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Review Article

## Application Of *Charak Samhita Matrasitiya Adhyaya* (Quantitative Dietetics) In The Maintenance Of Health

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### ABSTRACT-

*Ayurveda* is a science based on ancient Indian Philosophy and can be appropriately be called as “The Science of Living”. It has been in existence since the beginning of time. Therefore, in the *Charak Samhita*, *Ayurveda* has been described as *Shasvata* (eternal). *Charak Samhita* is considered to be the most ancient and authoritative work on *Ayurveda* available today. *Acharya Charak* has been referred to as the Father of non-surgical *Ayurvedic* Indian medicine. The *Charak Samhita*

is most useful for those who wants to improve their health and happiness in life.

*Ayurvedic Samhitas* are considered as a highly codified storehouse of ancient wisdom. *Samhitas* have their own style of narration and facts have been presented in *Shloka* form. Commentaries of these *Shlokas* have been made to explain the meaning of them. Usually, the commentator studies the *Shlokas* and after critical verification, gives his ideas on the topics. In this article an attempt has been made to accentuate the application of *Matrasitiya Adhyaya* of *Charak Samhita* in the maintenance of health.

**Keywords:** *Ayurveda*, *Charak Samhita*, Health, *Matrasitiya*.

## INTRODUCTION:

*Ayurveda* is the most ancient indigenous medical system of India. According to various *Ayurvedic* literature, *Brahma* (the Creator) was the divine source of this science. The knowledge of *Ayurveda* was recalled by *Lord Brahma*. He transferred his knowledge of *Ayurveda* to *Daksha Prajapati* who, in turn, passed it down in totality to the *Ashwini Kumar* twins who were the physicians of the Gods. They, then proffered this knowledge to the King of Gods i.e. *Lord Indra*. From *Indra*, the knowledge of *Ayurveda* descended upon this earth in the following manner.

According to *Charak Samhita*, once upon a time, people on this earth were suffering from different types of diseases, the sage, *Bharadwaja* was assigned by an

assembly of learned teachers to go to *Lord Indra* to learn *Ayurveda*.<sup>1</sup> Then, *Bharadwaja*, the semi-divine sage, was instructed to spread the knowledge of this invaluable science of longevity on the earth.<sup>2</sup> On his return, *Bharadwaja* imparted his knowledge to *Punarvasu Atreya* and later their six disciples.<sup>3</sup> *Charak Samhita* was composed in the form of questions and answers between *Atreya* and *Agniveshadi* six disciples, therefore it is considered as the best. But over the course of time, this *Tantra* became mutilated and now the original work of *Agnivesha* isn't available for study. Later came *Charak* who collected all fragments of the scattered *tantra* and revised it with the necessary corrections and made it available for study. After its revision, *Acharya Charak* renamed *Agnivesha tantra* to *Charak*

*Samhita*, by which it is known nowadays. In the course of centuries even this *Charak Samhita* became mutilated and some portions was lost. Noticing this, *Charak Samhita* was again revised by a Kashmiri *Pandita* named *Dridhabala*, son of *Kapilabala*, resident of *Panchanandpur*.<sup>4</sup> The current form of *Charak Samhita* that is available was completed by *Acharya Dridhabala*.

The present day *Charak Samhita* begins with *Sutra Sthana* which deals with various important fundamental principles of *Ayurveda*. It is the brain of the whole *Samhita*. Here, there is a collection of important *Shlokas* related to different contexts. *Sutra Sthana* gives information about *Snehakarma* (oleation), *Swedankarma* (fomentation), qualities of the *Vaidya* (physician), *Rogi* (patient), *Aushadi* (drug), *Paricharak* (compounder), *Dinacharya* (daily regimen), *Ritucharya* (seasonal regimen), and guidelines to follow to keep the individual in a healthy state of being. In this article, *Charak Samhita, Sutra Sthana*, 5<sup>th</sup> chapter is the main focus, to highlight the activities to be followed by the individual to maintain a healthy lifestyle, according to *Ayurvedic* principles.

## AIMS AND OBJECTIVES:

To gain insight into the existing approaches of Quantitative Dietetics in the Maintenance of Health, and to analyze current functionalities and other input methods.

## MATERIAL AND METHODS:

Various digital libraries containing *Charak Samhita* were searched and the following headings were selected: types of data, types of terminal, types of reports and functionalities. The selection criteria chosen were those publications presented in an English medium.

