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HOLISTIC APPROACHES TO GERIATRIC CARE IN AYURVEDA: INTEGRATING TRADITIONAL WISDOM WITH MODERN AGING STRATEGIES

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Keyword

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Abstract

Comprehensive methods that consider the many facets of ageing are required to meet the needs of an ageing population, which poses both unique difficulties and possibilities for healthcare. This literature review looks at how Ayurveda, an old Indian medical practice, might be combined with current thinking on ageing to provide more all-encompassing methods of caring for the elderly. The multifaceted requirements of the aged are reflected in Ayurveda's emphasis on achieving a state of harmony between the physical, mental, and spiritual realms. This article delves into the fundamentals of Ayurvedic geriatric care, including balancing doshas, dietary suggestions, herbal treatments, Yoga and meditation, massage and body therapies, lifestyle modifications, and the mind-body link. We explore these topics in detail to show how Ayurvedic methods may help seniors live healthier lives and improve their quality of life as they age. This research also explores the complementary nature of Ayurvedic and Western medical practices, demonstrating how combining these methods might enhance care for the elderly. Ayurveda's holistic approach to healing, which includes individualised treatment regimens based on each patient's unique condition, symptoms, and preferences, complements traditional medical therapies. Recognising the importance of cultural ideas and values in defining geriatric care practises, cultural and ethical aspects are also highlighted. The report finishes with a plea for further study and cooperation between traditional knowledge and contemporary science to develop a holistic framework for geriatric care that enables people to age with dignity and maintain their overall health. In conclusion, this review article links conventional Ayurvedic treatments and modern geriatric care, providing new perspectives on the ageing process and its management. To improve the health and vitality of the aged population, it is crucial to acknowledge the importance of holistic care in gerontology.

I. INTRODUCTION

Miller provides the most exhaustive definition of ageing as the transition from healthy, young people to older, less healthy, and ultimately fatal ones. Changes occur in a living thing as time goes on. [1] These alterations are what cause an organism to perish in the end. The onset of old age is a mystery to everybody. As defined by the United Nations and affiliated entities like the World Health Organisation (WHO), old age begins at age 60.



The United Nations Population Division estimates that by 2050, India's senior population of 320 million will make up 21.5% of the country's overall population, up from 10.11%. Over the same period, the percentage of "oldest old" people (those aged 80 and above) increased from 0.4% of the total population in 1950 to 0.96% in 2020. Nearly 3% of the world's population, or around 40 million people, is expected to fall into this category by 2050. The dependence ratio of the elderly (those aged 65 and up as a percentage of the total population) will rise sharply during the next several decades as the elderly population grows in absolute and relative terms. During the demographic change, the ratio of dependent children to dependent seniors provides insight into the impact of caregiving on the labour force. According to projections by the United Nations Population Division, the dependence ratio of the elderly will rise from 13.3 per cent in 2019 to 25.2 per cent in 2050 (World et al., 2019). According to the Government of India and the United Nations Population Fund (2017), in India, about three-quarters of the elderly are still financially reliant on family members. Rapid population ageing in India poses economic, health, and social issues due to shifting family dynamics and inadequate social services. [2]

The extent and scope of these demographic transitions suggest that India would have significant difficulties due to its ageing population. This diverse nation faces urgent health, social, and economic concerns due to these shifting demographics that will only intensify over time. The effects of biological deterioration in organ structure and function and the manifestation of exposure to recognised and unknown health dangers take longer to appear with increased longevity. "As a result, the elderly face an increased risk of cancer, chronic lung illness, infectious diseases, a heavier load of metabolic-vascular disorders, and degenerative diseases of the brain, musculoskeletal system, and sensory organs." In addition to causing the age-related symptoms of structural and functional deficiencies, these illnesses also cause a variety of disabilities and a general deterioration in the older person's functional ability.[3]

Noncommunicable illnesses such as arthritis, hypertension, cataracts, and diabetes (more common in women) afflicted 42% of the elderly population in India in 2007. The government of India and UNFPA (2017) found that males have a higher rate of cardiovascular illness and asthma. Due to the high prevalence of sickness, disability, and functional decline, widespread availability of high-quality primary and speciality health care, sufficient funding, and the availability of caregivers to provide nursing and help with activities of daily living are all necessities.

