

# **Future Scope and Strategies for Preservation of Health through Ayurveda**

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## **Introduction**

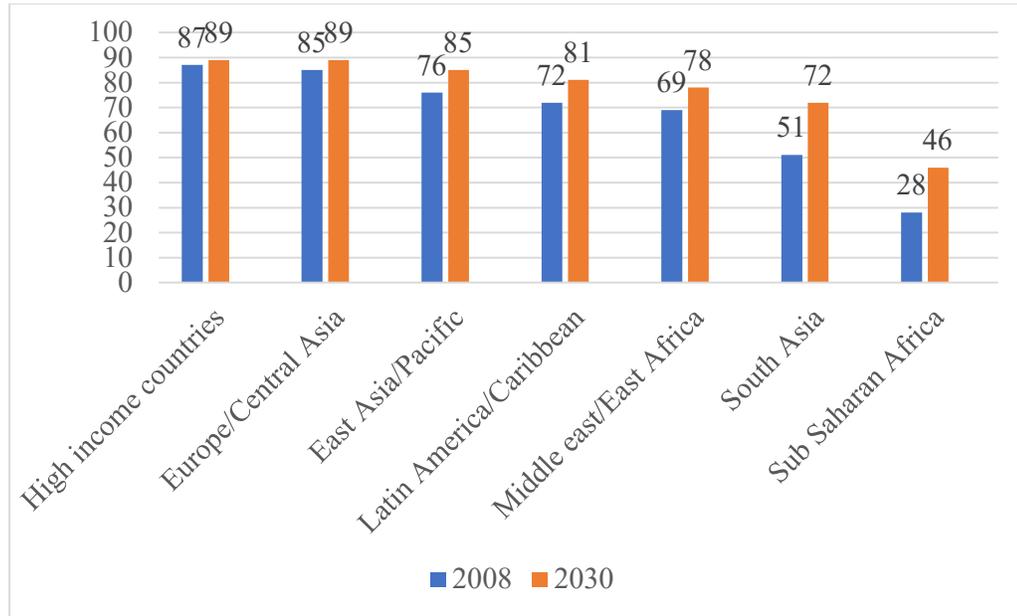
Apart from its rich and renowned heritage, derived from the eternal and immortal Veda, Ayurveda has a rare charm and glory. As a great healer to the suffering humankind, its contribution is excellent and unique. More than a medicine system, it teaches us the art of living, also backed by beautiful philosophies. E.g., It tells us to consider even a tiny ant as not different from ourselves.

Definition of Ayurveda goes like this: It is the science of good things, bad things, things required to lead a happy life, unhappy life and its measurement. <sup>[1]</sup> From Vedas, Puranas, Manusmriti, Ramayana, Mahabharatha, Buddhist, or Biblical literature, the ways to stay healthy and the importance of a healthy body are described.

Health is described as necessary to achieve all four objectives of life- virtue, wealth, desires, and salvation. <sup>[2]</sup> Acharya Charaka beautifully compares the human body with a city and a chariot. He advises us to take care of our body, like a government official taking care of his city or a charioteer taking care of his chariot. <sup>[3]</sup>

The primary purpose of Ayurveda is divided into two broad divisions. The maintenance of health for healthy and cure of diseases of unhealthy people. <sup>[4]</sup> As prevention is better than cure, maintenance of health deserves particular importance. Apart from new pandemics like COVID19, Non-Communicable Diseases like Diabetes mellitus, Hypertension, Coronary Artery Disease, Obesity, and depression have also been a serious threat for health due to the

fast and stressful life. People have drifted away from our ancient culture and are blindly following the western civilization. NCDs are the reason for a growing share of total deaths, especially in developing regions (Fig.1). [5] So, it's high time to educate people about the valuable teachings in Ayurveda about leading a healthy and subsequently a happier life.



**Fig 1. Percentage of total mortality in all ages due to NCDs across various regions of the globe**

### **I. Elaboration of the concept of health in Ayurveda classics and other contemporary healthcare systems**

**Ayurveda:** *Susrutha* defines health as a state of equilibrium of humours of body (*doshas-vata, pitta, kapha*), digestive fire (*agni*), tissues (*dhatu*s), and metabolic waste products (*malakriya*). Moreover, the soul, sense organs, and psyche of an individual also should be in a happy or perfect condition. [6] If a person has to be called healthy, he should be physically, psychologically, and spiritually healthy.

According to Charaka, health implies pleasure; [7] yoga and salvation are the only methods through which one can be free from all suffering. [8]

Acharya Kashyapa defined a healthy man with specific features like: proper desire for food, digestion of food, excretion of urine, faeces, flatus, feeling of lightness of body, working

of sense organs, sleep and waking up in the morning, having good strength, immunity, luster, lifespan, happy and contented mind and digestive fire in an equilibrium state. [9]

Dalhana, the renowned redactor of Sushruta Samhita described that if an individual is free from physical and mental illness, he can be healthy. In Rajanighantu, health is defined as a state of the body free from illnesses. There will be happiness to the individual, lightness of body and limbs will be functioning properly. In Bhavaprakasha, it is mentioned as if we have good conduct every day, night, and season, we can be healthy. Vagbhata has said that if one takes healthy food items in a moderate quantity and only when hungry, he can stay healthy.