### Methodology :- Review study.

### Quantity of Food Items:

The individual should take food in the right quantity. The quantity of food to be ingested depends on the power of digestion (*Agnibala*).<sup>5</sup>

The quantity of food that is taken, digested and metabolized in the proper time, without disturbing the equilibrium of *Doshas* and *Dhatus* can be considered as the proper quantity of food.<sup>6</sup>

Most people eat, or rather overeat to make ourselves feel better or satiate our taste buds. When we are stressed or anxious, we tend to eat more. But what that ends up doing is making us feel better momentarily and piling on our belly as fat.

There are various inventions that provide methods and devices to sense food intake. Food intake for a patient is pertinent to a variety of medical conditions, such as diabetes, obesity, and bulimia. In general, treatment for such conditions can include controlling the diet and monitoring delivery of medication. Health risks associated with obesity are well known. An obese patient is at increased risk of high blood pressure, heart disease, stroke, high cholesterol, breathing problems, sleep apnea, cancer, gallstones,

and arthritis, among other health problems. An obese patient is also at increased risk of developing Type II diabetes, so, it is helpful to monitor the quantity of food ingested by the patient. Food intake for a patient can be measured by a number of techniques, including direct measurement of the contents of the stomach. Because food intake triggers numerous physiological responses in the body, food intake can be monitored by measuring or monitoring physiological parameters that change as a function of food intake.<sup>7</sup>

Examples of these techniques and/or devices may be found in the issued U.S. Patents listed in Table 1 below and priority applications in Table 2.

**Table 1: Techniques and/or Devices in the Issued U.S. Patents**

S.No:	Publication number	Priority date	Publication date	Assignee	Title
1.	US4221959A	1977-03-02	1980-09-09	Sessler Eva Maria	Checking device for checking the food intake <sup>8</sup>
2.	US5398688A	1994-07-21	1995-03-21	Aurora Dawn Ltd	Method, system and instrument for monitoring food intake <sup>9</sup>

3.	US5563850A	1995-06-01	1996-10-08	Hanapole; Philip L.	Food intake timer <sup>10</sup>
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**Table 2: Application Priority of Techniques and/or Devices in the Issued U.S. Patents**

S.No:	Application	Priority date	Filing date	Title
1.	US10/698,124	2003-10-31	2003-10-31	Sensing food intake <sup>11</sup>

Though the above-mentioned inventions are meant for the patients exclusively still can be used for healthy people. In today's world many types of mobile phone applications, smartwatches, web applications have been developed, which are not only able to take care of the quantity of food, but also keeps the record on what a person is eating, when is he eating, what nutritious content is present in the particular diet and many other aspects of their diet. If food is consumed in the quantity that the body needs, then the food gets converted into energy that is utilized by the body and none is converted into fat.

#### **Quantity of Food Items in Relation to Quality of Food Items**

Food items such as *Sali*, *Sastika* (Rice), *Mudga* (Pulses), *Lava*, *Kapinjala*, *Sasa*, *Sarabha* (Meats etc.) Even though these food items are light in nature, it is to be taken according to quantity that can be digested. Similarly, preparations made from Flour, Sugarcane, Milk, Sesamum, Black Gram and meats of marshy and aquatic animals, even though heavy in nature are also to be taken according to the quantity that can be digested. From this description, it can be concluded that lightness or heaviness of food items are important. Light food items are stimulants of the appetite and as such, if taken in excess are less harmful, while on the other hand, the heavy food items, being suppressors of appetite are extremely harmful if taken in excess. Hence it can be noted here

that the quantity of food items weather light or heavy, should be taken with due consideration of *Agnibala* (Digestive power).<sup>12</sup>

The properties of the food items itself has no importance, as the intake of heavy items is advised as three-quarters or half of the stomach capacity should be taken, even so in

the case of light items, for maintaining the proper functioning of the *Agni*.<sup>13</sup>

When the quantity of food in relation to quality is mentioned, it should be clearly understood that the calories of that particular food item is being highlighted. The calories required daily by males and female<sup>14</sup> are given in Table 3.

**Table 3: The Calories Required Daily by Males and Females.**

Male – 60kg		Female – 55kg	
Sedentary	2320cal/day	Sedentary	1990cal/day
Moderate	2730cal/day	Moderate	2230cal/day
Heavy	3490cal/day	Heavy	2850cal/day

Now, considering the amount of calories present in 100gm of various food items, it would defiantly vary. For example, some of the food items in relation to calories per 100gm have been shown in Table 4.<sup>15</sup>

**Table 4: Calories per 100gm of Food Items**

Sr. No.		Food Item	Calories per 100 gm
1.	Dairy products	Milk	65
2.	Cereals	Whole wheat flour	339
3.		Brown rice	111
4.	Pulses	Green gram	105
5.	Vegetables	Carrot (Boiled)	20
6.		Broccoli	32
7.		Onion (boiled)	18



8.	Fruits	Apples	45
9.		Dates	235
10.		Kiwi	50
11.		Pomegranate	83

If a 55kg sedentary female needs 1990cal/day, dividing it into 4 meals she may need 497.5cal in each meal to fulfil the daily need of the total calories. So, from the Table 4 either she can take 200gm dates or 100gm wheat with 100gm green gram to fulfil her one time 497.5cal (approx.). by this example it is understandable that calories may vary in regard with the quantity of food that is quantity may vary in relation to the quantity of food.

