warning: Avoid doing it if you are suffering from a knee injury or while recovering, use a band around the foot to hold the leg if stretching is too difficult for the shoulder.

Adho Mukha Svanasana:

Benefits: This baby strengthens the abdominal muscles, improves blood circulation, digestion, tone hands and feet and reduces anxiety.

Warning: Make sure your intestines and stomach are empty before making this baby. Avoid doing it if you suffer from high blood pressure, dislocated shoulder, diarrhea, weak eye

capillaries, affected retina or carpal tunnel syndrome. Pregnant women should consult their doctor before doing so as a baby.

Shavasana:

Benefits: Relieves stress, fatigue, depression, and tension. It calms the mind and improves mental health. Shavasana is good for promoting blood circulation and relaxing the whole body.

Warning: Change either by keeping the knees bent or the hands / pillow under the back and knee. If you are pregnant or suffering from acid reflux, keep your head up.

It has been proven that regular yoga can reduce the symptoms of many ailments. If you make it a habit, you will feel clean both mentally and physically. Many issues can be resolved.

Never do baby yoga immediately after a meal. Provide a minimum three-hour gap. Do not try to learn yoga asanas alone without the guidance of an experienced and knowledgeable teacher.

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Never do baby yoga immediately after a meal. Provide a minimum three-hour gap. Do not try to learn yoga asanas alone without the guidance of an experienced and knowledgeable teacher.

Discussion and conclusion-

Whatever activity a person engages in, be it Yoga or any other form, it should provide satisfaction, satisfaction and confidence, it should help maintain a youthful mind, cultivate flexibility, strengthen the immune system, nourish the body, and much more. When man begins to change the course of life, entering the inner thighs of infinite energy, intelligence and vitality becomes easier and more natural, developing a sense of well-being. Certainly Yoga helps to change thinking and behavioral habits and to change the body's knowledge and the process of aging. Aging can be made not only unbearable but also enjoyable. After all, aging is not a problem of age but a state of mind and Yoga brings a positive attitude. Yoga aims to empower a person to acquire and maintain the "Sukhasthanam" (human nature), enabling a person to experience the concept of physical, mental and spiritual well-being. Yoga may not only add years to life but also health over the years. Therefore, practicing Yoga should be an important part of aging.

PHYSIOLOGICAL EFFECT OF RASAYANA IN GERIATRICS CARE

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ABSTRACT

Ayurveda is basically the science of life and longevity. In ageing Dhatus get degenerated due to functional and structural modification. During old age we cannot increase the capacity of Rasadi Dhatus. But they can be preserved and rejuvenated.

Rasayana therapy is a unique therapeutic science to delay ageing process and to reduce the intensity of problems occurring this elderly phase of life. According to concept of Ayurveda the therapy used for promoting and preserving health, increasing strength and life span in a healthy person are called Rasayana therapy. Only Rasayana therapy is an answer in present scenario to prevent premature ageing and to treat the manifestation due to ageing process.

This review article will explore multiple aspect of ageing and longevity with the use of Rasayana therapy in Geriatric care.

KEYWORDS Ayurveda, jara, Rasayana, Ageing

INTRODUCTION –

The word GERIATRICS has been derived from GreeK word “geri” meaning “old age and iatrics-care. Geriatric medicine is the specialized branch of medicine that deals with preventive and curative measures of elderly persons”.¹

Due to increased geriatric population, the prevalence of geriatric specific diseases is also increasing.

A need is felt to develop newer strategies for geriatric health care.

This branch of medicine is relatively new and the vast therapeutic treasure of Ayurveda has a lot to contribute towards Jara Chikitsa.

Ageing is not a pathological condition but a physiological action like hunger, Thirst and sleep.

Rasayan therapy is a unique therapeutic science to delay ageing process and to reduce the strength of disease which occurring this elderly phase of life.

Ayurveda advocates healthy ageing through Rasayanachikitsa (Jarachikitsa), Panchkarma, principles of daily and seasonal regimen and code of conduct like Sadvritta etc.

OBJECTIVES

1. Physiological effect of Rasayana in Geriatrics.

MATERIALS AND METHODS

Published information from several articles, of which few review articles and cross references were collected.

The literatures reviewed in this article are taken from the modern medical science journals and classics of Ayurveda.

RASAYANA THERAPY (PHYSIOLOGICAL EFFECT IN GERIATRICS)-

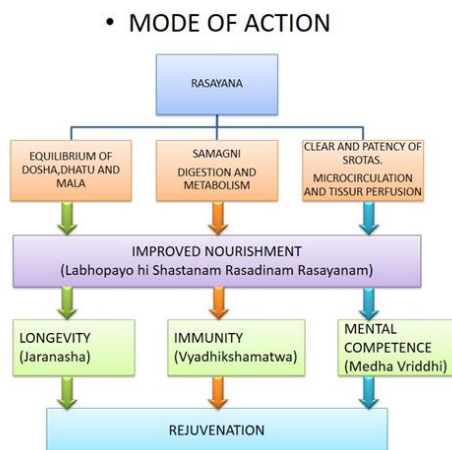
Rasayana therapy specially deals with the science of geriatric care and rejuvenation.

It is a special remedial solution in present scenario to prevent premature ageing and to treat the manifestation due to ageing process, the biological stimulation of Vata Dosha can be delayed by Rasayana therapy.

Ageing is progressive change related to passage of time, free radicals cause oxidative damage to different biological units which may enhance to ageing process.

- Rasayana therapy also acts as antioxidant so they help in blissful ageing.
- Mode of action of Rasayana drugs in ageing by
- Immune stimulation.
- Promoting cellular detoxification mechanism.
- Repair damaged non proliferating cells and inducing cell proliferation.
- Self-renewal of damaged proliferating tissues².

MODE OF ACTION³-



Actions of Rasayana

1. Antioxidant action – Amalaki.
2. Immunomodulatory action – Guduchi.
3. Haematopoietic effect- Amalaki, Bhringaraja, Mandura, Lauhabhasma.
4. Adaptogenic action – Ashwagandha.
5. Antiageing action – Ashwagandha.
6. Anabolic action- Vidarikanda.
7. Nutritive function- Ghrita, Ksheera.
8. Neuro protective action- Swarna bhasma, rajatbhasma.

DISCUSSION –

Ayurveda contributes most important role in geriatric care, as it is one among the branch of Astanga of Ayurveda.

Jara Chikitsahas a good scope in present day scenario as a preventive tool.

Rasayana therapy promote good health and wellbeing's, and encourage healthy transformation of the body and mind through harmonious choice and actions, Rasayana therapy is a unique therapeutic science to delay ageing process and to reduce the intensity of problems occurring this elderly phase of life.

CONCLUSION –

Due to increased elderly population, the prevalence of geriatric specific disease condition is also increasing.

This is creating a big burden to the health care providers and government.

Traditional remedies or herbal information of Rasayana care the only answer to meet out the problems.

It is the duty of the young health care professionals to explore the Ayurveda classics and Rasayana therapy to create awareness about the strength of Ayurveda in geriatric care.

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PHYSIOLOGICAL EFFECT OF RASAYANA IN GERIATRICS

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ABSTRACT

Aging is characterized as a progressive breakdown of the body's hemostatic, adaptive response in contemporary science; Ayurveda has viewed Jara as a natural and unavoidable process as well as a swabhavaja vyadhi (Natural illness) when old age sets in, homeostasis between the Tridoshas is disrupted. When kapha diminishes, vata increases, causing pitta to become disturbed. Shareera (physical), Indriyas (emotional), satwa (psychological level), Agni (metabolism), and bala Oja all impact Jara (ageing) (immunity). Vriddhavastha (Jara) is the final stage of existence. The vata dosha predominates throughout this period (one of the three physiological body factors). The most noticeable physical changes at this period include wrinkling of the skin, greying of the hair, baldness, and a decrease in physical capacity. Aging represents structural and functional changes of an organism over its entire life span.

KEYWORDS: Jara, vardhakya, swabhavaja etc.

INTRODUCTION

Jara or Vradhakya is seen by Ayurveda as a normal and unavoidable process, as well as a Swabhdvaja vyadhi (natural disease). Acharya Charaka stated that the average human life duration is one hundred years¹, however life span is decreasing alarmingly; today it is believed to be 70 years. Aging is described as the natural process of life that is marked by the degradation of organs in diverse systems, resulting in the loss of anatomical and physiological functions² Today, the study of ageing is centres on a pathology paradigm, i.e., how to detect illnesses and chronic impairments impacting the elderly in order to provide possible treatments.

This powerful mixture is responsible for the body's numerous degenerative alterations and degradation process. These variables cause a variety of degenerative changes in our bodies as well as metabolic diseases. Osteoarthritis, hypertension, urinary incontinence, diabetes mellitus, arthritis, atherosclerosis, cardiovascular disease, cerebrovascular accidents, respiratory illness, senile dementia, delirium, disorientation, and other diseases and disorders are frequent in old age.³ Modern medicine has nothing to promote in geriatric care other than the medical therapy of specific illnesses of old age with little health and disease prevention in old life.

MATERIALS AND METHODS

Literature on physiological changes was gathered from different publications, books, and the internet. These references from both fields of expertise were compared and critically examined.

CHANGES OCCURRING DURING OLD AGE

Circulatory System

Blood vessels stiffen and become less responsive to hormones that relax vessel valves, resulting in an increase in systolic blood pressure.⁴ The valve in the chamber of the heart thickens and stiffens as a result of lipid accumulation and collagen degradation.

Gastrointestinal system

Atrophic gastritis is an inflammation of the mucosa that causes the stomach to atrophy in old age. Because of a shortage of vitamin B12, the stomach produces inadequate acid, resulting in acid deficit known as achlorhydria.⁵ One of the most painful events in old age is the loss of control of the internal and external anal sphincters.

Respiratory system⁶

The mobility of the ribs decreases as a result of rib calcification, and the chest wall, as well as the larynx and trachea, stiffens in the elderly. The cilia that line the trachea and assist drive dust, debris, and mucus up into the pharynx become less effective. Because of the lack of elasticity, the lungs become stiff. The functional unit of lung alveoli grows larger, but vital capacity declines.

Nervous system and sense organs

The ageing of the central nervous system causes permanent function loss and a decline in capacity to perform routine activities. Memory difficulties become more prevalent after the age of 40. Body reflexes, sensory and motor responses all slow down. Visual and hearing impairments are prevalent among the elderly. The iris becomes stiffer when tear production decreases, resulting in dry eyes. Night vision is impaired due to the lower pupil size and cone number.⁷

Urinary system

The kidneys are the primary organs in charge of regulating the chemical composition of blood and the fluid content of the body through the production of urine. The size and function of the kidney begin to decline at the age of forty, and decline considerably by the age of sixty.⁸

The Endocrine System

The endocrine system is a complex network of glandular tissues that release hormones directly into the bloodstream, which are then utilized by the body's target organs. In the aged, insulin resistance may prevent glucose from being converted into energy.⁹

Reproductive system

The average female menopause age is 45-50 years. Ovulation stops during menopause, and estrogen levels drop by 90%⁸. After menopause, women are more prone to osteoporosis. Because of the fragile epithelium, the vaginal wall thins. Women report a reduction in vaginal lubrication. After 30 years of menopause, FSH and LH levels gradually decline, resulting in loss of breast muscle tone.¹⁰ With age, the rate of sperm production and the size of the testes decline. There may be a decrease in sex drive and erectile dysfunction, which affects 42 percent of individuals between the ages of 40 and 60.¹¹

Musculoskeletal System

Arthritis is a common painful illness that develops with age and results in decreased joint mobility. Because of the decrease in height, long bones appear to be disproportionate in size. The weakening of the spinal disc might cause trunk shortening.¹² Many elderly people adopt forward bending with flexed knees and elbow bending. Calcium loss from bone causes these structural alterations.

CHANGES IN OLD AGE AS PER AYURVEDA

Role of Tridosha in Geriatrics

In Ayurveda, the phenomena of ageing are likewise linked to the tridosha concept. The tridosha (vata, pitta, and kapha) is the most significant element in health maintenance and illness development. These doshas exist in the body at all times, although their levels vary depending on age, time of day or night, and whether or not food is consumed.¹³

Role of Agni in Geriatrics

Aside from the doshas, Agni also plays an essential role in the ageing process. Food nutrients nourish body tissues on a regular basis, and Agni is believed to be in charge of converting dietary components into tissue elements.¹⁴ As a result, the consequences of ageing are more directly connected to Agni possessing vishamagni.

Role of Srotas in ageing

According to Charaka, numerous pathological diseases occur in the body as a result of Srotodusti of diverse Srotas. The primary purpose of Srotas (body channels) is to transport bodily fluids. Atipravrutti, Sanga, Siragranthi, and vimargagama are the four pathogenic diseases that occur in Srotodusti. The major cause of sroto dushti is Vayu and mandagni vitiation, which is more prevalent among the elderly.

DISCUSSION

Aging is an inevitable process that affects all living things, and it is impossible to avoid. Because the chance of getting various ailments rises with age, it is referred to in the classics as a Svabhavika Vyadhi (naturally occurring sickness). At the cellular, tissue, and organ levels, structural and functional changes occur. The physiological changes happening at the level of Tridoshas, Saptadhatu, Malas, Srotas, Indriyas, Agni, and Ojas must be analyzed in order to comprehend the ageing process in terms of Ayurveda. Vata is the major Dosha involved, and there is also Agnimandhya, which leads to poor nutrition of numerous bodily entities. As people age, their functional abilities deteriorate in diverse ways. There may be a progressive and partial loss of function, or a complete loss of function.¹⁵ The Dhatus that are reliant are likewise malnourished. Finally, Shareera Apachaya (inadequate bodily nourishment) and Ojo Hani (injury to the Ojas) culminate in Akala Jara (premature aging).

CONCLUSION

As people become older, they go through many anatomical and physiological changes. In the aged, these changes frequently result in health issues and even death. To ensure the health and wellbeing of this growing age group, it is critical that health care professionals, the government, the community, their families, and the elderly themselves understand the changes that are taking place and adapt preventive measures to avoid the suppression of natural urges, follow the Dinacharya practice of regular yogic exercise, shodhana according to Ritu, and the proper use of Rasayana drugs. All of these activities will assist in reducing the risk of aging-related disease.

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EFFECTS OF TRIDOSHA DURING OLD AGE

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Abstract

The definition of Ayurveda itself proved the importance of life. Purushardhas can be achieved only through 'Hitayu' and 'Sukhayu' for which one has to follow the measurements described by various Ayurvedic Scholars in the context of Deerghanjeevaneeyamadyaya, Ayushkaameeyamadyaya, Ritucharya, Dinacharya and so on. The main aim of this article is to provide a brief account over the effects of Tridosha during old age and the effects of Rasayana therapy during the period of old age for attaining Vyadhikshamatva. The various karma of Tridosha have been deteriorated during such stage of life such as Vatadosha is found to be predominant, Pitta dosha is irregular, Kapha is in a depleted state. Such irregularities can be balanced through the Rasayana therapy.

Key points: Old age, Tridosha, Rasayana therapy, Vyadhikshamatva

Introduction

Geriatrics is a branch of medicine dealing exclusively with the problems of aging and the diseases of the elderly¹. The word derived from a Greek word 'geronto' meaning 'old age'. The definition of ageing is that the progressive failure in body's homeostatic responses or it is the gradual structural changes that occur with the passage of time, not due to any disease or accident and that eventually lead to death. Growing old is a part of life cycle which is a usual phenomenon. According to a survey study, around 6.7% of population in India are over 65 years of age and in well developed countries, the percentage increases. The average life expectancy of people was around 30years, during 1947 survey study. But now it is 62 years and more. The major reason behind such increased life expectancy is the declined Child Mortality rate, lowered

fertility rate, falling birth rate, improved health conditions and improved public health care. This meant that the population is increasing with a higher intensity².

Ayurvedic science has given prime importance to the branch of Geriatrics or Jarajanya vikara. The specialities such as Rasayana, Vajeekarana were developed mainly to handle the old age persons or to handle the problems relating to ageing. The science dealt that the four Purushardhas can be achieved through 'Hitayu' and 'Sukhayu' (healthy and comfortable life) , for which one has to follow the measurements described by various Ayurvedic Scholars in the context of Deerghanjeevaneeyamadhyaya, Ayushkaameeyamadhyaaya³, Ritucharya Dinacharya⁵ and so on. If one is able to maintain his Upasthambhas (Ahara,Nidra, Brahmacharya) and follow Achara Rasayana⁶ (behavioural therapy), many physical and mental Vikara or intellectual impairment, structural and functional deterioration can be regulated to a greater extend.

According to Ayurvedic science the terms Jara, Vrudha, jeerna⁷ have been used which means there will be deterioration of Rasaadi Dhatu, Indriya, Bala, Veerya, Paurusha, paraakrama, Grahana, Dharana, Smarana, Vachana, Vinjaana, ie.. there will be deterioration of body tissues and sense organs, ill health, physical and mental activities get effected badly, poor thinking abilities and gradual loss in memory power, talking disabilities and finally merged the person into the sea of Pathology. Hence old age persons or the Senior citizens should be given utmost care and it is a challenge to the new generations to handle such situations. Every citizen is the responsibility of each physician and hence the physicians should be given proper training for the management of pathologies or ill health affecting his old population with the objective of 'Longer life with lesser disease and painless death'.

Aims

- 1) To provide a brief account over the effects of Tridosha on body during old age.
- 2) To know the effect of Rasayana therapy for attaining Vyadhikshamatva during old age.

Method

Relevant Physiology texts books and Samhita are referred to get an idea about the physiological and Pathological changes during old age.

Results

Ageing is an observable change both structurally and functionally leading to increased vulnerability and decreased viability to environmental stress and disease. Aging starts from the level of zygote and continues after birth. The process of aging is influenced by several factors such as Nidra or sleep, Ahara or diets, Satva bala ,Indriya bala or emotional wellbeing, Sareera bala or physical health, social and family support, occupations and so on. The integrated functioning of all the above factors are responsible for keeping a balanced internal environment or for the Samyata of Dosha, Dhatu and Mala. Such physiological integration get disturbed during the latter half of life span due to some external agents or due to some internal agents which causes many pathological changes or deteriorations in the body.

The age or Vaya has been classified into Baalya (childhood), Madhyama (youth) and Vardhakya (old age) by the eminent scholars of Ayurveda. Acharya Charaka considered that the Vardhakya starts at the age of 60 years and above, while in the opinion of Acharya Susruta and Vagbhata, Vardhakya starts from 70 years onwards.

Aging of different parts of human body 10

Cells – get aged and die more rapidly, but at different rate depending upon the parts of the organisms. Eg: RBC lives for 120 days, WBC for 11 days, heart muscle cells 40 years, Intestinal cells 15 years, liver cells 10 years.

Skin – since it is the organ which is exposed to more wear and tear, more changes happen to skin such as thinning of epidermis and dermis than those found in young adults, becomes more transparent, fragile due to decreased elastic fibers, becomes drier and wrinkles appear due to reduction in sebaceous secretions. Increased tendency of Senile Purpura, Reduction in skin's Immune response due to gradual decrease in Keratinocytes, Langerhans cells and Lymphocytes. Nerve cell innervations to skin get decrease. Change in the morphology of Meissner's corpuscles reduces the sensation of touch. This diminished sensory input increases the risk of tropic injuries in elderly people.

Sweat glands and sebaceous glands – there will be increased vulnerability to heat and stroke due to decreased eccrine sweat gland output. Atrophied Sebaceous glands result in dry skin. The broken Stratum Corneum becomes the main site for fungal or yeast infections.

Bloodvessels – elasticity of blood vessels increases leading to Arteriosclerosis. Reduced vascularity to skin and impaired or slow wound healing phenomenon.

Hair – the decrease in the number and functioning of pigment producing cells in head region contributes to the greying of hairs. Hairs become more brittle, thinner and loss as the hair follicles absorb less nutrients and become more androgen sensitive, leading to Alopecia. Nails also become more brittle.

Musculoskeletal system – due to bone resorption process the density of bones decreases can lead to Osteoporosis. Presence of Osteophytes in joints, altered contour of articular surface, decreased Synovial fluid leads to Osteoarthritis. Depletion of proteins from the periphery and dissociation of Triglycerides into Fatty acids and glycerol leads to body emaciation and gradual loss of muscle strength. Increase in blood cholesterol level, Deposition of fats, Collagen, Ca or fibrous plaque inside the blood vessels can lead to Atherosclerosis. This can even lead to increase in Blood pressure, Myocardial Infarction. Reduced Cardiac output. The whole metabolism gets affected due to this. Kyphosis can occur, osteoporotic ribs are common leading to a barrel chest appearance.

Respiratory system - Airway becomes more collapsible with age. Arterial oxygen saturation can decrease. Fall in Static recoil of lungs.

Endocrine system and Nervous system are the major systems that control any other secretion, transportations, signalling etc. During old age, the damage to the neurons causes decreased ability of impulse transmission, impaired sensory and motor functions, normal functioning of sense organs get affected leading to loss of vision, senile deafness, taste smell perception get lost. Impairment in memory can occur leading to short term and long term memory loss. In Senile dementia, there is shrunken gyri in the frontal, occipital and temporal regions.

Movement disorders such as Parkinson's disease, Hutchinson's disease are common due to reduction or absence of the release of neuro transmitters or defects in post synaptic membrane.

Myasthenia Gravis, paralysis due to stroke, falling due to instability, loss of orientations, Cataract, Vertigo, Tinnitus, Metabolic disorders like Diabetic mellitus are common.

Tendon reflexes becomes difficult to elicit. Superficial reflex get absent or lost.

Decrease in Thymus gland functions, deterioration in Cellular and Humoral immune system occurs.

Decreased production of male and female reproductive hormones reduces the sexual desires, muscle strength, atrophy of reproductive organs and leads to Post Menopausal Syndrome in women and further complications.¹¹

Discussion

Our body works under the coordination of Dosha, Dhatu and Mala in association with other structural components like Srotas, Sira, Dhamani, Indriya and so on. The time factor or Kaala is an accepted factor by most of the Acharya, since each and every entities in our body undergo changes or transformation in every seconds. Hence Kaala is necessary for Parinaama of Ahara, dhatu, mala, for the Paka karma of all. When subjected to various endogenous and exogenous conditions our Sareera as well as Mana undergo Parinaama which can bring Jaravikara. Such Parinaama is governed by the Vata dosha since it is considered to be the Niyanta, tantrayantradhara 12. It is the main dosha that control gati (both sensory and motor activities) of a person. During old age, due to dhatu kshaya, Vata vrudhi occurs and the normal functions of Vatadoha get worse. Few observable conditions where Vata vaishamyata (vitiation) brings are discomforts in Annapraveshana karma (ingestion of food, mastication, deglutition processes), discomforts in Uchwaasa, Niswaasa karma (breathing processes), Cheshtahaani or less body movements due to musculoskeletal disorders or nervous disorder, less appetite or irregular appetite due to ineffective Agni Sandhukshana or abnormal stimulations of Agni or irregular digestive enzymes secretions, Vak pravarttanam get affected hence there will be discomforts in speech and articulation and in sound production, Budhi, Indriya, Mano adhishtana karma get affected hence there will be loss of memory power, retention power, and there will be abnormal functions of sense organs. Malapravrutti or Mala nishkramana karma 13 also get affected leading to either constipation or diarrhoea, which in turn due to loss of or excess GIT movements, or due to the loss of nervous control over the anal canal and anal sphincters. Other Vata prakopakara

disorders can also have chances to occur during the period of old age leading to further deterioration or damage to the body.

Pitta dosha, the functional entity, necessary for Ahara Parinaama 14, helps to convert the Vijatiya Ahara into Sajatiya Ahara (heterogenous food into homogenous food) and make it fit for the proper absorption in to the intestinal cells. Acharya Charaka and Susruta considered Pitta and Agni almost same entity since they perform same functions like Pachana, Parnaama and Paravritti along with Vayu, Sneha, Kaala, Kleda and Samyoga (ahara parnaamakara bhava). Since Agni and Pitta are responsible for the Ayu, Varna, Bala swasthya, utsaha, upachaya prabha and so on, the abnormal or irregular functions of them (pitta vaishamyata / Mandaagni/ Teekshnaagni)¹⁵ which inturn influenced by Vata dosha , leads to complete damage or destruction or improper formation of body tissues. Initially the first dhatu Paka get affected which gradually affect the Uttarottara Dhatu Paka (next dhatu formations). Such improper formation of Dhatu, responsible for the formation of Ama (oxidants or radicals). The presence of Ama disturbs the normal homeostatic mechanisms causing Srotorodha, Srotodushti, Srotovikara 16, (obstruction and destruction of body channels) Dhatu kshaya and it's vikara (deterioration of body tissues or abnormal body tissue formation and associated disorders), Ojohaani (less immune power or decreased resistant power to diseases) and finally Jara janya vikara (old age complaints or disorders). Thus Agni and Pitta 17 plays major role in the parinaama prakriya of the body.

Sleshma¹⁸ or Kapha dosha, is responsible for the binding mechanism and fluid supply to the body, necessary during the anabolic processes along with Pitta and Vata dosha , provide necessary strength to the body, provide nourishment and support to Asthi sandhi (joints), helps in Rasa bodhana karma (proper taste appreciation) and so on. During old age, due to Vata vaigunya, along with Pitta dushti, Sleshma karma (normal functions of Kapha) also get dearranged leading to Kapha kshaya disorders.¹⁹

The above mentioned dosha Vaishamyata, cause Agni dushti , which impair the nourishment of Sthayi dhatu or mal formation of Dhatu , deterioration of dhatu karma , Vyadhikshamatva haani occurs that leads to Ama formation, which finally impair the Preenana , Jeevana, lepana , snehana, Dharana , Purana , Garbhadharana karma 20 leading to Jara janya vikara or old age disorders.

Conclusion

Factors that accelerates the aging processes and features of old age people are clearly mentioned in Ayurvedic science. Rasayana chikitsa is considered to be very effective in reducing the early Jaravikara. If a person strictly follow the rules and regulations mentioned by Acharya, his life will be blessed with health ,his old age complaints could be reduced to a greater extend and would be able to attain the Purushardha.

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A ROLE OF DIETARY ADAPTATION IN GERIATRICS

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KEYWORDS: Diet, Adaptation, Lifestyle, Geriatrics.

ABSTRACT

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Any disturbance in the equilibrium of Dhatus known as disease and on the other hand, the state of their equilibrium is health. Ayurveda aims at maintaining the health of the healthy persons and curing ailments of diseased, many of the concepts explained in Ayurveda serve these purposes. Both physiological and pathological units depend upon the balance of Dosha, Dhātu and Mala. Aahara (Diet) is one of the three pillars of healthy and long life. As the age increases, Dhātu ksheenata takes place so to counter this action one must take Aahara with proper Guna and Rasa. Hence the dietary adaptation plays an important role in Geriatrics.

INTRODUCTION

Doshas (humors), Dhatus (tissues) and Malas (waste products) constitute human body. These are the basic constituents of living body. Out of these three fundamental groups, doshas are given due importance since they are body controllers. Vayu, Pitta and Kapha together constitute group of functionalism in living body.

Tridosha are in waxing and waning status naturally and this is called biological rhythm which is observed daily.

वयो-ऽहो-रात्रि-भुक्तानांतेऽन्त-मध्यादि-गाःक्रमात्¹

Sr. No.	Time	Adi	Madhya	Anta
1	Vaya (age)	Kapha	Pitta	Vayu
2	Aha (day time)	Kapha	Pitta	Vayu
3	Ratri (night time)	Kapha	Pitta	Vayu
4	Bhukta (related to)	Kapha	Pitta	Vayu

	meal)			
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Whatever is eaten with mouth or ingested is called 'Ahara'. This word denotes food item which is swallowed, fluid or solid. As mentioned in Taitareeya Upanishada, Vayu is generated from Sky, Teja from Vayu, Water from Teja, Earth from Water, Plants from Earth, Food from Plants and Purusha (human) from Food is originated.

Food is 'life' of living being. Just as oxygen is essential for life, food is essential too. As long as living being is ingesting food, he remains alive. In person who is starving, life is in danger. In short food is essential for life. Food is called Prana means vital for life. Food is one of the Traya Upasthambha mentioned in Ayurveda.

Food is life of human being. All live animals yearn for food. Food offers them color, luster, speech, life, innovation, happiness, content, nourishment, strength, intelligence etc.

The word meaning of Geriatric is related to old people. According to above verse Vayu is dominant in old age hence to control the vitiated Vayu in this age particular food (ahara) habits should be adapted.

REVIEW OF LITERATURE

अन्नवृत्तिकराणांश्रेष्ठम्।२

Food with similar attributes replenishes and grows body entities. Food of opposite qualities is responsible to bring back overgrown body entities within physiological limits whereas food of same qualities is responsible to grow and replenish used and worn out body entities.

It is strongly advised that a person should never consume food out of greed or when he is unaware of what he eats. One should knowingly and decidedly eat food. Living body is principally grown out of food, hence it is vital to test what you are consuming.

Rasa and Dosha :

A group of three Rasa vitiates one Dosha and a group of three pacifies the same. Vata is generated by three Rasa i.e. Katu, Tikta and Kashaya and is pacified by three Rasa i.e. Madhur, Amla and Lavan. Pitta is generated by three Rasa i.e. Katu, Amla and Lavan and is pacified by three Rasa i.e. Madhur, Tikta and Kashaya. Kapha is generated by three Rasa i.e. Madhur, Amla and Lavan and is pacified by three Rasa i.e. Katu, Tikta and Kashaya.

Rasa and Guna :

Sr. No.	Qualities	Predominant	Medium	Least
1	Dry (ruksha)	Kashaya	Katu	Tikta
2	Unctuous (snigdha)	Madhur	Amla	Lavan
3	Warm (ushna)	Lavan	Amla	Katu
4	Cool (shita)	Madhur	Kashaya	Tikta
5	Heavy (guru)	Madhur	Kashaya	Lavan
6	Light (laghu)	Tikta	Katu	Amla

Effect of digestion on food :

It is true that food is capable of offering nourishment to used body entities, luster, strength, good color of skin etc. All these things are possible only if food digests properly.

Effect of food as Medicine :

All living beings are sustained because of food. There is nothing like food to let a person live. There is no medicine like food available anywhere. Man remains healthy with appropriate food. Even if drugs are introduced to a diseased person he cannot get cured without food. This is reason why physicians call food as 'great medicine'.

Sometimes food can offer astonishing results in primary line of treatment or as support to health. Food can be adjusted in such a fashion that it fulfil needs of body and brings about the homeostatic condition in body physiology. Hence appropriate diet is one of the factors to look after maintenance of health.

CONCLUSION

Charak Samhita assures healthy life if a person follows proper code of conduct related to intake of food.

षड्त्रिंशत्सहस्राणिरात्रीणांहितभोजनः।

जीवत्यनातुरोजन्तुर्जितात्मासम्मतःसताम्॥३

Man disciplined to remain on wholesome diet lives for 36000 nights or hundred years. He lives healthy life and gets blessings of good people.

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ROLE OF DHATU IN AGING

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ABSTRACT (ORAL PRESENTATION)

The main components of human body are – dosha, dhatu and mala. Dhatus facilitate movement, nourish the blood, and provide muscle cover for overall strength, flexibility, and smooth functioning of the body. Ayurveda has considered Jara or vardhakya as a natural and inevitable process as well as a swabhavaja vyadhi (Natural disease) .The study of the difficulties of animal ageing, particularly human ageing and old age, is referred to as geriatric (Gerontology) and geriatric (Geriatrics). Every substance in the world, both inanimate and alive, is ancient and ageing. Proper diet, exercise and lifestyle can create a balance among these three subtle essences, ensuring long life. In Ayurveda there are so many diet and regimen which can stabilised the condition of aging. By adopting some healthy lifestyle we can balance the state of dhatus in the aging. As there are 7 dhatus in the body, we can give different therapeutic procedure to enhance the dhatus.

KEY WORDS: Jara, Geriatric, lifestyle, diet.

INTRODUCTION

Human physiology depends on balanced state of dosha, dhatu and mala.

Dhatus can be called as the stabilizing pillars of the body.

धारणातधातवः|

Tissues are referred to as Dhatus in Ayurveda, and there are seven varieties of Dhatus. They are nourished by the food we eat and play a number of tasks in the body. Dhatus impart Ojas, or vigour, vitality, and emotional stability to the body, allowing it to do normal tasks. They are the result of the digestion and metabolism of food.

Formation of new dhatu & destruction of old one is a continuous process. During childhood rate of tissue formation is rapid while in old age rate of tissue distruction is more.

Tissues are replenished by food, air and water. Ingested food undergoes transformation. The process of transformation of food is called as pachan. Dhatu receives aahar rasa, which is pumped and propelled from heart to various channels.

Nutrients of each dhatu undergo further transformation. For formation of each dhatu a separate dhatu agni is required. There are 7 dhatu agni for seven dhatus.

MAIN FUNCTIONS OF DHATU:

प्रीणनंजीवनंलेपः स्नेहोधारणपूरणेः।

गर्भोत्पादश्चधातूनांश्रेष्ठकर्मक्रमात्स्मृतम् || (A.H. Su. 11/4)

रस – प्रीणन (gratification)

रक्त – जीवन (maintainance of life)

मांस - लेपन (to cover various organs)

मेद - स्नेहन (lubrication)

अस्थि – धारण (to support)

मज्जा – पूरण (to fill the bony cavity)

शुक्र - गर्भोत्पादन (reproduction)

RASA DHATU

रसः तुष्टिम्प्रीणनंरक्तपुष्टिम्चकरोति | (Su. su. 15/51)

Prinana and raktapushti are the main function of rasa dhatu. Prinana means to provide enough fluids to all the cells in the body.

FUNCTIONS OF RASA

Tarpana, Dharana, Yapana, Snehana, Avasthambhana, Tushti of dosha , dhatu, updhatu, avayavas and malas.

As per modern aspect, rasa can corelate with ICF & ECF.

Rasa kshya lakshanas are-

Dhatu apachaya, hruda kampa, hruda drava, hruda shola, shoonyata, trishna, karshya etc..

They are seen in old age persons. So for betterment of rasa dhatu khaya we should advise many things

Improving rasa dhatu means improving the body nutrition and nourishment this can be achieved by-

- High quality foods:- shadarasatmaka aahara, food having right mix of carbohydrates, minerals, vitamins, proteins, fats, salt, water, prepared fresh and hot.
- Good digestive strength:- not all people who take nourishing foods have good quality of rasa dhatu, but they should have good digestive power too, which is called agni in Ayurveda.
- Disciplined lifestyle:- good sleep, not intake of food or drink without hunger and thirst, meditation etc.

RAKTA DHATU

रक्तंसर्वशरीरस्थंजीवस्याधारमुत्तमं च ;sharangdhara)

Rakta dhatu is support of life. Without rakta there is no life.

• Functions of rakta dhatu:

जीवनं नाम प्राणधारणम् (hemadri on A.H.)

...बलवर्णसुखयुषा:....(cha. Su. 24/4)

रक्तवर्णप्रसादं मांसपुष्टिजीवयति च (su.su. 15/5)

धातूनां पूरणं वर्णस्पर्शज्ञानं संशयम् (su.sha.7/14)

During the contraction of mamsa dhatu, it needs more and more prana, which rakta dhatu provides to it. Hence, disorder to rakta dhatu can also affect nourishment and function of mamsa dhatu.

Ojovridhikar is one of the Karma of Rakta Dhatu. It increases Oja in the body and protects it from different diseases. (arunadatta)

• Rakta kshaya lakshana:

Parushta (roughness), shputita (crackes), mlana (dullness), twaka rushta (roughness of skin) and skin related diseases, looseness of the veins (emptiness of blood vessels) and at last mrityu (death) lack of blood tissue can causes anemia too.

• To improve blood tissues, we can advise Goat milk (ajaksheera), sarsaparilla, Kashmiri fruits as in which have white teak, guduchi, etc... in daily diet.

And avoid pitta vardhak aahara

· **MAMSA DHATU:**

शरीरधातुसामन्यादनभिष्यन्दिबृहणं|(cha. su. 27/59)

Normal functions of mamsa dhatu are assessed by examination of different muscle actions such as – flexion (akunchana), extension (prasarana), abduction (utkshepana), adduction (apakshepana) and circumduction (chakra gati)

Mamsa dhatu is known for its pure quality of stability (sthirata).

Function of mamsa dhatu:

मांसस्यलेपः श्रेष्ठकर्मः|(A.H.su.11/4)

मांसशरीरपुष्टिमेदसःच|(su.su.15/5)

अनुप्रविश्यपिशितंपेशिविभर्जतेतथा|(su.sha.4/29)

Skin is updhātu of mamsa which covers whole body and protect the body from infection.

· **mamsa kshya lakshana:**

मांसेअक्षगलनिगण्डस्फिकशुष्कतासंधिवेदनाः|(A.H.su. 11/18)

Decrease in circumference and skinfold thickness of hips, neck and belly due to loss of the muscle mass, wasting of buttocks, cheeks, penis, thighs, chest, axillae, calves, Dryness, Pricking pain, Debility, Fatigue, Decreased tone of blood vessels especially in the arterial walls. [Cha.Su.17/65]

It is not only about external muscles, but in jaravastha, internal muscles also becomes weak. Thus, incontinence of urine, rectal prolepsis, vaginal prolepsis, varicose veins etc are seen.

· For improving mamsa dhatu, diet and regimen homologues to mamsa dhatu is advised, for example, wheat, meat, fish etc..

Daytime sleep is advised.

Specific physical exercise is intended towards bringing stability (in body) and an increase in strength. It can decrease the morbidities and improve the functions of agni. [Cha.su.7/31]

Current researches recognized exercise as a primary strategy to control hyperglycemic disorders, also it induces a coordinated immune-neuro-endocrine response that acutely modulates cardiovascular, respiratory, and muscle functions and the immune response to exercise are widely dependent on the intensity and volume.

Massage with mahanarayan taila, dhanvantar taila, mahamasha taila is advised.

·MEDO DHATU:

मेदयतिस्निहयतिअनेनइतिमेदः।

Meda is unctuous like ghee.

The person endowed with best quality of meda dhatu has significant unctuousness specifically in complexion, voice, eyes, hair, skin hair, nails, teeth, lips, urine and feces. This indicates wealth, power, happiness, enjoyment, charity, simplicity and delicacy in dealings. (cha.vi.8/106)

Medo dhatu is affected by the sedentary lifestyle including lack of physical exercise, daytime sleep, excessive consumption of fatty food, and alcoholic drinks. (cha.vi.)

Function of medo dhatu:

स्नेहःमेदसःश्रेष्ठकर्म (A.H.su.11/4)

मेदः स्नेहस्वेदौद्रुढत्वंपुष्टिंस्थानांच (su.su.15/5)

It gives shape to the body, provides energy, keeps the viscera in position, etc.

·Medo kshaya lakshana

मेदसिस्वप्नम्कट्याः प्लीहोवृद्धिः कृशाङ्गता (A.H.su.11/17)

Loss of sensation in waist region, enlargement of spleen, emaciation of body, etc...

cracking sound in the joints, lassitude in eyes, exhaustion, decreased abdominal girth or thinning, splenomegaly, feeling of emptiness in joints. dryness and craving for fatty food and meat. (cha.su.17/66)

·Nourishing therapy (brimhana) and olation therapy (snehana) are indicated in conditions of decrease of meda dhatu.

Substances homologues to medo dhatu i.e. guru, snigdha, Madhura rasatmaka aahara can given.

·ASTHI DHATU:

Asthi is a body component which stays for a longer time (asyate) and which takes part in movements with muscles. It is also termed as the sara of the body which remains even after the destruction of all other body components. (Su.Sha. 5/21-22)

·Functions of asthi dhatu:

धारण|(A.H.su.11/4)

देहधियन्तेदेहिनांध्रुवम|(su. Sha. 5/21)

The important function of asthi dhatu is providing structure, and support to the body. It also nourishes the majja dhatu.