### **Elaboration of the concept of health in other contemporary healthcare systems:**

**Homeopathy:** Health is considered as mental, physical, and emotional wellbeing. [10]

**Unani:** Unani medicine defines Health as the state of the normal functioning of the human body in all aspects. Four humors viz., blood, phlegm, yellow bile, and black bile in the human body should be in a balance state. [11]

**Siddha:** When a human body is in a healthy state, the ratio of *Vaadham*, *Pittham*, and *Kapam* are 4:2:1, respectively. [12]

**Yoga:** “Health” is depicted as “a state of congruence between supporting structures (Dhatus), fluids (Rasa), and senses (Karana). One must follow a holistic approach to health by balancing the body, mind, and spirit through self-disciplined life. [13]

**TCM:** Traditional Chinese medicine includes holistic view of harmony between man and cosmos, the unity of shape and soul, people-oriented interpretation of values. Balance of all the opposite elements and forces that make up existence (*qi-blood-yin-yang*.) in the human body is included in traditional Chinese medicine's health concept. [14]

Thus, basically, almost all health care systems consider the balance of factors similar to 3 humors as depicted in Ayurveda as health.

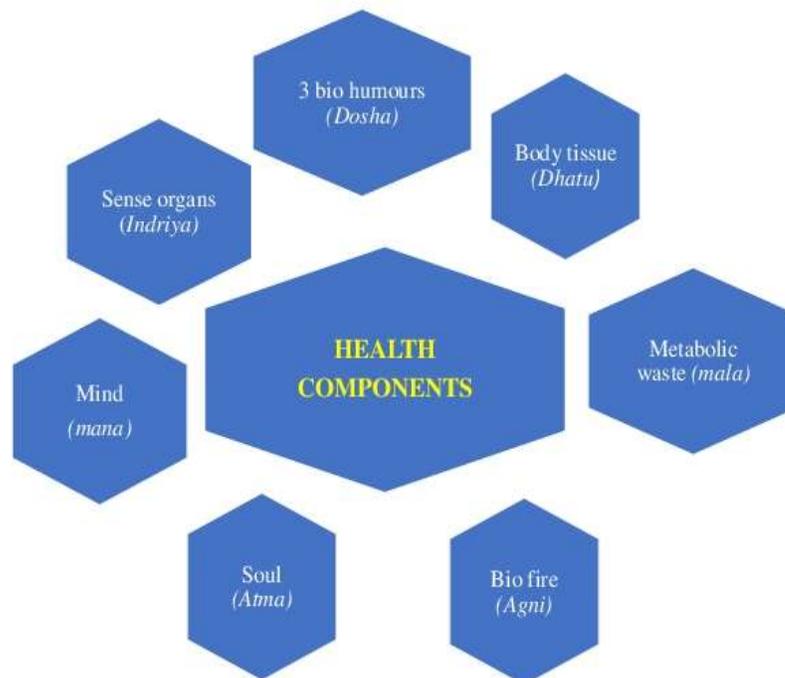
**Modern conventional medicine:** Health is described as ‘the complete physical, mental and social well-being and not merely as the absence of disease or infirmity’ in the preamble to World Health Organisation's constitution. [15] The fourth dimension of spiritual health has also been added recently.

Meikirch model: Health is a dynamic state of well-being characterized by a physical, mental, and social potential that satisfies a life's demands commensurate with age, culture, and personal responsibility. [16]

There are debates regarding whether disabilities, old age-related problems, childbirth, vaccinations etc. can be considered diseases or suffering or health. According to Schroeder, if we think health is fundamentally comparative or relative, we can recast several ethical, conceptual, and policy debates. [17]

Thus, all the organs and organ systems' perfect flawless working can be counted as physical health. Psychological health implies if one is not having any inner conflicts or clashes with other people. When one person is valued and loved by all others, he can be called socially healthy. One should be aware of philosophies of life like who I am, my present situation, and the futility of worrying needlessly to be spiritually healthy.

## II. Components of health and their importance



**Fig. 2. Components of health according to Ayurveda**

As per Acharya Susrutha, health components include body humours, tissues, digestive fire, metabolic waste products, soul, sense organs, and mind.

a. Body humors (*Doshas*)

They are- *vata*, *pitta* and *kapha*. Their balance leads to health and imbalance leads to disease. <sup>[18]</sup> When they undergo vitiation, they vitiate tissues and create abnormalities in metabolic waste products, which in turn vitiate the body's channels and produce diseases. <sup>[19]</sup>

b. Digestive fire (*Agni*)

*Agni* denotes the power of digestion, metabolism, and assimilation. It is responsible for longevity, colour, strength, health, enthusiasm, plumpness, complexion, luster <sup>[20]</sup>, and separation of the food material into essence portion and waste products in our body. <sup>[21]</sup>

Suppose it is in an equilibrium state when the individual takes appropriate quantity of food. In that case, there will be proper digestion of food without any discomfort, which leads to the maintenance of equilibrium of tissues. It is said that poor digestive capacity is the root of all diseases. <sup>[22]</sup>

c. Tissues (*Dhatus*)