### **The Importance of Food Items Taken in the Proper Quantity**

The food items taken in the appropriate quantity, renders strength, complexion, happiness and longevity to the individual, while maintaining the equilibrium of *Doshas* and *Dhatus* of the body.<sup>16</sup>

Thus, it is mentioned that after an individual has taken food, he should never take such items prepared from flour, rice and flattened

rice. Even if the individual is hungry, these items should be taken in proper quantity.<sup>17</sup>

A lot is said about breakfast being the most important and the heaviest meal of the day. But, lunch should be the biggest meal of the day. This is because lunch coincides with the period when the *Pitta* is strongest in the body, which means that the *Agni* will be the strongest at that time. It will be able to digest a larger quantity of food as compared to breakfast or dinner. Dinner or supper should be the lightest meal of the day as the body gets closer to the rest mode with the digestive power becoming weaker. Respecting this will mean that one would get better sleep as well. It will also become easier to empty the bowels in the morning.

### **Foods that are Contraindicated**

An individual should not consume the following food items regularly as they are heavy in nature, *Vallura* (dried meat), dry vegetables, lotus tubers and stem. The meat

of any diseased animal should never be eaten. Similarly, an individual should not take the following items regularly, *Kurcika* (Boiled buttermilk), *Kilata* (Milk products), pork, beef, buffalo meat, fish, curd, *Masa* and *Yavaka*.<sup>18</sup>

It is well known about the importance of eating fresh and raw fruits and vegetables. But as with everything else, too much of raw fruits and vegetables is also bad. Raw food takes a lot of time to break down inside the body, and it is quite a task for the system to digest it. So people who have a weak metabolism should not consume too many

raw foods, and certainly should not binge on them right before bedtime.

When antagonistic food or contraindicated food from the point of view of modern science is considered, it is observed that the food-drug interactions might prove dangerous.

The foods consumed can interfere with the medications being taken. Patients may not recognize that otherwise healthy foods can have severe consequences when mixed with certain drugs. Examples of certain food-drug interactions are shown in Table 5<sup>19</sup> below:

**Table 5: Examples of Certain Food-Drug Interactions**

S.No:	Food-Drug	Explanation
1.	<b>Calcium-Rich Foods + Antibiotics</b>	Dairy products such as milk, yogurt, and cheese can interfere with certain medications, including antibiotics such as tetracycline, doxycycline, and ciprofloxacin. These antibiotics may bind to the calcium in milk, forming an insoluble substance in the stomach and upper small intestine that the body is unable to absorb.
2.	<b>Pickled, Cured, and Fermented Foods + MAIOs</b>	This food category contains tyramine, which has been associated with a dangerous increase in blood pressure among patients taking monoamine oxidase inhibitors (MAIOs) and certain medications for Parkinson's disease.
3.	<b>Vitamin K-Rich Foods + Warfarin</b>	Vitamin K is vital for the production of clotting factors that help prevent bleeding, but anticoagulants like warfarin exert



		their effect by inhibiting vitamin K. Therefore, an increased intake of the nutrient can antagonize the anticoagulant effect and prevent the drug from working.
4.	<b>Grapefruit and Grapefruit Juice + Statins</b>	Compounds in grapefruit called furanocoumarin chemicals cause an increase in medication potency by interacting with enzymes in the small intestine and liver. This interaction partially inactivates a number of medications under normal circumstances.

### Foods That Are Indicated

Individuals should take regularly *Sastika*, *Sali*, *Mudga*, Rock Salt, *Amalaka*, rain water, ghee, meat of animals living in dry climates and honey.<sup>20</sup>

An individual should take such items that are conducive to maintaining health and prevents the onset of diseases.<sup>21</sup>

### Personal Hygiene and Others:

#### Collyrium

Hereafter, the utility of application of Collyrium to the eyes as a daily routine and other important measures will be enumerated.<sup>22</sup>

#### Time of Application of Collyrium

An individual should regularly apply daily *Souvira Anjana* (Collyrium) to the eyes and *Rasanjana* should be applied once every five,

or eight days for stimulating secretion from the eyes.