· Another functions of asthi dhatu are-

Protection : It protect internal organs

Movement: facilitate movement

Hearing: Facilitate hearing through sound transduction

Asthi dhatu is having ashrayashryi sambhandh with vata dosha and jaravstha is also the kaala of vata dosha. So, it is obvious that vatavyadhi are more in vardhakyavastha.

· lakshana of asthi kshaya

loss of scalp and body-hair, beard, nails and teeth, Fatigue, loose joints, pain in bones, Dryness, breaking of teeth and nails. These are the common [cha.su17/67]

In old age, fractures, osteoporosis, arthritis, breaking of nails, cavity or loss of teeths, loss of hair or baldness etc are commonly seen.

· For management or prevention of these-

The disorders of asthi dhatu are treated with panchakarma, especially enema prepared with bitter drugs, milk, and ghee (tiktaakshera basti). [Cha.su 28/27]

The one having asthikshya, should be treated with olation (snehana), fomentation (swedana) and then the bones should be tied with bandage (bandha) tightly or squeezed hard. [Su.su 26/12]

The qualitative and quantitative decrease in bone tissue is managed by the supplements having similar properties. E.g. the calcinated powder of eggshell (kukkutandatwakbhasma), calcinated powder of goat bones (ajasthibhasma), coral (pravalbhasma).

· **MAJJA DHATU:**

The word majja means seated within, which denotes the marrow of bones and flesh.

मेदःचशिरसिकपालप्रतिच्छन्नम्मस्तिष्काख्यंमस्तुलुङ्गाख्यंमच(A.S.sha.5/4)

Vagbhattacharya describes mastulunga (liquid present inside the skull) as a majja dhatu, which appears like solid ghrita.

Functions of majja dhatu:

मज्जास्नेहं बलं शुक्रेषु पूरणमस्थानां च करोति (su.su 15/5)

It lubricates the body, fills cavity inside the bone, controls vata dosha, nourishment of shukra dhatu.

· Lakshana of majja kshaya:

· atrophy of bone tissues, weakness/giddiness, lightness of bones (porosity of bones or decreased bone density), depletion of semen formation, pain in joints, cutting pain in bones, constant dull pain and emptiness of bones, dimness of vision [Cha.su.17/68], [Su.su. 15/9], [A.H.su.11/19]

· To prevent the loss of majja dhatu, food and medicines having sweet and bitter taste can administered,

Exercise and body purification treatments like asthapana and anuvasana basti according to conditions in proper dose and time are also indicated. [Cha.chi.3/317]

Medicated ghee, oil, muscle fat, and bone marrow obtained from animal bones are also applicable. This is done either by oral administration or by external applications like massage or enema.

· **SHUKRA DHATU:**

The term is used to denote any clear liquid, juice, the essence of anything or all dhatu, semen, seed of animals (male and female), and sperm.

यथापयसिसर्पिस्तु गूढश्चेक्षौरसो यथा।

शरीरेषु तथा शुक्रं नृणाम् विध्याद्भिषग्वरः (su.sha. 4/21)

Shukra dhatu occupies the whole body.

In jaravastha there is no such role or less role of shukra dhatu. But aacharyas have explained oja as mala and upadhatu of shukra dhatu.

Functions of shukra dhatu:

गर्भोत्पादन (A.H.su. 11/4)

शुक्रं धैर्यं च्यवनं प्रीतिं देहाबलं हर्षबीजार्थं च (su.su.15/15)

· **Lakshana of shukra kshaya:**

Male: Debility, Dryness of mouth, Pallor, Fatigue/giddiness, Impotency, Pain in penis and testes, Delayed ejaculation, absence of ejaculation, Scanty semen, Semen mixed with blood, Burning sensation in penis.

Females: Absence of menstrual cycle

·Foods that are highest in Ojas building qualities include dates, almonds, ghee, saffron, raw cows milk, honey, wholegrains such as basmati rice. If feeling weak, debilitate, fatigue or recovering from disease these foods can be taken in abundance.

DISCUSSION :

- While there are various theories of aging, the traditional knowledge remains important both in understanding the process and effective management.
- With the support of Dosas and Malas, Dhatus are responsible for maintaining a condition of equilibrium. " हेयमान्धातु " is a characteristic of old age. They primarily serve two purposes: (a) Dharana& (b) Posana .
- The initial rasa is not formed properly in old age due to Vikrita vata, Visamagni, and Kseena kapha, and its function as Preenana to the rest of the Dhatus is not completed, resulting in sequential weakening of all the Dhatus, i.e., Dhatuksya. As a result of this malformed Rasa, a chain of malformed Upadhatus and Dhatumalas occurs.
- For betterment of these lakshanas, one should advise healthy food and regimen.
- Old age is the condition where vata dosha has dominancy. Thus, to slow down vardhakyavastha we can advise all diet and regimen which subsides the vata.
- Diet : snigdha, guru, pichchila, Madhur rasatmaka aahara.
- Regimen : pranayama, yoga, dhyana, mild exercises.

CONCLUSION :

- Jaravastha is not a diseased condition, it is the phase of life with the symptoms of dhatukshaya (mostly).
- One can slow down this condition by follow proper lifestyle.
- One should follow this to prevent dhatu kshayajanya vikara and have diseases less life.

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A Role of Rasayana in Geriatrics

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Abstract

Ayurveda is basically the science of life and longevity. In ageing Dhatus get degenerated due to functional and structural modifications. During old age we cannot increase the capacity of Rasadi Dhatus, but they can be preserved and rejuvenated. Ayurveda, is world's most authoritative, mind-body-spirit medicine system, gives us various concepts of the ageing phenomenon. This ancient system of medicine includes remedies for healthy ageing so as to make an optimal health and lengthen one's individual's health span by using Rasayana therapy. Rasayana therapy is a unique therapeutic science to delay ageing process and to reduce the intensity of problems occurring this elderly phase of life. According to concept of Ayurveda the therapy used for promoting and preserving health, increasing strength and life span in a healthy person are called Rasayana therapy. Rasayana therapy maintain the equilibrium of Rasadi Saptadhatu and optimum the power of body and senses to enhance intellect, memory, skin lustre, complexion, bodily glow, voice and generosity and preserve youth age. Only Rasayana therapy is an answer in present scenario to prevent premature ageing and to treat the manifestation due to ageing process; it also ensures healthy life span including mental health and better resistance against various geriatric disease conditions

Introduction

Ageing is a process of physical, psychological and social change in multidimensional aspects. The world's elderly population is increasing. By 2050,one-fifth of the world will be older than 65 years. In India, they will be about 113 million elderly by 2016 [1,2]. Ayurveda has the potential for disease prevention by health promotion and noncommunicable disease prevention.

The focused branch Rasayana (rejuvenation) or Jarachikitsa promote healthy longevity. Jarachikitsa and Rasayana methodologically delay vrudh'avastha (ageing) and reduce geriatric degeneration. Vrudh'avastha begins at 60-70 years.

PROBLEMS IN VRUDDHAVASTHA

Advancement of age usually creates numerous problems in the individual. Geriatric problems may be mainly divided into four categories: physical, psychological, emotional, and social.

Physical problems

The following are some very common physical disorders of the old age:

- Cardiovascular - hypertension, MI, CCF
- Respiratory - asthma and bronchitis
- Musculoskeletal - osteoporosis, spasm, drooping shoulder
- Gastro-intestinal - dyspepsia and flatulence
- Genito-urinary - nocturia, prostate enlargement
- Locomotor system - osteoarthritis, rheumatoid arthritis, gout

Psychological problems

Dementia is often noticed in old people.

Social issues in elderly

Fighting geriatric problems is not the sole responsibility of the senior citizen alone. The family and the society have their share of responsibility in the fight. 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.

PREVENTIVE AND CURATIVE MEASURES FOR GERIATRICS

Acharya Charak says “He, who treats the disease before its commencement or at an early stage, experiences long-lasting happiness”. Geriatric problems are best confronted by preventive measures than curative ones. Therefore geriatrics has to be treated much before the commencement of old age. The ideal time for treating the old age problems is youth. Discipline in young age prevents geriatric problems. By adopting a healthier lifestyle, the risk of a whole range of diseases can be reduced. These factors are diet and nutrition, exercise, weight, smoking and alcohol, social activities.

Concept of Rasayana (rejuvenation)

Rasayana has broad meaning indicating qualitative and quantitative improvement of dhatu (tissues). Vayasthapana are specialized rasayana drugs that reverse degenerative changes, increase life span with quality health [10]. The main utility of Rasayana therapy is in functional and degenerative disorders that have a chronic or long standing nature. In such cases, in fact, rasayana is the only solution from the point of view of effective management in any system of medicine. Rasayana becomes more fruitful and effective, if it is preceded with suitable Panchakarma (purificatory therapy). The reason we see mixed results in many cases where Rasayana is employed is because of the fact that, either this purification is not done or improperly done.

CONCLUSION

To live a long and healthy life is every individual's wish. Due to changing lifestyle and thus not able to follow the rules of dietetics human beings have led to an emergence of varied problems for the elderly in India. 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. Undoubtedly, it is the strength of ayurveda in the context of geriatric care Rasayana is a therapy which bestows excellent rasa which ultimately results in promotion of longevity, alleviation of old age and diseases so as to enjoy the full span of life. Government of India has also launched a national campaign to popularize the strength of Ayurveda and Yoga in geriatric health care.

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BLISSFUL AGEING(JARA) THROUGH AYURVEDA

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Ayurveda is basically the science of life and longevity. Ageing is a process of physical, psychological and social change in multi-dimensional aspects. According to the Ayurveda, ageing is outcome of kala or parinama. Since time immemorial, humanity has been concerned with developing and preserving youthful vigor, and extending longevity by stopping or delaying the aging process. By 2030, one in five of the world population will be over 65 years old.

Ayurveda has considered the process of ageing and the stage of old age to be 'swabhavik' meaning 'natural'. Ayurveda has projected a special branch of medicine called 'Rasayana Tantra' to promote longevity.

Geriatric Care has two distinct dimensions, Promotion of health and longevity and Management of diseases of old age by practice of Dinacharya, Ritucharya, Trayopastambas, Rasayana, Panchakarma and Vayastapana Dravya.

By adopting the lifestyle mentioned in Ayurveda one can enjoy blissful ageing.

Key words : Ageing, Dinacharya, Ritucharya, Rasayana

INTRODUCTION

- Ayurveda is basically the science of life and longevity
- Ageing is known as 'Jara' defined as that which has become old by the act of wearing out 'jiryati iti jara'. It is synonymed as Vardhakya meaning increasing age. According to Ayurveda, Jara (aging) is not a disease but a natural phenomenon like hunger, thirst or sleep.
- Ageing is a process of physical, psychological and social change in multi-dimensional aspects. According to the Ayurveda, ageing is outcome of kala or parinama.
- According to WHO - At the biological level, ageing results from the impact of the accumulation of a wide variety of molecular and cellular damage over time. This leads to a gradual decrease in physical and mental capacity, a growing risk of disease and ultimately death.

PREVALENCE

- The World population of the elderly is increasing significantly and by the year 2050, adults older than 65 years will comprise 1/5th of the global population.
- By 2050, the world's population of people aged 60 years and older will double (2.1 billion). The number of persons aged 80 years or older is expected to triple by 2050 to reach 426 million.

- In India 3.8% of the population are older than 65 years of the age.
- India's elderly population (aged 60 and above) is projected to touch 194 million in 2031 from 138 million in 2021, a 41 per cent increase over a decade, according to the National Statistical Office (NSO)'s Elderly in India 2021 report.

PATHOPHYSIOLOGY

- Growth, Development, and Maintenance of the body is completely dependent on four factors:
- Kala (time), Svabhava (nature), Ahara/Diet (which should be excellent in the terms of nutrients), and Vighata Abhava (absence of obstructive factors in the growth and development of the body).
- Among these, Diet is very important as it nourishes Dhatu. This excellent form of Dhatu reflects in the terms of Sara (absoluteness of body tissues), which makes a person look young and beautiful.
- When the diet is defective in the terms of Gramya-ahara and vihara (a deficient and unplanned diet and regimen) there is vitiation of Tridosha, which leads to various progressive pathological changes as explained by Acharya Charaka in the second Pada of Rasayana (rejuvenation).

TYPES

- Kalaja Vriddhavastha - When all these changes are produced according to Kala (time) and Svabhava (nature).
- These changes can be slowed down and avoided and thus this stage may be prevented; if the changes have already manifested, they can be managed.
- Akalaja Vriddhavastha (untimely aging) -When these changes are produced due to defective diet and lifestyle
- It can be managed and treated.

PREVENTIVE MEASURES

- As the ageing proceeds the capacity of Dhathus decreases.
- As per Ayurveda the Nidan Parivarjana, Pranayama, Yogic Exercises along with appropriate Dincharya and Ritucharya offers beneficial effect in ageing.
- Ayurveda suggested various approaches to delay process of Jara (ageing) which are as follows,
- Dinacharya
- Ritucharya
- Trayopastambha
- Panchakarma
- Vayasthapana Herbs

LIFESTYLE MODIFICATION

Ahara (Dietetics / Ageing and Nutrition)

- Elderly people have different nutritional requirements compared to the normal adult population.

- With increasing age, people become more vulnerable to malnutrition for many reasons including Arocaka (anorexia) due to ageing, medication.
- Disease like Smritinasha (dementia), Manovasada (depression), stroke, Kampadosha (Parkinson disease) and other neurological disorders.
- Poor dentition, delayed gastric emptying, ill fitting dentures, swallowing problems, oral infections, taste changes and diminished smell sensation.
- Older individuals tend to respond to thirst much less than the younger ones, predisposing to dehydration particularly in case of fever and diarrhea.
- Therefore, fluid intake is necessary to replace physiological losses, better digestion and intestinal function and for renal clearance.
- Vitamin D and calcium absorption is impaired, which leads to their deficiency. Calcium intake along with vitamin D is necessary to prevent bone mineral loss in elderly.
- Diet containing Fruits, roasted cereals like gram, peanuts, pulses etc.
- Sprouted cereals, Puffed rice, butter milk (takra) are considered as healthy food items should be given to the elderly.
- High calorie diet should be avoided.
- The food should be tasty, nutritious, fresh and good in appearance.
- Too spicy, salty and pungent food should be avoided.
- It should neither be very hot nor very cold.
- Liquid intake should be more frequent and in small amount.
- 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
- Heavy physical work should be avoided after meals.
- Mind should be peaceful while eating.
- Eating only whenever hungry and avoidance of over eating
- Inclusion of sufficient amount of vegetables and fruits in diet.
- Daily intake of vegetable soup and fruit juices.
- Milk and ghee are the Agryaushadha (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
- Nishacarya (Night Regimen)
- Nidra is one of the most important pillar of life.
- Before going to sleep, relax and feel comfortable about self.
- Think of a religious message before going to sleep.
- Since sleeping is also a way to repair damaged cells.
- The strength of Ayurveda in the context of Geriatric care is Rasayana Therapy
- Some drugs like Ashvagandha and Shiljatu nullify the effects of stress
- Drugs like Gambhari improve nitrogen balance and promote tissue building.
- Guggulu clears the channels and enhances the nutrition to all tissues and cells.
- Amalaki and Bala contain antioxidants which help in the scavenging of free radicals released.

- According to recent research ,Some Classical formulations like Bramha Rasayana, Chyawanaprasha, Ashwagandha Lehyam, Amalaka Rasayana, Triphala Churna etc..are given according to their condition.

CONCLUSION

- The major preventive approaches for maintaining and improving the quality of life include daily regimen (Dinacharya), seasonal regimen (Ritucharya), behavioral and ethical considerations (Sadvratta), Healthy lifestyle is emphasized as a determinant of longevity of life.
- In order to prevent diseases, promote health and to delay the ageing one should adopt bio-purificatory (Panchakarma) to bring strength/immunity in debilitated condition.
- Time-Tested Holistic and Comprehensive Remedies based on Nature's Laws.
- Can address the gaps in health care of old people. Life style modulation remains integral to the treatment.
- Well tolerated.

Several scientific studies have proved the efficacy of Rasayana drugs described in Ayurveda.

RESEARCH ARTICLES

- A Review of Preventive Health Care in Geriatrics through Ayurveda, Shanker Lal Burdak1* , Nisha Gupta
- Geriatric Care in Ayurved: Evidence Based Review, Rakesh Shukla* BAMS, Shri Balahanuman Ayurvedic College, Gujarat, India
- Review Article A critical review of concept of aging in Ayurveda Durgawati Devi , Rajeev Srivastava , B. K. Dwivedi
- THE CONTEMPORARY STRENGTH OF AYURVEDIC GERIATRICS Ram Harsh Singh Dept. of Kayachikitsa, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi
- AYURVEDA PERSPECTIVE TOWARDS THE GERIATRIC CARE: RECENT ADVANCEMENT Arundhati Dewangan*1 and R. N. Tripathi2 1Dept. of Swasthavritta, S. B. L. D. V. B. G. M., Sardarshahar, Rajasthan, India. 2Dept. of Kayachikitsa, Govt. Ayurvedic College Raipur, C.G., India.
- GERIATRICS THROUGH AYURVEDA: A REVIEW Kadam Krishna Namdeo1*, Jadhav Viraj Vilas2 * 1Assistant Professor, Department of Rognidan and Vikriti Vigyan, R. A. Podar Medical Ayurved College, Worli, Mumbai, Maharashtra, India.

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PHYSIOLOGICAL CHANGES IN JARA (AGING) AS PER AYURVEDA

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Aging in modern science is defined as a Progressive failure of the body . Ayurveda has considered Jara or vardhakya as a natural and inevitable process as well as a swabhavaja vyadhi (Natural disease) as old age sets in, Tridosas are disturbed. kapha decreases resulting in an increased vata this result in disturbance in pitta too. Jara (aging) is influenced by factor affecting shareera(physical), indriya(emotional), satva(psychic level), agni(metabolism) and bala ojas(immunity). Vriddhavastha(jara) is the last part of the life span. This stage is characterised by degradation in the body. Dhatu(various anatomical tissues), perception power of indriya (sensory and moter organ) potency, strength, speech, various mental and cognitive functions (e.g memory, intellect, reception, retention, analytic ability etc.) During this phase there is predominance of vata dosha, (one of the three physiological body factors). The major physical changes seen at this time are wrinkling of skin, graying of hair, baldness and reduction ability to do physical work. These Pathological changes include loss of compactness of the muscles, looseness of joints, vitiation of Rakta(blood), excessive and reduction of meda, reduction of majja (marrow) accumulation in bone reduction of Shukra(semen) and less formation of oja(vista). Aging represents structural and functional changes in a person Latter age of life span.

KEYWORDS: Jara, vardhakya, swabhavaja, vata, dhatu, satwa, agni

INTRODUCTION:

Avurveda has considered Jara or Vradhakya as a natural and inevitable process as well as a Swabhdvaja vyadhi (natural disease). A synonym of jara “visrasa” is derived from the word “sramsu adahpatane” which means a degradation/retardation in the physical,physiological and psychological well-being

वर्षशतंखल्वायुषःप्रमाणमस्मिन्काले||ch.sha.6/29

Acharya Charaka mentioned that the normal life span of humans is one hundred years, though life span is plummeting alarming; now a days it is considered as 70 years. Aging can be defined as the normal process of life which is characterized by degeneration of organs of various systems, and consequently losing their anatomical and physiological functions. On historical point of view it has been considered that old age and diseases related to it seems to be as old as recorded Ayurveda itself. In aged vata dosha physiologically in a dominant state and rasadi dhatu sara in a deficient state. This potent combination is responsible for the various degenerative changes in the body. In present scenario due to improper dietary habits, defective life style, excessive stress and lack of exercise, the process of ageing starts very earlier. These factors produce various degenerative changes as well as metabolic disorders in our body. Some diseases and conditions that are common in old age are osteo-arthritis, hypertension, urinary incontinence, diabetes mellitus, arthritis, atherosclerosis, cardiovascular disease, cerebrovascular accidents, respiratory disease, senile dementia, delirium, confusion etc.

Modern system of medicine has nothing much to recommend in geriatric care except the medical management of some diseases of the old age with limited health and prevention of diseases in old age.

MATERIALS AND METHODS

Classical texts of Ayurveda viz. Charaka, Sushruta and Vagbhata Samhita with commentaries were consulted as references of jara, rasayana to state the remedies. Literature available regarding anatomical and physiological changes from various journals, books and internet were collected. These references from both the streams of knowledge were compared and analyzed critically.

Mile stones of aging or sequential loss biological factors in aging

Decades	year	Vagbhata	Sarangadhara
First	1-10	<i>Balya</i>	<i>Balya</i>
Second	11-20	<i>Vrddhi</i>	<i>Vrddhi</i>
Third	21-30	<i>Prabha</i>	<i>Cabi</i>
Fourth	31-40	<i>Medha</i>	<i>Medha</i>
Fifth	41-50	<i>Tvaca</i>	<i>Tvaca</i>
Sixth	51-60	<i>Sukra</i>	<i>Drsti</i>

Seventh	61-70	<i>Drsti</i>	<i>Sukra</i>
Eight	71-80	<i>Srotrendriya</i>	<i>Sukra</i>
Ninth	81-90	<i>Mana</i>	<i>Buddhi</i>
Tenth	91-100	<i>Sparsendriya</i>	<i>Karmendriya</i>

CHA

ANGES IN OLD AGE AS PER AYURVEDA

(A) Role of Tridosha in ageing

In Ayurveda, the phenomenon of ageing is also related to principle of tridosha. The tridosha (vata, pitta and kapha) is the most important factor in maintenance of good health and production of disease. These doshas exist in the body all the time but it varies as per age, day or night period and after taking meals. During childhood kapha dosha predominates, in the middle age pitta dosha and in the older age vata dosha is said to be dominant. The properties of vata dosha are described as ruksha, laghu, sheeta, khara and vishada. So Vata dosha by nature, decreases luster of skin, less of body strength, dries of the body. Thus the process of ageing can be evaluated in terms of the tridoshika physiology.

(B) Role of Agni in ageing

Apart from doshas, Agni also plays an important part in ageing process. Body tissues are regularly nourished by dietary substances and agni is said to be responsible for the conversion of dietary substances into tissue elements.

In old age, more vitiation of vata dosha occurs which is responsible for vishamagni, which affects the digestion and creating under nourishment of the tissues. This under nourishment of the tissues may have an impact on low status of dhatwagni which creates diseases in elder people. Thus ageing effects are more closely related to agni having vishamagni.

(C) Role of Dhatus in ageing

Though the classical text do not explain the exact role of dhatu in ageing process but it is clearly mentioned in classics that during old age quantity as well as quality of dhatu is decreased. Oja (the essence of all the dhatu) is also termed as Bala[12] which is responsible for resistance against diseases or vyadhikshamatva (immunity) is also decreased. So the dhatu kshaya and oja kshaya are also responsible for process of ageing and diseases in old age.

(D) Role of Srotas in ageing

“Srotomayam hi sariram”(ch.ch.4)

Charaka has described that various pathological conditions arise in the body due to srotodusti of different srotasa. The main function of srotasa (channels of body) is to transfer the body fluids. In Srotodushti there are four pathological conditions that take place i.e. Atipravritti, sangha, siragranthi and vimargagama. The main cause for sroto dushti is vitiation of vayu and mandagni which are prominent in aged.

DISCUSSION

Aging is one of the unavoidable processes occurring in each and every living being and one cannot prevent it. Classics have mentioned it as a Svabhavika Vyadhi (naturally occurring disease) because risk of developing various diseases increases in old age.

There are structural and functional changes at cellular level, tissue level and organ level. For understanding the process of aging in terms of Ayurveda, needs the analysis of the physiological changes occurring at the level of Tridoshas, Saptadhatus, Malas, Srotas, Indriyas, Agni and Ojas. The main Dosha involved is Vata and there is Agnimandya leading to improper nourishment of various entities of body. There are different patterns of functional deteriorations occurring with aging. There may be gradual and partial functional loss or complete functional loss. The dependent Dhatus also undergo improper nourishment. This process is gradual and leads to irreversible process of aging.

Nidanas (causative factors) such as Ati Ahara Vihara (excess food intake and improper lifestyle), Manasika Vega Adhaarana (non-suppression of unpleasant emotions) leading Srotolepa (blocks the body channels) which in turn causes Agnimandya and Ama. When the function of Agni is vitiated, there is improper nourishment of Rasa and successive Dhatus.

Finally leads to Shareera Apachaya (improper nourishment of body) and Ojo Haani (damages the Ojas) resulting in Akaala Jara (premature aging).

Vagbhata and Sarangadhara presented an interesting scheme for loss of different biological factors during the lifetime. As a function of aging in different decades.

CONCLUSION

Different anatomical and physiological changes occur by age. These changes often lead to health problems and even death in elderly. In order to ensure health and wellbeing of this growing age group, it is important that health care professionals, the government, the community, their families and the elderly themselves understand the changes that are happening and adapt the preventive measures to avoid the suppression of natural urges, follow the Dinacharya practice of regular yogic exercise, shodhana according to rutu and consumption of rasayana drugs at proper time. All these things will help to avoid increased risk related to aging.

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ROLE OF MEDHYA RASAYAN IN GERIATRIC HEALTH

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ABSTRACTTRACT

Geriatric health care is the process of planning and coordinating care of the elderly with physical and mental impairments to meet their long-term needs, improve their quality of life and maintain their independence for as long as possible. India has, acquired the label of “an aging nation with 8.3% of its population being more than 60 years old. Due to increased elderly population, the prevalence of Geriatric specific disease condition is also increase number of psychiatric complications like Dementia, Delusional disorders, Hallucinations, Depression, Anxiety, Personality alterations, Alzheimer’s disease and age related neurological problems. Geriatrics or JaraCikitsa or Rasayana in Ayurveda is a method to control or slow down or arrest the aging process in the human being during the degenerative phase of life and act as micronutrients. Some of these Rasayans are organ and tissue specific. Those specific to brain tissue are called MedhyaRasayan. In Ayurveda 'MedhyaRasayanas' e.g. MandukparniSwaras, YashtimadhuChurna with Ksheer (Milk), GuduchiSwaras, and Shankhapushpi Kalka are known to be beneficial to improve the intellectual. MedhyaRasayana drugs are used for prevention and treatment of Geriatric disorder. These drugs promote the Dhi, Dhriti, Smriti. This helps the mental patient to get relieve from stress, anxiety and depression.

Keywords: Jara, MedhyaRasayanas, Mandukparni, Yashtimadhu, Guduchi, Shankhapushpi.

INTRODUCTION

CONCEPT OF AGEING IN AYURVEDA

The Acharyas were well aware about the fact of ageing and related disorders. They have given the term ‘Jara’ (Old age) as a synonym to the disease process. A unique description of ageing process is given by Acharya Sarangdhara.

BalyamvridhischavirmedhaTwakdrstisukravikramauBuddihKarmendriyamchetojivitamdasato hrseta.

[1] (Sa.S.Pu. 6/19)

Decades of life

Specific Loss from the Body

Suitable Rasayana Drugs

0-10
(Gmelinaarborea)

Balya (childhood)

Vacha(Acoruscalamus)Kasmari

11-20 (Withaniasomnifera)	Vridhhi (growth)	Bala(Sidacordifoila)Aswagandha
21-30	Chavi (luster)	Amalaki (Embllica officinalis)
31-40 Shankhapushp(convalvuluspluricalis)Jyotishmati (Celestrus paniculata)		Medha (intellect)
41-50 Bhringaraja(Ecliptaalba)Somaraji (Centratherumanthelminthicum)	Twak (luster of skin)	
51-60	Drusti (Vision)	Saptamrutaloha
61-70	Sukra (sexual ability)	Atmagupta (Mucunaprurita) Munjataka (Orchislongifolia)
71-80	Vikrama(physical ability)	
81-90	Buddhi (thinking ability)	
91-100	Karmendriya (locomotion)	

➤ **MECHANISM OF BRAIN AGING**

ACCORDING TO MODERN: -

A number of changes take place in the brain during ageing at molecular, cellular, structural, and functional level. Neural cells may succumb to neuro-degeneration [4]. Here is considerable loss of neurons, reduced synthesis of neurotransmitters like glutamate, acetylcholine, dopamine which leads to formation of plaques and tangles, accumulation of lipofuscin (yellow-brown pigment granules which are residues of lysosomal digestion) in nerve tissue, resulting in the breakdown of nerves. Associated conditions accelerating the process of brain ageing include, vitamin B group deficiencies (B vitamin protect brain\ function by regulating energy metabolism), high levels of inflammatory cytokines, high Creactive proteins, deficiency of dietary antioxidants like acetyl-L carnitine which delay the onset of age-related cognitive decline and improve overall cognitive function in the elderly subjects. Hyperglycemia has shown an adverse effect on hippocampus and thus increases the risk of Alzheimer's disease [5].

➤ **NEUROLOGICAL DISORDERS IN AYURVEDA:**

Ayurveda has described various kinds of mental Disorders [6]:

1. Unmada (Insanity)
2. Apasmara (Epilepsy)
3. Atattvaabhinivesha (Obsessive Disorders)
4. Bhaya (Fear)
5. Harsha (Excitation)
6. Shoka(Grief)
7. Udvega (Anxiety)
8. Avasada (Depression)

➤ INTRODUCTION OF MEDHYA RASAYAN-

'medhyarasayanas' derived from the Sanskrit words 'medhya', meaning intellect or cognition, and 'rasayana', meaning 'rejuvenation. The medicinal plants in the Ayurvedic system are classed as brain tonics or rejuvenators. Earlier reports indicate that these plants are used both in herbal and conventional medicine and offer benefits that pharmaceutical drugs lack. Neurological and psychiatric disorders are generally associated with loss of memory, cognitive deficits, impaired mental function etc. The 'medhyarasayanas' are known to be beneficial to improve the intellectual e.g., mandukarniswaras, yashtimadhuchurna with ksheer, guduchiswaras, and shankhapushpikalka. [7]

Due to the scientific advancements, the Medhya Rasayanas have proven beneficial in delaying the deteriorating cognitive changes in old age. Thus, a systematic evaluation of these drugs gives us a clear picture to prevent and tackle the age-related cognitive impairments in the elderly.

➤ RASAYANA CHIKITSA

According to Acharya Charak, equilibrium of Agni of Dhatu, Vayu, and Srotas are essential factors for maintaining normal strength and ongevity of the body. In Ayurveda, Medhya is described in broad way. Medhya comprises of all the three mental faculties- Dhi, Dhriti and Smriti and these are interrelated with each other.

• Medhya can also be subdivided into the following faculties:

1. Grahanshakti (Power of Grasping)
2. Dharana shakti (Power of Retention)
3. Vivekshakti (Power of Discrimination)
4. Smriti (Power of recollection)

The aim of Rasayana Chikitsa is to nourish blood, lymph, flesh, adipose tissue and semen.

This prevents the individual from chronic degenerative diseases. The therapy influences the fundamental aspect of body viz., Dhatus, Agni, Srotansi and Ojus.

• In Rasayana therapy, the Bhesha (medicine) divided into two types: [8]

1. Swasthasya urjaskara- toning up the health of a healthy person
2. Kinchit Artasya Rognut- treating the ailments of the patients

TYPES OF RASAYANA (REJUVENATION) THERAPY: [9]

1) Naimittikarasayana (nimitt-Sanskrit for "cause"): Also known as Rogapaharan or Curative type of Rasayan. It is used to combat a specific cause responsible for the disease in the body. Few examples include Dhatri rasayana, Mandookaparnirasayana, Brahmi rasayana, and Triphalarasayana.

2) Ajasrikarasayana: used to maintain good health and improve the quality of life through a healthy lifestyle, diet, or exercise. It is also called as Vayasthapan Rasayan.

3) Kamyarasayana- This is described as to fulfill a wish or desire or to serve a special purpose (kama - desire). It is of four types:

- a) Prana Kamyas- best quality of prana (life energy) in the body.
- b) MedhyaKamyas- enhancing the memory and intellect. e.g., ShankhapushpiRasayan.
- c) AyushKamyas- increasing longevity.
- d) ChakshuKamyas- maintaining healthy eyes.

RASAYANA DRUGS ACT AS:

a. Immunomodulator- By augmenting or reducing the ability of the immune system.

b. Adaptogen- Increases the ability of an organism to adapt to environmental factors e.g., Ashwagandha, Tulsi, haridra, Pippali, Amalaki, Guduchi, shatavari.

c. Antioxidant- Circumvent the damage caused by oxygen free radical.

d. Nootropic- Promote intelligence and functions of brain e.g., MedhyaRasayana drugs(namely- Mandookparni, Guduchi, Yashtimadhu and Shankhpushpi).

As per Acharya Charak, Rasayanais defined as the means of achieving the finest quality of rasadidhatus (body tissues) where it increases life span, improves medha (intelligence), cures disease, stabilizes youthfulness, improves luster, complexion, voice and makes body and senses strong and healthy etc.

MEDHYA RASAYAN IN AYURVED TEXT:

The following are regarded as medhyarasayanans:[10]

1. Yashtimadhuchurna
2. Mandukaparniswarasa
3. Shankhapushpikalka
4. Guduchiswarasa

1)Yashtimadhu(Glycyrrhiza glabra):

- Yastimadhu (GlycirrhizaglabraLinn.)-it increases the circulation into the CNS system,improves learning and memory on scopolamine induced dementia.
- The active principles are Glycyrrhizin and 18beta-glycyrrhetic acid, Liquiritin (flavanones), IsoliquiritininandIsoliquiritin (chalcones), Genistien, Glisoflavone, (Isoflavones).[11]
- The antiradical activity, protective effect against lipid peroxidation (LPO) inhibitory
- effect against the reactive oxygen species (ROS), facilitation of cholinergic transmissionin brain,restored the decreased levels of glutamate, dopamine and decreased acetylcholinesterase (AChE) activity. [12]

2) Guduchi (*Tinospora cordifolia*): □ It possesses the learning and memory enhancing, antioxidant, and anti-stress action, it is useful for treatment of bhrama (Vertigo), in improving behaviour disorders, mental deficit and IQ levels. [13]

- The aqueous extract of the root contains Alkaloids (berberine, palmatine, magnoflorine, tinosporin, isocolumbin), glycosides, steroids, Phenolic compounds, Polysaccharides.
- It has been found to possess strong free radical scavenging properties against reactive oxygen and nitrogen species diminishing the expression of iNOS gene (their high levels create an opportunity to react with superoxide leading to cell toxicity).
- Significant reduction in thiobarbituric acid reactive substances and an increase in reduced glutathione, catalase and superoxide dismutase (anti-oxidant) activity were also observed.

Shankhapushpi (*Convolvulus pluricaulis*):

- Fresh whole plant juice is used for therapeutic purposes as Medhya (cognitive enhancer). effective in anxiety disorders, reverses the social isolation stress-induced prolongation of onset and decrease in pentobarbitone-induced sleep, increased total motor activity. The active constituents include Glycosides, coumarins, flavonoids, and alkaloids. It has been found to possess anxiolytic, mood elevating effect, retard brain aging. [14]

Shankhapushpi has shown to help in regeneration of brain cells and in Dendritic arborization which is the neuronal basis for improved learning and memory. Cell loss in these areas has been implied with age related nervous disorders including memory loss. Increase in the cell number after administration of Shankhapushpi provides considerable evidence of the efficacy of this drug in learning and enhancement of memory.

- It may also help in preventing changes in the neuron cell bodies in specific brain areas. [15]

Mandukaparni (*Centella asiatica*):

Fresh whole plant juice contains Glycosides, tannin, flavonoids (Kaempferol and quercetin), vitamins B & C, Ca, Mg, and Na all of which are congenial to brain health.

- It showed a neuronal dendritic growth stimulating property, effective in reducing brain regional lipid peroxidation (LPO) and protein carbonyl (PCO) levels and in increasing anti-oxidant status. [16]

Centella asiatica, enhanced the catecholamine and Ach in the whole brain. It has been shown to improve the altered levels of neurotransmitters such as 5HT, acetylcholine, epinephrine, nor-epinephrine, GABA (gamma-aminobutyric acid) and glutamate. It has been shown to improve the mental ability and fatigability of subjects under stress.

- It has shown to inhibit the formation of beta amyloid plaques owing to the oxidative stress and activation of glial cells and thereby delay neuronal apoptosis. [17]

Medhyadravyas which have proved beneficial in old age include the following:

- Brahmi (*Bacopa monnieri*): A study demonstrated that the bacosides produced changes in the hippocampus, cerebral cortex (areas critical to memory function) and hypothalamus regions of the brain and caused enhanced levels of protein kinase activity and increased protein levels in these regions. This indicated positive implications for improved

➤ neurotransmission and repair of damaged neurons via enhanced regeneration of nerve synapses. [18]

b) Ashwagandha (*WithaniaSomnifera*): Ashwagandhaproduce GABA-like activity, owing to its anxiolytic effect. Ashwagandha produced an increase in the levels of three natural antioxidants superoxide dismutase, catalase and glutathione peroxidase. [19]

c)Jyotishmati(*Celastruspaniculata*) and Tagara(*Valerianawallichii*) have also shown promising results in brain and memory disorders in the elderly.

CONCLUSION

Ageing is a biological phenomenon associated with an imbalance between the oxidative stress, pro-oxidants production and antioxidant protection system. There are no consistent results with anti-oxidant therapy and increased longevity although search is still on. With increasing longevity, the age-related disorders are likely to be increased in 21st century. Keeping this in mind Rasayana drugs may be advised as food supplement as well as medicine\ to minimize the ageing and related disorders. Specially Medhyarasayana may be useful in the degenerative disorders of brain, like dementia of senile and Alzheimer's types with the aim to correct the cognitive dysfunction and preventing the disease progression Rasayanacan be used in both curative and promotive aspects in Vardhakya. Young can be advocated to use MedhyaRasayana regularly as the period for the administration of Rasayanasis effectively in young and middle age groups. However, MedhyaRasayana can be effectively used in delaying the deteriorating aspects of Jara.

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A ROLE OF PRAKRITI IN AGING

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Ayurveda is an eternal science with absolute principles, and prakriti is one of these. It plays an important role in the selection and establishment of every factor for which a person is going to interact from conception till death, e.g. lifestyle, diet planning, etc. Prakriti stands for nature of the body in terms of dosha and is decided at the time of conception according to the predominance of dosha. It does not change during the whole life and is responsible for the physical and mental characteristics of an individual. This prakriti is of seven types according to Tridosha. The individuals of specific prakriti exhibit biological variations in terms of structure, function, behavior, individual response to internal and external environmental stimuli, susceptibility to different diseases, etc. Aging is a process of decaying and included in natural diseases. In our body, Pitta or Agni is responsible for the various types of pathological conditions. Although aging is a natural pathological condition, Pitta plays an important role in its causation like other pathological conditions. It is clearly indicated in Charak samhita that persons having Pitta predominance personality tend to suffer early with decaying process and other changes of aging. Through this article, we have made an attempt to reevaluate the Inter relationships between prakriti and aging.

KEYWORDS: Aging, dosha, Pitta, prakriti, Jara

1. Introduction

Ayurveda has a holistic approach and includes all the factors which are absolute or accessory in the determination of health. Prakriti is one of the most important concepts and it is decided at the time of conception. Prakriti indicates toward physical or dosha constitution. Involvement of dosha in prakriti formation may be individual or intermingled. So, prakriti is of seven types, i.e. Vataj, Pittaj, Kaphaj, three dwandaj and one samadoshaj. Among these, samadoshaj is an excellent and homeostatic state, while others are considered as defective constitutions and susceptible for various diseases. Each prakriti has specific physical and mental characteristics which totally depend on the involvement of dosha. For instance, individuals with Kaphaj constitution have smoothness of organs and joints, clarity of complexion, firmness, compactness and stability of the body, are slow in action and movement, have a stable gait, excellent strength, patience, peacefulness, longevity, etc. These characteristics are manifested due to particular properties of the dosha which is involved predominantly in the formation of prakriti. Prakriti affects each factor by which a person is going to interact and decides the status

of health. It is clearly indicated in texts that lifestyle and various activities should be planned opposite to prakriti for the maintenance of health. In this way, prakriti also affects and decides the quality and rate of aging. All the constitutions having Pitta predominance have a tendency to suffer untimely with aging because Pitta has a synergistic effect on the process of aging due to its ushna, tikshna, amla, sara, katu gunas. It is clearly indicated in classical texts. We can utilize this concept in the prevention and management of aging, especially in the case of Pittaj predominant persons, and make vriddhavastha pleasant and disease free.