Our body's tissues are lymphatic fluid (*Rasa*), blood, muscle tissue, fatty tissue, bone, bone marrow, and semen. <sup>[23]</sup> Even one definition of treatment goes like this: 'Treatment is the efforts of physician, medicament, attendant, and patient possessing all requisite qualities for the revival of equilibrium of tissues when it is disturbed.' <sup>[24]</sup>

d. Metabolic waste products (*Mala*)

They include urine, faeces, sweat and other waste products like that which is secreted from eyes<sup>23</sup>. Anything that hampers the body's normal functioning by obstructing our body's channels should be considered *mala*.

e. Soul (*Atma*)

The soul is one of the nine substances (*dravyas*) described in Charaka Samhitha. <sup>[25]</sup> Healthy spiritual state can be understood by effort for wholesome activities through intellect-mind-sense organs, initiation of efforts to attain salvation like avoidance of intellectual blasphemy. <sup>[26]</sup>

f. Mind (*Mana*)

It is also one of the nine substances described in Charaka Samhitha<sup>25</sup>. The sense faculties are capable of perceiving their respective objects only when they are motivated by the mind. <sup>[27]</sup>

g. Sense organs (*Indriya*):

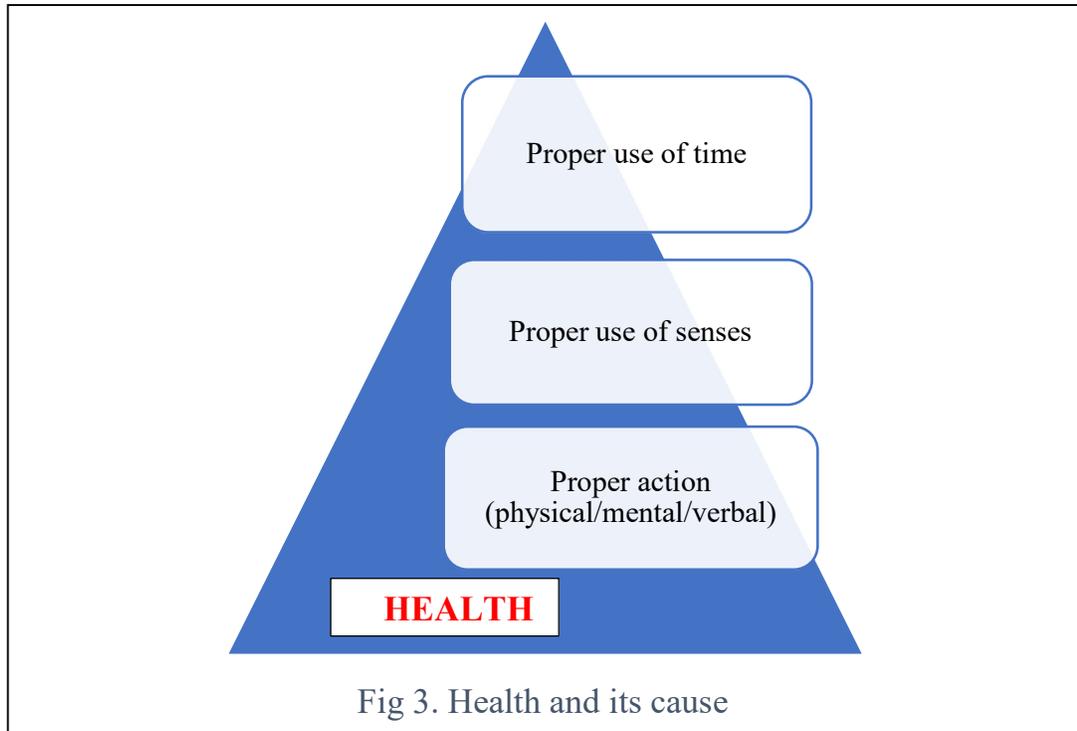
Five organs of perception: Eyes, ears, nose, skin, and tongue. <sup>[28]</sup> The sense faculties get vitiated by excessive/ non/ wrong utilization of the objects concerned and cause impediment to the perception of respective sense organs. <sup>[29]</sup>

### **III. PREVENTION OF DISEASE OCCURRENCE AND RECURRENCE**

#### **III.a. PREVENTION OF DISEASE OCCURRENCE**

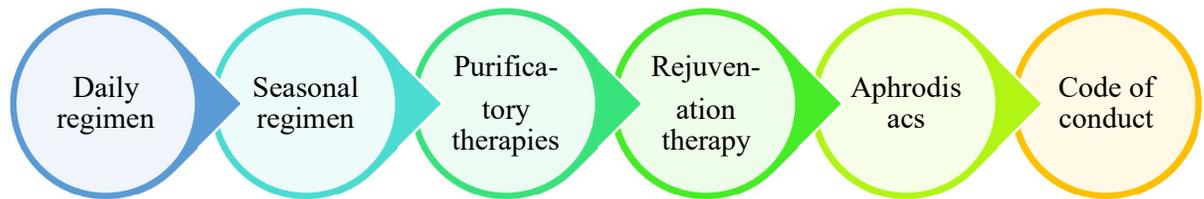
One crucial quote by renowned scientist Louis Pasteur: “The germ is nothing, the terrain is everything”. The body being the terrain, we must make it strong by our efforts. There are so many references in Ayurveda about how to stay healthy like:

- Proper use of time, sense objects, and activity are essential for health (Fig 3). <sup>[30]</sup>



- Some measures to stay healthy are like: Indulging in wholesome food and lifestyle; doing things after analyzing its good and bad effect on health; not being excessively indulged in sensory pleasures; mentality to donate things to the needy; treating all living beings equally; being truthful; forgiving the mistakes of others, and keeping the company of good and learned ones. <sup>[31]</sup>
- The techniques for prevention and cure of all types of diseases caused by internal or external factors are as follows. Avoiding intellectual errors (*pranjaparadha*); controlling sense organs; right knowledge of oneself, habitat, season etc.; adopting right conduct of living; performing rituals described in vedas; worshipping malevolent planets, and avoiding contact with pathogenic microbes . <sup>[32]</sup>

The techniques described for preventing diseases can be broadly classified under the following headings.