II. CONCEPT OF AGING

The latter phase of life, Vriddhavastha, is characterised by several degenerative changes. The ageing process includes changes in our bodies, minds, and communities. After the age of sixty, a person is considered elderly. Sense organ strength, vitality, masculinity, courage, cognitive ability, memory, speech, and the ability to analyse information all decline with age. After the age of seventy, dhatus (body tissues), sensory and motor organs, strength, vigour, and excitement progressively wane, as described by Acharya Sushruta. Wrinkles appear on the skin, hair greys, and baldness sets in, among other problems and a decline in physical and mental abilities that come with old age. "According to Acharya Vagbhata aged persons may suffer from Kasa (Cough), Shwas (Breathlessness), Khalitya (Baldness), Agnisada (Diminished digestive power), Shlatha Saramansasandhyasthita (looseness of muscles, joints and bone), Twakapaurushya (skin becomes rough), Avaname (body bends forwards), Vepathu (tremors)etc." Age, or 'Jara' in Sushruta's terminology, may be classified as either 'Svabhavabalapravrittavyadhi' (two sorts of ageing) or 'Svabhavabalapravrittavyadhi' (ageing). To wit: Kalaja (Parirakshanakrita), which manifests at the appropriate moment despite being well-protected, and Akalaja (Aparirakshanakrita), which manifests prematurely because of inadequate care and prevention [4]. Most contemporary gerontologists agree that ageing is characterised by a slow but steady loss in molecular, cellular, tissue, organ, and organismal structure and function that begins after sexual maturity. "Alzheimer's disease, Parkinson's disease, age-related macular degeneration, cataracts, presbycusis, presbycusis, congestive heart failure, type 2 diabetes mellitus, sarcopenia, osteoporosis, degenerative disc disease in the spine, immune senescence, benign prostatic hyperplasia, and cancer are all linked to biological ageing [5]." Tissue biochemical composition changes, physiological reserve diminishes, homeostasis in stress adaptation degrades, and disease susceptibility rises as we age. The Sanskrit word for ageing is jara, and it is excellent that Jara describes the ageing process as wearing away. It is also known by the Sanskrit word for "ageing," "Vardhakya" [6]. The commencement of the natural ageing process varies from person to person, as stated by Chakrapani¹⁰. Ayurveda holds that an individual's Prakriti (constitution) and Sarva dhatusarata (tissue compactness) are genetically preset determinants in the initiation and progression of ageing. The gradual bio-

loss that occurs with age is described in detail in the Sharangadhara Samhita [7] and the Ashtanga Sangraha [8]. "Swabhava" [9] and "Parinama" or "Kalasyaparinamena" are two concepts central to Ayurveda. The elements identified as "Jara (Ageing) causing factors" (Jaramrityunimittajaha)"[10] are discussed below. The Tridoshas (Vata et al.) play the most significant roles in health and illness. Kaphadosha is supposed to predominate in youth, pitta dosha in the prime of life, and vatadosha in old age. Ruksha, laugh, sheeta, khara, and vishada are the characteristics of vatadosha. Therefore, Vatadosha, by its nature, dulls the skin's radiance and the body's power, leads to dryness, and accelerates the ageing process. In addition to the doshas, Agni is crucial to the ageing process. Agni is in charge of transforming nutrients from food into building blocks for cells. When vatadosha predominates in the elderly, it causes vishamagni, which disrupts digestion and leads to malnutrition. In the elderly, this causes dhatwagnimandya [11]. Dhatwagnimandya poshak disrupts the development of dhatu, leading to a depletion of dhatu as we age. This causes Sharira Sthairya, or the compactness of the body's components, by reducing Oja, the essence of all dhatus. The damage caused by Ojakshaya goes beyond the ability of the molecules and cells to heal themselves, hastening the ageing process and, eventually, death [12].