Materials and Methods

Only textual materials have been used for this study, from which various references have been collected. Main Ayurveda texts used in this study are Charak Samhita, Sushruta Samhita, Ashtang Sangrah, Ashtang Hridaya and the available commentaries on it. Modern texts and related websites have also been searched.

Conceptual study

Concept of prakriti

The word prakriti has been derived from "Prakarshen karoti iti Prakriti" which means manifestation of special characteristics due to predominance. In Ayurveda, the word prakriti has been used in the sense of deha prakriti or doshaja prakriti. According to rasa-vaisheshik, prakriti is a state which is formed at the time of fertilization due to eminence of dosha. It remains unchanged from fertilization till death. According to Acharya Sushruta and Charak, prakriti is determined at the time of fertilization due to the predominance or increased status of dosha which is normal or physiological. Although prakriti is determined by the dosha predominantly involved, some other factors are also involved in the prakriti formation as described by Acharya Charak in viman-sthan chapter 8. These factors are shukra-shonita, status of uterus at the time of fertilization, status of environmental time period, food and regimen adopted by mother during pregnancy and nature of mahabhuta comprising the fetus. The fetus gets afflicted with one or more of the doshas which are dominantly associated with the above-mentioned factors. Prakriti of an individual is determined on the basis of these dominant doshas in the above-mentioned factors when they initially unite in the form of fetus. Therefore, prakriti of some people is dominated by Kapha, some others by Pitta, some others by Vata and some others by the combination of two doshas. In some other cases, however, the equilibrium of doshas is well maintained. Although all these factors mentioned above play an important role in the determination of prakriti, doshas are involved primarily in the formation of prakriti of above-mentioned factors. Therefore, doshas are the root cause in the initiation and formation of prakriti of any individual. Characters which are manifested in a person of any specific prakriti depend upon properties of the dosha involved. For example, Vata with laghu, sukshma, chala, vishada, ruksha, shita and khara properties imparts its properties in developing personality. Same should be understood with regard to rest of the doshas. In mixed personality characters, more than one dosha appear specifically. Characters of various personalities are discussed below.

Vataja prakriti

Characters of Vataja prakriti persons are as follows.

Ruksha: Unctuousness, emaciation and dwarfness of the body; long-drawn, dry, low, broken, obstructed and hoarse voice; always keeping awake.

Laghu: Light and inconsistent gait, action, food and movement.

Chala: Unstable joints, eyes, eye brows, jaws, lips, tongue, head, shoulder, hands and legs.

Bahu: Talkativeness, abundance of tendons and veins.

Shighra: Quick in initiating actions, getting irritated and the onset of morbid manifestations, quick in affliction with fear, quick in likes and dislikes, quick in understanding and forgetting things.

Shita: Intolerance to cold things, often getting afflicted with cold, shivering and stiffness.

Parusha: Roughness of hair of the head, face and other parts of the body, nails, teeth, face, hands and feet.

Vishada: Cracking of the limbs and organs, production of cracking sound in joints when they move.

Based on the above-mentioned qualities, it can be seen that individuals having Vataj type of constitution mostly possess strength, lifespan, procreation, accessories of life and wealth in lesser quantity.

Pittaja prakriti

Characters of Pittaja prakriti persons are as follows.

Ushana: Intolerance to hot things, having hot face, tender and clear body of port-wine mark, freckles, black moles, excessive hunger and thirst, quick advent of wrinkles, graying of hairs and baldness, presence of some soft and brown hair on the face, head and other parts of the body.

Tikshna: Sharp physical strength, strong digestive power, intake of food and drink in large quantity, inability to face difficult situations and glutton habits.

Drava: Looseness and softness of joints and muscles, voiding of sweat, urine and feces in large quantity.

Visra: Putrid smell of axilla, mouth, head and body in excess.

Amla and katu: Insufficiency of semen, sexual desire and procreation.

By virtue of above mentioned qualities, a man having Pittaj type of constitution is endowed with moderate strength, moderate lifespan, moderate spiritual and materialistic knowledge, wealth and accessories of life.

Kaphaja prakriti

Characters of Kaphaja prakriti persons are as follows.

Snigdha: Unctuousness of organs.

Shlakshna: Smoothness of organs.

Mridu: Pleasing appearance, tenderness and clarity of complexion.

Madhur: Increased quantity of semen, desire for sexual intercourse and number of procreation.

Sara: Firmness, compactness and stability of the body.

Sandra: Plumpness and roundedness of all organs.

Manda: Slow in action, intake of food and movement.

Stimita: Slow in initiating actions, getting irritated and morbid manifestations.

Guru: Non-slippery and stable gait with entire sole of the feet pressing against the ground.

Shita: Lack of intensity in hunger, thirst, heat and perspiration.

Vijjala: Firmness and compactness in joints.

Achha: Clarity and unctuousness in complexion, appearance and voice.

By virtue of the above-mentioned qualities, a man having Kaphaj type of constitution is endowed with the excellence strength, wealth, knowledge, energy, peace and longevity.

Concept of aging

Vaya represents the state of the body depending upon the length of the time that has passed since birth. Whole lifespan is divided into three parts, i.e. bala, madhya and jirna. Jirnavastha or vriddhavastha is the last phase of life, at the age of 60-70 years. This time period signifies by its name, i.e. the name vriddha is given to old age and the word jirna represents characteristics of this stage of life with of decay or degeneration. This stage is characterized by diminution of the dhatu, strength of sense organs, energy, manliness, valor, power of understanding, retention, memorizing, speech and analyzing facts. There is gradual diminution in the qualities of dhatu and dominance of Vata during this age. According to modern medical science, aging is the accumulation of changes in an organism or object over time. Aging in humans refers to a multidimensional process of physical, psychological, and social change. Some dimensions of aging grow and expand over time, while others decline. Reaction time, e.g. may slow with age, while knowledge of world events and wisdom may expand. Research shows that even late in life, the potential exists for physical, mental, and social growth and development . Aging is an important part of all human societies, not only reflecting the biological changes that occur, but also reflecting cultural and societal conventions. In biology, senescence is the state or process of aging. Cellular senescence is a phenomenon where isolated cells demonstrate a limited ability to divide in culture, while organismal senescence is the aging of organisms. After a period of near perfect renewal (in humans, between 20 and 35 years of age), organismal senescence is characterized by the declining ability to respond to stress, increasing homeostatic imbalance and increased risk of disease. This irreversible series of changes inevitably ends in death. Some

researchers (specifically biogerontologists) treat aging as a disease. As genes that have an effect on aging are discovered, aging is increasingly being regarded in a similar fashion to other genetically influenced “conditions”, potentially “treatable”. Indeed, aging is not an unavoidable property of life. Instead, it is the result of a genetic program. Numerous species show very low signs of aging. In humans and other animals, cellular senescence has been attributed to the shortening of telomeres with each cell cycle; when telomeres become too short, the cells die. Historically, the lifespan of humans is divided into eight ages; because the biological changes are slow and vary from person to person, arbitrary dates are usually set to mark the periods of life. In some cultures, the divisions given below are quite varied. In the USA, adulthood legally begins at the age of 18, while old age is considered to begin at the age of legal retirement (approximately 65 years).

- Pre-conception: Ovum, spermatozoon
- Conception: Fertilization
- Pre-birth: Conception to birth (pregnancy)
- Infancy: Birth to 1 year
- Childhood: 1-12 years
- Adolescence: 13-19 years
- Early adulthood: 20-39 years
- Middle adulthood: 40-64 years
- Late adulthood: 65 + years
- Death
- Post-death: Decomposition of the body

Overall, aging is a natural phenomenon and vriddhavastha is the last stage of life. This stage is basically characterized by degenerative changes.

Interrelationship between aging and prakriti

Aging is a phenomenon of body and characterized by decay and degeneration in which anatomical structures are basically affected following which physiology is also disturbed. Body is governed by three humours known as Vata, Pitta and Kapha. They govern the whole body according to their nature, e.g. Vata is responsible for all the movements of the body. Same applies for the rest of doshas. These tridoshas determine the prakriti of a person according to their predominance. Each dosha has been designed for a specific group of bodily functions depending upon its guna. These functions of dosha are also found in an aggravated form in a particular type of prakriti dominated by that particular dosha. Samdoshaj prakriti is exception for this because all the functions of tridosha are neutralized by each other and a state of dhatusamyā is maintained. Among the tridoshas, Pitta is basically responsible for the decay and degenerative changes due to its specific properties like ushna, tikshna, visra, amla, etc. If the prakriti of any person is dominated by pitta dosha, aggravated functions of Pitta can be observed in that particular person. These aggravated functions of Pitta first change the related physiology following which the anatomical structures are also affected with special reference to decay and degeneration. It is just like how excessive heat changes the surrounding environment and then

destroys the articles in its path. Therefore, it can be said in the context of Pittaj prakriti persons that they are susceptible to untimely or premature manifestations of aging like graying of hairs, formation of wrinkles on skin, hair fall, etc. Increased level of Pitta with special reference to agni increases the metabolic level of biotransformation and thus energy consumption. These physiological changes result in various types of tissue destruction and premature manifestation of aging.

Conclusions

To conclude, the following are the points derived from the above discussion.

Prakriti and aging both are natural phenomena as well as occur essentially.

1. All the physiological processes are directly controlled by tridosha and thus by the predominant dosha in a particular type of prakriti.
2. Both Vata and Pitta are responsible for destructive changes in their predominant stage due to their specific properties.
3. Aging is the procedure of decay and degeneration and thus aggravated by the predominant Pitta supported by Vata.
4. Aging is closely related with prakriti and can be delayed by using Kapha predominant ahara and vihara.

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ADAPTATION OF LIFE STYLE IN GERIATRICS

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Adaptation of lifestyle in Geriatrics

Abstract – Geriatrics (Jara) is one of the branches of Ashtang Ayurveda. Kaya, Bala, Graha, Urdhwang, Shalya, Damshttra, Jara, Vrushan are 8 branches of Ayurved.

Ayurveda is the 1st science to focus on geriatric quality life and diseases. Modern geriatrics was born with the invention of the word “Geriatrics” by Ignatz Leo Nascher in 1914 in America. “Geron” means an old man and “iatrikos” means medical treatment in Greek.

Thousands years back by the name of Jara Chikitsa Ayurveda has suggested special care of elderly people. This indicates the great vision of our Acharyas.

In today’s era human life has undergone tremendous changes. The way of living life and eating food is far more different than that of Samhita period. According to Indian Philosophy Dharma, Artha, Kama and Moksha are the Chaturvidh Purushartha which literally means an object of human pursuit. These are the four proper goals or aims of human life. But people are deviated from Dharma and Moksha and focus on Artha and Kama only which eventually motivate person to follow Pragyaparadh (Misuse of Intellect). Pragyaparadh gives rise to many type of physical and mental diseases.

Now a days due to tremendous progress of medical science, longevity or lifespan of human has been increased. Life span is increasing nearly 0.75 % per year. This has given rise to age related chronic illness, disability, morbidity prior to death. So it is the responsibility of an Ayurvedic professionals to convey strength of Ayurveda to provide quality life to elderly population in the world so that they can have quality life for a longer period. So in this paper an attempt has been made to elaborate the Ayurvedic ways for life style modifications in geriatrics.

Introduction-

Geriatric age (Jara) is an inevitable stage of life. Geriatrics means healthcare that has been properly adopted to fit with what tends to happen as people get older. The mind and body become more vulnerable i.e people become more sensitive to things like stress, illnesses, injuries and medication side effects. Most chronic illnesses become more common in old age. Old people with 3 or more chronic health conditions are not uncommon. Old age people start getting help

from family and others in managing some of their health and life tasks. Hence life style adaptation becomes essential part of an elderly person.

The Ayurvedic Approach to tackle with old age is based on –Daily Regime (Dinacharya), Seasonal Regime (Ritu Charya), Swastha Vritta (Code of conduct for Physical health), and Sadvritta or Achar Rasayan (Code of conduct for psychological health). But this type of regime is hardly being followed by our society. As a result, many life style disorders have come into existence e.g Obesity, Diabetes, Thyroid problems, infertility and early ageing. We have conquered pathogenic diseases, emergency medical conditions with the help of various medications but the ageing related problems and lifestyle aroused problems must have to be managed by life style adaptation suggested by Ayurveda which is briefly mentioned in following paragraphs-

1. Daily Regime (Dinacharya)-

Benjamin franklin has given a famous quote- “Early to bed, early to rise, makes man healthy, wealthy and wise.” Ayurveda has described the same thing before ages. Ayurved terms it as “Bramha Muhurta uttishthe”. By waking up early one can maintain the biological clock i.e circadian rhythm of body. Hence it is better to wake up early in morning before sunrise. The bowel and bladder clearance should be done with concentration and not while reading newspaper. The adequately warm water should be consumed immediately after awakening as it will help in clearing stomach and intestines. Herbal tooth powder should be used rather than chemically prepared sweet powders or paste.

Exercise - One should adapt light exercises such as brisk walking for short distance, Yogasana etc to keep body light and healthy. One should take into consideration his/her current health problem such as High blood Pressure, diabetes, arthritis and plan exercises accordingly with the help of physician. Physician can help in advising duration and extent of exercise to be done. One must do “Ardhashakti Vyayam.” A physician can make a person aware about symptoms of Ardha Shakti Vyayam.

Oil Massage or Abhyang- in Geriatric age group, the Vata dosha is dominant and Oil is the best Vata pacifying agent. Hence all the geriatric age group person must adopt regular oil massage as it will help in maintaining the musculoskeletal system sturdy. It is better to warm the oil before using. Once the Vata is balanced in body, the degeneration process slows down eventually. Abhyang also induces sleep which is generally disturbed in old age.

Nasya karma- Instillation of oil or ghrith (medicated or non-medicated) is termed as Nasya Karma in Ayurveda. It is very useful to enhance memory and higher intellectual functions also it helps in strengthening gyanendriya located above neck.

Diet- Wrong food habits due to Pragyaparadh is cause of majority of the diseases in geriatric age group. One should follow the gut feeling in true sense. Vata Vardhak Ahar Such as pulses, Dry Fruits, Non Vegetarian diet, Junk food made up of Wheat flour (maida) should be avoided as Vata is dominant in old age and its vitiation can lead to faster deterioration of Dhatus. Green gram (Moong) is ideal in geriatric age group as it is highly nutritious and easy to digest.

2. Seasonal Regime (Ritucharya)-

Due to tremendous change in lifestyle of a human being in today's era the concept of Seasonal Regimen has nearly vanished. People tend to eat haphazardly and live insensibly in any season. As a result the Dosha, Dhatu and Mala gets vitiated and starts faster degeneration of body. Hence one should follow the seasonal regime advised by Acharyas which is as follows-

- One should always consume freshly cooked food ideally Shad Rasatmak in any season.
- Ideally Sleeping during day time should be avoided in all season except Summer Season (Grishma Ritu).
- Abhyang with warm oil should be done especially in Varsha, Hemant and Shishir Ritu.
- One should avoid exposure to extreme cold and heat.

3. Code of Conduct for Physical Health (Swastha Vritta) –

Swastha Vritta emphasizes on healthy food, regular exercises, yogasana and Pranayam. Swasthavritta also depicts the manners and mannerism for maintaining social balance. Swasthavritta advocates about urges to be suppressed and urges to be fulfilled which are known by the name Dharaniya Vegas and Adharaniya Vegas respectively.

Adhovata (flatus), Mutra (micturition), Purish(defecation), Udgar(Belching), Shukra(sperm ejaculation), Ashru(tear), Chardi(vomitus), Kshudha (hunger), Trishna(thirst), Nidra (sleep), Kasa (sneezing), Vomit(vomitus) Kshavathu (cough), Jrumbha(yawning) these are the vegas that should not be kept hold otherwise they can vitiate the Doshas and leads to disease condition.

On the other hand the Dharaniya Vegas are the emotions that should be hold within by a person.

4. Code of conduct for Psychological health (Sadvritta Paalan or Achar Rasayan)-

It is the biggest challenge in geriatric age group. To live happy and peaceful life one should be free from ego and anger to avoid conflicts in family. The people in geriatric age group should adapt the "Let it go" attitude. They should not impose their thoughts on young generation in family and should let them take their own decisions. One should not give his/her opinion unless asked for it. This will maintain the peaceful atmosphere in family and ultimately the anger, ego, jealousy etc will not come into existence. This behavior will also help to reduce generation gap.

The people who find it hard to control their emotions can practice Yogasana and Meditation which can help conquer the faulty mind set.

This type of psychological adaptation is described in Ayurveda under the heading of Dharaniya Vegas. Dharaniya vegas are Lobha(greed), Shoka(grief), Bhaya(fear), Krodha(anger), Maan(egoism), Nirlajjata(shamelessness), Irsha(jelousy), Atiraag(excessive affliction in anything), Anabhidhyay (desire to acquire someone else's wealth). By holding these vegas one can achieve peaceful mindset.

The geriatric age group people can avoid overuse of social media and television so that the positive and healthy mind set will be maintained and it will help in balancing the doshas.

Old age persons can help the domestic staff in their working to stay active physically. They can adopt the habit to educate the poor children in society and can enjoy the feeling of gratitude.

Reading of spiritual literature will also help in keeping mind and body healthy.

5. Common health problems in geriatrics –

The majority of the people in geriatric age group face the Vata originated problems such as constipation, Insomnia, Gaseous distention, Deafness, Acidity etc. For these problems one should use light purgation, light exercises with meditation, Nitya Abhyang and Nasya Karma. The fried food should be avoided. The medications should be taken as per physician advice only. Rasayan Therapy should be taken by every geriatric age group person as it helps in maintaining Dosha, Dhatu and Mala. Chyavan Prash (Naimityik Rasayan), Go Grit with Milk (Ajastrik Rasayan) etc are the Rasayan Dravyas which will delay the degeneration in body.

Conclusion-

It is important to follow Ayurvedic daily and seasonal regime for physical fitness. Control over mind by holding Dharaniya vegas is important for mental and spiritual health. This is the pathway towards happy and healthy ageing process. Because Healthy ageing is a lifelong guide to physical and spiritual health.

Role of Acharasayana To Improve Quality Of Life During Ageing

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Abstract:

A gradual structural & unpreventable change that occurs with passage of time that are not due to diseases or accident that eventually leads to death with failure in homeostasis is ageing. Ayurved elaborate ageing as swabhavik vyadhi and defined various ways to make happy ageing, Achar rasayan (good behavioral conduct) is one of them. One who practices this physical and mental conducts attains the properties laid by use of Rasayan therapy (A dravya Chikitsa) which is much needed to follow in old age.

Keywords: Achar rasayan, Ageing

Introduction:

Ageing is an inevitable phenomenon of life of every individual. Many physical and psychological changes occur in body due to progressive ageing. According to Ayurved, it is the Madhya to Jeerna vaya phase of life in which, physical strength, vigor, courage, cognitive functions start to decline and Vata dosha dominates due to Dhatukshaya. So the problems like insomnia, constipation, forgetfulness, osteoporosis, arthritis, state of confusion, frequent micturition faced in old age. Practice of Achar rasayan described by Acharya Charak, can be an ideal vitalizer for body and mind which brings rejuvenation in the body-mind system. One who adopts such conduct at early age of life, gains all benefits of Rasayan therapy and may handle ageing in a smooth way without consuming Rasayan dravya. (A dravya Rasayan Chikitsa). It can be practiced alone or in a combination with Rasayan dravya. Achar Rasayan emphasizes on eating, behavioral, sleeping and social conduct and when it is practiced along with rasayan therapy (dravya chikitsa) one can gets all benefits of Rasayan laid down by acharya charak. The combination of this dravya and A dravya Rasayan chikitsa can delays ageing and helps to manage ageing related disorders.

Review of Literature:

According to acharya Sharangdhara

Achar rasayan described by Acharya Charak¹,

Satyavadinam- Always speaking truth. Priyavadinam- pleasant words

Akrodham- practice of anger management

Madya maithun Nivrutti- Avoiding addictions like alcohol and maintaining celibacy,

Ahinsa- nonviolence. Physical, verbal and mental non violence (prevent excessive adrenaline rush)

Anayas- avoid excessive exertion. It is one of the etiological factors of vata vrudhi which weakens Dhatu.

Prashantam- be calm by engaging in creative activities or hobbies, which diverts mind in pleasant acts

Japa- practice of meditation can improve concentration of mind, courage and stability of mind.

Shauch- maintaining hygiene and cleanliness

Dheera- stability of thoughts, can be achieved by meditation

Dana- Charity. It creates selflessness important to attains peace of mind.

Dharmashastrapara-leading sensory organs and mind towards Adhyatmachintana, belief in almighty

Anrushansya- Be kind to everyone.

Samajagan swapna- regular healthy sleeping habits (balance in awaking and sleeping)

Nitya Ksheer,Ghrutashinam- daily consumption of milk and ghee all these helps to pacify vata dosha and improves quality of health.

Desha kala praman gyan-Keen awareness of place and time to cope up with changing climate and place by following Dinacharya, Rutucharya,

Yuktigya- healthy habits and positive attitude towards life, set goals in life.

Anahamkar- abstinence from anger, violence, and jealousy and ego can improve mental health.

Upasitaram – To serve elders, needy people, priests, sages and saints etc. creates feeling of goodness and makes us responsible.

Following these principles of achar rasayana in day-to-day life can result in happy ageing.

According to modern literature, few theories of ageing has been put forth.

1. Gene regulation theory
2. Free radical theory
3. Neuroendocrine control theory
4. Immune control theory
5. Telomere theory

Acharrasayan practices from early age found to prevent oxidative stress and oxidative DNA damage. It also minimises production of free radicals. Telomere shortening and genetic mutation are not visualized in these individuals in various experiment .

Discussion:

Ageing is a physiological phenomenon which is cannot be skipped but can be modified into happy ageing with the help of practice of Achar rasayan. All the physical and behavioral changes occur in ageing are because of Dhatukshaya leading to Vata dosha vrudhhi. So healthy digestible food, adequate sleep and celibacy are the natural ways to pacify this increased Vata dosha and to strengthen dhatu in body which makes ageing smooth. Always speaking truth (Satyavadi) can make one anxiety free and more courageous. Longevity is decreased by sexual activity. (Lifespan of virgins is higher in both sexes with delayed ageing)². explains importance of celibacy (Brahmacharya) especially in old age. Heavy drinking leads to premature ageing and precipitation of onset of age related diseases is well known as alcohol accelerate biological ageing at cellular level with observation of shortening of telomere length³. can accelerate ageing so it is very important to avoid addiction of (madya)alcohol. Dietary pattern, physical activity and sleep pattern found to be associated with ageing and related illness like dementia, cognition decline and others⁴ as all these helps to pacify vata dosha and stabilizes dhatu. Prosocial behavior (Priyavadi, karunavadi) can improve psychological wellbeing and physical health. Those who perform kindness act for others did not demonstrate changes in telomere lengh⁵, which delays ageing. (Japa) Meditation has been shown to have physical, cognitive and psychological benefits which promote healthy ageing. This target brain systems involved in regulation of attention, emotional control, mood and depression or serve as brain fitness exercise⁶. (Shauch) maintaining hygiene and cleanliness keeps body protected from germs, bacteria and mind becomes happy and calm. Dana Upasitaram, Dharma shastrapara- all are concerned with mental satiety which leads to endorphin secretion and makes us happy and relieves stress.

Conclusion:

1. Ageing is an inevitable phenomenon of life of every individual. Many physical and psychological changes occur in body due to progressive ageing which can be treated by practice of Achar rasayan.
2. Ascharrasayan practice is found beneficial in all phases of life, especially if started at early age of life, ageing becomes graceful.

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Role of Dosha- Dhatu-Mala- Agni in Aging

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Abstract

Aging is a universal process that probably began with origin of life. After birth growth and senility ultimately leading to death are inevitable process. Accumulation of the diverse deleterious changes produced by aging throughout the cells and tissues progressively impairs function and can eventually cause death. In Ayurveda, aging is known as jara defined as ‘jiryati iti jara’. It is the process of becoming old. As age advances, several changes take place in the body, in the external appearance , in the condition of dosha ,dhatu, mala ,agni , oja ,and so on as well as in the mental and cognitive functions . So here is an attempt to explore the role of dosha- dhatu- mala- agni in Aging.¹

keywords – Aging, Jara, Vrudhawstha, Dosha, Dhatu ,Agni, Mala

Introduction

Aging is both a complex and challenging scientific problem and a fact of universal concern . Aging represents structural changes of organism over its entire life span these aging process are accompanied by phenotypic changes in extracellular matrix.² In ayurveda Sushruta has described the features of a healthy person as :

“samdosha samagni samadhatu malakriyaha

prassana aatmendriya manaha swasthya ityabhidhiyate” su 15/583

It follows that the doshas must be in equilibrium , the digestive fire must be in a balanced state and the tissues and malas must work in a normal state. The sensory and motor organs and mind, atma must be also in a pleasant state. Such a person called a healthy or swastha. This concept of aging is widely scattered in various texts in the ayurvedic classics. The equivalent term for aging in ayurveda literature is jara . The tridosha, dhatu, mala , agni all play important role in the maintainence of cellular health and longevity.⁴

Aim and objective

1. To evaluate the concept of Aging as per Modern and Ayurveda .
2. To evaluate the role of Dosha, Dhatu, Agni and Mala in Aging .

Material and method

Literature related to Aging collected from Bruhatrayi, Laghutaryi and some modern literatures.

Modern view of Aging

Aging in modern science is defined as a progressive failure of the body homeostatic adaptive response .Gerontologist defined it as a process that results in an age related increase of death rate or failure rate. Biologist define Aging as the sum total of all changes that occur in a living organism with the passage of time and lead to decreasing ability to survive stress, functional impairment and death.⁵ Modern biological theories of Aging in humans fall into two main categories: programmed and damaged error theories. The programmed theories imply that aging follows a biological timetable, perhaps a continuation of the one that regulates childhood growth and development. This regulation would happen on changes in gene expression that affect the systems responsible for maintenance , repair and defence response. The damage or error theories emphasize environmental assaults to living organisms that influence levels as the cause of aging .⁶

Ayurvedic view of Aging

Ayurveda has considered 'jara ' or vardhakya as a natural and inevitable process as well as a swabhavaj vyadhi. The term jara has been derived from the sanskrit root 'jarish vayohanow' which can be explained as “ vayahkrta slata mamsadya vastha vishesha” which means the muscle and other tissue are loosened under the influence of Aging . Totally this term indicates of the loss in the period of life span .⁷

Sequential kshay in aging

Vagbhat and sharangdhara presented an interesting scheme for loss of different biological factors during the lifetime, as a function of aging in different decades.^{8,9} Mile stones of aging or sequential loss of biological factors of aging .

Decades	year	Vagbhat	Sharangadhar
First.	1-10	Balya	Balya
Second	11-20	Vruddhi	Vruddhi
Third.	21- 30	Prabha	Cabi
Fourth	31-40	Medha	Medha
Fifth.	41-50	Twacha	Twacha
Sixth.	51-60	Sukra	Drsthi
Seventh.	61-70	Drusthi	Shukra
Eighth.	71-80	Strotendriya	Shukra

Nineth.	81-90	Mana.	Buddhi
Tenth.91-100	Sparshendriya.	Karmendriya	

Classification of vaya

Jara is synonymed as vardhakya meaning increasing age. Charaka mentioned vrudhawastha after 60 yrs whereas Sushruta mentioned after 70 yrs of age.^{10,11} According to chanogyaupanishad the total life span of 116 yrs and vrudhawastha after 48 yrs .

Pathophysiology of aging

‘Sharir – Dosha dhatu mala moolam hi sariram’.

In Aging , ayurveda consideration prana life energy that performs respiratory , oxygenation and circulation. Aggrevated pran leads to dengenerative disorder in the dhatu. It governs two other essence – ojas and tejas .

Ojas – the essence of 7 dhatu or bodily tissues and is responsible for autoimmune disease .Displaced ojas related with kapha , whearas Decreased ojas related with vata reactions.

Tejas – The essence of a very subtle fire or energy governs metabolism through the enzyme system. Agni Promotes digestion ,absorption and assimilation of food .Teja is necessary for the nourishing and transformation of each dhatu . Lack of tejas results in over production of unhealthy tissue and obstructs the flow of pranic energy .Just as it is essential to maintain balance amongst the tridosha – vata , pitta, kapha principles off motion , metabolism structure respectively .¹²

Aging and Tridosha

The three basic constituents of human body vata, pitta and kapha in a balanced state structually and functionally maintain the health and in an imbalanced state produce disease

Amongst these dosha , kapha is predominanat in balya , pitta in madhyam and vata in vardhakya .In the old age , many syndromes are observed which are the results of imbalance in the body constituent i.e. vata , pitta, kapha to a lesser or greater extent . The imbalance varies in velocity and intensity depending upon many factors such as life style, habbits, age etc.

As per tridoshas concerned , vayu according to its fundamental properties precipitates involution i.e. kshay and shosha of dhatus which is responsible for most of manifestation of aging .As a function of aging with advance age kapha gets gradually depleted and vata increases spontaneously. The normal function of panchvidha vata such as utsaha, uccwasa, niswasa, chesta etc are affected or deteriorated in old age.

Vata

Type of vata	Functional part affected	Results in
1. Prana vayu	Aharana, Udgara	Difficult in deglutition, increased udgara pravriti due to fermentation of food because of

	Niswasa	delayed digestion. Swasa on slight exertion, Derranged buddhi, weakness of hrudya, diminished sensory functions.
2. Udana	Vak pravritti Bala, varna, smruti etc	Indistinct or unclear pronunciation Smritinasha, Balakshaya, Vrnyaviparyaya
3. Saman	Annagrahana parinaman Rasa malady vivechan, Munchana etc.	Decreased appetite, less ingestion capacity, weakned digestion reduced separation and elimination may lead to Gulma, Mandagni, Atisara, kampa
4. Vyana	Nimesha, unmesaha, apakeshepan, utkshepan	Palpitation, unsteady gait, vertigo etc. Impaired circulation to the various tissues.
5. Apana	Uttsarga of shukra, Mootra, purisha, Aartva, Garbha etc.	Constipation, urinary incontenance, scanty menstruation less or delayed seminal discharge etc.

Pitta

Type of pitta	Function affected in old age	Results in
1. Pachaka	Annapachana Kshut Ojas	Loss of appetite, indigestion, Ama formation leading to Amajanya roga, improper formation of rasadi dhatu.

2. Ranjaka	Formation of rakta dhatu	Anemia, skin disorders, diseases in haemopoietic system.
3. Alochaka	Rupa grahan	Myopia, glaucoma, cataract etc.
4. Bhrajaka	Prabha Chaya Dehmardavam	Loss of lusture of skin, wrinkles, loss of elasticity etc.
5. Sadhaka	Buddhi, Medha, Abhiprahita, manorathas, Haras	Smrutinasa, bhaya, krodha, harsa, moha etc. psycosomatic disorders or depression etc.

Kapha

Type of kapha	Function affected in old age	Results in
1. Avalambaka	Trikavalambane, bala, dhruti, Utsaha, Buddhi etc.	Hrddrava, Hrtsula, other cardiovascular disease.
2. Tarpak	Indriya tarpan	Improper functioning of janendriyas and mastiska.
3. Bodhaka	Rasa bodhana	Atrophied taste buds, increased oral cavity malignancies.
4. Sleshaka	Asthisandhi slesanam Sandhithainjum sthiratwa	Rheumatoid arthritis, Osteoarthritis, Osteoporosis and other loco motor disorders.
5. Kledaka	Anna kledana	Loss of appetite, Gastritis, Peptic ulcer diseases enteritis etc.

DHATU AND AGING

Dhatus are responsible to maintain a state of equilibrium with the help of dosha and mala .” Hriyamana dhatu is a feature of old age . Dhatu usually perform two actions :

1. Dharana
2. Poshana

In old age , due to vikritavatav, vishamagni, ksheenkapha, the first dhatu i.e.Rasa is not formed properly and its function of preenana to the rest of the dhatus is not performed, resulting in sequential weakening of all dhatus i.e . Dhatukshay.Hence , due to this malformed rasa ,it sets off a chain of malformed updhatus and dhatumalas. The various ksheena lakshanas and vikara develops. Due ti tendency of gradual decline or involution of all dhatus i.e. after 60-70 yrs.

Dhatu	Lakshana	Vikara
1. Rasakshaya	Roukshaya, Bhrama,Sabda sahisnuta	Aruchi,tandra,arasagnata, Angamarda,Pandutwa,Agninasa,Valipalit, Krsangata.
2. Raktkshaya	Sirasaithilya , Rukstwa	Skin disease, hypertension,vertigo,decreased lusture etc,
3. Manskshaya	Suskta of Sphik etc	Loss of weight,improper sensory function. Etc.
4. Medokshaya	Sandhivedana,glani,suskta etc.	Splenomegaly, prameha purvaroop
5. Asthikshaya	Astitoda,Danta kesa ,Nakha sadanam	Diseases of hair root, nail, diseases of bone .
6. Majjakshaya	Asthisousirya,Bhrama,Sukralpata	Vata vikara,pain in joints, vertigo etc.decreased dehabala
7. Sukrakshaya	Hrasa, Daniya, Cirapracyuti	Anemia, decreased libido etc.

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 . Aacharya charaka states that agni is responsible for ayu, varna , bala , swastha ,uttsaha, prabha, ojas ,agni , prana etc based on the bala, agni in turn is of 4 types : Tikshagni , samagni, vishamgni and mandagni. In old age, due to the predominance of vata dosha vishamagni prevails leading to vishamgani janya rogas such as ajeerna , adhamaan ,sula , udavarta , atisara, antrakunja ,pravahan etc .

In the young adults , due to increases activity of pitta , the digestive capacity will be at its peak . The optimum activity of agni maintains the vigour and vitality with deleterious changes and involution due to defective metabolism.¹³ So, in old age ,due to vishamagni defective metabolism occurs within the body leading to involuntary changes such as kshay and shosha .

Aging and Mala

Malas are equally important as that of dosha and dhatu . They form the malabdravya of the body. They arise out of kittaapaka at the pachakagni and dhatwagni levels . The various malas mentioned in Astang hrudya are Vata , Pitta and Kapha, Khamla , Karnamala,Akshimal, Asyamala , Paryojana, Nasikamala,Lomokupamala,Keshmashruloma and Nakha etc .

These play a vital role in the body dyanamics, as elimination of mala is an index of the activities. Hampered Agni in old age leads to Malakshay .The comman features such as a pain in chest. Dysuria hematuria, excessive thirst, dryness of mouth, skin are found in malakshaya.

Discussion

Aging is a natural phenomenon, but nobody wants to grow old — a dilemma that everyone faces. In Ayurveda, Vriddhavastha has also been considered as a disease due to disturbance of homeostasis .It is categorized under the head of natural diseases. These natural diseases are due to Swabhava (nature) and depend on kala (time). The examples of natural diseases are hunger, thirst, Jaravastha (old age), death, and the like.^{14,15} Although, nobody can escape these diseases, they can be modified. Ayurveda is a medical science and different measures are mentioned in it, With such measures it is possible to prevent premature aging and to slow down the process of aging. Thus, it is cler comprehensive description of aging .

Conclusion

Aging is a natural process; the body is undergoing some changes continuously, as shown by its etymology that is, “Shiryate tat Shariram”. As we see before, the pathophysiology of Aging is depend on various factors such as Dosha,Dhatu,Mala,Agni etc. All these factors in imbalanced state are responsible for Aging. In Ayurveda , different principles are mentioned which kept all these factors in balanced state. By following all these principles, we can slow down the process of aging and prevent the untimely Aging. Also vrudhawastha can be managed by principle like Rasayana, mentioned in Ayurveda. This is the overall review of Aging .¹⁶

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QUALITY OF LIFE IN AGEING

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ABSTRACT

Jara/Vardhakya (Ageing) is the branch of Ashtang Ayurveda which deals with different aspects associated with health, psychology, diseases and their treatment in elderly population. Quality of life in Ageing is an individualistic phenomenon which varies with different Deh-Prakriti & Ahar-Vihar according to the prakriti. Ageing itself brings a high risk towards chronic diseases like Cancer, Dementia, Depression, Diabetes, Heart attack & Arthritis. Aim is to maintain health, activities and psychological state of an individual in ageing through Ayurveda. [1]

Ageing well adds quality of life. Ayurveda deals with remedies to maintain Dhatusamya & thereby maintaining quality of life. This review will explore the various dimensions in maintenance & improvement of quality of life in Ageing through Ayurveda.

KEYWORDS- Jara/Vardhakya, Ageing, quality of life, Prakriti, Rasayana, Panchakarma.

INTRODUCTION

Ageing is defined as the intrinsic, inevitable and irreversible age associated loss of viability that render us more susceptible to a number of diseases and death or progressive functional decline of physiological function and decrease in fecundity with age. Ageing is also defined as progressive, cessation of physiological & psychological functions leading to death. Change is the nature of life and ageing itself brings change towards life in the third age, from being marginal & dependent, older people has become active and flourishing as a new life course period- the third age, period between exit from labor force & beginning of physical dependency has emerged. [2]

Ageing has two main components. Chronological Ageing refers to actual age of the person in terms of years, months & days. This component is unstoppable, unchangeable & irreversible. Physiological/biological Ageing is the second component & refers to an individual's development & changes based on certain cellular or molecular parameters. Thus, biological Ageing is set of processes that triggers deterioration of health & ultimately to death as a function of chronological age. Biological Ageing can be delayed by using different therapies mentioned in the classical Ayurvedic text under 'Rasayana and Panchkarma' This will add better quality of life in Ageing.

Every individual has their own concept of quality of life. Ageing increases risk of chronic disease associated with multisystem in the body thereby causes decline in the immune response. Definition of health which are akin to that of quality of life, for e. g. Health is going & doing something meaningful. Quality of life in Ageing is decided by health & finances. The concept ‘Successful Ageing’ has much importance in ageing. Successful Ageing includes low risk of diseases (disability), high mental and physical functions & active engagement with life. Definition of quality of life in Ageing involves doing physical and functional activities with ease without any deformity/disability in day-to-day life, Independency in terms of finance and income source & well-formed social relationship or the relationship with family, friends, neighborhood & other social environment. The factors other than health in Ageing also has a great impact on psychology in elderly.[1]

Jara/Vardhakya (Ageing) in Ayurveda deals with the special norms & treatment protocol associated with day-to-day health & disease in Jara. As Jara/Vardhakya (Ageing) is an inevitable process, Ayurveda can only give efforts to add quality of life in Ageing by achieving Dhatusomya-by giving daily regimen according to prakriti, Rasayana therapy- to increase lifespan. Panchkarma- for maintaining health & prevention of diseases in Ageing.Sadvritta- to maintain psychological wellbeing of an individual in ageing. [3]

MATERIAL & METHODOLOGY

Jara/Vardhakya (Ageing) is a special branch from ‘Ashtang Ayurveda’ but the concept is widely distributed over different classical texts & Samhita like ‘Bruhatrayee’. Literature review from different classical text under the term Rasayana, panchkarma, swasthavritta can be better applied to maintain quality of life in Ageing. Review articles published on database about geriatrics & quality of life in ageing has been referred to get effective information. European surveys were performed on measuring quality of life in Ageing through CASP-19 score which involves Control, Autonomy, Self-realization & Pleasure in Ageing. National surveys were performed in UK & other countries for measurement of quality of life in Ageing. Italian study (SEIQOL) schedule for evaluation of individual quality of life were performed to assess one’s concept of quality of life in Ageing. In a single case study open ended questionnaire were asked to individual & analysis was done accordingly. [2]

FACTORS AFFECTING QUALITY OF LIFE IN AGEING/JARA/VARDHAKYA ACCORDING TO AYURVEDA

Ayurveda is a holistic science which deals with both prevention & cure of disease in Ageing. No person is immortal. Ageing is the normal physiological processes which cannot be avoided. Aim is to maintain the better quality of life in Ageing. Following are the factors which affect quality of life in Ageing through Ayurveda.