#### A. DAILY REGIMEN (*DINACHARYA*):

##### a. Getting up early in the morning

Around 4.30 am or 48 minutes before sunrise (*Brahmamuhurta*)<sup>[33]</sup> is the apt time for getting up in the morning. After waking up, one should analyze self in view of physically, physiologically, and psychologically before responding to nature's calls.

##### b. Responding to natural urges

Suppression or forceful expulsion of natural urges lead to several diseases of the body.<sup>[34]</sup>

##### c. Brushing of teeth

One should clean his teeth in the early morning and after taking food with twigs of medicinal plants with bitter, pungent, or astringent tastes like *Calotropis procera*, *Acacia catechu*. Brushing removes foul smell, tastelessness, removes dirt coated on tongue, teeth, and mouth.<sup>[35]</sup>

##### d. Tongue cleaning

One should regularly scrape the coating on the tongue to prevent foul smell, bad taste, and maintain overall oral hygiene.<sup>[36]</sup>

##### e. Oral gargling/mouth wash

Gargling with sesame oil, decoctions, etc. helps purify the oral cavity, prevention and treatment of oral cavity diseases. [37]

f. Drinking water in the early morning:

It gives longevity up to 100 years of age without any disease and old age. [38]

g. Oil massage

Its benefits are imparting firmness to the body, smoothness to the skin, balancing vata dosha, preventing fatigue, delaying the aging process, and giving longevity. [39]

h. Pouring oil in ears

It prevents ear diseases due to *vata*, stiffness of back and jaws, deafness, and difficulty hearing. [40]

i. Eye collyrium

They promote the luster of eyes and improve eyesight. [41]

j. Instilling oil/ suitable medicine in the nose

It prevents diseases above the neck, gives strength to veins, joints, ligaments, and tendons of head, and voice becomes sweet and clear. [42]

k. Exercise

Exercise brings lightness and firmness to body, increases the digestive capacity, and improves work ability. [43]

l. Walking for a short distance

It provides longevity, strength, intelligence, digestive power, and eyesight. As it does not cause much strain to our body, Susrutha describes it as the best exercise. [44]

m. Massage with powder

Massaging the body with powder of suitable medicinal plants will help reduce fat, increase the body's firmness, and promote luster and glow of the skin. [45]

n. Bathing

Bathing purifies the body, mind, and is aphrodisiac, increases longevity, destroys fatigue, sweat and dirt. [46]

o. Wearing clothes/ using gems/ ornaments or application of pastes of the heartwood of *Aquillaria agallocha* and *Santalum album*:

It removes inauspiciousness and increases charm, strength, and prosperity. [46]

p. Medicated smoking with *Boswellia serrata*, *Commiphora mukul* etc gives strength to the head and prevents diseases occurring above the neck. [47]

q. Diet: Consumption of a wholesome diet keeping in mind the quantity, quality, time, habitat etc. is very much detailed in Ayurvedic classics. [48] Diet is said to be medicine.

r. Betel chewing

Chewing betel leaves and fragrant herbs like Areca catechu fruit improves the digestive power, is suitable for the heart, and pleasing to the mind. <sup>[49]</sup>

s. Footwear

Using footwear is beneficial for improving vision and touch sensation. It promotes strength, energy, and libido. <sup>[50]</sup>

t. Means of livelihood

One should have some job for livelihood not against social and religious ethics in order to live a happy and contented life. <sup>[51]</sup>

B. REGIMEN IN THE EVENING (*SAYAMCHARYA*)

In Bhavaprakasha, it is advised to avoid reading, sexual acts, meals, sleeping, and walking during the evening. It should engage in praying to god and practicing yoga. <sup>[52]</sup>

C. NIGHT REGIMEN (*RATRICHARYA*)

Light diet in a small quantity only should be taken as dinner in the first three hours after sunset. After this, one should go to bed praying to god and with peace of mind. <sup>[53]</sup>

a. Act of coitus:

Proper coital act leads to extended life and bestows good complexion and strength. After coitus, one should bath, drink milk with sugar, mutton soup, and eat food items prepared with jaggery. <sup>[54]</sup>

b. Sleep

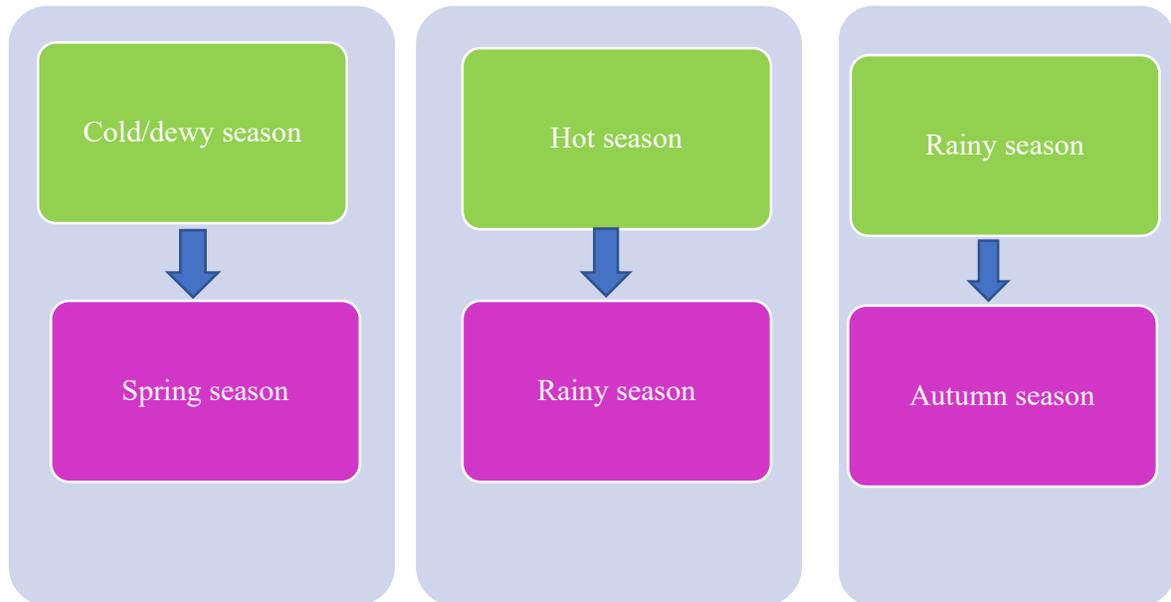
Proper and adequate sleep in regular time is essential for maintaining a built complexion, vigor, and good digestive power. <sup>[55]</sup>

D. SEASONAL REGIMEN

There are 6 seasons mentioned in Ayurveda, viz. Winter, dewy, Summer, Rainy, Autumn and spring. Ayurveda believes that the body and universe's constituents are the same, so changes in the universe will also bring changes in our bodies. So, one has to modify dietary patterns and lifestyle according to that to prevent diseases' affliction.

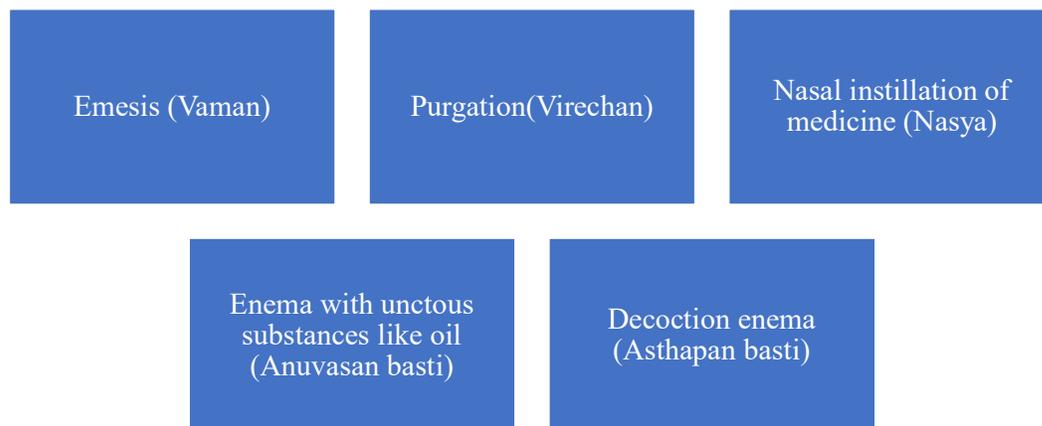
During the rainy season, the diet should be easily digestible and predominant in salt and sour taste to alleviate *vata* humor. It's recommended to alleviate pitta by purgation therapy, ghee, sweet, bitter and astringent diet in the autumn season. In the winter season and cold dewy season, food predominant in sweet, salt, and sour tastes may be taken. Application of oils acting against *vata* humor, massage, exercise, a hot water bath is also advised. <sup>[56]</sup>

- Prevention of diseases caused due to the effect of seasons: This can be done by eliminating vitiated humour using appropriate purificatory techniques.



**Fig. 4. Season in which elimination of vitiated humors should be done according to the season of their accumulation** <sup>[57]</sup>

E. **Panchakarmas** are the 5 purification therapies described in Ayurveda. They include oil/decoction enema, nasal instillation of medicine, purgation and emesis. They cleanse our body by eliminating the metabolic toxins of our body.