III. COMMON GERIATRIC DISORDERS

Longevity increases the risk of many diseases and conditions, including diabetes, heart disease, high blood pressure, stroke, airway obstruction, Alzheimer's disease, osteoarthritis, osteoporosis, prostatic hypertrophy, cataracts, macular degeneration, and cancer; in addition, the elderly are more likely to contract respiratory (including tuberculosis), urinary, and gastrointestinal infections as they age. "Osteoporosis, frailty syndrome, falls, hormone deficiency diseases, dementia, age-related macular degeneration (AMD), urine incontinence, and pressure sores make up a set of ailments that are solely to or of significant clinical importance to the elderly." Ayurveda's Tridosha Siddhantha may help you age gracefully. According to Ayurvedic principles, Kapha is the predominant Dosha in the body during Balyavastha (childhood). In contrast, Pitta is the Dosha during Yuvavastha (youth), and Vata is the predominate Dosha during Vriddhavastha (old age). Dhatu Kshaya, typified by the degeneration and degradation of the Dhatus, is a natural consequence of the predominance of Vata in old age. The ageing process may, therefore, be evaluated according to the Tridosha Physiology. Ageing also manifests in the breakdown of Srotases and Ojo Bala and a weakening of Agni. Age-related malnutrition may be caused by several factors, including but not limited to anorexia, dementia, depression, stroke, Parkinson's disease, other neurological illnesses, and delayed stomach emptying.[13]

IV. ROLE OF AYURVEDA IN GERIATRIC HEALTH CARE

Ayurvedic scholars are now investigating JaraChikitsa, also known as Rasayana (geriatrics). Everything that improves health and longevity is within the purview of Rasayana, including medications, foods, and ways of living. [14] The ageing process and the geriatric phase are both seen as natural or Swabhavika, in Ayurveda. Timely senescence, or Kalaja Jara, is unavoidable (Nishpratikarya). Thus, it must be sustained rather than stopped.[15] Rasayana Chikitsa is a novel therapy approach that has been shown to slow the ageing process and lessen the severity of health-related issues associated with this decline in quality of life. However, if rapid physical and mental decline can be prevented and managed, the elderly may maintain as much independence as possible in their everyday lives, significantly enhancing their quality of life. Going through the Ayurvedic texts, you will find that many plant-based medications and herbal-mineral combinations have been developed for this exact reason.[16]

Rasayana treatment may help you look and feel younger, have more stamina, a more unmistakable voice, better skin tone, stronger muscles, and sharper senses. Achara Rasayana is not a medication or treatment but a series of rejuvenation recipes, a healthy eating plan, and specific lifestyle changes meant to improve one's health. Sushruta, while explaining "Rasayana" treatment, has said that it prevents sickness by slowing down the ageing process (Vayasthapanam), increasing longevity (Ayushakaram), and boosting mental and physical prowess (Medha and Bala).[17]

Traditional medicine employs Rasayana medicines to treat various conditions with little in common, pathophysiologically speaking. Intense antioxidant action has been discovered for the Rasayana, making it similar to rejuvenators and dietary supplements. It counteracts the free radicals that are generated in response to oxidative stress. As a result, these medications may be prescribed to treat conditions affecting more than one bodily organ.[18, 19]