1) Kala Parinama (Time & Transformation) - It is one of the most important factors that affect quality of life in Jara/Vardhakya (Ageing). Kala Parinama refers to the physical & mental transformation that occurs according to various stages of life. Ayurveda divides Ayush into Vaya (various stages of life) – Childhood (Bala – upto age 16 years), Adolescent/teenage (Vivardhmana- from 16-20 years), Youth (Youvana- from 20-30 years), Matured individual

(Sampoornata- from 30-40 years), aged individual (Parihani- from 40-60 years) & older adults (last stage of life – Jirna or Vridhavastha). Owing to the influence of Kala, different changes occur during various stages of Ayush & hence lifestyle adopted during these stages add better quality of life in Jara/Vardhakya (Ageing). [4]

2) Prakriti- Prakriti is nothing but the biological constitution (anatomical, physiological & psychological) of an individual. Concept of quality of life in Ageing is different according to different prakriti individual because of differences in their metabolism, mental state, immunity, genetic constitution, hereditary functions. Thus, prakriti determines individual's capacity for transformation at physical, mental, emotional & social level interaction which is responsible for maintaining quality of life in Ageing.

3) Dosha-Dhatu-Mala-Oja- Dosha are energy system in the body. Vata controls different movement. Pitta controls metabolism & digestive transformation of food. Kapha controls anabolism, building energy and lubrication that gives perfect structure to body for performing its functions.

Saptdhatus maintains anatomical & physiological structure of body & functions all parts of body in association with dosha.

The waste products formed during digestion & metabolism of food, during formation of dosha referred to as 'mala'. It is important to remove waste products & toxins outside of body to maintain Homeostasis. Oja means immunity, fighting mechanism of body against pathogens. Ayurveda aims at maintaining Doshasamyā & dhatusamyā throughout the life to keep proper functioning of body parts in harmony with life thereby increasing the quality of life in ageing.

4) Ahara – Poor dietary practices & lifestyle (viruddhahara) trigger vitiation of all three doshas leading to pathological changes & reduced lifespan. Poor dietary practices lead to increased inflammation, poor fighting with infections, reduced immunity & increased risk of chronic multisystem disorders, which in turn affect quality of life in Ageing.

5) Jatharagni- Jatharagni is the root of all digestive fires in the body. Jatharagni serves as a central digestive fire which carry out digestion & metabolism, sense perception, thought function & transformation of mental & emotional impressions.

AYURVEDIC RECOMMENDATIONS FOR MAINTAINING QUALITY OF LIFE IN AGEING/JARA/VARDHAKYA

Ayurveda relies on compressive program that includes dietary, lifestyle, behavioral and psychological intervention for extension of health span.

1. Diet (Ahara) - Caraka explains the importance of "Matravata Ahara" (Diet in proper quantity). Diet taken in proper quantity enhances the Jatharagni which in turn responsible for digestion, metabolism & absorption of food material. Caraka explains the methodology of taking food in appropriate manner as "Aharvidhividhan" & "Aharvidhivisheshayatan". Ayurveda explains that "Ahara must be Shadrasatmaka, Panchbhautika, Dvidividhaviryatmaka, Vinshati gunatmaka etc". Such type of Ahara leads to enhancement of Jatharangi &

Dhatwagni which Causes proper digestion of food which in turn enhances formation of dhatu without causing vitiation of doshas leading to improved quality of life in ageing. [6]

2. Sleep (Nidra) - Sleep (Nidra) is one of the main pillars of good health in Ayurveda, as it is important in maintaining good quality of life. Poor sleep quality not only disrupts the circadian rhythms but also triggers metabolic diseases including Diabetes, Obesity and Cardiovascular disease. Sleep (Nidra) causes 'Bruhana' of dosh-dhatu and allow senses to keep themselves away from performing their function so they can work in harmony better. Good quality uninterrupted sleep pattern adds in improving quality of life in ageing.
3. Dincharya (Regular Routine)- Maintenance of proper hygiene in day-to-day life including proper diet, work, time of waking, exercise, yoga, mindful practices, sleep, better learning, values, sadvritta to enhance satva guna leads to better quality of life in ageing. [7]
4. Panchkarma- Periodical detoxification, purification and rejuvenation therapies classified as panchkarma therapies in Ayurveda are highly recommended as they provide strength and nourishment to the deeper tissue (Dhatu) and pacifies age associated health issues. Oleation and fomentation therapies are important as they neutralize the Vata generated coldness and dryness that accompany ageing. Panchkarma therapies ensure rapid blood circulation, continuous cerebral blood flow and efflux of toxic matter through increased lymphatic drainage.
5. Rasayana therapy-. It causes reduction in inflammatory response generated by body, helps in fighting with infection by generating proper immune response. Rasayana therapy causes Bruhana of Dosh-Dhatu and helps in keeping Doshas in their place and helping them perform their usual functions properly. It will lead to proper digestion, strengthening and building up of body, enhancing immunity, proper transformation of dhatu, formation of good quality dhatu, good quality sleep thereby increasing good quality of life in ageing. [6]
6. Sadvritta- Sadvritta helps in defining one's concept of quality of life in ageing. As health is not the single aspect that affect quality of life in ageing, but the individual's perception about social involvement, social relationships, independency, work without support, proper income sources, love-attention-care from family and neighborhood also affect quality of life in ageing. Sadvritta helps in maintaining balanced state of mental and physical life. [7]

DISCUSSION

Some researchers consider ageing itself to be disease because 1) ageing is associated with an accumulation of cellular and molecular changes that impair normal physiology. 2) impairment of normal physiological functioning of cells, tissues, organs and bodily systems in turn triggers age associated diseases. 3) Ageing itself is a risk factor for other diseases. Various surveys and studies carried out by UK and European countries reveals different dimensions of life in ageing. It includes objective dimensions such as socio-economic norms, subjective dimensions such as health and associated diseases. Quality of life does not decline just because ageing but different dimensions including physiological and psychological parameters affect quality of life in ageing. [1-4]

CONCLUSION

Change is the nature of life and ageing itself brings change towards life which is irreversible and inevitable. Ageing affects quality of life as ageing itself brings chronic multisystem diseases like Cancer, Diabetes, CKD etc. Quality of life in ageing is defined as-

“The value assigned to the duration of life as modified by the impairments, functional states, perceptions and social opportunities that are influenced by disease, injury, treatment/policy”.

Surveys and open-ended questions revealed that, in ageing quality of life is not only measured by health alone but it can be evaluated on the basis of comparison with others, social contacts, material circumstances and activities. Quality of life in ageing can be evaluated through individual's ability to perform their physical and psychological function with ease even with disease. The aim of the review is to explore the definition of quality of life, its measurement and to retain one's ability to perform their work without dependency. Proper ayurvedic principles will ensure adding quality of to years and years to live quality of life in ageing. [1-5]

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ADAPTATION OF LIFE STYLE IN GERIATRICS & AYURVED

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Abstract:-

Aging is a complex phenomenon, a sum total of changes that occur in a living organism with the passage of time and lead to decreasing ability to survive stress, increasing functional impairment and growing probability of death. Physical and social environments can affect health directly or through barriers or incentives that affect opportunities, decisions and health behaviour. Maintaining healthy behaviours throughout life, particularly eating a balanced diet, engaging in regular physical activity and refraining from tobacco & alcohol use, all contribute to reducing the risk of non-communicable diseases, improving physical and mental capacity and delaying care dependency. Ayurveda has considered the process of ageing and the stage of old age to be 'swabhavik' meaning 'natural'. Senescence occurring at chronologically right time that is the 'Kalaj Jara' is inevitable (Nishpratikaarya). Therefore there is need to adapt lifestyle according to conditions or situation to maximize the good parts of getting older while taking proactive steps to maintain health and minimize the negative aspects.

Key words : Aging, lifestyle, Vruddhavastha.

Introduction

The study of disease that afflict the elderly is geriatrics. It also refers to medical care for older adults. Adaptation means the process of changing to fit some purpose or situation. Vruddhavastha begins at 60-70 years. (1,2)

Getting older involves changes in all realms of life, from the physical to the mental to the social, emotional, sexual, and more. Some of these changes may regard as positive and some negative. As people age, bones become thinner and more brittle with age as they lose mass, or density sometimes resulting in osteoporosis. The walls of the arteries also tend to accumulate a buildup of fatty deposits, called plaques, which also harden and narrow the arteries, reducing blood flow to the heart. The buildup of fatty deposits is called atherosclerosis. It's common for people to experience some slight forgetfulness as they get older, and their ability to process new

information or to multitask may slow with age as well. Digestive tract slows down and doesn't contract as often as it did when you were younger, which can lead to constipation, stomach pain, and feelings of nausea. Skin loses its elasticity and may start to sag and wrinkle. All five senses also start losing its normal function.

Special consideration in old age³

Multiple illnesses (medical and psychiatric), multiple problems (social, financial, family), communication difficulty, sensory impairment, need for collateral sources of information, risk of drug side effects, atypical presentation of disease.

Aim & Objective:

To study about adaption of lifestyle in geriatrics.

Steps towards Healthy and Happy Aging : -

1. By following a Healthy & Well-Balanced Diet⁴

Ayurveda states that for the good care of health one desires to have three Sthambhas (i.e. pillars), as well as three Upasthambhas (supporting pillars), functioning perfectly. The three Upastambha are Aahaara (Food), Nidra (Sleep) and Bhramacharya (Celibacy) i.e. regulated sexual conduct.

Balanced diet and is the initial and foremost pillar of Ayurveda. What does a balanced diet mean? A balanced diet is one which affords humans with a needed supply of proteins, carbohydrate, vitamins, and fats. Ahara is fundamentally preventive in nature. Ayurveda provides the initial approach that can be useful in the creation and maintenance of ideal health and to ease the symptoms of illness.

As per Ayurveda there are 8 basic considerations which should be followed during consuming any kind of food,

Nature

Preparation

Combination

Quantity

Habitat

Time of eating

Dietary Rules

Condition of the person eating food.

2. Getting the proper Sleep according to Body Needs⁴

Sleeping (Nidra) for great times or sleeping late in morning imbalances the regular routine and gets a poor impact on health. Insomnia (absence of proper sleep) leads to lethargy, burning sensation in the eyes, headache, and body ache. Sleep means when the mind and sense organs get fatigued, then sense organs cannot conjugate with their objects and this exhaust of mind and

sense organs leads to sleep. Elevation of Tamas quality and fatigue induced sleep. Heart and brain is the seat of the mind. Satva, Rajas, and Tamas are the qualities of mind. Tamas quality induces sleep while Satva guna is effective for awakening stage.

3. Brahmacharya (Abstinence)⁴

Here the word Brahmcharya stands for Shukra Raksha. Excellent quality of last digestive product of food is called Shukra.

Brahmacharya, one of the three pillars of Ayurveda. In Sanskrit language, Brahmacharya means movement in a great-awareness. In Brahmacharyashram – ‘Brahmacharya’ means dedication towards gaining education. This knowledge or education that is needed to attain eventual means. As getting older, Brahmacharya should be followed for maintaining Sharirbala and ojas.

4. Staying Physically Active for a Healthy Body and Mind.

Keeping physically active can help offset many of the effects of aging. Exercising regularly can improve your balance, help keep you mobile, improve your mood by reducing feelings of anxiety and depression, and contribute to better cognitive functioning. It’s also an important part of managing some chronic diseases, such as diabetes, heart disease, high blood pressure, breast and colon cancer and osteoporosis.

5. Cutting down smoking and alcohol

Drinking is linked to liver diseases, stomach ulcers, gout, depression, osteoporosis, heart disease, and hypertension. Sensitivity to the effect of alcohol increases with the age.

6. Social activities

Mixing with other people of similar age, at similar stage of life or perhaps with similar health concerns, can help people realize that they are not alone. The elderly need not always be seen as care receivers. They can be resource too - Transmitters of culture, care of grandchildren (storytelling, playing), counselors to the young couple, they had vast and varied experiences, helps in problem solving and trouble shooting.

7. Spiritual Activities⁵

Active involvement in religious activities helps the patient in active life style and socializing, which in-turn minimize the problems arising from isolation and chronic diseases. Interaction with people will also increase the awareness and hence there will be possibility for early detection of the diseases and better treatment compliance. 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 and meditation. Try to keep the mind and personality always pleasant. This will increase the socialization, reduce isolation and promote the feeling of belongingness.

8. Yoga asanas for senior citizens⁶

The yoga asanas suggested for an elderly person may be the same as those for a younger individual. The difference lies in the effort & time spent in a posture and the flexibility involved.

There is a range of standing, sitting, lying down and chair yoga asanas for senior citizens.

A) Standing Yoga Asanas - Trikonasana, Katichakrasana.

B) Sitting Yoga Asanas - Badhakonasana(butterfly pose), Shishuasana(child pose), Marjariasana.

C) Yoga poses lying on the back or stomach - Bhujangasana, Shalabhasana, Pawanmuktasana.

D) Chair Yoga Asanas - Neck roll, Cow stretch, Seated forward bend, eagle arms, Seated spinal twist & Temple rub.

Discussion:

In Vruddhavastha, Vata dosha are predominant compared to Pitta dosha & Kaph dosha. Strength of body (Sharirbala) & Digestion power(Agnibala) is less in old age. Physiological changes occurs with aging in all organ systems. Therefore normal activities is hampered so they need to change their lifestyle according to situation, physically, socially & mentally. They need to adopt some activities which will help them to live life happily and peacefully for the rest of life.

Conclusion:

By adopting a healthier lifestyle the risk of a whole range of disease & challenges at older age can be reduced. These factors are balanced diet, adequate sleep, Abstinence, cutting down smoking and alcohol, social activities, spiritual activities and Yoga asanas.

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DEPRESSION IN OLD AGE – AN AYURVEDIC VIEW

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ABSTRACT

Manasika bhava (emotions) are basic feelings of human life. But when a person's emotions, thoughts or behavior frequently trouble them or disrupts their lives and those around them, they may be suffering from mental illness. Depression is a serious mental health concern that will touch most people's life directly or indirectly, affecting 350 million people worldwide. It can affect a person's ability to work, form of relationships, and destroy their quality of life. At its most, severe depression can lead to suicide. It remains as a social stigma in terms of prevalence and suffering, dysfunction, morbidity and economic burden. 80% of depressed people are not currently having any treatment. Depression is mentioned in ayurvedic classics in various scattered references. It is both a state of emotion (manasika bhava) as well as a disease (manasika vyadhi). Previous scholars have tried to correlate the clinical condition with vishada, avasada, manodhukhaja unmada and kaphaja unmada. Psychopathology of depression may even extend up to somatic level. As there are multiple correlations, understanding the pathology of depression by means of ayurvedic basic principles such as sharirika dosha (bodily humor), manasika dosha (attributes of psyche), satwa bala (strength of mind), jnanendriya (sense organs), karmendriya (motor organs), agni (biological fire), dhathu (tissues sustaining the body), srotos (channels or pathways of the body) and ojus (vital essence of life) is essential. A better understanding of depression in old age can help in effective prevention and treatment and will help reduce the stigma associated with the condition, and lead to more people seeking help.

KEYWORDS: Depression, Ayurveda, Mind, Dosha.

INTRODUCTION

Depression is a common mental disorder, characterised by sadness, loss of interest, pleasure, feeling of guilt or low self worth, disturb sleep, poor appetite, low energy and poor concentration. It is a common mood disorder in elderly and contributes to significant psychological and physical distress, physical disability and higher mortality. Depression is not a normal part of ageing. Many of our senior citizens face difficult changes such as- the death of a spouse or chronic medical problems that can lead to depression. Depression not only prevents from enjoying life like it could be, it also takes a heavy toll on death. Untreated depression poses serious risks for older people including illness, alcohol, drug abuse and even suicide. International studies, including those in India suggest uniform prevalence of mood disorders

across the world. Life time risk for major depression ranges 2-25% with most authorities agreeing to a range of 10-15%. It is about 10% in male and 20% in female. By 2020 the world health organization expects depression to be the second frequent cause of morbidity world over. Depression is usually a neglected disease and a condition not well accepted or admitted. When such mental illness goes untreated the result can be suicide which claims 873000 lives a year. The economic cost of these conditions are also enormous and growing[1].

Ayurveda gives prime concern to mind and its disorders whenever it is a matter of health. All ayurvedic classics describe physical disorders and its psychiatric impacts simultaneously. The ayurvedic texts study mind and its ailments particularly in the context of bootha vidya. This emphasizes the clinical importance of the subject and need of specialization. It is mandatory in modern times to explore and evaluate the actual effect of the treatment in all fields of specialization under scientific research validation. In the present era this is applicable to all alternative systems of medicine. Psychiatric disorders described in Ayurveda thousands of years ago are relevant in present time too. Depression is such an area where many studies have been done and it is very well correlated with vishada[2], avasada[3], manodhukhaja or adhija unmade[4] and kaphaja unmade[5]. According to WHO, depression is expected to account for more lost years of healthy life than other disease by 2030 except for HIV/AIDS[6]. Everyone occasionally feels sad or gloomy. But these feelings pass within a couple of days. When a person has a depressive disorder it interfere his daily life. It leaves pain for the person who is affected and those who care about him[7]. World Health Organization define depression as a common mental disorder, presented with depressed mood, loss of interest or pleasure, feeling of guilt or low self worth, disturbed sleep or appetite, low energy and power of concentration[8]. These problems can become chronic or recurrent and leads to substantial impairment in an individual's ability to take care of his or her everyday responsibilities.

The ayurvedic understanding at the levels of sharirika Dosha (bodily humor), manasika dosha (attributes of psyche), satwa bala (strength of mind), jnanendriya (sense organs), karmendriya (motor organs), agni (digestive fire), dhathu (tissues sustaining body), srotos(channels or pathways of body) and ojus (vital essence of life) is essential for the two fold management as prevention and cure of the disease.

Depression and Sharirika Dosha:

According to Ayurveda every disease has predominance of any of the humor. Most of the cardinal features of depression are due to the vitiation of vata, the humor which governs all movements of mind and body. Among the five types of vata, prana vata is the motivator and controller of manas[9]. It has the property of budhidharana (retaining intellect). The impairment in pre frontal lobe in depression leads to lack of self control, distractibility, lack of memory, lack of initiation, improper perception. Thus the intellect, retention and memory are impaired to cause psychological disturbances. Another property of prana vata is manodharana (control of mind). So when intellectual, emotional and motor activities are affected, there will be vitiation of the humor. Udana vata which is helpful in energy, memory and motivation is also responsible for manifestation of the disease. In mild and moderate depression where there is agitation, anxiety

and loss of weight, the role of vata can be explained. Few symptoms are noticed to be due to kapha, the humor which sustains and lubricates the body and mind.

Symptoms of Depression^[10] Dosh

Sadness of mood - Vata

Lack of pleasure - Kapha

Sleep disturbances - Vata

Appetite changes – Vata

Easy fatigability - Vata

Psychomotor retardation - Kapha

Guilty feeling - Vata

Poor concentration - Vata

Suicidal ideation - Vata

Along with the above mentioned humors, sadhaka pitta and vyana vata, located in hridaya (heart), the seat of mind, which is responsible for emotions are also vitiated.

Depression and Manasika Dosh:

Satva, Rajha and Tamas. Out of these, the satva is pure and positive energy which never becomes a cause of any disease. But Rajah and Tamas are very sensitive energies- if their quantum is disturbed or deviated, it can create a condition called ‘Altered Nervous Function’ – which can lead to many health issues.

Rajas (attributes activity) and tamas (attributes inactivity) are the two manasika dosha. Manasika dosha generally vitiates the mind and causes various psychological conditions. In depression predominant dosha is tamas as it is characterized by inactivity, ignorance and apathy. The affected always look dejected, nihilistic and averse to virtuous living; suffer from inertia, lethargy and excessive sleep[11]. So depression is a condition of tamo predominance over rajas.

This implies that when Rajas and Tamas enegies, if not normal, they cause Doshas i.e. deviated mental functions. These twelve Doshas are listed as:- Kaama (lust), Krodha (anger), lobha (greed), moha (attachment), irshya (jealousy), maan (ego), mada (delusion), shoka (greif), chinta (depression), udweg (anxiety), bhaya (phobia), and harsha (euphoria).

Depression and Satwa bala:

The conjunction of shareera (body), indriya (sense organs), satwa (mind) and atma (supreme soul) leads to healthy life[13]. Thus the relationship of mind and body in an animate is established. According to the satwa bala (strength of the mind), individuals can be classified into pravara (superior), madhyama (medium) and avara (inferior) psychic capacity[14]. Among these, the persons with madhyama and avara satwa are prone to affliction of mental disorders. Charaka in the same context tells that the presence of a weak mind will transform a mild disorder to

severe[15]. He adds that those who are coward, depressed, possessed with unwanted thoughts are more prone to get insanity[16]. Since mind and body are interrelated, psychological derangements are reflected in the body. From the previous studies carried out on depression, it is noted that most subjects were of madhyama and avara satwa. This relationship in between satwa and psychiatric illnesses is evident even in clinical practice.

Aetiology

- Medical illness such as stroke, heart attack, cancer, parkinsons disease and hormonal disorders can cause depressive illness.
- Many medication such as steroids, pain killers, anti hypertensive drugs, tranquilizers, cancer drugs, hormones etc. can trigger or exacerbate depression.
- Psychological disorders like anxiety disorders, eating disorders, schizophrenia.
- Living alone can result in depression.

Pathogenesis

By advancing age, acetylcholine, dopamine and norepinephrine decrease in CNS, elevated levels of mono amine oxidase (MAO) and decrease in number of neuro-receptors with increased resistance to diffusion of drugs contribute to the vulnerability to depression in older adults.

Clinical feature

- Mood variations; often worse in the morning, improving later in the day
- Change in sleeping, eating habits or appetite.
- Weight gain or weight loss
- Feeling of guilt or hopelessness
- Slowed thoughts, speech and movements
- Negative thoughts, blaming self and low self esteem, thoughts of death/suicide.
- Complaints that have no physical cause(somatic complaints) such as unexplained aches and pains.
- Short temper, feeling of anxiety.
- Tearfulness for no reason, unrealistic sense of failure.
- Lack of concentration and difficulty in making decisions.
- Feeling of loneliness
- Reduced desire for sex.

DISCUSSION

Depression is a leading cause of morbidity and mortality worldwide. The biological factors, genetic and personality components, psycho social and psychodynamic factors along with life style changes contribute to the etiology of the disease. The biological changes in the body are controlled by dosha. So the vulnerable humors will result in the pathophysiology of the disease. If old age person take diet which is not satvik- i.e. they enhances the Rajas and Tamas elements- these will increase the doshas listed above causing nervous dysfunction. If not corrected in time, this could lead to a permanent vitiated condition that could make it more and more difficult to resolve and can actually become a vicious cycle. This altered nervous condition i.e. the condition

of depression or anxiety can be improved by adopting a satvik lifestyle and diet- making a more positive and constructive in our approach.

CONCLUSION

It is concluded that depression is a common and significant problem for older adults. It is related to disability and affects rehabilitation participation, treatment compliance, and outcomes. By the help of ayurveda protocols like Nidana parivarjana, Shodhana Chikitsa, Yogas, Pranayam and Meditation will help in Swasthya through balancing of Shareerika and Mansika dosha will leading to help treat problems.

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Adaptation of lifestyle in Geriatrics

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ABSTRACT

As the world's population ages, elderly people are becoming an increasingly important group that merits special attention with regards to health and social issues. Lifestyle affects health and survival at all ages. In order to stay healthy and feel good it is needed to maintain a healthy lifestyle (adequate and balanced nutrition, active lifestyle, establishing social relations, etc.), and to take the necessary measures in time. The WHO reports that the unhealthy lifestyle (smoking and alcohol use, malnutrition, sedentary living, etc.) is responsible for one third of the burden of chronic illness. These factors not only shorten life but, when they occur together, also have a major impact on survival beyond that associated with each single lifestyle factor. Protecting the health of the elderly is one of the most important goals of public health. Geriatric or geriatric medicine is a speciality that is based on improving health care for elderly people. It supports healthy improvement in older adults by preventing and treating disease and disability that often comes with ageing. Therefore this study aimed at adapting the healthy lifestyle in an elderly person's.

Keywords: Healthy lifestyle, Aging, Elderly, Longevity, Co-morbidities, Adaptation.

INTRODUCTION

Ageing is a universal phenomenon. India is the second largest country in the world, with 72 million elderly persons above 60 years of age as of 2001. Over the last 50 years, improvements in standard of living (income, nutrition and education) and health care (curative and preventive medicine) have resulted in a significant increase in life expectancy for adults of all ages including those of advanced age.[1] Evidence from several studies indicates that longevity results from the combined effect of a variety of underlying factors, including genetics, environmental and medical factors, and that there is also a stochastic component. Of these elements, modifiable risk factors (such as lifestyle factors) are especially relevant as they are amenable to intervention.

People who lives in Italy, Japan, USA have a significantly longer life expectancy than people in other parts of the developed world. A study conducted in these areas found that these populations have common lifestyle characteristics that may explain their longevity. These include: abstaining from smoking constant and moderate physical activity, social engagement; and a diet rich in vegetables, fruits and whole grains.[2] Indeed, according to the World Health

Organization, lifestyle factors lie at the root of non-communicable diseases such as cancer and cardiovascular diseases.[3]Elderly people may achieve exceptional longevity in multiple ways by engaging in different combinations of protective behaviors.

Medical and health advances have led to relative increases in human longevity and elderly population. Common diseases in elders can be prevented using healthy lifestyle. Identifying current status of the elderly is necessary to design educational intervention programs to improve their health and quality of life. Aging is accompanied with diminishing physical and mental capacities in daily life and incidence of chronic disease and co-morbidities. Healthy lifestyle of the elderly was adapted including exercise, nutrition, prevention, stress management, and social relationship.

As life expectancy is increasing one of the most important issues in today's is how to maintain healthy aging and health of the elderly. Aging is an evitable phenomenon in physiological terms. Generally, the limit is considered as 65 years. The transition to a dependent state usually occurs after the age of 75 years.[4]Aging does not only have disadvantages, but if you take care of healthy aging, the old age can be lived very well.[5]The fact that people live longer has brought along the desire to spend this period healthier. Longevity is associated with genetic material, but genes are not the entire story.[6]Nutrition, life-style, social support all contribute to longevity.

As they grow older, people face challenges to their health that didn't exist before. Perceptual systems start to decline, leading to poor eyesight, hearing and coordination. Neurological problems often start or begin to worsen. Daily activities become more of a strain and bad health days become more common. There's simply work involved to maintain health and wellness. Making healthy lifestyle changes now can help your senior loved one to boost his or her well being. In fact, it's better for seniors to make healthy changes on their own terms than to be forced to do it because of an illness or preventable condition. These following changes can all add up to a longer life span that's filled with more happiness in the senior years.[7]

1. Give up Harmful Habits

Some seniors have had a smoking habit for decades. Help your loved one explore smoking cessation techniques that can help him or her quit. Support groups for smokers are a great place to start. If your loved ones does not smoke, he or she may have another unhealthy addiction to address, such as drinking too much alcohol. Professional caregivers can be wonderful sources of support for seniors who are trying to give up unhealthy habits. Home care providers can benefit aging adults in a variety of ways, from cooking nutritious meals to offering timely medication reminders.

2. Go For Daily Walks

Instead of stressing over hectic exercise routines, seniors can focus on just getting out of the house once a day. A daily walk is a great form of exercise, and it's easier on the joints than trying to do a major workout. Overtime, walking can help your loved one lower his or her blood pressure and enjoy other health benefits.

3. Focus on Better Sleep Hygiene

Proper rest is essential for the body to function well, and a sleep-deprived senior is more likely to experience accidents at home. Encourage your loved one to establish a bedtime and stick to it. To foster better sleep, you may also need to make alterations to your loved one's bedroom, such as putting up room-darkening curtains.

4. Find ways to Laugh Each Day

Laughter still remains one of the best kinds of medicine around. Laughing promotes a positive that can boost physical and mental health. Get your loved one a joke-a-day calendar or encourage him or her to listen to a comedy show. Finding things to laugh at can even become a game that elevates your loved one's mood.

5. Learn to Relax

Mental health is also important. Your loved one should learn how to practice relaxation techniques such as meditation and deep breathing. Identify a few ways your loved one can relieve stress, and suggest doing one or more of them at least once a day.

6. Eat Healthy

The digestive system slows down with age, so high-fiber fruits, vegetables and whole grains are as important as ever. Because seniors are prone to dehydration, they should drink plenty of water to stay energized and sharp.

7. Focus on prevention

Preventative care visits, including health screenings for cholesterol levels, colon cancer, heart problems and more, qualify for Medicare coverage. Seniors also need to get vaccinations that can help prevent influenza and pneumonia.

8. Get information on medication management.

Ask about and review the senior's medications with their physician on a regular basis. Consider possible drug interactions and take note of any new symptoms (allergic reactions, drowsiness, loss of appetite and others) the senior shows after changing or starting medications.

9. Remember mental health

The Geriatric mental health foundation recommends that seniors do crossword puzzles, read and write and try new hobbies to stimulate their minds and engage with the world around them. Activities like these can ward off a decline in mental health.

10. Socialize

Time spent with family and grandchildren help seniors feel connected, especially if they have mobility issues. Those visits can make seniors feel more upbeat, which is the best medicine at any age.

11. Screen for vision changes

Seniors who wear glasses should have their prescription checked every year for changes and have their eyes screened for health issues. Having the right pair of glasses can reduce a senior's chance of falling.

12. Stay physically active

Exercise not only alleviates depression but improves energy and memory. An exercise program approved by a physician, long walks or short strolls can keep seniors healthier longer. With their health under control, seniors can do more and stay active, which is important to their overall well-being. Happy, healthy seniors can still present a lot of care challenges, but they can also contribute more to their health, which can give caregivers a little less worry about.

DISCUSSION

The study showed that even at a younger age, a lack of physical activity and regular exercise, as well as a poor diet can contribute towards high blood pressure, heart disease, heart attacks and a poor health related quality of life. Therefore, for them to really appreciate the value of a healthy lifestyle as older adults, it is important that they acknowledge the changes that occur within them as they age. These life changes are both physical and emotional. Emotionally they struggle with the loss of loved ones, and their independence. Physically their bodies are not as vibrant as when they were younger. The caregiver's role for the geriatric patient is often assumed by family members but also includes professional home care services when needed. Regardless of who is supervising the care, there are a host of details to keep regularly, including:8

- Meals – diet supervision and scheduling
- Medications – up-to-date lists and schedules
- Socialization – keeping the patient from isolation
- Prevention – understanding symptoms that could need attention.

CONCLUSION

The study showed that, the reason of long and healthy life of the healthy elderly who live life above the average life expectancy is found to be natural and healthy nutrition, working and staying away from stress. According to these results; to ensure a longer and healthier life for the society; natural and healthy nutrition, working and staying away from stress is recommended.

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ROLE OF DOSH-DHATU-MALA-AGNI IN AGEING

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Abstract

Ayurveda was introduced to the earth so that man could enjoy a long & healthy lifespan. There are nine dravyas (causative factor) i.e. Panchamahabhuta (space, air, fire, water & earth) Mana (mind); Atma (soul); kala (time); Disha (direction). The universe resides within the limitations of kala & Disha in a clockwise manner. The time period from the conception till death is called kala. Various changes occur in the body during the period of ayu, these are natural and cannot be changed. Various stages of life - bala, Madhya & vridhavastha. Ageing is considered as a natural disease that may be manifested timely or untimely. Every person will pass through this period when various decaying changes will take place and this time period is known as Vridhavastha. This stage is characterized by decay in the body, Dhatu, perception power of Indriya, potency, strength, speech, various mental and cognitive functions. Treatment of ageing is a major concern in today's era.

Keywords – Ageing, Kala, Panchmahabhuta, Tridosha, Dhatu, Agni.

Introduction-

Ayurveda is the science of life & ageing is a process towards the living of this life. The component of ageing is unstoppable, unchangeable & irreversible. Ayurveda described about Rasayanchikitsa for not only to increase life span but also to increase the health status of body & mind.

The Tridosha, Saptadhatu, Indriya, Strotas & Agni are affected in the ageing process according to Ayurvedic fundamentals manifesting signs & symptoms physical as well as functional levels. Lifestyle, dietary habits, addictions, mental makeup, social & family life, meditation & many other environmental factors may influence the ageing process & their unfavourable effects cause premature ageing.

Materials & Methods-

This article is based on a review of Ayurvedic texts, materials related to Ageing, Vaya & other relevant topics have been collected. Articles, Researches, related studies.

Role of Tridosha in Ageing

Ayurveda named Vata, Pitta, Kapha, as Tridosha and are recognized as being fundamental to all life their action are named anabolism, metabolism, catabolism in western science. A balance among the Tridosha is necessary for health. Together the Tridosha governs all metabolism activities. When vata is out of balance metabolism will be disturbed resulting in excess catabolism which is the breakdown or deterioration process in body. When anabolism is greater than catabolism, there is an increased rate of growth & repair of the organs & tissues. Excess pitta disturbs metabolism, excess kapha increase rate of anabolism & Excess vata creates emaciation (catabolism). The physiological sleshma holds the responsibility of the following functions which are mainly deranged in the cases of jara due to kaphakshaya- Ambu karma/ upalepasandhibandhana/ Brimahana/ purana/ snehana. The six factors responsible for parinama of Aahara, Viz, Ushma, Vaya, Snehakleda, kala & samyoga are deranged in old age.

Role of saptadhatu in Ageing

The second component of sharira is dhatu "Heeyamana dhatu" is the typical feature of old age structural components of the body which are directly victims of the constant interplay of the tridosha. They help in maintenance, bearing, sustenance & nourishment of human body, Due to vikritavata, vishamagni & ksheenakapha, the Adidhatu Rasa itself is malformed & does not perform its function of "preenana" to rest of Dhatus & in turn to total body. This leads to sequential weakening of Dhatu wagnis at the Saptadhatu level ultimately leads to Dhatukshaya. This emaciated condition generally identified with aging. i.e. "ksheeyamana dhatu bala Indriya"

Role of Trimala in Aging

In addition to Doshas & the Dhatus there is one more constituent of the body named as malas or byproducts of the metabolism. The chief malas are mutra or urine, shakrit or faeces & swed or sweat. Malas play supporting role while they are in body are eliminated once their supporting role is finished in condition of Dhatu kshaya like Rajyakshmajarajasosha etc. mala holds the function of strength other word purish is only the strength of to the Dhatukshaya persons.

Treatment of Aging-

Ageing is considered as a disease & its treatment has been clearly described in various Ayurvedic texts, Acharya Charaka explained about Rasayanchikista. For Aging. some cases vajikaran treatment also told, Acharya Shushruta also explained about Rasayanchikista.

Prevention of Ageing .

- 1) Follow Dinacharya, Rutucharya, sadvruttapalan, Abhyang, shirodhara, exercise, gandusha
- 2) By Following the other principles of swasthvritta such as utilization of Tryopastambha (Diet, sleep & coitus) Rutushodhan.

Discussion-

In the external appearance in the condition of Dosha ,Dhatu ,Mala ,Agni ,oja& so on as well as in the mental & cognitive functions .One who is established itself who has balanced dosha's,balanced agni properly formed dhatus proper elimination of mala well functioning bodily processes & whose mind ,sole ,senses are happy is called a healthy person .

Conlusion-

Tridoshas control all the physiological process directly by the predominant dosha in a particular prakruti.Tridosha are responsible for maintain health .Ageing is the procedure of decay & degeneration &thus Aggravated by the predominant pitta supported by vata.Role of DoshaDhatu ,Mala&Agni is important for ageing process.

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“DAILY USE OF MILK WITH GHEE IS THE BEST RASAYANA FOR GERIATRIC”

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ABSTRACT:

Ayurveda, the Indian traditional holistic health science has broad spectrum of preventive measures for combating the ageing process. It has a focused branch called Rasayana which deals primarily with geriatric problems. 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. Hence what all is needed is to retard the rate of aging to a limited extent and to promote healthy aging. There is considerable scope to develop a safe and cost-effective protocol for geriatric care on the basis of Ayurvedic lifestyle management, Rasayana therapy and practice of yoga. Combination of milk and ghee can help in improving the metabolism and providing energy and strength to body. It helps to balance the tridoshas , Nourishes to the Dhatu and increases to the ojas. It also detoxifies the system by removing all the harmful toxins from the body through excreta. Daily use of Ghee and milk is the best rasayan.

Keywords:Jara, Aging, Rasayana, Ghee, Milk Geriatric, Health

INTRODUCTION:

Ageing is a process of physical, psychological and social change in multi-dimensional aspects. Ayurveda has the potential for disease prevention by health promotion and noncommunicable disease prevention. The focused branch Rasayana (rejuvenation) or Jarachikitsa promote healthy longevity. Jarachikitsa and Rasayana methodologically delay vrudhastha (ageing) and reduce geriatric degeneration. Vrudhastha begins at 60-70 years

Physiological Changes of Ageing :-

Described In Ayurveda 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. As per fundamental principles of Tridosha, Vata is the predominant dosha during old age. It precipitates atrophy and involution of tissues and is responsible for most of the manifestation of ageing. With the advancing age, the depleted agni leads to decrease in the vigor and vitality with decay and atrophy due to defective metabolism. During this period, there is gradual decline of all the dhatu, virya, indriya, ojas, bala and utsaha along with loss of

hair, wrinkling of skin, chronic and recurrent cough, shortness of breath. Ayurveda considers ageing as the Swabhavaja vyadhi i.e. it is inherent nature of the living being to get old

While describing aging, Ayurveda takes in consideration Prana (life energy that performs respiration, oxygenation and circulation). It governs two other subtle essence ojas and tejas. Ojas (the essence of the seven dhatus or bodily tissues) is responsible for the auto-immune system and mental intelligence, it is necessary for longevity. Displaced ojas creates the kapha-related disorders and decreased ojas creates vata-related reactions. Tejas (the essence of a very subtle fire or energy) governs metabolism through the enzyme system. Agni (central fire or energy source in the body) promotes digestion, absorption and assimilation of food. Tejas is necessary for the nourishing and transformation of each dhatu. Aggravated tejas, burns away ojas reducing immunity and overstimulating pranic activity. Aggravated prana produces degenerative disorders in the dhatus. Lack of tejas results in over production of unhealthy tissue and obstructs the flow of pranic energy. Just as it is essential to maintain balance amongst the tridosha—vata, pitta, kapha principles of motion, metabolism, structure, respectively, the dhatus and the three malas (bodily wastes); it is also important for longevity that prana, ojas and tejas remain in balance. The tridosha play a very important role in the maintenance of cellular health and longevity. Kapha maintains longevity on the cellular level. Pitta governs digestion and nutrition. Vata, which is closely related to pranic life energy, governs all life functions. Proper diet, exercise and lifestyle and rasayana can create a balance ensuring long life and health

According to acharya Charaka Ghee mixed with milk is the best rasayana dravya.

1)Ghee properties and Benefits:-

In 'Raj Nighantu' signifies that cow's ghee helps with intelligence, restoring memory, luster over the face pacifies aggravated 'Vata and Kapha', kills tiredness, cleanse Pitta and purify the body. It evokes the digestive fire to work in an optimum way.

According to Acharya Charak, cow ghee pacifies Vata due to Snigdha guna (unctuous properties) and Pitta due to Madhura (sweet) and Sheeta (cold) properties. It increases Shukra and Ojas due to similar properties.

Health Benefits of Cow Ghee

1. Works as Laxative 2. Natural Healer 3. Great for Eyesight 4. Keeps Skin Hydrated and Healthy
5. Relieves Acidity 6. Improves Digestion 7. Reduces Bad Cholesterol. 8. Immunity Booster 9. Works as Lubricant

10 Great source of energy:-Loaded with butyric acid, cow ghee also has Omega 3 and Omega 9 essential fatty acids (EFA) and Vitamins A, D, E, and K which help in total body nourishment.