**Fig 5: Purificatory therapies according to Charak Samhita**

F. REGIMEN DURING THE JUNCTURE OF TWO SEASONS (*RITUSANDHICHARYA*)

It is the period intervening between end of one season (last 7 days) and initial period of another season (first 7 days). During this period, individuals are more susceptible to illnesses. So, the previous season's regimen should be discontinued gradually and those of the next season should be adopted gradually. [58]

#### G. GOOD PERSONAL CONDUCT AND HYGIENE (*SADVRITTA*)

*Achara rasayanas* are the good deeds that have to be practiced for the longevity of life. It includes speaking the truth, not getting angry, abstaining from alcohol and overindulgence of sex, not hurting others, avoiding excess stress and strain, speaking relatively, maintaining hygiene, understanding everything in a proper way, being spiritually healthy, respecting gods, elders, teachers, practicing nonviolence, compassion, being moderate in walking and sleeping, regular milk and ghee intake, getting rid of ego, practicing blameless deeds, eating a wholesome diet and having self-control. Practicing it is essential for keeping sense organs, mind, and soul healthy. [59]

Some emotions are said to be suppressed to prevent diseases. They include greed, grief, fear, anger, shamelessness, ego, envy, excess attachment. [60]

#### III.b. PREVENTION OF DISEASE RECURRENCE

In the case of fever, the reason for recurrence is mentioned as the person who has become free of fever when vitiated humors have not been appropriately eliminated, and then even with mild irregularity in regimens, fever reappears as their body has not regained proper strength. [61]

They should be given nourishing foods gradually. Foods prepared with particular types of rice like *Sali*, *shashtik*, wheat, meat, milk, ghee etc. made tasty, pleasing, and easily digestible by addition of drugs, massages, bath, oil enema, decoction enemas are ideal. [62]

**Importance of Purificatory therapies:** There is a risk of recurrence of diseases in management with internal medications or fasting. However, a chance for recurrence is practically nil if the normalizing of vitiated doshas is done with purificatory techniques. [63]

The aetiological factor of the particular disease should be analyzed and should be avoided by all means to prevent a recurrence. For e.g.: After recovery from indigestion, one

should analyze the possible aetiologies like overeating, heavy food, stress, putrified food, cold and refrigerated food etc. and should avoid it to prevent the recurrence. Moreover, foods and medicines which augment the digestive fire, like rice gruel medicated with powder of dried ginger, may be advised.

**Rejuvenation therapy (Rasayanas) and aphrodisiacs (Vajeekarana):** Rejuvenating drugs include *Tinospora cordifolia*, *Glycyrrhiza glabra*, *Centella asiatica*, formulations like *Chyavanaprash*, *Agastya rasayan*, *Naarasimha rasayan*. Aphrodisiacs include *Withania somnifera*, *Mucuna pruriens*. Both are excellent nourishers of the body and psyche. <sup>[64,65]</sup>

#### **IV. Practical guidelines for implementing the concept of health in today's society**

1. Enforcement of strict laws and regulations for quality of health care delivery like standardization of medicinal formulations; checking mushrooming of quacks; mandatory use of certified medical devices; and cost control of life saving medicines.
2. Lifestyle management with techniques other than medications, like exercise as far as possible.
3. Awareness programs and classes for training of must/desired/nice to know components of healthy habits. It includes knowledge of daily/seasonal regimen, code of conduct, dietetic rules like intermittent fasting. It will help popularise and augment adaptability of Ayurvedic principles' to create healthy individuals and society.

Many things like exercise, bathing, oil massage, purification according to seasonal accumulation of humors can be made practical very quickly. I.E.C materials in the form of brochures, posters, leaflets, standees, handouts, audio/video CDs, etc may be distributed to the public.

Advertizing in media like newspapers, social media platforms, TV, radio about the purpose and benefits of Ayurvedic science will also be useful.

4. Measures for decreasing the consumption of fast-food items like burger, pizza, soft drinks, fried snacks, reheated food items, cold and refrigerated food, frying in used oil, using plastic containers for taking hot food items, food processed with injudicious application of chemical fertilizers and pesticides; as they are extremely harmful to health. <sup>[66]</sup>
5. Educating people about home remedies and identifying medicinal plants so that they won't cut them down as a part of cleaning premises without knowing their value.

Imparting proper awareness on GACP (Good Agricultural Collection Practices), GSP (Good Storage Practices) for raw material collection, cleaning, drying, storing etc. because now it is a disorganized sector.

6. Educate the public about premonitory symptoms of diseases to be diagnosed and managed even before getting afflicted by the disease.
7. Awareness among the public about rejuvenation therapies, aphrodisiacs for promoting health can be enhanced. Purificatory therapies can be promoted to eliminate the accumulating metabolic wastes of our body even from the school level.
8. Yoga or meditation classes shall be mandatory in all government and private organizations to reduce stress and prevent psychosomatic diseases.
9. Genetic counseling for inherited diseases.
10. Fumigation of the environment with antimicrobial medicines like *aparajitha dhoopa churna*.
11. Special immunomodulatory recipes described in *Arogyakalpadruma* textbook (*Prakara yogas*) may be administered right from the first day after the delivery of baby. Eg: for one-day old child: The rhizome of *Acorus calamus* is grinded in the juice of *Desmodium triflorum*. Three drops of this mixture are instilled over the center of the head. <sup>[67]</sup>
12. The use of *rejuvenating herb* like *Phyllanthus emblica* fruit daily.
13. Training in epidemiology and clinical research.