Ayurvedic medicine and regular exercise with Yoga are both helpful in preventing and treating bone and joint degeneration. Regular exercise has several health benefits, including maintaining a healthy weight, enhanced mental health, reduced stress, and increased mobility. By increasing flexibility and core stability, yoga aids in achieving equilibrium, blood flow, and vitality. Osteoarthritis pain may be adequately managed with both conventional medicine and Ayurvedic treatment. [20] Some processed oils, such as Hingutriguna Taila, are effective and quick in rehabilitating hemiplegia. Panchakarma treatment has the potential to significantly enhance motor functioning and quality of life in hemiplegic patients, as was shown in a recent study [21]. Ayurveda's panache lies in its bio-cleansing processes, or panchakarma [22]. By balancing the body's tissues (Dhatu) and humour (Dosha), the Panchakarma regimen improves the bioavailability of pharmacological treatments (such as Rasayana therapy). It aids in the elimination of disease-causing substances. Panchakarma may prevent illness, enhance vitality, and treat various systemic conditions. It is also often used to enhance the quality of life in patients with chronic, terminal illnesses (including autoimmune disorders). "Geriatric Panchakarma refers to the successful application of Panchakarma procedures like internal Snehana (oleation), external Abhyanga (application of medicated oil), fomentation (Svedana), Pizichill, Pindasweda, Shirodhara, and nourishing Basti (per-rectal administration of nourishing medicines), etc., suitably planned for each individual." [23]

In addition to Rasayana and Panchakarma treatments, the successful management of geriatric disorders and enhancement of quality of life may be achieved using numerous single and compound Ayurvedic formulations and dietary and lifestyle guidance. Ayurveda may be used as a primary or complementary therapy for geriatric patients experiencing issues with their skin, gastrointestinal tract, respiratory system, muscular-skeletal system, cardiovascular system, or genitourinary system. Neuropsychiatric conditions include sleeplessness, dementia, and psychological and allergy illnesses, all of which respond well to Ayurvedic treatment.[24] The effectiveness of several individual Ayurvedic medications in treating cancer and mitigating the side effects of severe chemotherapy and radiation has been the subject of much scientific study. Anorectal conditions, such as haemorrhoids, fistula, and fissures, respond well to Ayurvedic medication and therapy[25, 26]. The Ayurvedic principles of diet, Dinacharya (daily routine), Ritucharya (dietary and lifestyle changes according to seasonal variation), and Sadvritta (guidelines related to lifestyle and spiritual and mental health) all contribute to disease prevention and healthy ageing, resulting in optimal physical, mental, and spiritual health.[27]

Planning for holistic and suitable healthcare services with an evidence-based, multi-pronged viable intervention programme and providing specialised training for healthcare in geriatric medicine to the AYUSH doctors and paramedics are two potential strategies for improving the quality of life in old age through the incorporation of AYUSH.[28]

Providing a cost-effective and easily accessible holistic healthcare facility for the elderly may be encouraged by developing an integrative model that incorporates indigenous medicine for the older population in India to improve the quality of life of the elderly through improving their physical, mental, and spiritual health. "This can be accomplished by using AYUSH systems for the prevention of early and hastened degeneration of vital organs like the brain, heart, kidneys, joints, and muscles, the maintenance of musculoskeletal mobility and flexibility, the enhancement of immunity, the improvement of the nutritional status of all the tissues, and the management of psycho-somatic and psychological disturbances by internal healing through spiritual upliftment (that is, by interventional and noninterventional approach)."

In order to reach the country's estimated 72.2% rural population, India has built an extensive public health infrastructure consisting of 23,391 primary health centres (PHCs) and 145,894 sub-centers. Each PHC is responsible for providing promotive, preventative, curative, and rehabilitative treatment to a population of between 30,000 and 60,000 people in plain regions and 20,000 to 30,000 people in mountainous, tribal, or difficult-to-access areas, using a combination of four to six inpatient and observation beds.[29] By bringing healthcare delivery closer to where people live and work, PHCs serve as the initial point of contact and a connection between individuals and the national health system. If broken, many people will have to go to the next big city to access rudimentary health care.