2)Milk Properties and Benefits-

According to acharya Yogratnakar Cow milk has ten properties viz,

1)Swadu – Sweetness 2)Sheeta – cold 3)Mrudu – soft 4)Snigdha – unctuous, oily 5)Bahala – dense, thick 6)Shlakshna – smoothness, 7)Picchila – sliminess, stickiness 8)Guru – heavy 9)Manda – slowness 10)Prasanna – calming, clarity.

These are also the properties of Ojas. So milk having identical properties is conducive to the promotion of Ojas, thus milk is an elixir par excellence Rasyana

Cow milk uses as per Ashtanga Sangraha text book:

Jeevaneeya – enlivening

Rasayana – rejuvenating, anti aging

Medhya – Brain tonic, improves intelligence

Balya – improves strength and immunity

Stanya – improves lactation

Sara – laxative, promotes movement of liquids in channels

Milk and ghee are the lifelines of Indian cuisines. The combination of milk and ghee is not only delicious to eat, but they are also incredibly healthy. Ghee is the foundation for many Ayurvedic medications, and studies have shown that several health benefits come from having ghee with milk at morning or night.

3)Benefits Of Drinking Ghee with Milk

1. Strengthens the Digestive System

Ghee strengthens the digestive system

A spoonful of ghee with a glass of milk will benefit you way more than anything else ever will. This is particularly true if you drink ghee with warm milk and turmeric combo. Studies show that having ghee with a glass of milk and turmeric improves digestion by removing harmful toxins from the system. This helps with constipation and gives a much-needed boost to your immunity.

2. Increases the Metabolism

Ghee increases the metabolism

One of the most significant Ayurvedic benefits that come from drinking ghee milk at bedtime is that it improves your body's metabolism. This will greatly improve your mood while also enhancing stamina and helping you lose weight.

3. Helps Reduce Joint Pain

ghee helps reduce joint pain

Having desi cow ghee with milk just before bed is a great way to relieve joint pain. Ghee is a known lubricant for joints and works towards reducing the inflammation present around them. Milk, on the other hand, contains calcium which naturally strengthens bones. Vitamin K2 in ghee helps the bones to absorb calcium from the milk, and that is why having milk ghee combo is considered to be beneficial in Ayurveda.

4. Helps Reduce the Stress in your Body

ghee reduces stress

Too much stress is never a good thing, and the food you eat can increase or decrease your stress levels. Like chocolate or ice cream, superfood ghee is known for being a feel-good food that makes you feel happier. When having a hot cup of milk at night, it is said to calm down the nerves and send one into a state of sleepiness. This is why this drink is found to be particularly useful to people who participate in incredibly stressful occupations or experience insomnia.

5. Gives Healthy Skin

Both ghee and milk are natural moisturisers and are said to improve the skin. Having ghee with milk every night can hydrate and revive it from its dull, lifeless state. incorporating desi ghee with milk in everyday routine ,It act as best rasayan dravya. Ayurveda aims to improve health, and by having ghee with milk every night, or morning will be able to reap the Ayurvedic benefits in no time.

DISCUSSION :

The Ayurvedic treatment for old age is one of the eight important branches of the Ayurvedic system of medicine. As per Ayurveda, ageing is a natural disease characterised with physiological increase of Vata, derangement of Agni, depletion of Dhatu (body tissues), Ojas (factor responsible for immunity) and Bala (strength) as a result of impaired nutrition. Old age is associated with cognitive impairments, loss of muscles and dryness of skin, wrinkling etc. Proper nourishment is key to prevention of ailments, hence proper dietary management is very important. Rasayanas (rejuvenators) in the form of diet, lifestyle and medicine have an important role in healthy ageing. Milk and ghee are the best rejuvenating diet to counteract issues related with ageing.

CONCLUSION:

Due to increased elderly population, the prevalence of geriatric specific disease conditions is also increasing. This is creating a big burden to the health care providers and the government. combination of Ghee and milk Rasayana is the best answer to meet out the problems. It is the duty of the young health care professionals to explore the Ayurveda classics and Rasayana therapy to create awareness about the strength of Ayurveda in geriatric care.

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ROLE OF DOSHA-DHATU-MALA- AGNI IN AGEING

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ABSTRACT

Ayurveda is the science of life and to save the mankind of this earth Ayurveda is introduced so that man can enjoy a long and healthy lifespan. [1]Health or sickness depends on the presence or absence of a balanced state of the total body matrix including the balance between its different constituents. Both the intrinsic and extrinsic factors can cause disturbance in the natural balance giving rise to disease and this concept of Ayurveda is further supported by the various Ayurvedic treatments. Tridosha are the biological entities derived from Panchamahabhuta, responsible for regulation of all bodily functions and its regulation. Variation in functional state of Tridosha with respect to age, day-night, and season occurs to accommodate body with the environmental influences like sunrise, sunset and seasonal variations. The body is decaying continuously, as shown by its etymology, that is, shiryate anena iti shariram. Untimely ageing is wholly preventable if the principles of Ayurveda are strictly followed. It is inevitable and it can only be delayed. During this process the Hrasa or decline in specific features can be observed in specific decades. Dosha, dhatu and Malas are the fundamentals of human body. This article is about the role of dosha, dhatu and malas in ageing.

INTRODUCTION –

Ayurveda is one of the most ancient sciences in the world. The main objective of Ayurveda is to promote health and thereby preventing the diseases and to relieve the humanity from all categories of miseries i.e. physical, mental, intellectual and spiritual. Aging is both a complex and challenging scientific problem and a fact of universal concern. In modern science, aging is defined as a progressive failure of the body haemostatic adaptive response. This concept of aging is widely scattered in various texts in the Ayurvedic classics. Both share and size of elderly population is growing over time therefore aged population has become one of the major subjects of concern due to its health related issues. Ayurveda conceives life as a four dimensional entity. Ayu, the living entity is the sum total of Sharira (Body), Indriya (Senses), Satwa (Psyche) and Atma (Soul). It is the constant and continuous union and conjunction of Sharira, Indriya, Satwa, and Atma. The synonyms of Ayu are Nityaga, Dhari, Jeevitam and Anubandha. Nityaga signifies continuation of consciousness. Dhari means the factor that prevents the body from decay.

Jeevitam represents the act of keeping alive. Anubandha means which transmigrates from one body to another. These four components of ayu interplay the human body.[3] Out of which Atma is supreme entity, immune to cycle of birth, disease and death (Nirvikara parastu atma). So other three components of Ayu are important to understand the basic biology of Jara then only the deviations from the normalcy can be corrected. A look into these factors controlling the normal functioning will provide an insight into the cause of their deterioration.

CONCEPT OF AGING IN AYURVEDA-

Vaya (Age) has been defined as the duration of time since birth to the present of a living individual. The Brihatrayis have classified Vaya with 3 major categories as Baalyavastha (childhood), Madhyamavastha (youth) and Jeernavastha/Vruddha (old age) but there are few difference of opinions regarding the range of ages that are placed in these categories. The five major classifications of aging according to different texts have been discussed below

Classification 1: From the time of birth to 30 years is considered as Baalya, 30-60 years is Madhyama and age above 60 years is Vruddha. The progressive de-generation occurs in old age which results in reduction of strength of Dhatus and Indriyas. There is decreased vigour, masculinity, bravery, power of understanding, retaining and memory, speech and analyzing facts.

Classification 2: Baalya as age from birth to 16 years, 16-70 years as Madhyama and above 70 year as Vruddha[4]. Laxanas (signs and symptoms) like wrinkling of skin, greying of hair and baldness as signs of old age.

Classification 3: As the age progress there is gradual decline in the Dhatus and functions of sense organs and motor organs. Signs and Symptoms like Kasa (cough), Shvasa (dyspnea), Vali (wrinkles), Khalitya (alopecia), Agnisaada (diminished digestive capacity), Slatha Saara- Mamsa Sandhyasthi (degenerative changes in musculoskeletal system), Tvakparushya (skin loses its texture), Avanaama (changes in stature and posture),

Vepathu (tremors) etc. [5]

Classification 4: There is a different classification of Vaya as Garbha (from intrauterine phase till delivery), Baala (up to 1 year), Kumara (1- 16 years), Youvvana (17-34 years), Madhyama (35-70 years) and Vardhakya (above 70 years). [6]

Classification 5: Baala (upto 16 years), Yuva (16-25 years), Madhyama (25-70 years), Vaardhakya

(above 70 years).[7] Jara/Jaravastha is referred as old age. It has synonyms like Sthavira, Vaardhakya, Jeernaavastha and Vruddha. It is referred as a Svabhavika Vyadhi (naturally occurring disease). It can be classified into two types further as Kaalaja/Parirakshana krita (timely aging) and Akaalaja/Aparirakshanakrita (early aging). In case of Kaalaja jara the symptoms of aging appear on appropriate time and there will be simultaneous occurrence of chronological aging and biological aging. In Akaalaja jara, aging occurs before prescribed time due to not taking care of Shareera (body) by following Swasthavritta and Sadvritta. It can be interpreted as biological aging is more intense than chronological aging.

ROLE OF TRIDOSHA IN AGING-

Ayurveda named Vata, Pitta and Kapha as Tridosha, and are recognized as being fundamental to all life and are seen in the processes of growth, maintenance, and decay. Their actions are named anabolism, metabolism, and catabolism in the western sciences. Ayurveda states the Doshavastha

(state of Dosha) at different stages of life as follows, during childhood Kapha Dosha is predominant, in middle age Pitta and in old age Vata Dosha becomes dominant. The properties of Vata Dosha like Ruksha (dry), Laghu (light), Sheeta (cold), Khara (rough), Vishada (Non-slime) attribute to the signs and symptoms of old age such as decreased skin texture, dry skin, reduced strength etc. When the specific functions of Pancha Vata-Pitta and Kapha are analysed we can interpret them as

Follows[8]

Type of Vata	Physiology	Manifested symptoms
<i>Prana Vata</i>	<i>Udgara</i> (belching), <i>Nishvasa</i> (breathing), <i>Anna Pravasha</i> (deglutition)	frequent belching due to delayed digestion, exertional dyspnea, difficulty in deglutition
<i>Udana Vata</i>	<i>Vaak Pravrutti</i> (speech), <i>Bala</i> (strength), <i>Varna</i> (complexion) <i>Smruthi</i> (memory)	Indistinct or unclear speech (loss of teeth), diminished strength, complexion and memory
<i>Samana Vata</i>	<i>Anna Grahana-Pachana</i> (ingestion and digestion of food), <i>Saara Malaadi Vivechana</i> (separation of nutritive and waste portion), <i>Munchana</i> (formation of stool and excretion)	Less ingestion capacity and reduced appetite, weakened digestion, irregular bowel
<i>Vyana Vata</i>	<i>Shareera Gati</i> (body movement), <i>Jaleeya</i> <i>Dhatu Gati</i> (circulation of fluid entity)	Gait is affected, improper blood circulation
<i>Apana Vata</i>	<i>Utsarga</i> (expulsion) of <i>Shukra</i> (semen), <i>Arthava</i> (ovum/menstrual blood) and <i>Mala</i> (metabolic waste products like urine, stool)	Delayed seminal discharge, menopause, constipation, urinary incontinence, scanty urine

Table 2: Functions of Pancha Pitta affected in old age

Type of Pitta	Physiology	Manifested symptoms
<i>Pachaka Pitta</i>	<i>Pachana</i> (digestion), <i>Kshudha</i> (Appetite)	<i>Rasadi Dhatu Poshana</i> (nourishment of Rasa etc.) is hampered, Reduced appetite
<i>Ranjaka Pitta</i>	<i>Rasa Ranjana</i> (colouring of Rasa Dhatu)	Anemia
<i>Alochaka Pitta</i>	<i>Roopa Grahana</i> (visual perception)	Presbyopia, glaucoma, cataract
<i>Bhrajaka Pitta</i>	<i>Prabha</i> (lusture), <i>Deha mardava</i> (soft skin texture)	Wrinkles, loss of skin elasticity, complexion and Dryness
<i>Sadhaka Pitta</i>	<i>Buddhi Medhadi Mano artha grahana</i> (intellectual perception)	Psychological Changes

Table 3: Functions of Pancha Kapha affected in old age

Type of kapha	Physiology	Manifested symptoms
<i>Avalambaka Kapha</i>	<i>Trika Avalambana</i> (protection of media stinum)	Reduced functions of cardiovascular system
<i>Tarpaka Kapha</i>	<i>Indriya Tarpana</i> (nourishment of sense organs)	Reduced functions of sense organs
<i>Bodhaka Kapha</i>	<i>Rasa Bodhana</i> (taste perception) Atrophied taste buds	anorexia

<i>Shleshaka Kapha</i>	<i>Asthi Sandhi Shleshana</i> (binds and nourishes joints)	Degenerative and osteoporotic changes in joints
<i>Kledaka Kapha</i>	Anna Kledana (softening the food taken)	Atrophy of gastric mucous glands and reduced gastric secretion

ROLE OF AGNI IN AGING

Apart from Doshas, Agni (digestive fire) also plays major role in aging. Jataragni Ahara (food) is the main fuel for Dhatu. In old age Vata Dosha becomes dominant and it affects Jataragni resulting in Vishamagni . [9] This affects the digestion process and gradually the nourishment to body is depleted.

AGING & SAPTADHATU AND SROTODUSHTI

One of the important component of Sharira is Dhatu. “Heeyamana dhatu” is the typical feature of old age. After review of Dosha, it is essential to discuss the Saptadhatu, the structural components of the body which are directly victims of the constant interplay of the Tridosha. They help in maintenance, sustenance, bearing and nourishment of the human body. The Srotas of each Dhatu are unique in their structure and function and in the materials which move through them .Due to Vikrita Vata, Vishamagni and Ksheena Kapha, the Adidhatu, Rasa itself is malformed and does not perform its function of “Preenana” to the rest of Dhatus and in turn to the total body. This leads to sequential weakening of the Dhatwagnis at the Saptadhatu level ultimately leads to Dhatukshya. This emaciated condition generally identified with aging i.e., “Ksheeyamana dhatu bala indriya” Leaving just a bony cage of a body devoid of replenished tissue elements. This is described by Susruta as “similar to a rumbling house collapsing with the onset of rain. Therefore, the Apreenana Rasa dhatu sets off a chain of malformations of successive Dhatus. As the Prasada paka and Kitta paka are improper, even the Upadhatus and Dhatumalas are malformed. This qualitative and quantitative Kshaya leads to the Ksheenalakshanas being found in the aged individual leads to Kasaswasadi upadrava. Since in Ayurveda, the diseases occurring in Old age have not been separately enumerated, the Adi sabda has been interpreted to encompass all the geriatric problems starting from Kasa swasa of Pranavaha srotas to the remaining all the Srotoses.

AGING AND MALAS-

In addition to the Doshas and the Dhatus there is one more constituent of the body named as Malas or the byproducts of the metabolism. The chief Malas are Mutra or urine, Purisha or faeces and Sweda or sweat. Other Malas can be named as Purisha sneha (faecal fat) ; Prajanan malas (secretion of the genitalia); and kha Malas or secretions of the various orifices of the body such as the ear, nose, mouth, and so on. Malas play a supporting role while they are in the body. They are eliminated once their supporting role is finished. Mala holds the function of strength in

the conditions of Dhatushaya like Rajayakshma, Jaraja shoshaetc.,. In other words Purisha is only the strength to the Dhatushaya persons. Malas are equally important as that of Dosha and Dhatus. They form the Muladravva of the body. They arise out of Kittapaka at the Pachakagni and Dhatvagni levels.

The various Malas mentioned in Ashtanga hridaya are Vata, Pitta, Kapha, Khamala, Karnamala, Akshimala, Asyamala, Prajananamala, Nasikamala, Lomakupamala, Kesha, Shmasru, Loma and Nakha etc. These play a vital role in the body dynamics, as elimination of Mala is an index of life activities. Hampered Agni in old age is the reason to cause Malakshaya. The common features such as pain in chest, dysuria, haematuria, excessive thirst, dryness of mouth, skin are found in Malakshaya.

DISCUSSION-

Human body undergoes considerable change in shape, size and composition, From the moment of conception, right into extreme old age, the most dramatic changes take place during the first fraction of life, in utero, but change is a continuous process and changes occurring in the latter half of the life span may have considerable impact on the physiology, pathology and pharmacology of the older individual. In Ayurvedic literature Vaghbata, Sharangadhara emphasized this progressive deterioration of bodily features decade wise thereby setting milestones of Ageing. Ayurveda is essentially the science of life and longevity. It presents a sound concept of

aging; it has mentioned various factors playing important role in ageing. There are structural and functional changes at cellular level, tissue level and organ level. The biochemical composition of cells and tissues undergo changes with age, physiological capacity reduces and the ability to maintain homeostasis in adapting to various stressors decline thereby person becomes more susceptible to diseases.

CONCLUSION-

For understanding the process of aging in terms of Ayurveda, needs the analysis of the physiological changes occurring at the level of Tridoshas, Saptadhatus, Malas, Srotas, Indriyas, Agni and Ojas. The main Dosha involved is Vata and there is Agnimandya leading to improper nourishment of various entities of body. There are different patterns of functional deteriorations occurring with aging. There may be gradual and partial functional loss or complete functional loss.

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ADAPTATION OF LIFE STYLE IN GERIATRICS

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ABSTRACT:

In present scenario, due to changing life style, changes in environment, we individuals are exposed to many life style disorders like Diabetes Mellitus, Hypertension, Obesity, Polycystic Ovary Syndrome, Psychological disorders etc.

To enjoy a healthy life and better quality of life, it is very important to adopt changes as per once age. To Reestablish ability for physical function in order to facilitate independence in activities of daily living and also promote an optimal degree of wellbeing.

There are many physical and mental benefits of conventional exercises. There is also a spiritual component when taking into account aspects such as meditation and mindfulness. In terms of mental health, many forms of exercise have been shown to combat anxiety, stress and depression, giving better results. Preventive health care programs are important as treating routine diseases is also difficult in Geriatric populations.

KEY WORDS: Life style, Geriatrics, healthcare.

INTRODUCTION

Ageing is a Natural Process. According to SENECA, Old age is an incurable disease.

According to Sir James Stirling Rase, you do not heal old age,

You "Protect" it.

You "Promote" it.

You "Extend" it.

At present an average life expectancy is 70 years in developed countries due to advanced medical science & improved social condition.

By adopting healthier lifestyle, the risk of a whole range of chronic diseases can be reduced.

These factors are: -

1. Diet & Nutrition

- Healthy & Balanced diet.
- Less saturated fats & Oils.
- Lots of fruits.
- Less salt & sugar.
- High fibre intake.
- Calcium rich food.

2. Exercises

- Control weight.
- Increase flexibility.
- Increase mobility.
- Improves blood circulations.
- Lowers blood pressure.
- Lowers blood glucose.
- Improves bone density & this prevents osteoporosis.
- Improves balance thus reduces the chances of fall.
- Relieve stress.
- Improves emotional well-being.
- Increased energy levels.

3. Weight

Overweight & obesity causes many diseases in later half of life.

- CHD
- Stroke So weight should be maintained.
- HTN
- Arthritis especially in knee joint
- Breast cancer



4. Smoking

Smoking cessation decreases the chances of early death in ageing, also Coronary Heart Disease, Lung cancer, Asthma etc.

5. Alcohol Consumption

- Alcohol drinking is linked to
- Liver Diseases
- Depression
- Breast cancer
- Stomach ulcers
- Osteoporosis
- Hypertension
- Gout
- Coronary Heart Disease
- Diabetes Mellitus etc.

So, Drinking should be stopped.

6. Social Activities

- One should go out.
- Mix with friends and family.
- Attend get-together.
- Participation in community activities.
- Meet other people of same age group in library, old age home and community centers.
- Attend yoga activity, Hasya (laughter) club.

7. Healthcare and Regular follow up

Annual health check-up program. Attending physician/Doctor/ Healthcare providers for regular health issues is important.

CONCLUSION:

With increasing life expectancy geriatric population is on the rise, healthcare issues related to this population are going to be a challenge in near future for healthcare providers and society at large. Lifestyle changes that can be adopted by this geriatric population will be the cornerstone of treatment.

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ROLE OF DOSHA-DHATU-MALA-AGNI IN SENELITY

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Abstract

Ageing is a natural process. Everyone must undergo this phase of life at his or her own time. Ageing is a complex phenomenon, a sum total of changes that occur in a living organism with the passage of time & lead to decreasing ability to survive stress, increasing functional impairment & growing probability of death. It is the process of becoming old and decaying as advances, several changes takes place in the body, in the external appearance of Dosha, Dhatu, Mala, Agni and so on as well as in the mental & cognitive functions .

Ayurveda has given detailed explanation about physiology of ageing and physiological changes in Tridosha, Dhatu, Mala, Agni. Concept of ageing and changes in functions of Dosha, Dhatu, Mala, Agni in Jaravastha have been discussed in detail in this paper.

Keywords - Ageing, Agni, Dosha, Dhatu, Mala, Oja, Vaya

Introduction

Ageing is a process of physical, psychological and social change in multidimensional aspects. According to Ayurveda ageing known as "Jara" defined as that which has become old by the act of wearing out "Jiryati iti Jara". It is synonymic as "vardhakya" meaning increasing age. Ayurveda divides human life into childhood (up to age 16 years), youth & middle age [(from 16 to 60 years (charaka) or 70 years (Sushruta) & exhibits progressively traits of growth (vivardhamana - 16-20 yrs of age) youth (youvana - 20-30 years), maturity (sampoorna 30-40 years) deterioration (hani -40 years onwards) which gradually sets in upto 60 years] old age, where in after 60-70 years of the body elements, sense organ, Strength begin to decay.

While describing ageing, Ayurveda takes in consideration prana (life energy that performs respiration, oxygenation & circulation). It governs two others Subtle Ojas and Tejas. Ojas (the essence of the seven dhatus) is responsible for auto-immune system & mental intelligence, it is necessary for longevity. Displaced Ojas Creates the Kapha - related disorders & decreased Ojas creates the Vata related ailments.

Tejas (the essence of a very subtle fire or energy) governs metabolism through the enzyme system. Agni (central Fire or energy Source in the body) promotes digestion, absorption & assimilation of Food. Tejas is necessary for the nourishing and transformation of each Dhatu. Aggravated tejas, burns away ojas reducing immunity and overstimulating pranic activity.

Aggravated prana produces degenerative disorders in the dhatus. Lack of tejas results in over production of unhealthy tissue and obstructs the flow of pranic energy. It is essential to maintain balance amongst the Tridosha - Vata, Pitta, Kapha principles of Motion, Metabolism, Structure respectively. The Saptdhatus and the three Malas (body wastes); it is also important for that longevity that Prana, Ojas, Tejas remain in balance. The Tridosha play a very important role in the maintenance of cellular health & longevity. Kapha maintains longevity on cellular level. Pitta governs digestion and nutrition. Vata, which is closely related to Pranic life energy governs all Life Functions.[1]

Aims and objectives

- 1) To discuss & elaborate the various Ayurvedic concepts and principles related to ageing.
- 2) To understand the physiological changes in Function of Dosha, Dhatu, Mala, Agni in the process of ageing.

MATERIAL AND METHODS:

This article is based on a review of Ayurvedic texts. Materials related to ageing, Vaya, Dosha, Dhatu, Mala, Agni and other relevant topics have been collected. The main Ayurvedic texts used in this study are Charaka Samhita, Sushruta Samhita, Ashtang Hrudaya, Kashyap Samhita and available commentaries on these. We have also referred to the modern texts and searched various websites to collect information on the relevant topic.

REVIEW OF LITERATURE:

CONCEPT OF AGEING IN AYURVEDA: Vaya (Age) has been defined as the duration of time since birth to the present of a living individual.[2] The Brihatrayis have classified Vaya with 3 major categories as Baalyavastha (childhood), Madhyamavastha (youth) and Jeernavastha/Vruddha (old age) but there are few differences of opinions regarding the range of ages that are placed in these categories. The five major classifications of ageing according to different texts have been discussed below:

Classification 1: From the time of birth to 30 years is considered as Baalya, 30-60 years is Madhyama and age above 60 years is Vruddha. The progressive degeneration occurs in old age which results in reduction of strength of Dhatus and Indriyas. There is decreased vigor, masculinity, bravery, power of understanding, retaining and memory, speech and analyzing facts.

Classification 2: Baalya as age from birth – 16 years, 16-70 years as Madhyama and above 70 years as Vruddha.[3] Lakshnas (signs and symptoms) like wrinkling of skin, greying of hair and baldness as signs of old age.

Classification 3: As the age progress there is gradual decline in the Dhatus and functions of sense organs and motor organs. Signs and Symptoms like Kasa(cough), Shwasa (dyspnea), Vali (wrinkles), Khalitya(alopecia), Agnisada (diminished digestive capacity), Slatha Saara- Mamsa Sandhyasthi (degenerative changes in musculoskeletal system), Tvakparushya (skin loses its texture), Avanaama (changes in stature and posture), Vepathu (tremors) etc. [4]

Classification 4: There is a different classification of Vaya as Garbha (from intrauterine phase till delivery), Baala (up to 1 year), Kumara (1- 16 years), youvana (17-34 years), Madhyama (35-70 years) and Vardhakya (above 70 years)[5]

Classification 5: Baala (upto 16 years), Yuva (16-25 years), Madhyama (25-70 years), Vaardhakya(above 70 years)[6]

Jara/Jaravastha is referred as old age. It has synonyms like Sthavira, Vaardhakya, Jeernaavastha and Vruddha. It is referred as a Svabhavika Vyadhi (naturally occurring disease) [7]. It can be classified into two types further as Kaalaja/Parirakshana krita(timely Ageing) and Akaalaja/Aparirakshana krita(early Ageing) . In case of Kaalaja jara the symptoms of Ageing appear on appropriate time and there will be simultaneous occurrence of chronological Ageing and biological Ageing. In Akaalaja jara, Ageing occurs before prescribed time due to not taking care of Shareera (body) by following Swasthavritta and Sadvritta. It can be interpreted as biological Ageing is more intense than chronological Ageing.

PROCESS OF AGEING:

Sharira: Dosha dhatumala moolam hi Sariram[8]

The three basic constituents of human body, Vata Pitta and Kapha in a balanced State, Structurally, and functionally maintain the health & in an imbalanced state produce diseases

ROLE OF TRIDOSHA IN AGEING:

Dosha	Balyavastha	Madhyavastha	Vrddhavastha
Kapha	+++	++	+
Pitta	++	+++	++
Vata	+	+	+++

Amongst these Doshas, Kapha is predominant in Balya, pitta in Madhya and vata in vardhakya /Vrddhavastha. In the old age, many diseases or syndromes are observed which are the result of imbalances in the body constituents that is Vata, Pitta And Kapha to lesser or a greater extent.

Table no 1: Functions of Panch Vata affected in old age^[9]

Types of Vata	Physiology	Manifested symptoms
<i>Prana Vata</i>	<i>Udgara (belching), Nishvasa (breathing), Anna Pravasha (deglutition)</i>	frequent belching due to delayed digestion, exertional dyspnea, difficulty in deglutition
<i>Udana Vata</i>	<i>Vaak Pravrutti (speech), Bala (strength), Varna (complexion) Smruthi (memory)</i>	Indistinct or unclear speech (loss of teeth), diminished strength, complexion and memory, balakshya
<i>Samana Vata</i>	<i>Anna Grahana-Pachana (ingestion and digestion of food), Saara Malaadi Vivechana (separation of nutritive and waste portion), Munchana (formation of stool and excretion)</i>	Less ingestion capacity and reduced appetite, weakened digestion reduced separation and elimination may lead to Gulma, mandagni, Atisara, irregular bowel
<i>Vyana Vata</i>	<i>Shareera Gati (body)</i>	Gati is affected, improper

	<i>movement), Jaleeya Dhatu Gati (circulation of fluid entity)</i>	blood circulation
<i>Apana Vata</i>	<i>Utsarga (expulsion) of Shukra (semen), Arthava (ovum/menstrual blood) and Mala (metabolic waste products like urine, stool)</i>	Delayed seminal discharge, menopause, constipation, urinary incontinence, scanty urine

Table no 2: Functions of Pancha Pitta affected in old age [10]

Type of pitta	Physiology	Manifested Symptoms
<i>Pachaka pitta</i>	<i>Pachana (digestion), Kshudha (appetite)</i>	Rasadi Dhatu Poshana (nourishment of Rasa etc.) is hampered, Reduced appetite , indigestion, Ama formation leading to Amajanya roga
<i>Ranjaka pitta</i>	<i>Rasa Ranjana (colouring of Rasa Dhatu), formation of Rakta dhatu</i>	Anemia, skin disorders in haemopoietic system.
<i>Alochaka pitta</i>	<i>Alochaka Pitta Roopa Grahana (visual perception)</i>	Presbyopia, glaucoma, cataract, myopia etc .
<i>Bhrajaka pitta</i>	<i>Prabha (lusture), Deha mardava (soft skin texture) Chaya (Prakashana)</i>	Wrinkles, loss of skin elasticity, complexion and dryness, loss of luster of skin, atrophy
<i>Sadhaka pitta</i>	<i>Buddhi Medhadi Mano artha grahana (intellectual perception)</i>	Psychological changes smritinasha, bhaya, krodha

Table no 3: Functions of Pancha Kapha affected in old age [11]

<i>Types of kapha</i>	<i>Physiology</i>	<i>Manifested Symptoms</i>
<i>Avalambaka kapha</i>	<i>Trika Avalambana (protection of mediastinum), Bala</i>	Reduced functions of cardiovascular system, Hrddrava, Hrtshula
<i>Tarpaka kapha</i>	<i>Indriya Tarpana (nourishment of sense organs)</i>	Reduced functions of sense organs
<i>Bodhaka kapha</i>	<i>Rasa Bodhana (taste perception)</i>	Atrophied taste buds, anorexia, Increased oral cavity malignancies
<i>Shleshaka kapha</i>	<i>Asthi Sandhi Shleshana (binds and nourishes joints)</i>	Degenerative and osteoporotic changes in joints, osteoarthritis, osteoporosis
<i>Kledaka kapha</i>	<i>Anna Kledana (softening the food taken)</i>	Atrophy of gastric mucous glands and reduced gastric secretions, loss of appetite,

ROLE OF SAPTA DHATU IN AGEING

The next component of Sarira is Dhatus, which are responsible to maintain a state of equilibrium with the help of Doshas and Malas. "Heyamana dhatu" is a feature of old age. They basically perform two functions:

a) Dharana (b) Poshana.

In old age due to Vikrita Vata, Vishamagni, Ksheena Kapha, the first Dhatu Rasa is not formed properly and its function of Preenana to the rest of the Dhatus is not performed, resulting in sequential weakening of all the Dhatus i.e., Dhatukshaya. Hence, due to this malformed Rasa, it sets off a chain of malformed Upadhatus and Dhatumalas.

Table no 4: The various Ksheena laksanas and vikaras observed in old age are:

<i>Dhatu</i>	<i>Dhatu kshya lakshana</i>	<i>Dhatu kshya vikara</i>

<i>Rasakshya</i>	<i>Roukshya, Bhrama, Sabdasahishunta</i>	<i>Aruchi, tandra, pandutwa, Valipalit, krushangata</i>
<i>Raktakshaya</i>	<i>Sirashaitihilya ,Rukshata</i>	Skin diseases, HTN, vertigo, decreased luster etc
<i>Mamskshaya</i>	<i>Sushkata of sphik</i>	Loss of weight, improper sensory function etc
<i>Medokshaya</i>	<i>Sandhivedana, glani,sushkata</i>	Splenomegaly, <i>prameha purvaroopo etc</i>
<i>Asthiakshaya</i>	<i>Asthitoda, Danta, kasha, nakh sadanam</i>	Diseases of hair root, nails, and diseases of bone
<i>Majjakshaya</i>	<i>Asthisourshriya, bhrama,shukralpata</i>	<i>Vata vikara, pain in joints, vertigo, decreased dehabala</i>
<i>Shukrakshaya</i>	<i>Dainya</i>	<i>Decreased libido</i>

ROLE OF AGNI IN AGEING:

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. Charaka Chikitsa 15/3 states that Agni is responsible for Ayu, Varna, Bala, Svasthya, Utsaha, Upacaya, Prabha, Ojas, Agni, Prana etc

Based on the Bala, Agni in turn is of 4 types: Tiksnagni, Samagni, Vishamagni and Mandagni. In old age, due to the predominance of Vata Dosha, Vishamagni prevails leading to Vishamagnijanya Rogas such as Ajeerna, Adhmana, Shula, Udavarta, Atisara, 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 vishamagni, defective metabolism occurs within the body leading to involuntary changes such as Kshaya and 'Shosha',

ROLE OF MALAS IN AGEING:

Malas are equally important as that of Dosha and Dhatus. They form the Muladrava of the body. They arise out of Kitta-paka at the Pachakagni and Dhatwagni levels. The various Malas mentioned in Ashtanga Hrudaya are Vata, Pitta, Kapha, Khamala, Karnamala, Akshimala, nasikamala, Lomakupamala, Kasha, Shmashru, 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, hematuria, excessive thirst, dryness of mouth, skin are found in Malakhsaya.

ROLE OF OJAS IN AGEING:

According to Ayurveda, the essence of all seven Dhatus is Ojas. Ojas also termed as Bala.Vyadhikshamatva (immunity of a person) is dependent on few factors like Ojas (essence of all seven Dhatus), Bala (strength), Prakruta Kapha and Shonita. Ojas is able to nourish and strengthen the Dhatus, giving energy, provides happiness,and lusterand balances the function of Indriyas.In old age the Oja Kshaya occurs and the person is prone for health issues as his body's resistance power is diminished.

ROLE OF SROTAS IN AGEING:

Srotas are the channels of body which transfer the body fluids. The Srotodushti (pathological changes in Srotas) leads to various diseases and the main cause for Srotodushti is vitiation of Vata and Mandagni (reduced digestive power) which is predominant in old age.

DISCUSSION:

Ageing is one of the unavoidable processes occurring in each and every living being and one cannot prevent it. Classics have mentioned it as a Swabhavika Vyadhi (naturally occurring disease) because risk of developing various diseases increases in old age.For understanding the process of Ageing in terms of Ayurveda, needs the analysis of the physiological changes occurring at the level of Tridoshas, Saptadhatus, Malas, Srotas, Agni and Ojas. The main Dosha involved is Vata and there is Agnimandya leading to improper nourishment of various entities of body. There are different patterns of functional deteriorations occurring with Ageing. There may be gradual and partial functional loss or complete functional loss.

CONCLUSION:

Ageing is a natural process; the body is decaying continuously, as shown by its etymology, that is, Shiryate tat Shariram. Untimely Ageing is absolutely preventable if the principles of Ayurveda are strictly followed. The pathophysiology of Ageing is mostly dependent on diet, and therefore, this process of Ageing can be slowed down by correct diet planning.Thus, the ageing (Jara) which is an inevitable process involves a structural and functional change in the body and the role of Dosha, Dhātu, Mala, Agni, Srotas, Ojas has been considered with respect to the ageing process. This unique concept, which is hidden in Ayurveda, show that the methods to minimize or delay the inevitable process are already known by the ancient Acharyas and was the secret behind healthy longevity.

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RASAYANA: GERIATRIC NEED OF THE HOUR

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ABSTRACT:

Youth is a gift of nature but aging is a work of art. Aging is not an option, not for anyone, hence it is our responsibility to accept this aging gracefully. Ayurveda, the science of life aims at maintaining the Aarogya and preventing Roga. It is very well known to man that growing up is an inevitable part of life, hence, Ayurveda mentions 'Jara' or Geriatrics or the branch that deals with Rejuvenation amongst its 8 most important limbs. The universe runs on its laws of Creation, Maintenance and Destruction and human body is no exception to it, that undergoes Generation in childhood, Sustainance in the youth and Degeneration during Old Age. This natural process of degeneration is called as Ageing, which is taken care of by an innovative and unique concept of Rasayana mentioned in Ayurveda. It is a special modality which provides high quality of saptadhatu, enhance immunity and body resistance by increasing Oja, boost vitality and lusture by creating a balance between the Doshas, improves or atleast maintains mental faculties, memory and intelligence, prevent ageing and promotes longevity. Rasayana is not just Chawanprasha, but includes various other aspects regarding lifestyle modifications, dietics, appropriate sleep and exercise, and following the laws of nature. It is a very underrated subject in Ayurveda, hence an attempt is being made to highlight the importance of Rasayana in Ayurveda (Geriatrics) in particular.

Key words: Aarogya, Ageing, Chawanprasha, Geriatrics, Jara, Old Age, Rasayana,

INTRODUCTION:

Ageing is essentially a physiological phenomenon usually defined as the progressive loses of biological functions accompanied by decreasing fertility and increasing mortality with advancing age. It represents structural and functional changes of an organism over its life span. Ayurveda considers Aging (Jara) as one among the Swabhavika Vyadhis or biological nature of the living being and believes in the natural cycle of birth-senescence-death-rebirth as the very destiny of life. Jara Chikitsa is one among the Ashtanga of Ayurveda which is specifically dedicated for geriatric care.

Ayurveda Rasayana Tantra or Geriatrics (Jarachikitsa) is the branch of medicine dealing exclusively with the problems of aging and the diseases of elderly and is committed to its prevention with the help of Rasayana or rejuvenation therapy. The term Rasayana (rejuvenation)

refers to nourishment or nutrition. It consists of drugs and specific therapeutic measures which act on Doshas, Dhatus, Agni, Srotas of the body and results in healthy tissues development in the body. Rasayana therapy act essentially on nutrition dynamics and rejuvenate the body on both physical and mental levels. Ultimately it renders long life, immunity, strength, happiness and intellect promotion to the person. So, all these improvements are considered as anti-aging effects. As per estimation, India currently has around 138 million persons over 65 years, by the year 2021. By proper administration of Rasayana therapy as preventive tool one can delay Jara Janita Vyadhis to occur.

AIMS AND OBJECTIVES:

1. To understand what is Rasayana.
2. To understand the phenomenon of Ageing.
3. Mode of action of Rasayana in Geriatrics.
4. Rasayana for Geriatric age groups in daily life.

MATERIALS AND METHODS:

Ayurvedic and modern text books related to Geriatrics and Rasayana therapy, online articles published in various authorized Journals.

LITERATURE REVIEW:

WHAT EXACTLY REFERS TO RASAYANA?

The word Rasayana derive from root “Rasa” and “Aayana”. Rasameans theRasa Dhatu itself and word Aayana means ‘to move’ so it means Rasayana is a dynamic process which nourishes the body from properly formed Dhatus and increases the vital process and prevents the degenerative process. As per Acharya Dalhana, Rasayana is one which leads to continuous nourishment of Rasadi Dhatus there by replenishing them. Acharya Sushruta defined Rasayana as Vayasthapaka which retards aging process (increases longevity of life). As per Acharya Sharangdhar, Rasayana can be defined as the one which cures diseases arising due to old age. Acharya Charaka has given prime importance to Rasayana and described it in an elaborate fashion, under the Swastha Chatushka. The properties of Rasayanais one which increases longevity, which increases Smriti, Medha, and one which helps in maintaining health (Arogya), maintains youthfulness, which enhances Prabha, Varna, etc.

THE GRACEFUL PHENOMENON OF AGEING:

Ageing is defined as a result of natural changes of the body that progressively leads to the death of individuals. It is also defined as the intrinsic, inevitable, and irreversible age-related loss of viability. It is basically a physiological process which results because of time bound inherent evolutionary processes by the evolutionary changes occurring in the mind-body system. In Ayurveda our body is presented as, ‘Sheeryate tat Shariram’ i.e. a living subject is one in which the wear & tear phenomenon is continuous. Ageing is not a pathological condition but a physiological action like hunger, thirst and sleep. Swabhavoparamavada (Swabhava = natural and Uparama = destruction) which means natural destructions. The concept described by Acharya Charaka is that there is a cause for the equilibrium and non-equilibrium state of Rasadi

Dhatu but there is no cause for their destruction, since death following birth is a state of natural flow.