Vision is predominant of *Tejas Mahabhuta*, thus making it susceptible to *Kapha Dosha*. Thus, these measures are vital in alleviating *Kapha Dosha* and is good for maintaining a clear vision. Strong Collyrium should never be applied to the eyes during the day time, as the vision is already weakened due to secretions, the rays of sunlight will have a detrimental effect on the sight. Thus, the rule of thumb is generally to apply the Collyrium at night time.<sup>23</sup> Just as different types of metals like Gold etc., become clean and shiny after cleansing with oil, cloth, brush etc., so too, the vision of an individual is enhanced by using Collyrium, like the bright moon seen in a clear sky.<sup>24</sup>

Once applied, Collyrium acts as a foreign body to the ocular surface. This induces a reflex secretion in response to foreign particles in contact with the cornea and conjunctiva. Due to this, a considerable amount of drug washes out from the eye by weeping and a major portion may be drained out through the nasolacrimal duct.

Apart from this, the drug may be eliminated from the ocular surface by evaporation or metabolization by tear enzymes and get in contact with tear proteins. Finally, whatever remains in the cul-de-sac is a very less amount of Collyrium for the ocular absorption; meanwhile the portion that drains through the nasolacrimal duct may be absorbed into the systemic circulation by nasal-laryngeal and oral mucosa.

On the other hand, *Gutika* and *Churna Anjana* have micro particles which may be deposited in the cul-de-sac and thereby increase the bioavailability to enhance ocular absorption. The ocular absorption of *Anjana* may begin through the conjunctiva and cornea. Mainly lipophilic active ingredients may absorb through the cornea by transcellular pathway and hydrophilics from the conjunctiva by paracellular pathway. This ocular absorption may depend on the passive

diffusion, carrier mediated transport and endocytosis.

Also, pH, viscosity, tonicity and most importantly molecular size and molecular weight of the active ingredients play a major role of the same. Once it crosses the conjunctiva (mainly hydrophilic); the sclera is more permeable and it allows drugs to penetrate the other interior structures of the eye i.e. ciliary body, iris, aqueous humor, lens, vitreous etc. But due to high vascularization of conjunctiva, ciliary body and iris, a considerable amount of the drug may enter to the systemic circulation again. The drugs pass through the corneal epithelium (mainly lipophilic), directly goes to the aqueous humor and distribute to the other ocular tissues. However, some of the drugs coming to the aqueous humor either via cornea or conjunctiva undergo metabolization by the enzymes present in the aqueous humor.<sup>25</sup>

#### **Preparation of *Dhoompana*:**

*Harenuka, Priyangu, Prthvika, Kesara, Nakha, Hribera, Candana, Patra, Twak, Ela, Usira, Padmaka, Dhyamaka, Madhuka, Mamsi, Guggulu, Aguru, Sarkara, Bark of Nyagrodha, Udumbara, Aswattha, Plaksha and Lodhra, Vanya, Sarjarasa, Musta,*

*Saileya, Kamala, Utpala, Srivestaka, Sallaki, and Sthauneyaka*: all of these should be grounded together to make a paste, applied to a reed, then made into a cigar shaped like a Barley grain, with the thickness of ones thumb and length of eight fingers. After it is properly dried, the reed should be removed. The individual should then apply some *Sneha* onto it, put it into a smoking pipe and smoked as a daily routine, this is altogether harmless.<sup>26</sup>

The individual should use cigars smeared with *Sneha* and made of useful drugs of sweet taste along with fat, ghee and beeswax according to the prescribed method.<sup>27</sup> For evacuation of Doshas from the head region, smoking cigars made from the following drugs: *Sweta, Jyotismati, Orpiment, Realgar* and other aromatic drugs like *Aguru, Patra* etc.<sup>28</sup>

#### **Advantages of Dhoomapana (Medicated Smoking)**

*Dhoomapana* alleviates the following disorders: heaviness and pain in the head, chronic rhinitis, hemicranias, earache, pain in the eyes, cough, hiccups, dyspnea, spasms in the throat, weakness in the teeth, discharges from the ear, nose and eyes, toothache, anorexia, lock jaw, torticollis, pruritis,

worms, paleness of the face, excessive salivation, hoarseness of the voice, tonsillitis, enlarged uvula, alopecia, grey hairs, hair fall, sneezing, excessive drowsiness, loss of consciousness etc. the individual who is habitual to oral smoking does not get affected to the diseases above the collar bone having predominance of *Vata* and *Kapha* however potent they may be.<sup>29</sup>