In India, there are more than 7.7 million AYUSH practitioners. There are more AYUSH practitioners in India than Allopathic doctors because there are more AYUSH undergraduate teaching institutes, with an annual graduation rate of 30,000, than Allopathic medical colleges, with an annual graduation rate of 50,000. If just allopathic physicians are included, the doctor-patient ratio is 1:1700; however, when AYUSH practitioners are included, the total number (about 1,315,000) improves to 1:800, better than the WHO standard of 1:1000.[30]

V. DISCUSSION

This research examined how much the existing healthcare system helps the elderly and whether or not the current model may be improved by incorporating Indigenous medical practices. Indians have an advanced understanding of anatomy, physiology, pathology, and medicine. Ayurveda, Yoga, and Siddha are a few examples of Indian medical traditions that take a holistic approach to patient care. The mind and body are treated as one in Ayurveda. In contrast to conventional medicine, Ayurveda is more concerned with prevention and homeostasis than treating symptoms when they arise. Sound immunity and health may be maintained by Ayurvedic concepts such as balancing the five fundamental components and three Dosha (three humours), maintaining correct nourishment of every tissue through normal metabolism at the cellular level, and increasing the microcirculation. The ultimate goal of any Ayurvedic treatment plan is to restore the body to a condition of homeostasis, or Dhatu Samya.

Definition: Ageing is the succession of time-related processes that leads to death. Avoiding illness and incapacity, keeping one's mind and body in working order, and contributing to society and well-being are all essential components of successful ageing. The primary goals of geriatric care are health and lifespan promotion and illness management in the elderly. Although the result may not be significant because of the incurability of most illnesses of old age, modern medicine is powerful in the second dimension.

When considering the first component of the issue, Ayurveda and other indigenous systems of medicine stand out as particularly powerful due to their vast potential for rejuvenation and the extension of healthy life spans in the senior population. Medical treatment of chronic illnesses and prevention of acute infections are important causes of morbidity in the elderly. Hence, these are two primary areas of attention in geriatric care. In an ideal world, long-term therapy for chronic illnesses would be safe and effective at enhancing patients' quality of life. Ayurveda, Yoga, and other traditional systems of medicine may help with this since they provide treatment recommendations and take a holistic approach to promoting health and longevity.

Most health programmes in India, like in many others, have a disease-specific, top-down strategy that focuses on a narrow set of outcomes rather than addressing an individual's health as a whole. Although Western medicine has established the standard of treatment, there is still room for other medical traditions in India. Traditional Indian medical practices like Unani, Siddha, Sowa rigpa, and Ayurveda have been commonplace throughout the subcontinent for centuries. Therefore, traditional health systems in India may help achieve public health objectives because of their variety, adaptability, ease of access and acceptance, and cheap cost. This is why the National Health Policy 2017 has called for incorporating the strengths of AYUSH (Ayurveda et al., Unani, Siddha, Sowa-rigpa, and Homoeopathy) into India's existing pluralistic integrative healthcare framework. The NITI Aayog has required the incorporation of AYUSH into the execution of Sustainable Development Goal 3 (Good Health and Well-being) since it can increase access to inexpensive treatment, decrease out-of-pocket costs owing to the self-care model, and attain universal health coverage.

Cuba is an island in the Caribbean, with a life expectancy of 76 years because of its excellent integration of traditional medicinal practices into the culture of its people. Disease prevention is a top priority in Cuba, so the country places a premium on studying medicine's biological, psychological, and social aspects and recognising and integrating traditional healing cultures. For the same reasons, China has adopted the policy of combining conventional medicine to ensure the sustainable incorporation of Traditional Chinese Medicine within their National Health Care programme.

VI. CURRENT STATUS OF AYURVEDA AND PERSPECTIVES FOR ITS FUTURE APPLICATIONS

There has been a substantial paradigm shift in Ayurveda in recent decades, and scholars' perspectives on the field's potential uses have shifted accordingly. Prakriti and the tridoshas are fundamental to Ayurvedic medicine because they explain how each person has a unique constitution. Prakriti affects how a person reacts to many stimuli, including drugs, the environment, and nutrition. A new branch of study called "Ayurgenomics" connects genomics with Ayurveda, shedding light on why some patients respond differently to treatments. [31]. Individual differences in patients of the same race or ethnicity are given specific attention. Traditional and complementary medicine (TSMs) are increasingly being sought as a solution to some of the problems plaguing conventional medicine. [32]