So life span of individual is a time limited entity and everyone is mortal. The course of this ageing depends upon various factors like-

i. KALA PARINAAM:

It refers to the physical and mental transformation that occurs as a function of time and as we age. Time affects all individuals from beginning of life till the end, and this period of time is called Ayush (life span). Ayurveda divides Ayush into various stages of life, Bala 0-16 years & 16-30 years, Madhyam 30-60 years, and Jirna above 60 years.

ii. PRAKRUTI:

Prakruti is concern to the nature of body constitution (Vatadidosas and Satva, Raja, Tama) of a subject. Thus, nature interfere a subject's strength for changes at the level of Kayik, Vachik and Mansik owing to the responses with internal and external stimuli that affects the ageing process. This constitution of a person defines the rate of ageing. For example, Vata Prakruti people are easily prone to senility if not taken care of.

iii. DOSHAS:

Vatadi Doshas affects the life span at the molecular level. Vata, Pitta and Kapha Doshas are essential for blissful life span, and the dominance of Kapha Pitta and Vata (Utpatti, Sthithi, Laya) in Balya, Madhyam and Jirna Avastha respectively play an important role in understanding the role of doshas in Geriatrics.

iv. AHARA:

It is one of the most important factors that affects ageing. A poor dietary practice like improper timing, bad habits of food mixing of inappropriate food (Samashana) materials with inappropriate lifestyle disturb equilibrium state of Vatadi Doshas leading to disease conditions, ageing and finally death.

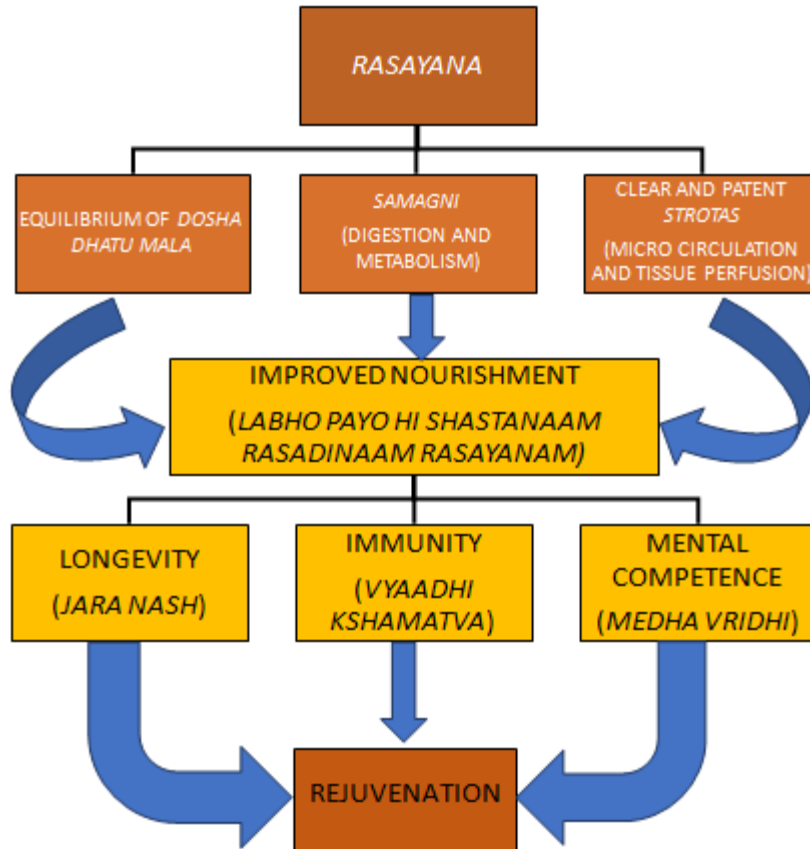
v. ACHARA:

Ayurveda has contributed a great concept of Achara Rasayana (Ayurvedic lifestyle modification). It is a behavioural therapy for calm mind and long life. It is a unique Ayurvedic concept of mind rejuvenation. It controls and maintains the circadian rhythm of the body clock that results in good health, vitality and immunity, all of these slow the physiological ageing process.

vi. AGNI:

Jatharagni is among the chief agni among all agni present in the body. Jatharagni serves as the main digestive element and is the main contributor for all anabolic and catabolic process in the body. Also, 'Tesham Sadati Deeptibhyaam Dhatu Vrudhi Kshayodhbhavaha' i.e. If this Jatharagni situated at the Sapta Dhatus, also known as Dhatvagni is powerful then it destroys all the related tissues and resulting in degeneration of tissue. This phenomenon is also known as Dhatu paka. Thus, the state of Jatharagni and Dhatvagni influences the ageing process.

MODE OF ACTION OF RASAYANA IN GERIATRICS:



As per our classics, Rasayana therapy works on Agni which in turn leads to proper formation of Rasadi Dhatus. Hence, responsible for creation of Ojas which is considered as prime essence of these Rasadi Dhatus and is responsible for proper working of immune system of body in terms of Vyadhi Kshamatva. Hence Rasayana plays a crucial role in prevention of ageing and old-age related disorders. It also enhances bodily strength and mental faculties. Different classics of Ayurveda have defined Rasayana in different words but the central theme remains the same.

RASAYANA FOR GERIATRIC AGE GROUP IN DAILY LIFE:

A. There are various groups of drugs that act on overall body and have beneficial effects on the body, some of them are as follows along with their mode of action:

1. Jeevaniya (vitalizer): found with predominance of Prithvi and Jala mahabhuta, Madhur MadurSheetain origin. Best example would be milk, which is also included in Nitya Sevaneeya Dravya and also said to be Rasayana (Ksheerghrutabhyaasorasayananaam)
2. Ayushya (life promoter): promote longevity of life and are considered as complete foods. Eg. Amlaki (Vayasthapanam, Panchrasatmak, Rasayana), milk
3. Sandhaniya (union promoter): senility brings in various problems of the bones and joints like osteoporosis, degenerative osteoarthritis, various degrees of prolapse, etc. Sandhaniya drugs being Dhatu poshak, help to bind Rakta Mansa, Asthi together and serve as Rasayana

in Geriatrics. Eg. Yashti, Guduchi, etc, also, Asthi Vardhan (Asthi Shrunkhala) can be also included for such age group

4. Balya (tonics): Bala can be considered equivalent to Vyaadhikshamatva and is thought to be the basis of a living body. It can be classified as Sarvadehik like Shatavari, Bala, Dughda, Ghruta, etc and Avayava Vishishta Balyalike Arjun (Hrudbalya), Kupilu (Sushumna Balya) etc. also the use of Shad Rasatmak Aaharin daily life is said to be balya and the use of single rasaaahar is said to bring weakness (sarvarasabhyaasobalakaranaam, ekrasabhyaasodaurbalyakaranaam)
5. Ojovardhak: drugs imbibed with the properties like Madhur, Sheeta, Pichila, Snighdha, Guru, Manda, Mrudu, when supplemented help to replenish the the Oja reserves by exclusive Dhatu Poshan Nyaya (Khalekhapot, Kedar Kulya) and help to reverse or atleast maintain the deteriorating conditions in old age.
6. Rasayana (rejuvenation): also known as Vaya Sthapana, since it promotes healthy formation of Rasadi dhatus and reduces the ill effects of age induced disbailities. It is said to promote longevity and also treat various organ specific illnesses.

B. DAILY RASAYANA IN DINCHARYA:

- 1) Dant Manjan, Gandusha: to keep teeth intact and to maintain the oral health, one can practice Dantmanjan (natural) and Gandusha (oil pulling therapy) regularly as mentioned in the classics.
- 2) Anjana: Presbyopia after 40s is common and it continues till death. Hence application of Rasanjana and Strotanjanaregulary helps to remove the Kapha which is responsible for conditions like Diabetic Retinopathy, Glaucoma, etc. thereby maintaining ocular health in Geriatric age group.
- 3) Nasya: “nasa hi shirasodwaram” Senile Dementia, Alzhiemer’s Disease, or degenerative diseases like Cataract are commonly found in the geriatric age group. Nasya being the door to the higher functions in the brain can nourish the senses and mental faculties and hence improve or atleast maintain memory and intellect. Nasya oils and ghruta treated up with milk are balya and bruhaneeya in properties and hence regular practice of Nasya can save the old from Alzhiemer’s disease or Senile Dementia.
- 4) Abhyanga (oleation): the very reason of old age is the predominance of Vata dosha and abhyanga helps to allievate the Vata dosha, senescence and fatigue and nourishes the flexibility and of joints and promotes better sleep and skin lusture. If not all over the body, it should be done on Shira (head- to nourish higher functions of the brain), Shravana (ears- karna purana; to prevent senile deafness) and Pada (feet- to promote good sleep, since senility accompanies sleep destruction). Hence it is a must to practice abhyana on daily basis especially by geriatric age group, followed by Vyayama (exercise)
- 5) Vyayama (exercise): very carefully done since it my increase Vata dosha, should be done in minimal quantity, so as to increase digestive fire, to observe lightness in the body, to induce self-independency and to be able to do regular chores by themselves (karma samarthyam) and not be dependent on any for small favours, to increase joint mobility. Mild forms of Yoga and Pranayama can be performed regularly as exercise.

- 6) Appropriate food: Snigdha, Madhur, Balya, Laghufood according to the digestive fire should be taken that will promote better formation of Dhatus and Ojas in the body.
- 7) Following rules and regulations of Ritucharya, Ratricharya, practicing abstinence.
- 8) Achara Rasayana:
Ethics, truth-speaking, not angry, non-drinking and female-cohabitation, the followers of non-violence, those who are calm, speak sweetly, chant the name of the Lord, have pious character, patient, charitable, ascetic, deities, one who never behaves with cruelty, always merciful to all, those who sleep and wake up at appropriate times, who always consume milk and ghee, i.e. satvik food, are devoid of egoism, having good conduct and thoughts, devoid of narrow thoughts, one whose senses are ready to acquire spiritual knowledge, a man of wisdom, knowledge and ascetic, who worships the believers and Jitendriyas and behaves according to the rules of the scriptures, are considered as one who consumes Rasayana every day. That is, such men get all the qualities of taking Rasayana. The person who consumes Rasayana with these collective qualities above, acquires all the benefits accordingly, as described in the scriptures.
These teachings of the Acharyas are eternal truth and imperishable. Consuming them always brings happiness to all. They can be consumed by a person who is Sattva-guna dominant, but others cannot.
- 9) Indulgence in Spirituality: to be specific, there is no age for spirituality, but if one has restrained all his life from spirituality, atleast now can be the right time. The 4 Purushartha mentioned are Dharma, Artha, Kama and Moksha. By the age of 60, only purushartha left to attain is Moksha, hence one should indulge in spirituality and self-awareness to become one with the holy Almighty.

DISCUSSION:

Ayurveda gives separate importance to geriatric care, as it is one among the branch of Ashtanga of Ayurveda. Chikitsa or management of Geriatrics has a good scope in present day scenario as a preventive tool. The main point in the management of manifestations affecting elderly phase of life is challenging medical intervention to enhance a blissful ageing. Thus the medical management in elderly phase of life is facing mainly two type of problems, firstly the delaying of natural ageing process and secondly the therapeutic cure of disease conditions and disorders specifically manifest in old age such as hypertension, ischemic heart disease, diabetes, senile Dementia, Alzheimer's disease, Parkinson disease, degenerative Osteoarthritis, Osteoporosis, opportunistic infections, Prostatic enlargement, degenerative Cataract, a range of Angiopathies, neuro-degenerative diseases and senile psychoses which results mass morbidity in elderly phase of life. To control this, Rasayana therapy the one which enhances the longevity, one which enhances Smriti, Medha maintains Aarogya, and also maintains youthfulness etc. should be taken in interest. In order to counter-act the Jara Lakshana & Jarajanita Vyadhis one has to follow Rasayana therapy on daily basis which in turn leads to good qualitative life.

Healthy ageing would therefore require for the individual to bring in blissful impressions, incorporate healthy lifestyle practices (Dinacharya, Ratricharya, Ritucharya Palan) and routines, Daily basis and easy to use Rasayana that promote good health and well-being, and encourage healthy transformation of the body and mind through harmonious choices and actions.

Rasayana therapy is a unique therapeutic science to delay ageing process and to reduce the intensity of problems occurring this elderly phase of life. Hence one should use Rasayana for healthy and graceful ageing according to Ayurveda.

CONCLUSION:

Ageing is an inevitable part of life, and one can just slow down the process and lead a healthy life by the use of Rasayana. Since Vata dosha is responsible for senility, it is important to introduce daily measures like Abhyanga, Nasya, Snigdha Aahar Viharto alleviate the vitiated Vata dosha. Along with controlling the doshas, it is advisable to indulge in satvikahar, pap karma tyag, Spirituality, etc to form the healthiest tissues which in turn form Oja and Bala required to prevent illnesses of the old and slow down the process of ageing. Ageing therefore becomes a choice for one who is aware enough to lead a healthy life, must include milk, ghee, honey in daily diet, regular oil massages etc to age in a healthy and graceful manner. Ayurveda relies on a number of comprehensive programs that includes Yoga, Dincharya, Ratricharya, Ritucharya, Achara-Rasayana, Sadvritta and Pathya Apathya, intervention for extension of healthy life span. Ayurveda is remarkably stronger in terms of betterment of healthy status of the geriatric age group. Ayurveda contributes other multiple scopes like rejuvenation and promotion of longevity in geriatric care. The problems of health due to modernization can be solved by increasing resistance against diseases and psychological improvement by implementing Rasayana therapy.

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PHYSIOLOGICAL EFFECT OF RASAYANA IN GERIATRICS

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Abstract-

The growth of any country or society depends on the number of youth dwelling in that country but according to recent statistical data we soon will have older people more than children and more people at extreme old age than ever before. Geriatrics (Jarachikitsa) is the branch of medicine dealing exclusively with the problems of aging and the diseases of elderly. The term Rasayana (rejuvenation) refers to nourishment or nutrition. Rasayana therapy act essentially on nutrition dynamics and rejuvenate the body on both physical and mental levels. The problems of health due to modernization can be solved by increasing resistance against diseases and psychological improvement by implementing Rasayana therapy. Aging (Jara) is one among the Swabhavika Vyadhis. Jara Chikitsais one among the Astangaof Ayurveda which is specifically dedicated for geriatric care. As per estimation, By proper administration of Rasayana therapy as preventive tool one can delay Jara Janita Vyadhisto occur. This paper highlights the role of Rasayana in geriatric care.

Key words: Rasayana, Nutrition, Swabhavika Vyadhis, Geriatric, Modernization.

INTRODUCTION -

The World is facing a situation without precedent. We soon will have more of older people than children and more people at extreme old age than ever before. In today's developing countries chronic non-communicable diseases such as heart disease, cancer and diabetes reflects changes in lifestyle and diet, as well as aging. Ayurveda the science of life deals mainly with all the aspects of life in relation of health and prevention of disease. So for promotion of life and prevention of disease there are certain codes, conducts and therapies have been mentioned and Rasayana therapy is one among them. Rasayana therapy not only works on physical aspect but also on mental aspect. Geriatrics is a branch of modern medical science which aims at promotion of health by preventing, treating diseases and disabilities in older adults. So to fulfil the aims of geriatrics Rasayana therapy is considered to be the main line of treatment as it prevents most of the geriatric diseases.

AIMS-

To study the physiological aspect of Rasayan in Geriatrics in detail

OBJECTIVES-

Study the literature of Samhitas regarding Rasayan. Study the relevant literature of Rasayan in Geriatrics from other texts.

MATERIAL AND METHOD-

The classical Ayurvedic text Charaka, Sushruta, Vagbhata, along with its commentary are referred as the prime source.

Modern texts, articles, journals as a supportive one for the conceptual study.

RASAYANA- The word RASAYANA derived from root “RASA” and “AAYANA”. Rasa means ‘Rasa Dhatu’ itself and Aayanameans ‘to move’. So it means Rasayana is a dynamic process which nourishes the body from properly formed Dhatus and increases the vital process and prevents the degenerative process .

Definition of RASAYANA by different Acharyas-

Acharya Dalhana- Rasayana means continuous nourishment of Rasadi Dhatu there by replenishing them. Acharya Sushrutadefines Rasayana means Vayasthapaka which retards aging process increases longevity of life. Acharya Sharangdhar- Rasayana is one which cures diseases arising due to old age. Acharya Charak- Rasayana which increases longevity, Smriti, Medha, and helps in maintaining health, maintains youthfulness, and enhances Prabha, Varna etc.

Classification of Rasayana-

Classification of Rasayana by Sharma A.K. and Singh R.H. 1992.

Rasayana is Primarily divided into two types:-

a) Dravyabhuta Rasayana

b) Adravyabhutas Rasayana (Achara Rasayana)

A) As per method of use

a) Kuti Praveshika (in door use)

b) Vatatapika (out door use)

B) As per Scope of use

a) Kamyas Rasayana (promotor of normal health)

i) Prana Kamyas (promotes longevity)

ii) Medha Kamyas (improves mental faculties)

iii) Shri Kamyas (improves lustre of body)

b) Naimittika Rasayana

c) Ajasrika Rasayana

C) According to Prabhava (Effect)

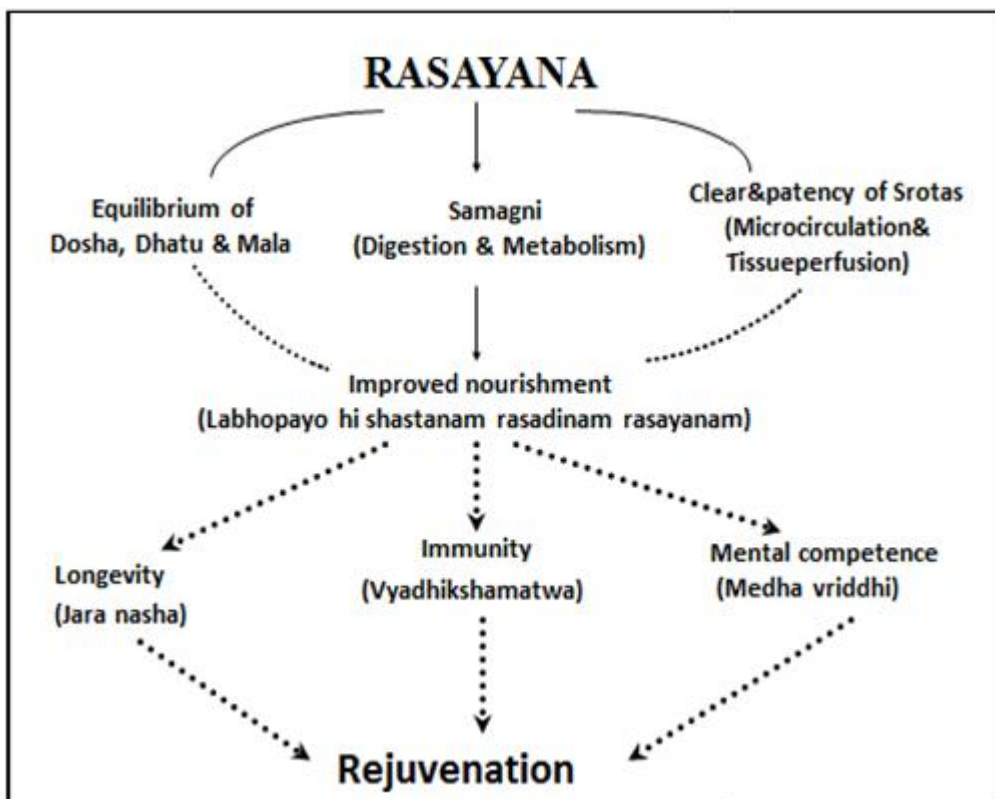
Dalhana mentions two types of Rasayana in

Sarvopaghata Shamaniya chapter of Chikitsasthana,

a) Samshodhana Rasayana

b) Samshamana Rasayana.

Mode of Action of Rasayana-



Sr.No	Action	Decades Of Life	Indicated Rasayana
1	Balyam	Childhood	Vacha, Swarna
2	Vridhi	Growth & Development	Kashmari, Bala
3	Chavi	Luster/Complexion	Amalaki, Lauha

4	Medha	Sharpness in perception	Shankhapushpi
5	Twak	Skin & Apendages	Bhringraj, Jyotishmati
6	Drishti	Visual Acuity	Triphala, Shatavari
7	Shukra	Potency & Ferility	Atmagupta, Ashwagandha
8	Vikram	Valour	Amalaki, Bala
9	Buddhi	Cumulative, Intellect & Cognitive functioning	Brahmi, Mandukaparni
10	Karmendriya	Physical capacities	Bala, Ashwagandha

Geriatrics in Ayurveda-

- Geriatrics (JaraChikitsa) is a branch of medicine dealing exclusively with the problems of aging and the diseases of elderly. It is derived from the Greek root “geron” meaning “old man” and “iatros” meaning “healer”. Aging is characterised by gradual structural changes that occurs with the passage of time, that are not due to disease. When we look in to Ayurvedic prospective our Acharyas have given prime importance to and considered it one among Astanga Ayurveda. Vridhavastha or old age is one who has already attained Vriddhi. Acharya Charaka has considered age above 60 years to be Vridhavastha but Acharya Sushurta and Vagbhata considered it as age more than 70 years which is characterised by diminution of tissues, sense faculties, strength, vitality and diminution in enthusiasm day after day (Hani), person develops wrinkles, grey hairs, baldness, occurrence of secondary disorders such as cough, dyspnoea, inability to perform all activities. As per Acharya Vagbhata, Vata Dosha is predominant in old age and it is also considered as Hani Avastha. So there will be more of catabolic activities taking place in body which further leads to many of the chronic diseases dementia, parkinsonism, hypertension and cerebrovascular diseases etc. By following proper Swasthavritta principles such as Dincharya, Ritucharya, Ratricharya, not suppressing

Dharniya Vegas and following of Rasayana one can preserve his health and delay the aging related problems.

DISCUSSION- Ayurveda gives importance for geriatric care, as it is one among the branch of Astanga of Ayurveda. Jara Chikitsahas a good scope in present day scenario as apreventive tool. Rasayana therapy are one which enhances the longevity, one which enhances Smiriti, Medha, which maintains Aarogyata, and also maintains youthfulness etc. In order to counter act the Jara Lakshana and Jara janita Vyadhis one has to follow Rasayana therapy on daily basis which inturn leads to good qualitative life. Acharya Sharngdhara has mentioned the Hani (ruination) in accordance to decades of life, One can minimise the ill effect of Hani by utilizing the specific age group as to overcome the specific age related situations.

CONCLUSION- As the prime aim of Ayurveda is Swasthasya Swasthya Rakshnam (maintaining the health of a healthy individual). So to maintain the healthy state of a person one should follow the Swasthavritta principles. Rasayana therapy is one among them, in present world persons follow sedentary life style and faulty food habits which is the main cause for metabolic imbalance which leads to aging to start early than its schedule. These Rasayana therapies are critically analysed by our Acharyas. Therefore persons desirous of attaining long life, vitality and happiness should practice Rasayana therapy with complete devotion according to the prescribed procedure.

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Importance of rasayana in geriatrics

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ABSTRACT:

Ayurveda has a holistic approach toward all the miseries of man and aging is one of these. It is classified as one of the natural and Yajnya (palliative) diseases.

Ayurveda is basically the science of life and longevity. In ageing Dhatus get degenerated due to functional and structural modifications. During old age we cannot increase the capacity of Rasadi Dhatus, but they can be preserved and rejuvenated. Ayurveda, is world's most authoritative, mind-body-spirit medicine system, gives us various concepts of the ageing phenomenon. This ancient system of medicine includes remedies for healthy ageing so as to make an optimal health and lengthen one's individual's health span by using Rasayana therapy. Rasayana therapy is a unique therapeutic science to delay ageing process and to reduce the intensity of problems occurring this elderly phase of life. According to concept of Ayurveda the therapy used for promoting and preserving health, increasing strength and life span in a healthy person are called Rasayana therapy. Rasayana therapy maintain the equilibrium of RasadiSaptadhatu and optimum the power of body and senses to enhance intellect, memory, skin lustre, complexion, bodily glow, voice and generosity and preserve youth age. Only Rasayana therapy is an answer in present scenario to prevent premature ageing and to treat the manifestation due to ageing process; it also ensures healthy life span including mental health and better resistance against various geriatric disease conditions. Rasayana therapy also acts as antioxidants so they inhibit free radicals and delay ageing process.

INTRODUCTION

Ayurveda was introduced to the earth so that man could enjoy a long and healthy lifespan. Several types of principles have been described in Ayurveda. A person interacts with various factors, for example, other Panchabhautik (manifested) creations, living or non-living. It is known that at the base of all creation, there are nine Dravya, (causative factors)[2]: that is, Panchamahabhuta (space, air, fire, water, and earth); Mana (mind); Atma (soul); Kala (time); and Disha (directions). Panchamahabhuta provide the basic structure for all the manifestations and this manifested creation, is known as the universe. The universe resides within the limitations of Kala and Disha in a clockwise manner. Among all the Dravya, Kala is the most important and potent, as it includes all creation in itself as well as it affects all creation in a clockwise manner, and human beings are no exception.[3,4] Kala interacts with a human from conception till death and this time period is called Ayu (lifespan). On account of the interaction of Kala, various changes occur in the body during the period of Ayu; these are natural and cannot be changed. According to the type of changes that occur, the lifespan has been divided into three parts, also known as Vaya (various stages of life); these are Balaya (early stage of life), Madhya (middle

stage of life), and Jirna or Vriddhavastha (later stage of life). The major changes carried out in the body during these stages are, growth, achievement, maintenance and decay. Thus, aging is the process of decaying and this manifests in the form of various degenerative changes. Although these changes are natural, they are not pleasant. Everyone is aware that a person who has taken birth must grow and finally die, but nobody wants to grow old and certainly no one wishes to die. It is the nature of a human being. Ayurveda considers all these states, which are not pleasant in nature, to be disease: they cause suffering to mankind and any suffering is termed as a disease. Ayurveda takes a holistic approach toward the maintenance of Dhatusamya (homeostasis), for which various principles have been described. Aging is considered as a disease that may be manifested timely or untimely. Therefore, a detailed description regarding the prevention, maintenance, and treatment of aging has been given. Some of the measures that have been advised can be followed and some cannot. However, we can follow some practical principles and make aging comfortable and disease-free.

AIM AND OBJECTIVE:

- 1) To evaluate the various concepts about the geriatrics in Ayurveda.
- 2) To understand the health related problems and role of Rasayana in geriatrics.

MATERIALS AND METHODS Published information from several articles, of which few review articles and cross references were collected. The literatures reviewed in this article are taken from the modern medical science journals and classics of Ayurveda. (Ayurveda samhita)

PHENOMENON OF AGEING Ageing is basically a physiological process which results because of time bound inherent evolutionary processes by the evolutionary changes occurring in the mind-body system. Such changes starts right from the beginning of life and get worsen and worsen with progress of chronological age. The advancing involution ultimately progress into extreme old age and lastly end of life. So life span of individual is a time limited entity and everyone is mortal. The main point in the management of manifestation in aged phase of life is not merely the concern about the natural process which is not preventable; rather it is more the health issues and problems mainly affecting elderly phase of life warning medical intervention to enhance a blissful ageing. Thus the medical management in elderly phase of life is facing mainly two type of problems, firstly the delaying of natural ageing process and secondly the therapeutic cure of disease conditions and disorders specifically manifest in old age such as hypertension, ischemic heart disease, diabetes, senile dementia, Alzheimer's disease, Parkinson disease, degenerative osteoarthritis, osteoporosis, opportunistic infections, prostatic enlargement, degenerative eye diseases like cataract, a range of angiopathies, neuro-degenerative diseases and senile psychoses which results mass morbidity in elderly phase of life.

AYURVEDA AND SCIENCE OF AGEING

Jara \Aging is not the disease but a natural phenomenon like hunger, thirst or sleep. In the theory of natural destructions [swabhavparamvad] Charaka describes that there is causative factor for the manifestation but no cause for the stoppage of manifestation. Since the death following birth is a natural phenomenon.

Kala Parinama: Kala Parinama (changes due to time) is one of the most important factors that affects ageing as it includes all creation in itself. Kala Parinama refers to the physical and mental transformation that occurs as a function of time and as we age

Time affects all individuals from beginning of life till the end, and this period of time is called Ayush (life span). Ayurveda divides Ayush into various stages of life, Bala-16 years, Vivardhamana-16-20 years, Youvana-20-30 years, Sampoonata-30-40 years, Parihani-40-60 years and older adult Vriddhavastha60-100.

Prakriti: Prakriti is concern to the nature of body constitution (Vatadidosas and satva, raj, tam) of a subject. Thus, nature interfere a subject's strength for changes at the level of kaayik, vaachik and maansik owing to the responses with internal and external stimuli that affects the ageing process Doshas: Vatadi Doshas affects the life span at the molecular level. Vata, Pitta and Kapha Doshas are Prana, Ojas and tejas that are essential for blissful life span. Ahara: It is one of the most important factors that affects ageing. A poordietary practice like improper timing, bad habits of food mixing of inappropriate food materials with inappropriate lifestyle disturb equilibrium state of Vatadi Doshas leading to disease conditions and finally death

Achara: Ayurveda has contributed a great concept of Achara Rasayana (Ayurvedic lifestyle modification). It is a behavioral therapy for calm mind and long life. It is a unique Ayurvedic concept of mind rejuvenation. It controls and maintains the circadian rhythm of the body clock that results in good health, vitality and immunity, all of these slow the physiological ageing process. **Agni:** Jatharagni is among the chief agni among all agni present in the body. Jatharagniserves as the main digestive element and is the main contributor for all anabolic and catabolic process in the body. If Jatharagni is not strong, the digestion of food stuff is improper that results in impaired absorption and formation of Ama Dosha. If Jatharagni is powerful then it destroys all the related tissues and resulting in degeneration of tissue. Thus, the state of Jatharagni influences the ageing process

RASAYANA THERAPY

Rasayana therapy prevents effect of ageing and provides longevity ,improves mental and intellectual competence, preservation of youthfulness ,increased luster, body complexion and glow of skin ,healthy condition of voice, excellent potentiality of the body and sense-organ.

The Rasayana drugs mainly classified as kamyarasayana{for promotion of health of individuals} and naimittikarasayana{for cure of disease.} the commonly used rasayna drugs are Aamalkki[Phyllanthus embelica], Ashwagandha [withaniasomnifera], bramhi [bacopa monera] guduchi [tinospora cordifolia]etc. Rasayana therapy specially deals with the science of geriatric care and rejuvenation. The strongest point of Ayurveda in the context of geriatric care is Rasayanatherapy. Rasayana therapy is a special remedial solution in present scenario to prevent premature ageing and to treat the manifestation due to ageingprocess; it also ensures healthy life span including mental health and better immune status against various geriatric disease conditions. The biological stimulation of Vata Dosha can be delayed by Rasayana therapy particularly by using Vayasthapana drugs. Like Amruta[tinospora cordifolia],Amalika [embelica officinalis]etc. Ageing is progressive change related to passage of time, free radicals cause oxidative damage to different biological units which may enhance to ageing process. Certain Rasayana drug like withaniasomnifera prevents lipid peroxidation and oxidative protein moderation. Rasayana therapy also acts as antioxidant so they help in blissful ageing. Mode of action of Rasayana drugs in ageing by immune stimulation, free radical destruction, promoting

cellular detoxification mechanisms, repair damaged non proliferating cells and Inducing cellproliferation and self-renewal of damaged proliferating tissues

Types of Rasayana

1]Primarily divided into two types

DrvyabhutaRasayana

AdrvyabhutRasayana

2]As per the method use

Kutipravesnik[in door use]

Vatatpika[out door use]

3]As per scope of use

Kamyarasayna[promoter to normal health]

Naimitikkarasayana

Ajasrikarasayana

4]According to prabhav

samshodhanrasayana

samshamanRasayana

Mode of action

As per our classicrasayana therapy work on agni which inturn lead to proper formation of rasadi dhatus hence responsible for creation of ojas which is consider as prime essence of these rasadi dhatus. Which is responsible for proper working of immune system of body in terms of vyadhikshamatva. Hence rasayana plays a crucial role into prevention of aging and old age related disorders. It also enhances bodily strength and mental faculties. Different classics of Ayurveda have defined rasayana in different words but in same central theme.

Antioxidant action-Amalki

Immunomodulatory action -Guduchi

Haematopoietic effect-Amalki,bhringaraj,mandur,luohabhasma

Antiaging action-ashwagandha,bala.

Anabolic action -vidarikand.

Nutritive function-ghrita, ksheer.

Neuroprotective function-ashwagandha,Swarnabhasma, rajatabhasma.

DISCUSSION

Ayurveda contributes most important role in geriatric care, as it is one among the branch of Astanga of Ayurveda. JaraChikitsahas a good scope in present day scenario as a preventive tool. As mentioned earlier the qualities of Rasayana therapy are one which enhances the longevity, one which enhances Smriti, Medha, which maintains Aarogyata, and also maintains youthfulness etc. The past few decades of genetic and biochemical research have revealed an extensive network of molecular interactions involved in the ageing process, suggesting that a Rasayana-based therapeutics approach potentially more effective for delaying or reversing the ageing process. Ayurveda considers ageing as a natural and inevitable process and gives time-tested Rasayanatherapies for healthy ageing. Healthy ageing would therefore require for the individual to bring in blissful impressions, incorporate healthy lifestyle practices and routines Rasayana therapy that promote good health and wellbeing, and encourage healthy transformation

of the body and mind through harmonious choices and actions, Rasayana therapy is a unique therapeutic science to delay ageing process and to reduce the intensity of problems occurring this elderly phase of life. To be healthy in old age according to Ayurveda one should use of Rasayana in all decade of life.

CONCLUSION Due to increased elderly population, the prevalence of geriatric specific disease conditions is also increasing. This is creating a big burden to the health care providers and the government. Traditional remedies or herbal informants of Rasayana care the only answer to meet out the problems. It is the duty of the young health care professionals to explore the Ayurveda classics and Rasayana therapy to create awareness about the strength of Ayurveda

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ADAPTATION OF LIFE STYLE IN GERIATRICS.

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ABSTRACT-

Geriatrics, or geriatric medicine, is a speciality that focuses on health care of elderly people. It aims to promote health by preventing and treating disease and disabilities in older adults. According to WHO between 2015 to 2050, the proportion of world's population over 60 years will nearly double from 12% to 22% , as the pace of population ageing is much faster than in the past, all countries face major challenges to ensure that their health and social system has to be ready to make most of this demographic shift[1]. In Ayurveda, our ancient Acharya Vagbhata mentioned this concept of Geriatrics under the title of JaraChikitsa. This JaraChikitsa is one from the eight main domains of AshtangAyurveda[2]. So foresight of this conceptual study is to explain the geriatrics related concepts in Ayurveda and suggest proper life style adaptations for betterment of individuals.

KEYWORDS-Geriatrics, Jarachikitsa, life style adaptation.

INTRODUCTION-

Geriatric is formed from the Greek word 'geras', meaning "old age" and the suffix -iatic, which means "of or relating to a physician or medicine". As we all know along with the process of ageing some structural and functional changes occur in human body, and it is quite tedious in old age to live with same dietary, social and personal habits that we used to follow in our young age, due to physical and mental incapacibilities that comes with old ageso we need to adapt some Life Style Modifications. As in today's time chasing lifestyle we cannot invest proper slot of time to cherish our joyful moments and many of us plan to do it in their sixties or after retirement from work, but as age slop inclines ability to perform physical activity and mental ability to live in the moment declines as an effect of degenerative and behavioural changes, due to ageing process. As being active in personal and social life brings physiological and psychological benefits in individual's life, so where older adults have engaged in activities, they have found to be happy and emotionally stable[3]. According to Ayurveda, there are decade wise different stages of life, and in each stage of life there is declination of bodily elements. Acharya Sharangdhara explained this decade wise decline conditions as, in the first decade Balyavastha (infancy) will be diminished, in the second decade Vriddhi (growth), in third decade Chhavi (complexion), in fourth decade Medha (intellect), in the fifth decade TwakSnigdhta (luster of skin), in the sixth decade Drishti (vision), and so on.[4] It indicates steadily increase in catabolic processes in body

and this happens because of degradation of body elements (paramanuvibhaga). So we can state that JaraAvastha (stage of old age) is the later phase of life in which there is a declination of bodily elements and increased catabolic reactions in body, which leads to some physical and emotional incapacibilities in an individual. Though we cannot stop or reverse the process of ageing we can surely slow down this process and help the individual to get older with so much ease, by accepting some Life Style Adaptations.

AIM-

To study the Life Style Adaptations in Geriatrics.

OBJECTIVES-

1. To understand the concept of Geriatrics in Ayurveda.
2. To understand the importance of study of Geriatrics.
3. To understand Life Style Adaptation in Geriatrics.

MATERIALS AND METHODS-

For present conceptual study literary material has been collected from classic Ayurvedic Texts as,

1. Charaka Samhita.
2. Sushrut Samhita.
3. AshtangHruday Samhita.
4. Sharangdhara Samhita.

REVIEW OF LITERATURE-

From birth to stage of early adulthood anabolism is dominant in human body, whereas after adulthood there is a dominance of catabolic reactions, and there are several factors which can alter the rate of these processes and indirectly affect the ageing process. To understand the concept of Geriatrics in Ayurveda firstly we need to know the general idea of constituents of human body explained in classical texts of Ayurveda. The factors that affect the process of ageing includes temperament of an individual, his/her dietary habits and physical exercise regimen, so we need to study all of them. According to Ayurveda, human body is mainly made up of Tridoshai.e.Vata-Pitta-Kapha, SaptaDhatu i.e. Rasa-Rakta-Mansa-Meda-Asthi-Majja-Shukra, Trimalai.e. Purisha, Mutra, Sweda[5]. By unique and peculiar combination of three Doshas, Prakriti of an individual is determined in the womb of mother. Aakriti(temperament), Agni (Digestive fire), Bala (Strength) of an individual are depends upon Prakriti of an individual. Though the Prakriti of an individual is predetermined by birth, predominance of Doshaschanges according to age,

<i>Avastha(age)</i>	<i>Doshadhikya (Doshapredominance)</i>	Maximum possibility of <i>DoshadhikyaJanyaVikara</i>
<i>Balyavastha (childhood)</i>	<i>KaphaDoshadhikya</i>	<i>KaphaDoshaVridhhiJanyaVikara</i>
<i>Tarunyavastha (early adulthood)</i>	<i>Pitta Doshadhikya</i>	<i>Pitta DoshaVridhhiJanyaVikara</i>

<i>Vardhakyavastha</i> (old age)	<i>VataDoshadhikya</i>	<i>VataDoshaVridhhiJanyaVikara</i>
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In Balyavastha (childhood), there is predominance of KaphaDosh, so children are more prone to develop KaphadoshaJanitVyadhi. In Tarunyavastha (early adulthood), there is predominance of Pitta Dosh, so in young adults Pitta Doshajanyavikara are profound. Similarly, in Vardhakyavastha (old age), there is predominance of VataDosh, so old age people are more prone to develop VataDoshaVridhhiJanyaVikara[6]. As Vardhakyavastha (old age) is a Vata predominant stage, and VataDosh and KaphaDosh are having opposite properties, KaphaDosh Pradhan Prakriti individuals are less affected by VataDoshaVridhhiJanya diseases, so by this way Prakriti of an individual plays important role in the well being of an individual in each stage of life. Along with an advancing age there is certain increase in catabolic processes in human body, which results in weakening of physical strength, and as physical and mental strength are quite interdependent, this eventually affects mental strength of an individual. So for physical and mental well being of an individual, it is important to do life style Adaptations according to his/her age, sex and habitat. In Ayurveda, mainly tow types of adaptations are suggested,

1. Aharaj(dietary regimen).
2. Viharaj (exercise, pattern of social relations, consumption, entertainment and dressing sense).