*Dhoomapana* which does the *Shesha Dosha Nirharana*. The smoke of these drugs reaches the lungs, bronchi and alveoli. The nasal cavity is covered by a thin mucosa which is very highly vascular. Due to the *Tikshna* property of drug, it helps in *Chedana* of *Kapha* situated in lungs, which makes the tenacious sputum liquefied and comes out easily giving comfort to the patient. These drugs act as expectorants and facilitate its removal by coughing, which gives comfort to the patient. Most used drugs in *Dhumapan* e.g. like *Haridra, Guggulu, Goghrit, Devdaru, Agru, Erand* etc. are having anti-inflammatory, anti-allergic, analgesic, bronchodilator and antioxidant activity. This makes *Dhoomapana* a simple, yet effective method for treating nasal pathologies in quick way.<sup>30</sup>

**Schedule for *Dhoomapana*.**

Eight times are prescribed for *Dhoomapana* as a daily routine because in these times, *Vata*, *Pitta* and *Kapha Dosh*a get vitiated. An individual having self-control should have *Dhoomapana* after bath, meals, vomiting, sneezing, brushing the teeth, snuffing medicated materials, application of collyrium and after sleeping. Daily practice of *Dhoomapana* prevents diseases of the head and neck and predominant in *Vata* and *Kapha Dosh*a. *Dhoomapana* should be done three times taking three puffs each time.<sup>31</sup>

During the prescribed times of the day, a wise person should smoke twice as daily routine, once for unctuous and three or four times for eliminative type of *Dhoomapana*.<sup>32</sup>

Clarity of mind, throat and sense organs, lightness of head and pacification of the mentioned *Dosh*as are the cardinal features of properly done *Dhoomapana*.<sup>33</sup>

**Complications of *Dhoomapana***

If *Dhoomapana* is done in excess or in the wrong time, then it causes complications such as deafness, blindness, dumbness, bleeding from different parts of the body and vertigo.<sup>34</sup>

**Management of Complications**

If such cases arise then the intake of ghee, administration of nasal drops, collyrium and saturating diet is to be administered. In case of these complications, the above should be prepared with unctuous drugs in *Vata* associated with *Kapha Dosh*a, with cold drugs in *Raktapitta* and dry drugs in case of *Kapha* and *Pitta*.<sup>35</sup>

Here, the individuals contraindicated for *Dhoomapana* are mentioned. The individuals having done the following should not partake in *Dhoomanpana*, after *Vamana*, *Virechana*, or *Basti*, persons bleeding from different orifices, those afflicted with poison, anxiety, pregnant, fatigued, narcosis, *Ama*, *Pitta*, vigil, fainting, giddiness, thirst, emaciation, injury, after taking wine, milk, fatty substances and honey, food with curd; in conditions where there is roughness of the body, anger, dryness of the palate, defective vision and head injuries, *Sankhaka*, *Rohini*, *Prameha* and alcoholism. The individual who does *Dhoomapana* in these conditions and in an untimely manner due to carelessness, subjects himself to serious aggravation of the diseases.<sup>36</sup>

### Routes for *Dhoomapana*

Individuals who are suitable for *Dhoomapana* should intake the smoke through the nostrils in disorders of the head, nose and eyes, and through the mouth in disorders of the throat. While inhaling the smoke through the nose, it should be exhaled through the mouth. But while taking the smoke through the mouth, it should not be exhaled through the nose, as the smoke traveling in the reverse direction causes damage to the eyes instantly.<sup>37</sup>

With the body erect, eyes facing forward, mind concentrated and having self-control should sit at ease and take *Dhoomapana* three times, thrice during each time, through one nostril while closing the other.<sup>38</sup>

### Size and Shape of *Dhoomapana* Pipe

For the eliminative type of *Dhoomapana*, the length of the pipe should be twenty-four fingers, for eliminative *Dhoomapana*, thirty-two finger length for unctuous *Dhoomapana* and of thirty-six finger length for habitual individuals.<sup>39</sup>

The pipe that is straight, having three knots and nozzle the size of a jujube seed, made of the same material for enema pipe is recommended as the best.<sup>40</sup>

*Dhoomapana* used according to the prescribed dose and time does not affect the sense organs as it is not directly inhaled. The knots cause interruptions and the smoke is attenuated by its passage through the pipe.<sup>41</sup>

### Features of Proper, Insufficient and Excessive *Dhoomapana*

Signs like lightness of the chest, throat head and liquefaction of *Kapha Dosha* are the feature of proper administration of *Dhoomapana*.

impairment of voice, presence of *Kapha Dosha* in the throat.<sup>42</sup>

### Personal Hygiene: *Nasya*

The individual inhale *Anutaila* thrice in a day, every year during the three seasons: rainy season, autumn and the spring, when the sky is free from clouds.<sup>43</sup>