Several articles by Rotti et al. draw parallels between the Ayurvedic idea of Prakriti and modern scientific understanding. Researchers found that people's BMI and country of birth correlated with their dominant Prakriti. [33] Researchers have looked into Vata, Pitta, and Kapha prakriti types to see whether there are any underlying

biological distinctions in vulnerability or reaction to environmental or disease-related factors. According to this study, the ancient Ayurvedic notion of Prakriti may be used to create a categorisation system for human populations based on DNA methylation fingerprints. [34] The PGM1 gene was linked to ATP synthesis in a genome-wide SNP (single nucleotide polymorphism) analysis of 262 males from three Prakriti. Pitta Prakriti was shown to have a more consistent level of PGM1 compared to Kapha and Vata Prakriti. [35]

Ayurveda's worldwide popularity may be aided by combining our understanding of current analytical methods with an open mind about where its principles could be put to use. In order to preserve this ancient and valuable medical practice for future generations, it is becoming more critical to demonstrate and encourage the scientific underpinnings of Ayurveda's guiding principles.

VII. CONCLUSION

When individuals reach old age, they often need assistance with routine tasks that they formerly handled efficiently. They need love and care at this time. Common themes include the need to provide for others and show compassion. Care for the elderly should aim to provide the finest possible care while also keeping up with their ever-evolving requirements. It takes a person with a lot of patience, empathy, and understanding to care for the elderly. Respect for the elderly includes showing respect for those who care for them. As a result, taking care of our parents ourselves is the best option. Since we will better grasp their perspective, our parents will feel more comfortable opening up to us and telling us things. They will be in better physical and mental shape, which means they will live longer. The People - The potential consequences of an ageing population on a country's public health and economic development are reasons for serious alarm. Dhatu Kshaya is the root of all Jarajanya Vyadhi. Therefore, minimising Dhatu Kshaya is the primary management strategy. In order to improve the health of the elderly, Ayurveda recommends several treatments, including Rasayana, Panchakarma, lifestyle adjustments, dietary modifications, etc. Rasayana treatment reverses the mind-body decline that comes with ageing, a central tenet of Ayurvedic geriatric care.

In conclusion, a geriatric treatment that considers traditional Ayurvedic practises and cutting-edge research on ageing gives the best chance of success. Ageing is a complex process that calls for treatments that take into account more than just the body's physiology, such as the mind and soul. This review study has shed light on the vast potential of Ayurveda in promoting healthy ageing and improving the quality of life for the elderly via an examination of dosha balance, nutritional counselling, herbal remedies, mind-body practices, and lifestyle modifications. The complementary nature of Ayurveda and Western medicine highlights the value of teamwork and integration in treating the elderly. Ayurveda's comprehensive and individualised approach to tackling age-related difficulties is ensured by its individualised evaluations and treatment plans, complementing the more extensive medical therapies. Respecting cultural variety and individual preferences, we pave the way towards optimal geriatric care by encouraging a balance between conventional knowledge and scientific facts.

VIII. REFERENCES

- [1]. Miller RA. Kleemeier Award lecture: Are there genes for ageing? *J Gerontol A Biol Sci Med Sci*. 1999;54:B297–307.
- [2]. Arokiasamy P, Bloom D, Lee J, Feeney K, Ozolins M. Longitudinal ageing study in India: Vision, design, implementation, and preliminary findings. In: Smith JP, Majmundar M, editors. *In: National Research Council (US) Panel on Policy Research and Data Needs to Meet the Challenge of Aging in Asia. Aging in Asia: Findings from New and Emerging Data Initiatives*. Washington (DC): National Academies Press (US); 2012. [[Last accessed on 2020 Oct 14]]. p. 3. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK109220/>
- [3]. Franceschi C, Garagnani P, Morsiani C, Conte M, Santoro A, Grignolio A, et al. The continuum of ageing and age-related diseases: Common mechanisms but different rates. *Front Med (Lausanne)* 2018;5:61.
- [4]. Srikantamurthy KR, Susruta. *Susruta samhita*, Vol-I., editor. 1st ed. Varanasi: Chaukhamba orientalia; 2008. Sutrasthana, 24.p.177-178.
- [5]. Lango, Fauci et al., *Harrison's Principle of Internal Medicine*, 18th ed, Volume 1, New York, McGraw Hil;2012; ch.71, pg no.562