Ahara-

RasayanaChikitsais indicated in Jara by ancient Acharyas in Ayurveda. It includes consumption of JivaniyaGanaDravya after proper Shodhana of Sharira(body)[7]. According to Ayurveda, in old age people there is Vata predominance and this Vatapossesses RukshaGuna, which causes roughness or dryness of the substance, so Apana Vayu (one of the subtype of VataDosh)in the Pakvashaya (gut) causes Malabaddhata(constipation) in old age people. If this constipation persists for longer duration it can further lead to diseases like haemorrhoids, fissure-in-ano etc. So to prevent constipation we have to advice more water intake, sufficient intake of SnigdhaandDrava(liquid)Dravya, intake of dietary fibres, restriction of addictive substances like tobacco. In Ayurveda,Bahya(external) and Abyantar(internal) Snehana (oiling) is specifically mentioned is life style modifications in JaraAvastha (old age).Bakery products like biscuits, toasts mainly containsall purpose flour (Maida), which is nearly devoid of fibres and has Guru Guna (difficult to digest) has to be restricted from diet. By following above instructions one can regulate his bowel health.

As age advances Agni (digestive fire) gets dimmed (Mandagni) due to several factors, and this Mandagni is told to be the cause of origin of several diseases in Ayurveda[8]. So old age people have to watch for their state of Agni before taking heavy meal like non-vegetarian food, paneer etc. As this Mandagni is trouble factor, many dietitians and nutritionist suggest intake of Laghu and SnigdhaAhara(like food prepared from rice and lentils along with ghee) in geriatric age group. It is grossly found that, in old age people there may beRasaKshaya(deficiency of Rasa Dhatu), so to overcome this we have to advice them to increase intake of PrinanaDravya (like fruit juices, various sharbat, Panakaetc).

In geriatric age group, as SharirBala (physical strength and immunity) is diminished, these individuals are found very prone to seasonal illnesses and contagious diseases. So in classic Ayurveda texts it is suggested that, according to the change of season one has to follow the Ritucharya(indicated dietary regimen of that particular season) to maintain health.

Dietary regimen according to Ritu[9]-

<i>Ritu (Seasons)</i>	Indicated dietary regimen
<i>Shishir</i>	<i>Madhur-Amla-Lavan rasa sevan,</i> <i>Anupa Mansa sevan (sea food),</i> <i>Ikshuvikriti(food prepared from</i> <i>sugarcane),</i> <i>Alcoholic beverages.</i>
<i>Vasanta</i>	Food items prepared from barley and wheat.
<i>Grishma</i>	<i>Madhur-Sheet-Snigdha-Drava Ahara,</i> Buffalo milk consumption.
<i>Varsha</i>	Intake of Food prepared from <i>Yava-</i> <i>Godhum-Shali,</i> Honey with lukewarm water.
<i>Sharad</i>	<i>Madhur-Tikta-Sheet-LaghuAhara,</i> <i>TiktaGhritpaan.</i>
<i>Hemanta</i>	Same as indicated in <i>Shishir ritu.</i>

One can have various food items which belongs to respective dietary regimen for that particular season, according to his/her Agni Bala.

Vihara -

1. Adaptation to physical exercise-

During this period of pandemic,it is grossly observed that older people seemed more susceptible to negative changes in emotional and physical health. Physical exercise is the most commendatory and cheapest way to get away from negativity around, soalong with a dietary regimen one has to follow exercise regimen to maximise the wellness of himself. In geriatric age group, body is going through degenerative changes and doing physical exercise like younger adults is nearly impossible. As well as some people are facing cardiac or other organ related

pathologies so doing extensive cardio without physician's opinion could be problematic, so there is need of adaption of different type of exercises along with advancing age. As knee joint is the load bearing joint in human body, most people in geriatric age group have complaint of knee joint pain during standing, walking and climbing position. So in such case we should instruct them some kind of stretching exercises or Asana like Parvatasana, Shishuasana, Trikonasana, Virbhadrāsana, Tadasana, Bhujangāsana etc. These mentioned Asana stretches the body muscles without extensive workout. Now a days, people find it interesting, doing various types of exercises like Pilates, resistant band workouts, chair yoga, water aerobics than the conventional one.

2. Sadvritta (codes of conduct)[10]-

In Charakasamhita, Acharya Charaka prescribed a list of good conduct like ethical, social, mental, moral and physical conduct[11]; which dictate us about do's and don'ts in day to day life. Adaptation to these codes of conduct, one can live truly peaceful and healthy life. As in geriatric age group, control over Mana (mind) tends to lose due to imbalance in Sattva-Raja-Tama (properties of mind) and VataVridhi; we can counsel them regarding adaptation to this codes of conduct.

3. Pattern of Social Relation-

We interact with people almost every day of our life. Sociologists have identified different patterns of social interactions, which involves exchange of emotions. As we say 'Sharing is Caring', it is scientifically proven that a good conversation with your loved ones can reduce stress level upto remarkable extent. In today's nuclear family era, most of old people live away from their children and they don't get enough love and affection from their loved ones as much expected. This may lead to emotional dilemma in geriatric age group. By giving them proper attention, care and keeping them busy with daily chores is the best way to keep them emotionally stable.

4. Sleep Pattern-

Ayurveda promotes a lifestyle that's in harmony with nature. Our biological clock is set by our Pineal gland according to day and night. As geriatric age group people are mostly retired from their work places and degenerative changes ticking in body, they tend to sleep in day time. As they are taking rest in day time and reduced physical exertion, their night sleep pattern gets affected. And this disturbed sleep pattern can cause various side effects on body, so setting their daily schedule and sleep pattern is important adaptation anyone can suggest.

5. Entertainment and Dressing Sense-

At any stage of life, entertainment is the source of happiness that everyone craves for. As the geriatric age group is mostly free from day to day responsibilities, we have to adapt them to some sort of entertainment. Mostly, old age people find their source of entertainment in social gatherings, reading and listening to devotional music etc. In Ayurveda, it is explained that Shuchivastra dharana (wearing clean and white clothes) helps to settle down emotional disturbances. So this adaptation may add some stability in their lives.

CONCLUSION-

Based on above mentioned literature and facts Vardhakyavastha is an irreversible condition that can only be stabilized. Good control over Vata element in body in Vardhakyavastha can help

an individual to ease the obstacles in following daily regimen. There is no treatment for the natural ageing. However early onset of ageing can be managed with diet and Rasayana or rejuvenation therapy. If Geriatric age group individuals follow above explained adaptations regarding diet, pattern of social relation as well as by following codes of conduct and sleep pattern they can enjoy the process of ageing with so much ease.

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QUALITY OF LIFE IN AGING

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ABSTRACT:

Elderly people may suffer from the multiple health disorders due to the vulnerability for many physical and mental disturbances in their daily life[1]. Quality of life in elderly population can be affected by many environmental factors. The aim of this study to examine the quality of life in elderly. According to researchs, persons have a good perception of their quality of life, considering health, leisure, environmental quality, functional capacity, level of satisfaction, social support, social networks, and positive social interactions as the determinants of their well-being, although social contact reduces as the age advances. We conclude that multidimensional evaluation is an effective tool to evaluate the quality of life and the objective and subjective health of the elderly. These variables can be related to the improvement of health and well-being.

KEYWORDS: Aging, kala, Physiological changes.

INTRODUCTION:

The World Health Organization [2] defined quality of life as an “individual perception of his or her living situation, understood in a cultural context, value system and in relation to the objectives, expectations and standards of a given society” . From this perspective, health-related quality of life includes areas such as physical health, psychological state, level of independence of the person, personal relationships, beliefs in the natural environment, social support, and perceived social support [3-7].

AIM and OBJECTIVES:

- 1) To examine the quality of life in elderly.
- 2) To discuss the physiological changes in geriatric group.
- 3) To understand the health related problem.

Panchmahabhuta:

Ayurveda was introduced to the earth so that man can enjoy a long and healthy lifespan.[8] Several types of principles have been described in Ayurveda. It is known that at the base of all creation, there are nine Dravya that is, Panchamahabhuta (space, air, fire, water, and earth); Mana (mind); Atma (soul); Kala (time); and Disha (directions).

Panchamahabhuta provide the basic structure for all the manifestations and this manifested creation, is known as the universe. The universe resides within the limitations of Kala and Disha in a clockwise manner.

Kala:

Among all the Dravya, Kala is the most important and potent, as it includes all creation in itself as well as it affects all creation in a clockwise manner, and human beings are no exception. Kala interacts with a human from conception till death and this time period is called Ayu (lifespan). On account of the interaction of Kala, various changes occur in the body during the period of Ayu; these are natural and cannot be changed. According to the type of changes that occur, the lifespan has been divided into three parts, also known as Vaya (various stages of life); these are 1) Bala (early stage of life), 2) Madhya (middle stage of life), and 3) Jirna or Vriddhavastha (later stage of life). The major changes carried out in the body during these stages are, growth, achievement, maintenance and decay. Thus, aging is the process of decaying and this manifests in the form of various degenerative changes. Although these changes are natural, they are not pleasant.

Physiological Changes: [9]

Physiological changes occur with aging in all organ systems.

a) Cardio-vascular system:

The cardiac output decreases, blood pressure increases and arteriosclerosis develops.

b) Respiratory system:

The lungs show impaired gas exchange, a decrease in vital capacity and slower expiratory flow rates.

c) Gastrointestinal system:

Functional changes, largely related to altered motility patterns, occur in the gastrointestinal system with senescence, and atrophic gastritis and altered hepatic drug metabolism are common in the elderly.

d) Muscular system: Skeletal system:

Lean body mass declines with age and this is primarily due to loss and atrophy of muscle cell.

Degenerative changes occur in many joints and this, combined with the loss of muscle mass.

e) Skeletal system:

osteoporosis is frequently seen due to a linear decline in bone mass after the fourth decade.

f) Endocrine system:

The creatinine clearance decreases with age although the serum creatinine level remains relatively constant due to a proportionate age-related decrease in creatinine production. Progressive elevation of blood glucose occurs with age on a multifactorial basis

g) Skin:

The epidermis of the skin atrophies with age and due to changes in collagen and elastin the skin loses its tone and elasticity.

These changes with age have important practical implications for the clinical management of elderly patients: metabolism is altered, changes in response to commonly used drugs make different drug dosages necessary and there is need for rational preventive programs of diet and exercise in an effort to delay or reverse some of these changes.

Discussion:

Aging is a natural phenomenon, but nobody wants to grow old - a dilemma that everyone faces. In Ayurveda, every condition that leads to a disturbance of homeostasis is termed as a

disease. Thus, Vriddhavastha has also been considered as a disease: It is categorized under the head of natural diseases. These natural diseases are due to Swabhava (nature) and depend on kala (time).

Conclusion:

Aging is a natural process; the body is decaying continuously, as shown by its etymology, that is, ShiryateItiShariram. Untimely aging is wholly preventable if the principles of Ayurveda are strictly followed. The pathophysiology of aging is mostly dependent on diet, and therefore, this process of aging can be slowed down by correct diet planning. Vriddhavastha can be managed by palliative treatment. It is even possible to treat Vriddhavastha according to the principles of Rasayana, especially according to Swabhavavyadhipratishedhiya chapter of SushrutaChikitsasthan.

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ADAPTATION OF LIFESTYLE IN GERIATRICS

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ABSTRACT

Ageing is the progressive change in an organism that leads to an increased risk of debility, disease and death. In the most acceptable idea it is just a part of the life cycle; that is a person born, goes through childhood, adolescence and adulthood and at a certain period begins to age. In the present era, improvements in life expectancy have increased the proportion of older people in the population. It is not the ageing but the consequences of ageing which make panic the peoples in old age. Therefore, disorders, rather than normal ageing, are the primary cause of functional loss during old age. Geriatric medicine is concerned mainly with frail older people, in whom reductions in physiological capacity increase susceptibility to disease and mortality. These patients frequently suffer from multiple co-morbidities, and illness often presents in atypical ways with confusion, dementia, depression, delirium, incontinence, vertigo, spontaneous bone fractures, falls or loss of mobility & neglect and abuse.

Ayurveda has given unique importance to geriatric care. In Ayurveda the concept of anti-ageing is embodied in Rasayana Chikitsa, Panchkarma therapies, Yoga and an elaborate description is available on personal hygiene encompassing diet and regimen of Dinacharya, Ritucharya and Sadvritta .These are a wholesome set of rules which can retard premature ageing as well as troubles associated with it. The Present paper is an effort towards re-establishing the role of Ayurveda in alleviating age- related disorders and its uses in Geriatric health and care potential.

KEYWORDS :- Ageing; Ayurveda; Dinacharya; Rasayana; Yoga

INTRODUCTION

Owing to the increase in life expectancy and decline in birth rate, worldwide the elderly population is rapidly growing. According to Population Census 2011, there are nearly 104 million elderly persons (aged 60 years or above) in India; 53 million females and 51 million males. As per the report released by the United Nations Population Fund and Help Age India, the number of elderly persons is expected to grow to 173 million by 2026. The elderly population is the fastest-growing population in India. The old-age dependency ratio has increased over the past 2 decades, which increases the burden on the working population. 1

Traditionally, older adults are taken care of by their families. However, because of the changing gender roles, employment of women, erosion of traditional family values, and an increasing trend for nuclear families, a care giving crisis is predicted. With decreased family

support and informal caregivers, more of the older adults in India care for themselves. Caring for older adults requires a multidisciplinary approach including the doctors of all systems, nursing staff and family members. One need to become familiar with the changes that occur in the ageing process. This can enable them to provide better health care to the elderly. The AYUSH doctors have an important role to play in all the preventive, promotive and rehabilitative aspects of the elderly.

MATERIALS AND METHODS

Different Ayurvedic classical books, research papers and journals were referred while writing the paper.

GERIATRICS IN AYURVEDA

The concept of Geriatric care is well described in Ayurveda. In ancient textbooks, the story of Chyawanaprasha behind the rejuvenation of sage Chyavana sounds like a miracle in itself. Ayurveda quotes the Human body (Sharira) — ‘Shiryateitishariram’. The Human body is bound to destroy, it is continuously destroying. Ayurveda has described some diseases which are irreversible and related to nature and are considered as Swabhavaja Vyadhies² (natural disorders). Jara viz. ageing process is one among them. Acharya Sarangadhara beautifully quoted that changes of ageing are always degenerative in nature³. Such changes start right from birth and get advancement with chronological age. Childhood, growth, beauty, intellect, the lustre of the skin, vision, sexual ability, physical ability, thinking ability and locomotion start to lose from the body with each passing decade. Every person has to pass through these decaying changes.

Ageing can be timely or untimely. Acharya Sushruta divided Jaravastha into Kalaja Jara (Timely Ageing) and Akalaja Jara (Premature Ageing).⁴ As it is fact, Ayurvedic concepts believe in the prevention of disease as well as cure of disease. It does not aim at creating only the health of the individual but simultaneously provide the preservation of health. It has a specific branch termed Rasayana or Jarachikitsa which focus on geriatric care.⁵ According to Sharangdhara, which destroys Jara (ageing) and Vyadhies (disease) is called Rasayana. Rasayana is a method to arrest or retard the degenerative changes in old age as well as increase the energy of a healthy person. Undoubtedly the Rasayana therapy in Ayurveda is a unique and promotional therapeutic methodology in the context of geriatrics concerns.

Ayurveda opinions about maintenance of homeostasis of Doshas, Dhatus, Malas, Agni to retain a healthy life . Various principles have been elaborately described for the maintenance of health in Ayurveda. Hence, if these principles are applied in the context of ageing with a practical approach keeping in view the status of the current scenario, ageing can be comfortable and related diseases can be prevented.

AGE - RELATED CHANGES IN VARIOUS BODY SYSTEMS AND THE ROLE OF AYURVEDA IN IT

Advancement of age usually creates numerous problems in the individual. Geriatric problems in various systems of the body are described as-

1. Cardiovascular System

- There is a progressive loss of myocardial muscle cells along with an increase in cell volume and depletion of fat cells and fibrous tissues. Thus heart gets flabbier but weaker. The heart valves start becoming thickened, loose elasticity and calcification may set in.

- The common cardiovascular problems include
- Hypertension
- Ischemic heart disease
- Heart failure
- Peripheral vascular diseases (PVD)
- Atrial fibrillation and other arrhythmias
- Pulmonary and cerebral thromboembolism, and aortic stenosis
- Ayurveda advocates adoption of a healthy lifestyle and use of various Panchkarma therapies especially Hrudbasti, Shirodhara, etc to maintain effective circulation and preventing these degenerative changes in the heart.

2. Respiratory System

- In the large airways and bronchi the number of glandular epithelial cells decline leading to reduced production of protective mucous and thereby increased risk of infection. The central control of breathing is impaired because age related muscle changes lead to poor strength of respiratory muscles
- The common respiratory problems include:
 - Pneumonia
 - Tuberculosis
 - Bronchial asthma
 - Chronic obstructive pulmonary disease (COPD)
 - Lung cancer
- To strengthen the respiratory system various Rasayanas especially Chyawanprasha are mentioned in classical texts . Therapies like Abhyang, Swedana, Nasya should be included in daily regimen.

3. Gastrointestinal System

- With age, oral mucosal membrane stops functioning, teeth are lost, the number of taste buds decreases and Gastric emptying of liquids is delayed. Elderly people are susceptible to dysphagia and aspiration.
 - The common disorders of GI tract include:
 - Hiatus hernia
 - Peptic ulcer
 - Cancer of GIT etc.
- Ayurveda treatment of gastric problem aims at finding out the exact root cause of the problem and correcting it. With increasing age there is vitiation of Agni (digestive insufficiency) which is the major culprit behind all the problems. For the Correction of this vitiated Agni , many single herbs like Maricha, Shunthi , Turmeric should be incorporated in our daily dietary regime.
- Bowel Problems - More than 25% elderly experience constipation due to decreased abdominal muscle tone, inactivity, immobility, inadequate fluid and dietary, some disease conditions, side effects of medications, dependence on laxatives or enemas, and various environmental conditions.

➤ General measures for prevention includes –

- Intake of High fibre diet
- Promote regular exercise
- Increase the fluid intake
- Add stool softeners if required.

4. Endocrine System

- Aging is associated with glucose intolerance. Also the hypothalamic-pituitary regulation of releasing and stimulating hormones decline with age. Secretion and metabolism of both thyroid hormones is reduced.
 - Common endocrine problems in old-age includes-
 - Diabetes mellitus
 - Hypothyroidism
 - Hyperthyroidism
- Since these are all lifestyle disorders, adopting a healthy lifestyle pattern which includes Yoga, meditation, dietary changes according to Ayurveda turns to be fruitful.

5. Musculoskeletal System

- Loss of muscle strength is the commonest musculoskeletal problem of old age. With ageing the surfaces of bone cartilages tend to breakdown. Peri-articular soft tissues such as inter vertebral discs, ligaments, tendons and capsules of joints change with age resulting in thickening, distortion and fibrous of joint capsules.
 - Common musculoskeletal problems includes :
 - Osteoarthritis
 - Rheumatoid arthritis
 - Osteoporosis
 - Fractures
- With increasing age there is decrease in the amount of synovial fluid , described as Shleshmaka Kapha in Ayurveda and increase in Vata Guna. Thus regular Abhyanga , Swedana and local Basti application as per the need, proved to be useful.

BEDSORES - Bedsores develop when soft tissues (skin and underlying tissues) are compressed between bony prominences and contact surfaces (bed/chair). This is due to lack of mobility.

➤ **Prevention of bedsores -**

- Turn and reposition the patient at 1–2 hour intervals.
- Inspect the skin thoroughly at each position & search for evidence of early skin breakdown.
- Apply emollients like Kumari , Shatdhaut Ghrita as needed to prevent dryness.

6. Genitourinary and Reproductive System

- Menopause takes place between the early 40s and 50s after which the ovaries reduce their production of female sex hormones. The main effect of testosterone deficiency is on penile erection, premature ejaculation and loss of libido.

- The number of nephrons per kidney decreases by 30–50% between ages 25 and 85 years. The GFR declines nearly 50% by 90 yrs of age .
- The bladder capacity decreases from 500 ml – 600 ml to about 250 ml
- UTI and urinary incontinence in both elderly males and females, and benign prostate hypertrophy, and malignancy of prostate in males are quite common.
- Here use of Rasayana and Vajikarana helps in preventing as well as curing the disease condition. The patient should be taught YOGA to strengthen pelvic floor and to use absorbent pads to prevent soiling of clothes. Patient should be provided with the clothes which are easy to wear. Adequate fluid intake should be ensured to prevent dehydration.

7. Nervous System

There are marked senile degenerative changes in neurons and disturbance in the levels of neurotransmitters which results in diseases like Dementia, Alzheimer’s disease, Parkinsonism, etc.

- By using Medhya drugs like Shanthapushpi, Mandukaparni etc and by judiciously following Achara Rasayana and Yoga, one can hamper these degenerative changes.

8. Sense Organs - With age the efficiency of functioning of all five sense organs (vision, hearing, taste, smell and touch) diminishes, leading to conditions like Presbyopia and Hearing Impairment.

- **ROLE OF PANCHKARMA** – In Ayurveda Panchkarma procedures are described as per the disease condition-6

DISORDER	TYPE OF PANCHKARMA
• Impaired Cognition	• Shiro-vasti,Shiro-dhaara
• Visual Impairment	• Netratarpana
• Hearing Impairment	• Karna-poorana
• Olfactory Impairment	• Nasya
• Gustatory impairment	• Kaval-Gandoosh
• Tactile Impairment	• Abhyang, Pizhichil

PREVENTIVE AND CURATIVE MEASURES FOR GERIATRICS

Acharya Charak says “ He who treats the disease before its commencement or at an early stage, experiences long lasting happiness”. Geriatric problems are best confronted by preventive measures than curative ones. By adopting a healthier lifestyle, the risk of a whole range of geriatric diseases can be reduced. These include efficacious intake of AHARA, VIHARA, YOGA & RASAYANA THERAPY.

AYURVEDIC DIETARY (AHARA) GUIDELINES

- In Ayurveda , method of preparation and intake of Ahara as per day and season are very well mentioned in detail under the headings of Ashta Aharavidhi Visheshayatanas and Aharavidhividhanas. 7

➤ Elderly people has different nutritional requirement as compare to younger ones. During Jaravastha , Vata dosha is predominant in the body and symptoms of Rasakshaya and Vishamagni are present. Hence diet should be planned in a proper manner as per Ayurvedic dietary guidelines.

➤ **AHARA FOR ELDERLY PERSON –**

- Guru Bhojana (Fried, very spicy food, red meat, animal fat etc.) should be avoided.
- Offer Kalabhojana and Laghu-pathyahara.
- Nutritional quality of all food items should be evaluated as per the Matra.
- Preenan dravyas should be given for Rasavruddhi.
- Change the food consistency as per the choice and need of the elderly.

AYURVEDIC LIFESTYLE (VIHARA)

- There is elaborate description about Dinacharya, Ritucharya, Sadvritta and Nidra in Ayurveda texts, which prevents premature ageing if followed accordingly.

LIFESTYLE (VIHARA) FOR OLD PEOPLE-

- Follow the proper Dinacharya as mentioned in Ayurveda. These includes Brahma Muhurat Jagarana, Nasya , Abhyanga etc.
- Follow the proper Ritucharya (seasonal regimen) .
- Sadvritta i.e, Code of conduct should be followed in order to maintain mental wellbeing along with physical health. This can play a pivotal role in preventing diseases like dementia, Alzheimer’s disease, etc.
- Avoid the provocative causes of Kshaya (degeneration) and Vata, for example, excessive physical and mental work, vigorous exercise, tolerance of un-suppressible urges, intolerance of suppressible urges, and so on.

ROLE OF YOGA – YOGASANAS are proven to be efficacious in many chronic health problems of elderly people. Yoga reduces sympathetic activity with relaxing techniques. Pain, fatigue, depression and stress decrease with relaxing response.

➤ The following longevity promoting Yoga practices should be performed only under the guidance of qualified Yoga therapist.8

Asanas: Surya Namaskar, Pavanamuktasana, Bhujangasana and Shavasana.

Pranayama: Nadisodhana, Kapalbhata, Bhramari and Bhastrika.

Mudras: Dhyana mudra, Khechari mudra removes diseases and old age problems.

Dharana, Dhyana, Swadhyaya and Iswara Pranidhana.

RASAYANA CHIKITSA IN GERIATRICS

Ayurveda has a focused branch of medicine called Rasayana (rejuvenation therapy) which deals with diseases as well as problems related with ageing. Rasayana acts through various ways –It improves micro-circulation and functions as rejuvenators, nutritional supplements and also possess strong antioxidant activities. They are used mainly to combat the effects of ageing, atherosclerosis, cancer, diabetes, rheumatoid arthritis, autoimmune disease and Parkinson’s disease and are also effective for the promotion of memory and intelligence, immune-

enhancement, free-radical scavenging and anti-stress. Various single and combination of drugs like Vayasthapana Mahakashaya and Jeevneeya dravya (vitalisers) possess Rasayana properties.

9

Rasayana therapy will be fruitful only when the body has removed the toxins with the help of preceding Panchkarma therapy. We get ill response of Rasayana if the body has not purified fully and simultaneously not followed the pathyaapathya (do`s and don`ts) 10

- For practical utility Rasayana can be classified into following types –
- Ajasrika Rasayana (dietary modification) – one must include Vayasthapana drugs in dietary regime like Goghrita, Godudgh, Madhu, Amalaki, Triphala, Ashvagandha etc
- Achara Rasayana (lifestyle modification) – We cannot eliminate stress in our lives, but we can change our attitude towards it.
 - S – Stop anger, egoism, overthinking and have a self control.
 - T – Trust yourself
 - R – Remember the preventions
 - E – Exercise regularly
 - S - Spirituality
 - S – State of calm mind
- **Naimittika Rasayana** (Therapeutic modification) – help to fight a specific disease. For ex-
 - In Prameha - Haridra, Shilajatu, Amalaki etc.
 - Amavata - Bhallataka, Lashuna, Pippali etc.
 - Anti-ageing- Vayasthapana and Jeevaniya drugs like Guduchi, Amalaki, Triphala, Ashvagandha etc are prescribed.

GERIATRIC DISORDER RASAYANA

GERIATRIC DISORDER	RASAYANA
Cardiac disorder	<i>Arjuna, Guggulu, Pushkarmoola</i>
Senile dementia	<i>Brahmi and other medhya drugs</i>
Senile enlargement of Prostate	<i>Varuna, Shigru</i>
Senile visual disorders	<i>Triphala</i>
Parkinsonism	<i>Kapikacchu</i>
Immunodeficiency	<i>Guduchi, Amalaki</i>
Alzheimer`s disease	<i>Shirodhara, Medhya Rasayana</i>

RECENT RESEARCHES¹¹

- Butea monosperma root distillate in the management of age related immature cataract.
- Guduchi (Tinospora cordifolia) as immunomodulatory agent.
- Sallaki (Boswellia serrata) in Rheumatoid Arthritis (RA): The efficacy of sallaki was found to be comparable to that of diclofenac sodium in the patients of Rheumatoid Arthritis (RA), who demonstrated predisposition for gastric intolerance with anti-inflammatory medication.

- Ashwagandha (*Withania somnifera*) on the process of aging: Root powder of Ashwagandha showed statistically significant increase in haemoglobin, RBC count, hair melanin and seated stature and decrease in serum cholesterol and ESR .
- Multi-faceted protective role of Chyawanprasa: Chyawanprasa showed significant immunomodulatory activity, cytoprotective action and Genoprotective action.
- Anti-anxiety effect Mandukaparni (*Centell asiatica*), Yastimadhu (*Glycyrrhiza glabra*) and Jatamansi (*Nordostachys jatamansi*).

DISCUSSION

‘Ageing is not a pathology ; it is a fact of life ’. But a faulty life style is proved to work at multiple levels to influence susceptibility to many geriatric disorders. Ayurveda, has got the potential for the prevention of diseases by health promotion and management of diseases occurring in old age. By acquiring some basic principles of Ayurveda one can attain a healthy ageing and can retard premature ageing as well as troubles associated with it. Ayurvedic intervention is targeted towards complete physical, psychological & spiritual wellbeing which makes it a wonderful option in treating age related disorders. In the wake of COVID-19 Ayurveda has been proven as one of the ubiquitous cornerstones of India’s public health. The most effective mitigation strategies being implemented globally works on the principle of Ayurveda.

Taking a step forward, the Government of India, Ministry of Health and Family Welfare, Department of AYUSH has launched the National Campaign on Ayurveda and Siddha for Geriatric Health Care on 23rd and 24th January 2008 for promotion of merits of Ayurveda and Siddha for the care of elderly in the Country. But this much is not enough! In order to prevent or retard the complications of ageing we need a multidisciplinary attitude so that we combat geriatric concerns in a winning approach. It is the demand of the hour to develop an effective holistic protocol for geriatric care by combining Rasayana, Panchkarma, Dietetics, Ayurvedic medicine, lifestyle and Yoga along with the modern medicine for the ultimate care of the elderly.

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ADAPTATION OF LIFESTYLE IN GERIATRIC CARE

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Abstract

Ayurveda is science of life. Ayurveda having holistic approach aim at prevention, promotion, preservation also cure from the disease. Everyone wants to give the impression of being young forever. Aging is process of becoming old and decaying as age advances several changes takes places in the body. Aging is complex and inevitable process begins before birth and continue through entire life span. Elderly people are susceptible to several chronic diseases. The strength of Ayurveda in the context of geriatric care is adaptation of life style in geriatrics. As the incidence of elderly people is rising in the population worldwide including India. By the year 2022 the world will have more than 1 billion people aged 60 and over and more than two third of them will be living in developing countries. In Ayurvedic texts, there are given many ways in prevention and promotion of health. Various regimens like Dincharya (daily regimen), Ritucharya (seasonal regimen), Sadvritta (rules and regulations of ideal routine) along with yoga practices are most important factors to maintain a healthy lifestyle and happy psychological setup. These rules are very important in the prevention of disease and promotion of ideal health. In Ayurvedic texts a comprehensive description has been given of aging. The aim of this paper is to compile and re-evaluate adaptation of lifestyle in geriatrics.

KEYWORDS: Ayurveda, Lifestyle and Geriatrics

Introduction

In modern science geriatric is made up of two words. Gerias and Iatric. Gerias means to grow old where as Iatric means medical treatment. Geriatrics, the branch of general medicine concerned with preventive, medical, economical and social aspect of illness in elderly. Vardhakya begins at 60-70 yrs.¹

Aging has been defined as total sum of physiological changes that progressively leads to death of individual. Human aging is associated with wide range of physiological and cellular changes. According to Ayurved Jara also called as Vardhakya (aging) is defined as that which has become old by the act of wearing out. According to Ayurved Jara is not a disease but a natural phenomenon like hunger, thirst or sleep. Jara is influenced by factors affecting Sharir (physical), Indriya (emotional), Satva (psychic level), Agni (metabolism) and Bala/Oja (immunity). Jara is accompanied by the process of decay and manifests in the form of various degenerative changes. Adaptation of Lifestyle includes three primary components Ahara (diet), Vihara (daily activities) and behavioural therapy (Sadvritta).

Problems occurring in old age and adaptation of lifestyle

Digestive system related problems

Hampered digestive functions, appetite and gut absorption, intestinal dysmotility. Decreased mucosal immunity barrier, weakness of pelvic floor, reduced sphincteric control.

Adaptation of Lifestyle like

- Maintenance of good oral hygiene by Dantdhavan, jivhanirlekhan, kaval and gandush.
- Repair or replace damaged teeth.
- Relaxed atmosphere during eating.
- Practices of asanas like vajrasan, mandukasan and pawanmuktasana.
- Practices of pranayama like kapalbhati and bhasrika.
- High fibre high protein diet.
- Increased fluid intake.
- Avoid smoking, intake of excessive tea, coffee, heavy, oily and spicy food items.

Respiratory system related problems

Common causes of respiratory health problems in elderly are decreased mucosal protection and ciliary mucosal clearance of respiratory tract, increased residual pulmonary volume and decreased chest motility, elasticity of alveoli and physical exercise. All these factors lead to recurrent infections like chronic bronchitis, bronchiectasis, emphysema, pneumonia and difficulty of breathing after mild exertion.

Adaptation of Lifestyle like

- Alternate activity with period of rest.
- External snehana with sarshaptaila (mixed with saindhavlavana) on chest followed by hot fomentation act as expectorant and relieves breathlessness.
- Avoid smoking, intake of chilled water, exposure to dust, cold, humid atmosphere, fumes and pollutants.
- Practice of pranayam (deep breathing exercises) and drinking of lukewarm water.

Locomotor system related problems

One of the most common geriatric health problem is locomotory system. Common problem is pain and unable to perform daily activities. Common cause for it are decreased muscle mass and bone marrow density, power tone, bony degeneration, lack of physical exercise, fractures and spondylosis.

Adaptation of Lifestyle like

- Regular gentle massage with medicated oils
- Adequate rest to joints
- Reduction of weight
- Avoid prolonged walking, talking, kneeling, squatting and crossed leg sitting
- Foods like milk, milk products, banana and other dietary items rich in calcium
- Exposure to mild sunlight.

Nervous system related problems

Common problems in elderly are senile dementia, parkinsonism, Alzheimer disease, insomnia, regression of brain functions causing incoordination of motor activity, tremor, cerebellar ataxia, higher sense functions impaired.

Adaptation of Lifestyle like

- Use of Medhya Rasayanabrahmi, mandukaparni, Ashwagandha.
- Use of Drishtipradha Rasayana for maintain the visual acuity.
- Use of Anjana, Nasya and Karnapuran.
- Practice of kapalbhati, trataka, Anulom-vilom and Bhramari pranayama.
- Use of spectacles, hearing aid devices
- Medical care for illness

Cardiovascular system related problem

mainly Hypertension

Adaptation of Lifestyle like

- Ushapan
- Regular morning walk
- Practice of laghuvyayam
- Regular practice of shavasan, makarasan, adhvasan
- Regular practice of pranayama
- Regular practice of meditation
- Diet low in salt
- Decrease intake of fat

Excretory system related problems

Poor power of kidney. BPH in male causes increased urine frequency, incompetence, retention of urine, urgency of micturition, recurrent desire of urination, feeling of fullness of bladder, recurrent urinary tract infection.

Adaptation of Lifestyle like

- Increased fluid intake
- Decreased fluid intake before going to bed
- Regular trips to bathroom
- Practice of yoga
- Use of rasayan like shilajatu
- Avoid veg udirna

Programing of lifestyle in such a way that akalajajara can be avoided and kalajjara can be delayed.for this purpose adaptation of dincharya, ritucharya,sadvritta and wholesome diet together show promising outcome.

Dincharya²

Daily regimen of properliving is designed for maintainance of health achievementfor long,healthy active life. Providing a disease free life .

- Wake up at Brahma Muhurt

It is advised to wake up during Brahma Muhurt (4am to 5:30am).

Best time to yoga exercise and study

- Maltiyaga

One should attend natures calls.Elimination of urine and faeces cleans the body and cheers up mind.

- Aachamana

It is advisable to do Aachamana to maintain hygiene.

- Dantadhawanand Jivhanirlekhan

(Cleaning of teeth and tongue)-cleaning of teeth and oral cavity should be done twice daily.soft brushes made up of Khadira,Nimba,Arka,Karanja,Apamargaetc,

- Anjana

One should use Anjana for daily to prevent eye diseases and promote vision

- Nasya

It is of great importance to use PratimarshaNasya daily to prevent greying of hairs,falling of hairs,blemishes UrdhvajatrugatVyadhi.

- Gandush ,Dhoompana and TamboolSevan.

It helps to maintain oral hygiene and prevent UrdhvajatrugatVyadhi.

- Vyayam

Regular exercise build up stamina and resistance against disease.it clears the channels of body and increase blood circulate on along with efficacy of vital organs.it promotes appetite digestion and prevent obesity.

- Abhyanga

It is highly preferable to massage whole body including scalp with oil every day to prevent dryness of body,stiffness of joints,resulting into delay in aging in elderly. Oil massage ensures softness of skin,free movement of joint and muscle improves peripheral circulation and eliminates metabolic wastes.

- Snaan

Baath improves enthusiasm .strength appetite.removes sweat and other impurities from the body after bath one should have regular shaving ,haircut and nails cutting.

- Bhojan

Only after digestion of previous meal taken.the person should take next meal it should be compatable to have.

Ratricharya

- SayankalBhojan-one should consume laghu,HitkarBhojan.
- One should remember God.
- One should do self analysis of day activities and religious contemplation.
- After following all these activities one should go for sleep in divine remembrance.

Ritucharya

Seasonal changes bring about diseases and they may be prevented by adopting certain seasonal diet and life style according to dosha Sanchay ,Prakop and Shaman respective to season.

Sadvritta³

A healthy mind is as important as healthy body,Sadvritta contains principles of right conduct,that are applicable to all. Some of these are summarised as follows.one should suppress urges of greed,grief,fear,fury,pride shamelessness and excessive passion. Observe self control and always speak truth.One should not harm others and should always act in polite manner. Error in dietic and behaviour habits should be practiced.

Sleep

Sleep is one of the main pillars of good health in Ayurveda and is as important as diet in sustaining a quality healthspan.

Sleep can be influenced by age, lifestyle, daily routine diet and environment, Ayurveda cautions that poor sleep patterns can be debilitating as it triggers age-associated pathological condition that can hasten aging process. Research studies indicate that insufficient sleep can disrupt circadian rhythms that result in negative health outcomes, including obesity, cardiovascular disease and cognitive impairment.

Discussion

A few small changes in daily habits can make a big difference. Healthy habits do not have to be monotonous. Rapid decline in physical activity has occurred in both rural and urban India because of easy availability of motorized transport prolonged sitting. Issues having direct correlation with physical social and mental wellbeing of elderly are marital status, financial status, work history, education, responsibilities, living atmosphere.

In covid-19 pandemic the 80% risk factors of morbidity and mortality are who having hypertension, diabetic, cancer because in NCD immune system will be impaired. Sadvritta have great impact on social promotion of health. Belief on god, hopeful and positive attitude about the life and illness influences the health.

Conclusion

Health require the promotion of healthy lifespan. there is association between health and lifestyle of individuals. Many current day health problems especially in India. Where tradition lifestyle still persists have risk of illness, death are connected with lack of sanitization. Poor nutrition, personal hygiene, elementary human habits. whoever wants to be healthy and prevent disease to maintain healthy lifestyle should stop smoking, do daily physical exercise, diet should be rich in fruits and vegetables limit consumption of sugar and salt. Elderly people should be treated with love affection and respect by youngsters. They should provide good family atmosphere. Daily walk and yoga practice, regular sleep, avoidance of alcohol and tobacco. Elderly peoples food should be nutritious and easily digestible.

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MANAGEMENT OF LIFE STYLE IN GERIATRICS BY AYURVEDA

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Abstract

As the incidence of elderly people is rising in the population world over including India, it is now felt necessary to develop newer strategies for Geriatric health care. Accordingly Geriatrics is emerging as a major medical specialty globally. Conventional system of medicine has nothing much to offer in the core area of geriatric care except the medical management of the diseases of old age. Ayurveda, the Indian traditional holistic health science has broad spectrum of preventive measures for combating the ageing process. The focused branch Rasayana (rejuvenation) or Jarachikitsa promote healthy longevity. Jarachikitsa and Rasayana methodologically delay vrudhastha (ageing) and reduce geriatric degeneration.. 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. Hence what all is needed is to retard the rate of aging to a limited extent and to promote healthy aging. There is considerable scope to develop a safe and cost-effective protocol for geriatric care on the basis of Ayurvedic life-style management, Rasayana therapy and practice of yoga.