### Advantages of *Nasya*

The individual who practices *Nasya* therapy as prescribed, and on time, his vision, smell and hearing are not affected, his hairs, beard and moustache do not become white or grey, hairs grow abundantly and do not fall off. Diseases like torticollis, headache, facial paralysis, lockjaw, rhinitis, hemicranias, and tremors of the head are thereby cured. Veins,



joints, ligaments and tendons of the skull gain greater strength through *Nasya*. The face becomes cheerful and well-developed, and he gains a melodious voice. Freedom from defects and increased strength are bestowed upon all sense organs. He is not attacked by disorders of parts above the clavicle and even though he may be growing old, old age does not affect his head in the form of grey hairs etc.<sup>44</sup>

Drugs used for *Nasya Karma* helps in stimulation of vasodilator nerves which are spread out on the superficial surface of *Urdhwanga*, this increases the blood circulation to the brain. These drugs are considered as bronchodilators and dilates the bronchial tubes that are constricted due to muscular spasm, thus making breathing easy. When the head is kept in lower position, it aids retention of medicine in nasopharynx and helps in providing sufficient time for local drug absorption. This medication is meant for expelling the mucous and other allergic materials from the lungs, bronchi, and trachea.

Commonly it is termed as expectorant, which promotes drainage of mucus from the lungs by thinning the mucus and also lubricates the irritated respiratory tract. When the *Nasya Dravya* is administered through the nasal

cavity, the drug gets absorbed by the passive process across the cell wall directly through the cell membrane as lipid soluble medicine has greater passive absorption. Then later travels may be carried through capillaries and veins which stimulate the Olfactory nerve which is connected with the higher centres of the brain like Limbic system, Basic ganglia and Hypothalamus which in turn stimulates endocrine and nervous system.<sup>45</sup>

#### **Oral Hygiene: Tooth brushing**

An individual should use a tooth-cleaning stick whose top portion is crushed and which is either astringent, pungent or bitter in taste. This should be done in such a way that the gums are not affected. This removes the foul smell and tastelessness. It removes the dirt from the tongue, teeth and mouth causing increased taste for food. This also cleans the teeth instantaneously.<sup>46</sup>

In modern society with all of the refined and processed foods that we are exposed to, most of the processed foods these days have some sugar in them; it becomes vitally important to brush teeth. The sugar in processed foods is acidic, and this starts to erode the dentine of teeth. The amount of sugar is not so critical; it is the frequency of sugar intake that



does the most damage. There are a number of reasons why brushing your teeth is important; neutralising the acid caused by sugar intake is merely one of them.<sup>47</sup>

**Probably the most important reason is the prevention** of gum disease and tooth decay.

Also, **It will help to keep the breath fresh.**

**Other reason**, the bacteria that forms in mouth can be flushed down the throat and into the stomach. In extreme cases this can cause a number of health problems.

It is certain that for a motivated, well-instructed person with the time and skill, mechanical plaque control measures are sufficient to attain complete dental health. The combination of toothbrushing plus interproximal oral hygiene aids the optimal method of controlling plaque accumulation, whilst gingivitis can be prevented by daily toothbrushing. Indeed, by extending the period between brushing in experimental gingivitis studies it has been shown that the symptoms of gingival inflammation persist in those who brush every 2–3 days, whereas gingival inflammation resolved within a week in those who brushed every other day.<sup>48</sup>

### Plants Used for Tooth brushing

*Karanja, Karavira, Arka, Jati, Arjuna, Asana*, and similar plants are recommended for tooth brushing, due to their properties.<sup>49</sup>

### Oral Hygiene: Tongue Scraping

Tongue-scraping should be made of gold, silver, copper, tin, brass and should not be sharp and curved.<sup>50</sup>

The dirt which is collected at the root of the tongue and which creates obstruction in respiration produces foul smell, hence tongue scraping should be done.<sup>51</sup>

Tongue scraping is a fast way to remove extra particles including the ones that cause bad breath from the tongue surface. It's done with a small, slightly rounded tool made from plastic or metal. It can **improve sense of taste, improve the appearance of the tongue, remove the bacteria and improve overall dental health.**<sup>52</sup>

Small research studies have produced mixed results on whether cleaning or scraping the tongue can help offer these benefits. However, as tongue scraping has few side effects, a person can try this approach to see whether it works for them.