## V. Applied researches on preservation and protection of health

Charak has told “wise people should not reach into conclusive statements without undertaking the various type of researches to prove with the reasoning”. <sup>[68]</sup> The need of the hour to conduct systematic applied research on various aspects in Ayurvedic science as listed below (Fig.6). These are inevitable to scientifically validate the principles and convince the public, policy makers, and scientific society.



**Fig 6. Types of applied researches most relevant in Ayurveda**

**V.I. Applied researches on the preservation of health**

The term ‘preservation of health implies efforts to maintain the existing state of health.

**Table 1: Applied researches on the preservation of health**

SL NO.	TYPE OF RESEARCH	VARIOUS ATTRIBUTES OF AYURVEDA WHICH REQUIRES APPLIED RESEARCH (Some related researches as added as references)
1	<b>Fundamental research</b>	Assessment of health status/ body constitution/ digestive capacity of an individual based on self-care apps or well-structured questionnaires.
		Scientific validation of <i>Tridoshas</i> and their relation with time, age, taste of food, location in body, digestion, their location in body etc.

		Effect of 6 seasons on mind, biochemistry, hormone levels of our body.
		Developing user-friendly techniques and instruments like Ayurvedic collyrium, toothpaste, tongue cleaner, mouth wash, powder for bathing etc, in collaboration with other research institutes like IIT, CSIR, DBT, DST etc.
		Updating medical devices like those used for medicated enema.
		Development of hand- held gadgets for monitoring health condition.
		Studies that integrate metabolomics with genomic, microbiome and physiologic parameters to lead into a broader understanding of the mechanism of action of purificatory procedures.
		Set up Ayurvedic laboratories for specific urine assessments, faeces, etc. <i>for diagnosis (ashtasthana pareeksha)</i> .
2	<b>Clinical Research-</b> RCT (with a control group not adopting ayurvedic technique/ adopting standard care available and assessing relevant parameters of both groups before and after study	Adopting Ayurvedic daily regimen <sup>[69]</sup> / seasonal regimen/code of conduct/ rejuvenatives/ aphrodisiacs/yoga and meditation <sup>[70]</sup> and assessing health status.
		Assessing antioxidant, stress relieving, immune modulating actions of <i>rejuvenating</i> drugs like <i>Tinospora cordifolia</i>
		Organ-specific rejuvenating herbs can also be studied. E.g.: Bacopa monneri/Celastrus paniculatus for brain disorders like Alzheimer's disease, Terminalia arjuna for heart diseases. <sup>[71]</sup>
		Assessing reproductive health with aphrodisiacs like Withania somnifera

		Assessing the immune status after administering immunomodulatory recipes described as <i>Prakara yogas</i>
		Assessing dental health with Ayurvedic toothpaste
		Assessing oral health with the use of gargling with sesame oil
		Assessment of the effect of medicated powder massage on body mass index, body weight.
		Assessment of the relationship between improper sleeping and development of various diseases like Hypertension. <sup>[72]</sup>
3	<b>Clinical-Prospective Observational</b>	Relation between types of body constitution and disease incidence. <sup>[73]</sup>
		Tailor-made lifestyle management studies (N=1 model study) specific to body constitution, tissue status, disease risk
		Study of those consuming and not consuming wholesome food and observing the development/non-development of diseases. <sup>[74]</sup>
4	<b>Clinical-Case-Control</b>	For proving whether suppression or forceful expulsion of natural urges cause a particular disease. E.g.: Studying whether those diagnosed with deafness had the habit of suppressing thirst urge
		For proving whether the habit of non-suppression of emotions like anger causes a particular disease. <sup>[75]</sup>
5	<b>Medicinal plant research</b>	Developing new methods like Miyawaki methods for medicinal plant cultivation, because many like <i>Rauwolfia serpentina</i> , <i>Pterocarpus santalinus</i> , etc., are already endangered species in the verge of extinction. <sup>[76]</sup>
		Documentation of folklore claims
		Drugs with specific action as described in groups of 10 medicinal plants ( <i>Dashaimani</i> ) of Charaka need to be studied in detail
6	<b>Pharmacology research</b>	Drug discovery researches especially by reverse pharmacology approach. <sup>[77]</sup>
		Toxicity/ preclinical studies to prove the safety of medicines, especially metallic preparations

## V.II. Applied researches on the protection of health

The term ‘protection’ of health implies the efforts undertaken to improve the existing health condition and safeguard our body from diseases. The focus of such efforts should be strengthening of the immune system & nourishing the tissues. The role of five purificatory techniques, rejuvenating therapy and aphrodisiacs, can be investigated. The other researches to be done are:

1. Specific antimicrobial action of specific drugs like *Aparajitha dhoopa choorna*,<sup>[78]</sup> *Commiphora mukul* etc.
2. Updating incompatible food/lifestyle (*viruddha*) concept as per current scenario like eating chicken biriyani with curd, fish with curd etc.

## VI. Model healthcare system and its propagation

India’s healthcare system is at 112<sup>th</sup> position out of 190 countries as per WHO’s 2000 World Health Report ranking.<sup>[79]</sup> Health care wants to attain better quality and lower cost. The responsibility of education and research are fundamentally imperative for the sustainability of a health care system. There should be a synergistic and complementary action among the stakeholders (the hospital, the medical school and the physicians) to utilise their core competencies.<sup>[80]</sup>

In regulating how health services are delivered, utilized, and affect health outcomes, health systems and policies have a significantly influential role. One most important change that should be accomplished is appointing competent Ayurveda doctors as AYUSH secretary and minister at the level of central and state governments. In terms of accessibility of human resources, program management, infrastructure, community involvement, funding health care, and information technology usage, architectural modification of the rural health system should be the first phase. There should be an augmentation of health-care delivery points through outreach programmes also.