- [6]. Vaidya A. B., Vaidya R. A., "Ancient insights and modern discoveries in the ageing process—an overview," Indian Journal of Medical Sciences, vol.1, 10, pp. 349–363, 1997.
- [7]. Tripathi Brahmanand, Agnivesha, Charak Samhita, Elaborated by Charaka & drudhabala, Charaka Chandrika Hindi Tika, Chaukhamba Surbharti Prakashan- Varanasi 6th Edition 1999 First Part Vimana Sthana 8/122
- [8]. Srivastava Shailja, Sharangadhara. Sharangadhara Samhita (Jiwanprada Hindi commentary). Editor. 3rd ed. Varanasi: Chaukhambha Orientalia; 2003. p.54. 12. Srikantamurthy KR, Vagbhata. Ashtanga samgraha, Vol. II., editor. 5th ed. Sharirasthana Varanasi: Chaukhambha Orientalia; 2005., 8.p.104-105
- [9]. Sastri KN, Chaturvedi GN, Charaka. Charaka Samhita (Vidyotini et al.), Vol.1. Editors. 1st ed. Sutrasthana Varanasi: Caukhambha Bharati Academy; 2001., 16.p.323-324.
- [10]. Sastri KN, Chaturvedi GN, Charaka. Charaka Samhita (Vidyotini et al.), Vol.1. Sastri editors. 1st ed. Shareerasthana, Varanasi: Caukhambha Bharati Academy; 2001. 1.p.826
- [11]. Yadavaji Trikamaji Sushruta, Sushruta Samhita, Nibandhasamgraha Commentary by Dalhana and Nyayacandrikakhyapanjika Commentary by Gayadasa on Nidanasthana, Acharya (Upto 9th Chapter) and Narayana Rama Acharya 'Kavyateertha' (Rest), Choukhamba Surbharati Prakashan, Varanasi, Reprint Edition-2011, Sutrasthana 15/19 (Dalhana Commentary),Page:71
- [12]. Agrawal Vivek, An Ayurvedic insight towards Aging with its preventive measures, Int.J.Res.Ayurveda Pharm., Jan.Feb.2013, 4(1), Pg. no.31-33.
- [13]. They are published online at <http://ijam. Co. In. A Review of Preventive Health Care in Geriatrics through Ayurveda>
- [14]. Acharya YT. *Charaka Samhita of Agnivesha. Chikitsa Sthana. Ch. 1, Ver. 44.* 3rd ed. Varanasi: Chaukhamba Surbharati; 2005. p. 387. [[Google Scholar](#)]
- [15]. Acharya YT. *Charaka Samhita of Agnivesha. Sharira Sthana. Ch. 1, Ver. 115.* 3rd ed. Varanasi: Chaukhamba Surbharati; 2005. p. 298. [[Google Scholar](#)]
- [16]. *Ayurvedic Management of Select Geriatric Disease Conditions Treatment Protocols – Guidelines and Costing of Select Geriatric Disorders. CCRAS WHO Country Office-India Collaborative Project.* New Delhi: Central Council for Research in Ayurveda and Siddha.[Monograph on the Internet]; 2011. [[Last accessed on 2020 Oct 14]]. Available from: https://www.researchgate.net/publication/215553987_Ayurvedic_Management_of_Select_Geriatric_Disease_Conditions_WHO_India_Office_Collaborative_project_on_Development_of_Treatment_Protocols_and_costing_guidelines_for_Geriatric_Disorders. [[Google Scholar](#)]
- [17]. Acharya YT. *Sushrut Samhita of Acharya Sushruta. Sutra Sthana. Ch. 1, Ver. 8.* 9th ed. Varanasi: Chaukhamba Orientalia; 2007. p. 3. [[Google Scholar](#)]
- [18]. Balasubramani SP, Venkatasubramanian P, Kukkupuni SK, Patwardhan B. Plant-based Rasayana drugs from Ayurveda. *Chin J Integr Med.* 2011;17:88–94. [[PubMed](#)] [[Google Scholar](#)]
- [19]. Govindarajan R, Vijayakumar M, Pushpangadan P. Antioxidant approach to disease management and the role of 'Rasayana' herbs of Ayurveda. *J Ethnopharmacol.* 2005;99:165–78.
- [20]. Prabhavathi K, Chandra US, Soanker R, Rani PU. Using a mechanical pain model, a randomized, double-masked, placebo-controlled, cross-over study to evaluate the analgesic activity of *Boswellia serrata* in healthy volunteers. *Indian J Pharmacol.* 2014;46:475–9. doi: 10.4103/0253-7613.140570. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- [21]. Kishore P, Padhi MM. Hingutrigunataila's role in treating Pakshaghata (Hemiplegia) *J Res Ayurveda Siddha.* 1988;9:18–28. [[Google Scholar](#)]
- [22]. Namboodiri PK, Pillai NG, Nair PK. Classical Panchakarma therapy vis-a-vis samana therapy in managing Paksaghata (Hemiplegia) – A comparative study. *J Res Ayurveda Siddha.* 1999;20:54–71. [[Google Scholar](#)]
- [23]. Harihar M. *Geriatrics and Ayurveda.* Linkedin: 2015. Apr, [[Last accessed on 2020 Oct 14]]. Available from: <https://www.linkedin.com/pulse/geriatrics-ayurveda-dr-madhu-harihar>. [[Google Scholar](#)]