### Oral Hygiene: Chewing

The individual desiring clarity, taste and fragrant mouth should keep in the mouth and chew the fruits of *Jati, Katuka, Puga* and

*Lavanga, Kakkola*, leaves of *Betel*, exudate of camphor and fruits of smaller Cardamom.<sup>53</sup>

In normal mode and under normal conditions, breath is odor-free and mouth should not have odor. Bad odor, is unpleasant odor that expiration going out from the nose or mouth. Halitosis or bad odor is a common and distressing symptom for patients and their families and its effects on social, job and family relationships is difficult. Decay of proteins, mucin and peptides by microorganisms of surface of the tongue and dental plaque as well as anaerobic gram-negative bacteria can create volatile sulfur compounds that are responsible for bad odor. According to the documents for Iran ethnobotanical 13 important medicinal plants are used to eliminate bad odor. Medicinal plants such as frankincense, oregano, clove East fluffy clove, ephedra, parsley, rosemary and others are the most important medicinal plants to eliminate halitosis. Probably these medicinal plants have the essence and aromatic oils and are effective medicinal materials to eliminate halitosis.<sup>54</sup> Other kinds of mouth fresheners that are available nowadays are various kinds like mouth spray, chewing gums.

### Oral Hygiene: Gargles

Use of *Tila Taila* gargles provides strength in jaws and voice, development of face, maximum taste and relish for food. The individual regularly practicing this does not suffer from dryness of throat, there is no fear of lip-cracking, teeth are not affected with dental caries but instead become firmly rooted. The teeth are not painful nor they are over-sensitive by sour items, they become strong and are able to chew even the hardest food items.<sup>55</sup>

There several oral gargles have been developed, and oral gargling has been introduced as a subsidiary mechanical method of removing dental plaque that can remove dental plaque more simply than tooth brushing. Besides, research has been conducted to study the effect of dental plaque control development, using only oral gargling or tooth brushing + oral gargling.<sup>56</sup> Many preceding theses demonstrated that it is effective to use oral gargle in addition to tooth brushing.<sup>57</sup> Among the microbes that reside in the oral cavity, *Streptococcus mutans*, *Lactobacillus casei*, etc. are the major causative bacteria. Oral bacteria should be attached to the tooth surface and develop dental plaque to cause dental caries. Especially, *Streptococcus mutans* attach to

the tooth surface and synthesize glucan, a viscid non-aqueous polysaccharide from the sucrose found in food, using the glucosyltransferase that they themselves produce. The synthesized glucan increases the combination of bacteria that proliferate on the tooth surface and causes dental caries. The results of mentioned study showed a clear decrease in the number of oral bacteria that cause dental caries when both tooth brushing and oral gargling were done. This means that when both tooth brushing and oral gargling were done, the dental plaque was effectively removed, and there was a dental caries prevention effect.<sup>58</sup>

### **Oiling of Head**

The individual who smears his head with oil daily does not suffer from headache, alopecia, greying of hairs, nor do they have hair fall. By applying oil on the head regularly, strength of his head and forehead is specially enhanced and his hairs become black, long and deep rooted; his sense organs work at its best; the skin of this face becomes lustrous and it produces sound sleep and happiness.<sup>59</sup>

Once the hair is clean, application of hair oil also becomes necessary for rejuvenation of hair. Oils penetrate into the

surface of the scalp with nutrients. Any oil soluble active substance then dissolves in fatty covering on the scalp skin, when gently massaged. This also helps in increasing the blood circulation. These nutrients along with various vitamins are then transported into the deeper layers and blood capillaries, from where they are then, transported to the cells involved in the syntheses of keratin and thus increase the hair growth.<sup>60</sup> Thus, combing, washing and application of hair oil contribute toward maintaining hair hygiene and hence awareness toward self-care.

### **Oiling of Ears**

By pouring oil into the ears daily, ear diseases due to *Vata Dosha*, torticollis, lockjaw hardness of hearing and deafness are prevented.<sup>61</sup>

There aren't many large, high-quality studies about the effectiveness of olive oil for removing ear wax. A study<sup>62</sup> followed participants who applied olive oil to their ears every night for 24 weeks. Over time, olive oil actually increased the amount of ear wax. However, applying olive oil to the ear just before having a doctor remove extra ear wax did seem to help ensure that all the wax was removed. Some people also use olive oil to treat ear pain caused by an infection. Olive oil

does have some antibacterial properties, but it's unclear whether it kills the types of bacteria that cause ear infections.

### Oil Massage

As a pitcher, dry skin and an axle of a cart becomes strong and resistant by the application of oil, so too by massaging the body daily with oil, it becomes strong and smooth-skinned, becomes resistant to diseases due to *Vata Dosha* and is resistant to exhaustion and exertion.<sup>63</sup> *Vata Dosha* is predominant on the tactile sense organ which is located in the skin, oil massage is the most beneficial here and should be done regularly.<sup>64</sup>

### Advantages of Regular Massage

The individual who practices oil massage daily, the body even if subjected to injuries or strenuous work is not injured too much, his physique is smooth, strong and charming. By performing the oil massage daily, the onset of aging is delayed.<sup>65</sup>