Human resource development should also focus on diversifying the posts like cook/dietician with knowledge of wholesome and unwholesome food, clinical pharmacologists to prescribe medicines according to time for administration (*oushadhasevanakala*) etc. Community participation should be reinforced by forming health committees at the village

level and patient welfare committees at public health-care facilities. For tracking the execution of delivery of health and related services, information technology should be used.<sup>[81]</sup>

Insurance may be started for preventing diseases also. More national programmes should be implemented focusing on life style-related disorders and other diseases of national importance, incorporating all medicine systems. Nutrition, school health, industrial health, family planning, rural and urban sanitation, prevention and control of locally endemic diseases, food and drug control, emergency health services as in flood, training of health workers, collection, and reporting vital statistics should be given prime importance.

The possibilities of telemedicine should be utilized as far as possible. New health policies should be formulated with a target like VISION 2050. The targets and deliverables should be achieved within the timeframe.

## **VII. Future strategies for preservation of health**

1. Convincing our policymakers at the central and state level about the relevance of adopting the Ayurvedic lifestyle.
2. Developing need-based protocols, for e.g.: daily regimen for those having night duty
3. Practical training in Swastavritta syllabus for making its principles feasible.
4. Organising Training of Trainers (TOT's) to improve the quality of manpower engaged in awareness activities. AYUSHMAN Bharat physicians, BAMS graduates, Asha workers, teachers, paramedical staff may be utilized for this.
5. Enforcing stringent measures to regulate the standardisation and quality control of medicines, especially rasa (metallic/herbo metallic) preparations. As there is a widespread allegation like heavy metal toxicity by lead, mercury etc in them, leading to adjournment in accepting Ayurvedic system in other countries.
6. Regulating the unnecessary use of probiotics and antibiotics because destroys the natural gut microbiome of the human body
7. Methods described for reducing the microbial load in the atmosphere like fumigation with *Aparajitha* powder or similar techniques mentioned in *Janapadodhwamsaneeya* and *dundubhiswaneeya* chapters of Charak Samhitha may be done on a large scale incorporating modern technology.
8. An **Ayurvedic National Immunisation Schedule** may be implemented to administer both immunomodulatory recipes called *Prakara yogas* and gold in therapeutic form.

9. Like the National immunisation schedule, a **National Panchakarma schedule** may be adopted such that eligible candidates may be mandatorily done the 5 purification procedures in the concerned season.

Monsoon: Medicated Enema

Autumn: Purgation

Spring: Emesis, Instillation of medicine through the nose.

If doing all panchakarmas is practically difficult, then at least purgation once in a quarter/ 2 months will benefit health.

10. Multi departmental studies to validate and incorporate the advice related to diet in the National policies of food and nutrition. The diet which is advised to be practiced daily like green gram, barley etc. may be supplied through public distribution shops.
11. National health campaigns on specific diseases
12. Tax increase on tobacco, cigarette, alcohol
13. Integrative approaches for managing disease conditions like setting up of Ayurveda ICU
14. For preventing all the possible causes of ill health, governments need to streamline the attainment of 17 SDGs (Sustainable Development Goals adopted at Global Conference on Health Promotion, Shanghai) which includes no poverty, zero hunger etc. <sup>[82]</sup>

## CONCLUSION

Ayurveda is a time-tested science of healing and life. According to it, the equilibrium of three bodily humors, *vata*, *pitta* and *kapha* is essential for maintaining health and their vitiation causes diseases. Techniques for maintaining health are very much explained, especially in the preventive medicine (*Swasthavritta*) branch, which increases the life span and bestows graceful aging.

Humankind has been suffered from many pandemics like Spanish flu (1918), Asian influenza (1957), Hong kong flu (1968), SARS (2002), Swine flu (1969), MERS (2013), EBOLA (2013), and COVID 19 (2019) in 20<sup>th</sup> century. These have killed millions of people. Considerable efforts to discover a vaccine for COVID 19 prevailing now across the globe are going on. However, discovering a vaccine cannot be a permanent solution as new viruses may still emerge, or existing ones may undergo mutation. Due to the widespread devastating impact of COVID disease, more people have now realized the importance of preserving health.

As per Charak Samhita, one who is bestowed with intellect, good actions and speech producing good results, who has a dutiful mind, flawless understanding, knowledge, who does penance and takes sustained determination in *yoga*; does not succumb to diseases. [83]

The enjoyment of the highest attainable health standards is one of the fundamental rights of all human beings without distinction of caste, creed, religion or all other socio-economic conditions. Health is one's self-responsibility. For its maintenance, one should know one's body and maintain it themselves with doctors' guidance. The ayurvedic physician should be like a health educator, psychologist, advisor, philosopher, philanthropist, dietitian, and pharmacist. Embrace Ayurvedic principles for better health, as it is central to human happiness and well-being. It will contribute to economic progress and ultimately build up a healthy and wealthy world.

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