KEYWORDS: Geriatrics, Ageing, Rasayana, Geriatrics in Ayurveda, Geriatric

Introduction

Ayurveda is science of life which not only deals with diseases but also helps to maintain health of healthy individuals. Ayurveda has given the description of some diseases which are irreversible and related with nature and considered as swabhavaja vyadhies (natural disorders). Jara viz. aging process is one among them. Human aging is associated with a range of physiological and cellular changes that limits the normal functioning of human body. It's not the aging but the consequences of aging which make it difficult for the peoples in old age. The biggest challenge with geriatric diseases is that in most of the cases the condition cannot be attributed to a single cause or in certain conditions of neuro- psychiatric disorders like, Senile dementia, Alzheimer's disease, depression, the structural cause is unknown. In such cases conventional system of medicine fails to come out with effective management. Ayurved cannot stop this inevitable process, but can provide an adaptable and comfortable medical management to retard the process as well as and can provide a healthy aging.

Material and Methods

- Charak Samhita
- Ashtanga Hrdya
- Various research papers published on the Topic
- Various Ayurvedic texts regarding Topic

Review and Discussion

Swasthvrta

Maintenance of healthy life by proper and acceptable actions in physical and mental level is swasthavrta. By adaptation of swasthavrta, one can achieve a healthy life. By Following the proper dincharya(daily activities) as per Ayurveda like anjana,abhyanga, etc; by Following the proper ritucharya (seasonal regimen); By not suppressing the natural urges(which are described 13 in number); By Following the proper diet rule as per day and season which is very well emphasized in Ayurveda as elderly people has different nutritional requirement as compare to younger ones, we can achieve betterment at maintaining old age.

Dincharya

Dincharya (daily regimen) is one of the principles mentioned in Ayurveda in context to prevention. These daily regimen procedures have beneficial physiological effects on proper functioning of the body thereby maintaining a state of equilibrium of three humors (Vata, Pita, and Kapha), seven tissues, three waste products and the power of digestion along with pleasant mind, soul and sense organs, which in turn helps to attain positive health. By Following the proper dincharya (daily activities) as per Ayurveda e.g., nasya, abhyanga can help managing old age.

Rituacharya

Rituacharya is the ancient Ayurvedic practice and is comprised of two words, “Ritu” which means season and “charya” which means Regimen or discipline. Rituacharya consists of lifestyle and ayurvedic diet routine to cope with the bodily and mental impacts caused by seasonal changes as recommended by Ayurveda. Rituacharya enables to build our physical strength and mental capability to battle ailments that may happen due to seasonal changes in old age. Old age peoples are more vulnerable to malnutrition as anorexia, dementia, and poor dentition; delayed gastric emptying and many other disorders may develop with ageing. Dehydration is also very common. Hence these should be supplemented in a proper manner prior to development of any disease.

Rasayana therapy

Rasayana especially deals with the science of nutrition, geriatric care and rejuvenation. It stands as an answer to problem of healthful longevity. It refers to a specialized regimen which includes rejuvenative remedies or drugs, dietetics, overall healthy life-style and positive psychosocial conduct. It influences the fundamental aspects of the body viz. dhatus, agni and srotas thereby enriches the nutritional value of the circulating plasma, improves the digestion, absorption and metabolism and enhances the micro-circulation and tissue perfusion. It is quite effective for immune-enhancement, free-radical scavenging and anti-stress.

As a result, rich, good and healthy tissues develop in the body and a person gets longevity, immunity, vitality, happiness and improved intellect etc. Ayurvedic texts describe a large number of rasayana drugs both herbs and minerals to be used singly or as compounds. The biological stimulation of Vata Dosha can be delayed by Rasayana therapy particularly by using Vayasthapana drugs. Ageing is progressive change related to passage of time, free radicals cause oxidative damage to different biological units which may enhance to ageing process. Certain Rasayana drug like withania somnifera prevents lipid peroxidation and oxidative protein moderation. Rasayana therapy also acts as antioxidant so they help in blissful ageing.

Panchakarma therapy

Panchakarma therapy is not only a prerequisite for all the therapeutic procedures and medications, but has also a full therapy role as promotive, preventive, curative and rehabilitative procedure. In geriatric care, selective panchakarma therapy like Abhyanga (medicated massage), Sarvanga dhara (Kayaseka), Nadi Sweda, Pinda sweda, Shirodhara, Bringhamana vasti, Matra vasti etc. may be advised to counter the degenerative processes, thereby improving the quality of life. Accordingly Geriatrics is emerging as a major medical specialty world over. Disease pacifying treatment should be planned according to disease affected; mostly the Geriatric disorders have flourished during old age which is the best period for vitiation of Vata dosha and sarva dhatukshaya which leads to problems such tremors which in turn into decrease the quality of life. In modern treatment modality, there are restrictions for such a disease conditions and having multiple side effects. But with the help core treatment i.e. Panchakarma therapy with shaman (Palliative) therapy can overcome these problems effectively.

Conclusion

Ageing is a natural process; the body is decaying continuously, as shown by its etymology, that is, Shiryate Iti Shariram. Ayurveda play a major role in managing the long term debilitating disorders. More the elderly are independent; more improvement in their quality of life is seen. So, to improve the quality of life of the elderly, holistic approach in making them active and healthy is necessary. 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 cardiprotectives in cases of Ischaemic heart disease, Brahmi and similar other Medhya drugs in treatment of senile dementias, Varuna and Sigru in treatment of senile enlargement of Prostate, Triphala in senile visual disorders, Kapikacchu in treatment of Parkinsons disease, Amrita and Amalaki in immunodeficiency, Sirodhara and Sirobasti in tension headaches and different kinds of neurodegenerative conditions are some of the potential areas where Ayurvedic treatment has promise.

Combining Ayurvedic Rasayana, rehabilitative Panchakarma therapy dietetics, Swasthavrtta, Sadvrtta, Yoga and spirituality it is possible to develop an effective package for geriatric care today for global use. There is a need to generate awareness among the masses about the consequences of Population-Aging and about the strength of Ayurveda in Geriatric health care.

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Quality of life in Older adults – a review study

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Abstract :-

In the evaluation, quality enhancement, and allocation of social care services, consideration of older individuals' quality of life (QoL) is becoming increasingly relevant. While several definitions and theories of QoL have been presented, there is yet to be a comprehensive synthesis of older individuals' perspectives. Because of the ageing population and deregulation, the demand for care services for older individuals living at home will grow in the future years. More and more senior citizens will age in home, with the majority of them suffering from one or more chronic illnesses. Cure is not a solution for many of these illnesses. However, in order for older persons to age at home, care is essential to manage these conditions and give support with everyday duties. Informal carers as well as official care services such as rehabilitation, nursing care at home, day care, mental health, and general practise care provide care and support. Present paper mainly focused on the quality of life in old age by in their own view.

Key words :- Quality of life , Older adults , Ageing

Introduction :-

Everyone has a perspective about their own quality of life, but no one really understands what it means in general. Individual well-being opinions, according to John Stewart Mill, are "the best methods of knowledge vastly transcending any that can be possessed by anyone else." [1] As a result, because of the high degrees of diversity across individuals, quality of life is very personalized and may even be a 'idiosyncratic mystery,' rendering it inappropriate for decision-making. [2] From the early days of expert-determined norms, often medical, to more recent concepts of it as an individual phenomena or a social construction, the scope of influences on it has moved beyond personal concerns about health and wealth to the society and beyond. To paint the whole picture of quality of life in later life, a larger canvas than that offered by this brief summary is required.

Simultaneously, health-care providers face care changes, funding cuts, and increased requirements for national and local commissions and auditing procedures. As a result, care service accountability is becoming increasingly crucial, and the value of such services must be established. Assessing the outcomes obtained at the customer level is one technique to establish this value. One of the most significant outcomes of care services for older individuals is the maintenance of quality of life. Several international ageing action plans emphasise the relevance of QoL, and international interest in assessing older individuals' QoL is expanding. While several definitions and concepts of QoL have been presented, there is no systematic overview of older

individuals' perspectives. It is crucial to understand what is important to elderly persons in life in order to align the aims of care services with their expectations.[3] In order to examine the content validity of existing QoL measures, it's also essential to understand what quality of life means from the perspective of older persons. Qualitative research can aid academics and decision-makers in gaining a better understanding of what quality of life means to older persons.

Aims and Objectives :-

- To determine the quality of life in old age.

Materials and Method :-

- Data has been collected through various journals, Peer reviewed research articles and **valid internet sources**.
- From the above data quality of life in old age will be determined.

Discussion :-

Although elderly people are capable of thinking and talking about their quality of life, most quality of life metrics have not been designed for them. On the basis of comparisons with others, social interactions, particularly with family and children, health, material situations, and activities, they rated their quality of life highly.[4] They emphasised dependency and functional restrictions, sadness, and fewer social contacts due to the death of friends and family members in their unfavourable assessments. Family, activities, and social interactions were the aspects they said contributed to the quality of their lives.[5] Various types of losses, such as illness and functional limits, were observed. The descriptors active, positive, successful, or healthy associated with ageing are well represented by the ideas of ageing connected to quality of life in old age, but 'successful ageing' is the most frequently used phrase.[6] Rowe and Kahn's generally accepted concept of effective ageing includes three elements: minimal risk of illness and disability, high physical and psychological function, and active participation in life.

EVALUATION OF QoL :-

Older adults evaluated their quality of life positively on the basis of :- comparison with others, social interactions, especially with family and children, Health status and Activities.

In making negative evaluations they stress on :- Dependency, Functional limitations, Unhappiness and Reduced social contacts through death of friends and family members. Losses of various kinds, such as illness and functional limits, are lowering quality of life.[7]

There are nine QoL domains that can be used to categorise the characteristics of QoL: Health perception, Autonomy, Role and activity, Relationships, Attitude and adaptation, Emotional comfort, Spirituality, Home and neighborhood, and Financial security. [8]

1. Perceptions of health: Feeling good about yourself and not being constrained by your physical limitations. "Above all, staying healthy is the most crucial aspect of having a good life; everything else is a bonus." The amount to which older persons felt fit and active or suffered from physical, mental, and cognitive impairments can impact their perspective of health. Their QoL was severely lowered due to bothersome symptoms, functional constraints, and drug side effects such as poor balance, poor memory, pain, eyesight loss, and exhaustion. Autonomy: The ability to manage on your own while maintaining dignity and not feeling burdened. Many senior citizens express a desire to remain self-sufficient for as long as feasible. Being self-

sufficient allows them to enjoy life and feel a sense of independence by allowing them to mingle, go outside, and do whatever they want.

2. Role and activity: Investing time in activities that provide a sense of worth, joy, and participation. Controlling one's time, or the freedom to spend one's time as one pleases, is important to older persons who live at home.
3. Relationships: Having close relationships allows you to feel supported and to make a difference in the lives of others. Older folks consider social contacts to be important for their quality of life because they assist them avoid loneliness. Feeling loved and cared for by close family might save older people from worrying and divert their focus. Partners and grandchildren, in particular, are a source of delight and support.
4. Attitude and adaptation: Older persons believe that having a positive attitude is important for having a good quality of life. Stay positive, enjoy life, be happy with simple things, make the best of life, and preserve your humour, said older folks who adopted such a life philosophy.
5. Spirituality: Attachment to and experience of faith and self-development as a result of beliefs, rituals, and inward introspection. Being religious or spiritual can help older people accept disability or psychological suffering, cope with changes, and be content with their lives.
6. Feeling safe at home and living in a pleasant, accessible neighbourhood.
7. When you become reliant on others, your sense of security and privacy at home may be compromised. Neighbors and social networks can assist with day-to-day tasks and social interactions.
8. Emotional comfort: a sense of well-being.
9. Older people expressed a desire to be peaceful, comfortable, worry-free, in tune with life, and at peace with themselves. Loneliness, which often occurs as a result of bereavement or relocating to a new town, has a significant detrimental influence on the quality of life of older persons.
10. Financial stability: You don't feel constrained by your financial circumstances. It's easier to live when you're in good financial shape. People's ability to pay for services such as home-help, physiotherapy, meals, and transportation is influenced by their income.

Conclusion :-

The goal of this review study is to investigate at what quality of life means to older people.

When all other factors are controlled, ageing has no detrimental impact on quality of life; rather, it allows for a long period of good health.

As a result, one of the clinical management aims should be to maintain and improve quality of life.

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RASAYANA IN GERIATRICS

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Abstract-

Ayurveda is the old arrangement of medication on the planet. It shows us how to live and how to keep a decent wellbeing. In this angle Dinacharya, Ritucharya, Ratricharya, Pathya-Apathya Sadvruta, Rasayana, and Vajikarana assume a significant part. In current medication there isn't explicit treatment for every one of the sicknesses. The greater part of patients who are recuperated from a sickness get influenced by same illness again or another infection. The patients having Alpa vyadhishamatva bala faces such sorts of issues in their day to day existence. To live a superior mental and actual solid life, a particular Aahar Vihar and Rasayana Chikitsa has been portrayed in the content of Ayurveda. To help resistance (Vyadhishamaatva bala) Rasayana Chikitsa is portrayed by different Acharyas in Ayurvedic messages, and forestall advanced age Rasayana Chikitsa likewise utilizes for anticipation, remedial and primitive parts of the infections.

Keywords- Ayurved, Rasayana Chikitsa, Health, Bala, Vyadhikshamatva

Introduction:

The word Rasayana is a combination of two separate words Rasa and Ayana. The word Rasa in this context means the first liquid tissue which nourishes all the tissues in the body and Ayana is its circulation. This means that if Rasa Dhatu is produced in optimum quality and quantity, then naturally all the tissues in the body will be nourished properly. The method by which Rasa is carried to all the body tissues for biochemical metamorphosis is called as Rasakriya. Rasayana also means the purification of all tissues from Rasa to Shukra. It also aims at giving strength to senses, mind and intellect. Hence, Rasayana or rejuvenation is such a form of treatment in which all the tissues are nourished and enhanced. The nourishment of vital tissues helps in stopping old age. Thus, it is useful for enhancement of qualities of life, span of life, increased intellect and enhanced physical strength. It also enhances the immunity of an individual leading to health.1

HISTORY OF RASAYANA:

In ancient time the word Deha Siddhi was used for Rasayana, this also means making body strong that will last forever. In alchemy or Rasashastra, the word Dhatu Siddhi was used for making higher metal like gold from cheaper metal such as iron. The concept is similar in both. In Rig-Veda, it has been mentioned that Gods were using Rasayana and the main substance was herb or preparation known as Soma. For making this preparation, Soma herb were taken and mixed with milk, ghee and honey. Then it was fermented and was consumed after filtering it. It is stated that those who use this preparation can resist fire, water and various weapons.¹

Rasayana is a special type of treatment containing various methods of rejuvenation. The literal meaning of Rasa is the essence of something. Anything ingested into the body in the form of food or medicine is first re-synthesized into Rasa Dhatu, the basic plasma tissue. Ayana is the method by which Rasa is carried to all the body tissues for biochemical metamorphosis (Rasakriya). The concept of Rasayana is based on these two principles of conservation and transmutation of energy. Rasayana therapy strives to improve physical, mental and moral Qualities. It prevents old age, restores youthfulness, improves the complexion and the voice, and increases physical strength and immunity. It strengthens memory and intelligence, gives happiness to oneself, and a life which is beneficial to others.²

RASAYANA-THE SCIENCE OF REJUVENATION:

Ayurveda has two main aims – one is to maintain health and the second is to cure disease. The branch of Rasayana or rejuvenation is one of the eight specialized branches of Ayurveda that primarily deals with the maintenance of health. Rasayana is defined as any herb, food, or activity which confers youthfulness and cures diseases. If taken in a proper way, the Rasayana prevents early aging and keeps you young and active both physically and mentally. The literal meaning of Rasayana is “augmentation of Rasa”, the vital fluid produced by the digestion of food. Rasa provides nutrition, enhances the immunity, and sustains life. Rasayana is the method of treatment through which the Rasa is maintained in the body. The purpose of Rasayana is to give strength, immunity, Ojas, vitality, will power and determination, and to strengthen the sense faculties, so that you are not exposed to sickness and disease as long as you live.

Types of Rejuvenation therapy: Depending on the aim or result produced, Rasayana is of three types: Naimittika rasayana, Ajasrikarasayana, and Kamya rasayana.

Naimittika Rasayana: (Nimitt – Sanskrit for “cause”) is given to combat or balance a specific cause, which is causing a disease in the body. Some examples of this Rasayana are Dhatri Rasayana, Mandookaparnirasayana, Brahmi rasayana, and Triphala rasayana.

Ajasrika Rasayana: is used to maintain good health and improve the quality of life through a healthy lifestyle, diet, or exercise. It includes use of milk, ghee, honey and adopting the principles of proper sleep and celibacy.

Kamya Rasayana: is used to fulfill a wish or desire or to serve a special purpose (kama - desire). It is of four types:

- Prana Kamya; used for achieving or maintaining the best quality of Prana (life energy) in the body.
- Medha Kamya; used for enhancing the memory and intellect.
- Ayush Kamya; used for increasing longevity.
- Chakshu Kamya; used for maintaining healthy eyes.

Depending on the method of administration, the Rasayanas are further classified into two types: Kutipravesika and Vatatapika. Kutipravesika (kuti – cottage, pravesha – enter) is a therapy in which the person lives in a specially prepared cottage for a long period while taking various Rasayana herbs. This Rasayana was practiced by the royal and wealthy families of ancient India. Vatatapika, on the other hand, does not bear stringent rules and can be practiced in your routine life. This is rightly indicated in the name “Vatatapika”, where “Vata” means air, and “Atapa” means heat or sun. So this is a method of taking Rasayana, while a person remains exposed to air and heat. Vatatapika method is good for people who are engaged in every day life activities. Some special formulas of this category include Chyavanaprasha,

Brahma rasayana Shilajitu rasayana, Amalakirasayana, Haritaki rasayana, Pippali rasayana, Lohadi rasayana and Loha shilajitu rasayana. A total of 63 combinations of various rejuvenation formulae are described in the Charaka samhita.

Charaka Samhita describes another interesting type of Rasayana known as the Droni Praveshika Rasayana. In this therapy, the person drinks the juices of special herbs prepared by the physician and subsequently enters a special type of covered boat (Droni) designed for this purpose. At the end of this therapy, the person attains a healthy body and mind, sharp intellect, extra-powerful sense faculties, and a long lifespan.

Being a holistic science with equal focus on the body, mind, and soul, Ayurveda also describes a type of Rasayana for psychological and spiritual health. Called as “Achara Rasayana”, this type does not require internal administration of rejuvenating formulas. “Achara” literally means “discipline”.

Following the rules relating to eating, sleeping, and celibacy create rejuvenation in a person. In addition, following a Sattvik diet and life style, speaking the truth, practicing non-violence, living in harmony with the nature, following social ethics and conducts, are all included under this category of Rasayana. Following these principles leads to formation of high quality Dhatus (tissues) and increases the quantity and quality of Ojas, a vital factor for health and immunity. Hence, a person can get the same benefits as attained by internal administration of Rasayana.

All therapies in Ayurveda aim to provide complete health – physical, mental, and spiritual - so that people can engage in achieving the real goal of life—self-realization. The Rasayana therapy makes it easily possible with its remarkable benefits on health, immunity, and longevity.

ROLE OF PANCHAKARMA IN RASAYANA:

Rasayana becomes more fruitful and effective if it is preceded with suitable Panchakarma. Panchakarma is a bio-cleansing regimen comprising of five main procedures that facilitates better bioavailability of the pharmacological therapies, helps to bring about homeostasis of body-humors, eliminates disease-causing complexes from the body and checks the recurrence and progression of disease. The five fold measures comprehended in this therapy are-Vamana (Therapeutic Emesis), Virechana (therapeutic Purgation), Asthapana Vasti (Therapeutic Decoction Enema), Anuvasana Vasti (Therapeutic oil Enema), Nasya Karma (Nasal administration of medicaments). Panchakarma procedures are preceded by Snehana (therapeutic Oleation) and Swedana (Sudation) applications to make the body system conducive for elimination of bio-toxins and cleansing of channels. This is effective in managing autoimmune, neurological, psychiatric and musculo-skeletal diseases of chronic and metabolic origin⁸.

MECHANISM OF ACTION OF RASAYANA:

Rasayana promotes nutrition by direct enrichment of the nutritional quality of rasa means nutritional blood, by promoting nutrition through improving Agni means digestion, metabolism and by promoting the competence of Srotas means microcirculatory channels in body .⁴ It has been reported that the 'Rasayanas' are rejuvenators, nutritional supplements and possess strong antioxidant activity. They also have antagonistic actions on the oxidative stressors, which give rise to the formation of different free radicals. They are used mainly in ageing, atherosclerosis, cancer, diabetes, rheumatoid arthritis, autoimmune and Parkinson's disease. Their anti stress actions have made them therapeutically more important.⁵ In order to investigate mechanism of action of the Rasayana i.e. *Tinospora cordifolia* studies are carried out on the proliferative fraction of the bone marrow of mice by flow cytometry and found that compared with normal mice, there was a significant increase in the proliferative fraction in the bone marrow in mice treated with the *Tinospora cordifolia*. Some Rasayana activate mononuclear cells to produce cytokines like GM-CSF and IL-1 in a dose dependent manner. These results indicate it is possible that the Rasayana (particularly those with Madhur Vipaka that are advocated as adaptogens in Ayurveda) primarily activate immune cells, leading to secretion of cytokines, which in turn act on multiple target organs to produce the myriad effects ascribed to these treatments .⁶ Administration of herbal preparation, Rasayana has been found to be enhancing the natural killer cell activity in normal as well as in tumor bearing animals. Brahma Rasayana is found highly active. Brahma Rasayana and Aswagandha Rasayana were found to activate antibody dependent cytotoxicity significantly. Aswagandha Rasayana also found to activate macrophages. Rasayana are also found to stimulate antibody dependent complement mediate tumour cell lysis .⁷ The Rasayana herbs seem to exert their effect through immunosuppressant, immune-stimulant and immune-adjutant activities or by affecting the effect or arm of the immune response. It has been found that the nervous, endocrine and immune systems are all interrelated. Immune products like various cytokines have been found to stimulate the hypothalamus-pituitary-adrenal axis and corticotrophin release factor (CRF), which ultimately

enhances the production of adrenal corticotrophic hormone (ACTH) resulting into increased secretion of glucocorticoids which have an overall suppressive effect on the immune system. Stress also acts on the same axis and brings about changes in the immune status of the body. These Rasayana drugs probably reduce stress levels by affecting antioxidant levels. So these Rasayana drugs act as potent antioxidants and neuro-endocrine immune-modulators. 8

Benefits of Rasayana²:

1. To increase body tissues
2. To increase digestive power
3. To increase the metabolic process at a tissue level or to improve endocrine gland function
4. To remove waste products or to remove excess tissues in the body
5. To increase the functional capacity of the brain
6. To increase the strength and immunity of the body
7. To destroy disease and establish homeostasis of energy, which prevents early aging.

RASAYANA WITH SPECIFIC PURPOSE²:

1. For improving longevity
2. For improving brain function
3. For improving action of the tissues
4. For improving action of the channel systems
5. For improving action of the senses

THE REJUVENATIVE PROGRAMS OF AYURVEDA²:

Rhythmic massages that relax each tendon. Medicated baths revitalize every nerve. Diets that restore you to sound health. The rejuvenation programs of Ayurveda are designed to improve your vitality, enhance immunity and increase longevity. Besides, good health goes a long way in bringing out the best in you. Adding a healthy glow to your skin, it will awaken the sleeping beauty within. Adding years to life, and life to your years.

REJUVENATION THERAPY (RASAYANA CHIKITSA)²:

Tones up the skin and rejuvenates & strengthens all the tissues, so as to achieve ideal health and longevity. Increases 'Ojas' (primary vitality) and improves 'Sattva' (mental clarity) and thereby increases the resistance of the body. Includes head and face massage with medicated oils and creams, body massage with herbal oil or powder, by hand, internal rejuvenative medicines and medicated steam bath. Herbal baths are also used.

BODY IMMUNIZATION AND LONGEVITY TREATMENT (KAYAKALPA CHIKITSA)²:

Prime treatment for retarding the ageing process, arresting the degeneration of body cells and immunization of the system. Includes intake of Rasayana (special Ayurvedic medicines and diet) and comprehensive body care programs. Most effective for either sex if undertaken before the age of 50.

GENERAL RASAYANAS²:

Table No.:1 For specific tissues, certain herbs and foods functions as Rasayanas

Plasma (<i>Rasa</i>)	<i>Draksha, Shatavari, Dates</i>
Blood (<i>Rakta</i>)	<i>Amalki, Dhatai lauha, Bhringaraj, Suvarnamakshik Bhasma</i>
Muscle (<i>Mamsa</i>)	<i>Masha, Ashwagandha, Bala, Nux vomica, Silver Bhasma</i>
Fat (<i>Meda</i>)	<i>Guggulu, Shilajit, Haritaki, Guduchi, Garlic</i>
Bone (<i>Asthi</i>)	<i>Shukti (mother of pearl) Bhasma, Kukkutandatwak bhasma, Vamsharochana,</i>
Nerve (<i>Majja</i>)	<i>Calamus, Gotukola, Shankhapushpi, Loha bhasma, Suvarna Bhasma, Makaradhwaja</i>
Reproductive (<i>Shukra</i>)	<i>Kapikacchu, Vidarikanda, Shatavari, Ashwagandha, Suvarna Bhasma, Ghruta and Godugdha.</i>

RASAYANA FOR CHANNEL-SYSTEMS²:

Table No.: 2 Certain Herbs and Food functions as Rasayana in specific channel-systems (Srotas).

Respiratory System	<i>Chyavanprash, Vardhaman pippli</i>
Water Metabolism System	Fresh ginger, Cyperus, Cardamom
Digestive System	Long pepper, Bhallataka, Haritaki,
Circulatory System (lymphatic portion)	<i>Draksha, Shatavari, Kharjura</i>
Circulatory System (blood portion)	<i>Amalki, Dhatai lauha, Bhringaraj, Suvarnamakshik Bhasma</i>

Muscular System	Masha, Ashwagandha, Bala, Nux vomica, Rajat bhasma
Adipose System	Guggulu, Shilajit, Haritaki, Guduchi, Garlic
Skeletal System	Shukti (mother of pearl) Bhasma, Kukkutandatwak bhasma, Vamsharochana,
Nervous System	Aswagandha, Calamus, Gotukola, Shankhpushpi, Loha bhasma, Gold bhasma, Makaradhwaja
Reproductive System	Aswagandha, Kapikacchu, Sweta Mushali, Shatavari, Vidarikanda, Gold Bhasma, Ghee and Cow milk.
Urinary System	Punarnava, Gokshura
Excretory System	Kutaj, Vidanga, Triphala
Sweat System	Basil, Nux vomica
Menstrual System	Ashoka, Lodhra, Shatavari
Lactation System	Shatavari, Jeeraka, Milk

Table No.3: Rasayana for senses and other organs²

Eye	<i>Triphala, Yasti, Shatavari</i>
Nose	<i>Nasya of Anu taila</i>
Skin	<i>Tuvarak, Khadira, Bakuchi</i>
Brain	<i>Gotu kola, calamus</i>
Heart	<i>Guggul, Elecampane, Gold bhasma</i>
Neuro-Muscular System	<i>Bala, Nagbala, Garlic, Guggul</i>

Table No.: 4 Rasayana according to constitution²

<i>Vata</i>	<i>Bala, Ashwagandha</i>
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<i>Pitta</i>	<i>Amalaki, Shatavari, Guduchi</i>
<i>Kapha</i>	<i>Bhallataka, Guggul, Long pepper, Garlic</i>

RESEARCH CONDUCTED⁹:

In a clinical study of three months duration Guduchi (*Tinospora cordifolia*) and Ashwagandha (*Withania somnifera*) were found as antioxidants. Guduchi was found to be a more effective natural antioxidant over others. Clinical studies using a formulation of the aqueous extract of one of the Rasayana, namely *Tinospora cordifolia*, in immune suppressed patients is done. A 500 mg tablet was made and administered three times a day. And found benefits in obstructive jaundice, amelioration of side effects of chemotherapy and hastened recovery from tuberculosis 9.

DISCUSSION:

It is a treatment in complete alignment with the Ayurvedic philosophy of “Prevention is better than cure”. With ageing, the body tissues undergo many changes. Rasayana Chikitsa aims at improving the health and the longevity of people by enhancing their metabolism, repairing the wear and tear of the body due to aging or diseases, removing waste products and toxins, improving the immunity and increasing tissue turnover. It boosts the ‘Ojas’ (vital force of life) and improves the ‘Sattva’ (mental clarity).

As a result, Rasayana Chikitsa rejuvenates and increases the lifespan, improves memory and intelligence, leads to better complexion, restores youthfulness, improves immunity, enhances endurance levels and leads to improved sensory perception abilities.

CONCLUSION:

Rasayana is not just a drug therapy but it is a specialized procedure plasticized in the form of rejuvenative recepies, dietary regimen, and special health promoting conduct and behavior. Scientific studies have proven the efficacious role of Rasayana remedies in the management of chronic life style related diseases and degenerative changes. It has been reported that the ‘Rasayanas’ are rejuvenators, nutritional supplements, possess strong antioxidant activity and antagonistic actions on the oxidative stressors. Rasayana is the preventive therapy described in Ayurveda which is helpful to maintain health, retard aging process and promote immune system to fight against infection. Rasayana is very helpful to maintain healthy body and mind in today’s environmental condition and life style. It is require to give information to people and aware them for Rasayana and its use and also there are lot of opportunities to work on it.

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**ROLE OF DOSHA, DHATU, MALA & AGNI ON AGING-
A CONCEPTUAL STUDY**

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ABSTRACT

Vaya is Kala Parinama. Parinamana is transformation. Vaya parinama is very well explained in the science of Ayurveda. Dosha, Dhatu, Mala & Agni are the physiological factors for the maintainance of the health of an individual. Sharira is defined as shiryate iti shariram, for every second of life there is catabolic process in the body, this is very well explained by our Acharyas. Bhrihatrayis and Laghutrayis described various stages of Vaya based on Anatomical and Physiological changes in the human body. Jara is one among eight branches of Ayurveda for which Rasayana is needed. Rasayana is the one of prime branch of Ayurveda that deals with Swasthya rakshana for various stages(vaya) of life as well as Apunarbhava of diseases. Acharyas also explained various clinical pathologies as well as treatment methodology based on stages of Vaya. Here an attempt is made explaining role of physiological entities like dosha, dhatu, mala and agni in the process of parinamana of vaya.

Key words- Vaya, Dosha, Dhatu, Mala and Agni

INTRODUCTION

Kala is one of the Karana Dravya explained in Darshanas. Vaya is the Parinitikala, it is continues process from the fetal life of Garbha sharira to till the death of an individual. There are many stages of vaya explained by Acharyas based on Dosha ,Dhatu and many factors that contributes process of aging. Dosha ,Dhatu, Mala are mula of Sharira. At every stage of life the parinamana of Dosha, Dhatu, Agni etc. factors influences the physiology of human body. The vitiating factors called Doshas impacts every stage of life like Kapha in Balyavasstha, Pitta in Yuvanavastha and Vata in Vruddhavastha .The Dhatus are Anatomical and physiological entities of the body they does the Dharana and Poshana of Sharira. Age also contributes Dhatu Parinamana kriya. Maleenakarana kriya is the work of Mala. Mala is also one of the important aspects for health of an individual. Agni is prime entity for metabolic process. Without Agni there is no Parinamana, so Agni is described as Eshwara. Health of an individual depends on Prakruta Kriya of Agni. Acharyas explained many and all most all diseases manifests due to Mandagni. Impact on Agni in various stages of vaya explained based on Avastha. So role of Dosha, Dhatu, Mala and Agni in the Parinamana of Vaya is explained here.

METHODOLOGY

Vaya is having its significant effect on every stage of life. Our Acharyas explained importance of vaya on swasthya rakshana as well as vikara prashmana like assement of Matra of aushadha, assesment of bala, dosha, avastha etc. for the management of the diseases.

ROLE OF DOSHAS ON VAYA

In the 1st chaper of Astang hridaya Acharya explained on predominance of the doshas on particular vaya avastha. He started the quotation

वयोहोराभिनां तेऽमादिगाः मात्। A.H.Su 1/8

It shows among all factors vaya is having significant role on Dosha avastha. Doshas are physiological entities which maintains normal homeostasis of the body. Acharya Hemadri comments on this and explains Vaya is Sharira Parinama i.e continue process of Kala Parinama.

Here commentator explains dominance of Doshas on particular Vaya Avastha as follows

Vata – Vrudhhavastha

Pitta – Yovanavastha

Kapha – Balyavastha

Based on this effect of Doshas we observe many physiological changes in the body for every Avastha.

KAPHA &BALYAVASTHA

There are various opinion regarding vaya by all Acharyas

Acharya	Balyavastha
CHARAKA	Up to 30yrs ➤ Aparipakva dhatu – up to 16yrs ➤ Vivardhamana dhatu- up to 30yrs
SUSHRUTHA	Up to 16yrs ➤ Kshirapa-Up to 1yr ➤ Kshirannada- up to 1 to 2yrs ➤ Annada – 2 to 16yrs
VAGBHATA	Up to 16yrs
ASTANGA SANGRAHA	Up to 16yrs
BHAVAMISHRA	1 to 20yrs

Kapha is Pritvi and Jala Mahabhoota pradhana dravya (dosha). Acharya Sushruta explains in sutra sthana of 21st chapter that how the visarga kala governed by Soma (moon), in the same way the Kapha does the dharana of Sharira. The derivation of the Shleshma is Shlisha Aligane that means which binds. Kapha helps for the development of Aparipakwa Dhatus by its Alingana property. Acc to Astanga Hridaya, while explaining the concept of Ashrya Ashryai bhava said that Kapha is Asharayi in all dhatu's expect Asthi and Rakta. Acharya Charaka explains "Prakrutam to balam shleshma" here Avastha vishesha Prakruta kapha acts as bala to the children because of Aparipakwa dhatus, they will have less bala. Prakruta Kapha and Oja are

having similar gunas so this helps to prevent incidence of many diseases in children. Kapha With the help of Snigdha, Guru, Sthira etc gunas. the body can achieve Sthiratha, Dhardyata, Upachaya etc. Because of Avastha vishesha Kapha Dosha, children will sleep more hours than adults. Again children may suffer more Kaphaja vyadhis like Pratishaya, Kasa etc, because of Ahara and avastha vishesha Dosha. Even in the chikitsa of childrens suffering from various rogas also the ingredients acts as a deepana ,pachana and Kaphahara ex- acc to Chakradatta Bala Chaturbhadra Rasa contains Musta, Ativisha, Karkatashrigni, Pippali, which are kapha hara. Due to the Ambukarma of Kapha it helps to nourish the bala.

PITTA & YOVANAVASTAH

Acharya	Madhyama
CHARAKA	30 to 60yrs
SUSHRUTHA	16 to 70yrs ➤ Vrddhi- 16-20yrs ➤ Yauvana-20 -30yrs ➤ Sampurna- 30-40yrs ➤ Parihani-40-70yrs
VAGBHATA	16-70yrs
ASTANGA SANGRAHA	16 -60yrs ➤ Yauvana-16-30yrs ➤ Sampurna- 30-40yrs ➤ Parihani-40-60yrs
BHAVAMISHRA	20 -70 yrs ➤ Yuva- 20-30yrs ➤ Poorna- 30-40yrs ➤ Kshaya-40-70yrs

The pitta is derived from “Tapa Santape”. because of its Ushna and Tikshna gunas it is the prime factor for parinamana of Bhava Padarthas. In Sushruta sutrasthana 21st chapter we get a reference that Agni and Pitta are similar due to its Dahana and Pachana Karma. Here during Yovanavastha pitta is pradhana and Agni bala is also good due to similar qualities of Agni and Pitta. Agni is the essential factor for parinamna of Bhava padarthas. Here dhatus are Paripakwa so bala of the individual is good. Agni bala is also good in the person because of pitta, so Dhatu

poshana and Parinamana leading to the Paripakwa Dhatus. The disease manifestation in youvanavastha is less compare to the other two avastha because of Agnibala. Here Person may get Pittaja vyadhis like daha, tapa, etc

VATA & VRUDDHAVASTHA

Acharya	Vruddhavastha
CHARAKA	60-100yrs
SUSHRUTHA	After 70yrs
VAGBHATA	After 70yrs
ASTANGA SANGRAHA	After 60yrs
BHAVAMISHRA	After 70yrs

Vata is having Ruksha, Laghu, Khara, Shukshma, Vishadha etc. leads to shoshana of srotas which in-turn leads to Dhatu kshaya. Again Dhatu Kshaya leads to Vata Prakopa leading to indriya dourbalya, Smritihani, Pralapa, Deenata which we observed in the vruddhavastha. So vruddhavastha people more prone to manifestation of disease due to Vata. Because of shoshana of Srotas person is having less bala.

By these all consideration Rasayana is explained in one of the 8branches of Ayurveda to overcome the sufferings of Vruddhavastha. So acharya Charaka starts Chikitsasthana with Rasayana Adhyaya for the maintains of Swasthya as well as Apunarbhava of Vyadhis.

DHATU & VAYA

Bala	Youvana	Vruddhavastha
Aparipakwa Dhatu	Paripakwa Dhatu	Dhatu Kshaya

Bala – Aparipakwa Dhatu it is because of Kala Parinama i.e age factor. Because of Aparipakwa of Dhatu deha bala is less. So Ksheera is essential ahara in Balyavastha it nourishes the saptha Dhatus by its snigdhadhi jeevaniya gunas. Because of Aparipakwa Dhatus and alpa deha bala Panchakarma is contraindicated in Balyavastha, Matra of Aushadhi is also less.

In Youvana avastha Dhatus are Paripakwa, so Bala of the person is good. Hence Panchakarma chikitsa, Uttama matra of Aushadhi Dravyas are advised.

In Vruddhavastha because of Vata there is Dhatu kshaya. Based on Bala of person shodhana is advised. In Jara mainly Rasayan Chikitsa is advised for the proper nourishment of Dhatus.

MALA & VAYA

There is no much impact on Mala on Balyavastha and Youvanavastha. But it has impact on Vruddhavastha because of Vata Avastha vishesha Dosh. Here many individuals suffers with Vibhandha because of ruksha ,Khara guna of Vata.

VAYA & AGNI

The main function of the agni is Parinama of Bhava padarthas. It has a main role in conversion of Vijateeya dravya to Sajateeya dravya for the acceptance of the body. For every avastha of Vaya, Agni has an impact. The functions of Agni are utsaha, bala, upachaya, varna etc functions will be performed in every avastha of Vaya. But it has more impact on Yovanavastha because pitta is predominant in this Avastha. Sushruta sutrasthana 21st chapter we get reference that Agni and pitta are similar so it has more impact on this stage. Because of good Agnibala in Yovanavastha they appreciate all functions of agni like swasthya, upachya, bala, varna etc. Dhatus are paripakwa because of good agni bala. Hence growth and nourishment are greater in younger age compare to the pediatrics and old age. We observe less illness in young age because of good Agni.

In vrudhhavastha due to vishamata of Agni may lead to Vibhandha because of rukshadi gunas.

DISCUSSION

Impact of upadhatus, dhatu malas and khamalas on Vaya also need to be explored.

Influence of prakruti of a person on all stages of vaya is also an emerging important aspect.

There is no direct reference of Vaya on mala in Samhitas.

Still there is many different of opinions of vaya among all Acharyas.

All elder people will not suffer from Vibhandha.

There is no direct reference of impact on Agni on vaya .

There is different opinion of Agni and Pitta by Acharya Dalhana.

CONCLUSION

Role of physiological entities like dosha,dhatu, mala and agni in the process of parinama of vaya is apparent based on the pradhanata of dosha swarupa,bala of dhatus and guna karma of malas. Health of an individual depends on Prakruta dosha, dhatu ,mala and Agni. Vaya pareeksha is one of the dashavidha pariksha to asses diagnosis and prognosis of the diseases. Adoption of shodhana and shamana chikitsa the Vaya Pareeksha is mandatory. Assessment of Aushadha Matra is Based on Vaya. Impact on Agni in various stages of vaya explained based on Avastha. Hence role of Dosha, Dhatu, Mala and Agni in the Parinama of Vaya is much evident.

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