- [24]. Bharathi K, Swamy RK. Role of Ayurvedic drugs in treating Geriatric disorders and improving the quality of life – A demonstrative project. *Int J Ayurveda Pharma Res.* 2015;3:65–8. [[Google Scholar](#)]
- [25]. Mishra D, Sharma A, Thakre N, Narang R. Management of anorectal diseases w.s.r. Fistula-in-ano (Bhagandara): A review based on Ayurveda. *World J Pharma Med Res.* 2017;3:382–4. [[Google Scholar](#)]
- [26]. Mehra R, Makhija R, Vyas N. A clinical study on the role of Ksara Vasti and Triphala Guggulu in Raktarsha (Bleeding piles) *Ayu.* 2011;32:192–5. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- [27]. Burdak S, Gupta N. A review of preventive health care in geriatrics through Ayurveda *Int. J Ayurvedic Med.* 2015;6:100–12. [[Google Scholar](#)]
- [28]. Shukla A. Geriatric Disease Management: Contribution of Ayurveda with Evidence-Based Research. *Int Ayurvedic Med J.* 2016;4:2414–20. [[Google Scholar](#)]
- [29]. Sriram S. Availability of infrastructure and workforce for primary health centres in Andhra Pradesh, India district. *J Family Med Prim Care.* 2018;7:1256–62. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- [30]. Roy V. Time to sensitize medical graduates to the Indian systems of medicine and homoeopathy. *Indian J Pharmacol.* 2015;47:1–3.
- [31]. Gupta P. Pharmacogenetics, pharmacogenomics and ayurgenomics for personalized medicine: a paradigm shift. *Indian J Pharm Sci.* 2015;77:135–141
- [32]. Rao G. Integrative approach to health: challenges and opportunities. *J Ayurveda Integr Med.* 2015;6:215–219.
- [33]. Rotti H., Raval R., Anchan S. Determinants of Prakriti, the human constitution types of Indian traditional medicine and its correlation with contemporary science. *J Ayurveda Integr Med.* 2014;5:167–175.
- [34]. Rotti H., Mallya S., Kabekkodu S. DNA methylation analysis of phenotype-specific stratified Indian population. *J Transl Med.* 2015;13:151. [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]
- [35]. Govindaraj P., Nizamuddin S., Sharath A. Genome-wide analysis correlates ayurveda Prakriti. *Sci Rep.* 2015;5:15786