By performing oil massage to the feet, coarseness, stiffness, roughness, fatigue and numbness of feet are alleviated quickly. Furthermore, delicacy, strength and firmness of the feet, clarity of vision are attained and *Vata Dosha* is pacified. By oil massage on the

feet, there is no occurrence of sciatica, cracking of the soles or constriction of blood vessels and ligaments.<sup>66</sup>

Regular oil massage eliminates bad smell, cures heaviness, drowsiness, itching and removes undesirable dirt and unpleasantness due to sweating.<sup>67</sup>

Oil massage loosens the contracted, shortened and hardened muscles and other soft tissues in the body. It may also stimulate flaccid muscles. It improves blood circulation, as the oxygen capacity of the blood can increase 10-15% by the *Abhyanga* (massage) procedure. With the help of indirectly or directly stimulating nerves that supply internal organs, blood vessels of these organs dilate to allow an increased blood supply to them. It also provides a gentle stretching action to both the muscles and connective tissues which support the body and it aids in keeping these tissues elastic.

Lymph is a milky white fluid that helps in draining the impurities and waste materials away from the tissue cells. A component of these wastes is toxins which are the by-products of metabolism. That's why it is vital to our health and well-being. Muscular contraction during *Abhyanga* helps to move the lymph to where it needs to be.

It also balances the nervous system by stimulating it, depending on which effect is needed by the individual at the time of performing *Abhyanga*. Enhanced skin quality is also achieved, by improving the function of sebaceous and sweat glands which keeps the skin lubricated and clean. *Abhyanga* with suitable oils may also promote recovery from fatigue and aches and pains.<sup>68</sup>

### Effects of Bathing

Bathing is purifying, aphrodisiac, life-promoting, removes fatigue, sweat and dirt, resuscitative and a good promoter of *Ojas*.<sup>69</sup>

During bathing, several actions unique to bathing will be exerted on the body, including hyperthermic action, hydrostatic pressure, buoyancy, and viscosity of water.

The most important of these is hyperthermic action, which warms the blood in superficial vessels, thereby increasing the deep body temperature through circulation. With an increase in body temperature, heat-sensitive neurons are excited while cold-sensitive neurons are inhibited in the thermoregulatory center of the hypothalamus, causing inhibition of the sympathetic nerves and stimulation of the parasympathetic nerves, leading to vasodilatation and induced perspiration to decrease the body

temperature. Heart rate will rise by 40% to 50%, and peripheral pO<sub>2</sub> will increase while pCO<sub>2</sub> will decrease, thereby stimulating metabolism and inducing elimination of metabolic waste materials, which in turn refreshes the body. In terms of hydrostatic pressure, it induces venous flow, thereby increasing cardiac output and improving metabolism. Also, a habit of immersion bathing in hot water was shown to be associated with strengthened immune function.

The study showed better self-assessment results for fatigue, subjective health, skin condition, and smile as well as a better SF-8 Physical Component Summary score during the intervention with daily immersion bathing, suggesting systemic improvement of metabolism by taking an immersion bath. Furthermore, hyperthermic action is expected to systemically relax the muscles, soften collagen in ligaments and articular capsules, and improve musculoskeletal function. The pain-relieving effect of bathing may explain the reduction in self-rated pain reported by subjects in the present study. Lastly, the downward force of gravity is reduced by buoyancy during bathing, which may in turn lead to the improvements seen in the POMS constructs



of tension-anxiety, depression-dejection, and anger-hostility, suggesting positive effects of stress relief, refreshment, and relaxation from immersion bathing.<sup>70</sup>

### **Role of Clean Dress in Life**

Wearing of clean clothes adds to the bodily charm, reputation, longevity and prevents inauspiciousness. It promotes, pleasure, grace, competence to participate in conferences and looks pleasing to the eye.<sup>71</sup>

According to Hygiene for Health, dirty clothes can harbour microorganisms, and wearing clothes with these microorganisms on them can lead to skin infections. Body odor can also occur wearing clothes with the bacteria and fungi found on them.

The National Health Service states that everyone has bacteria inside and outside the body. Clothes capture the bacteria, making them risky to wear again without washing. Dirty underwear has more traces of germs from body fluids and traces of defecation, which makes infection more likely if worn again without washing. The only way to prevent the spread of germs found on clothes from normal wear is to wash them.<sup>72</sup> Wearing clean clothes and why is it important? It maintains good hygiene, good smell,

respectable look, it boosts self-confidence and makes people comfortable.

### **Use of Fragrances**

Use of pleasant fragrances, scents and garlands is aphrodisiac, produces good smell in the body, enhances longevity and charm, it also gives nourishment and strength to the body; it is pleasing to the mind and prevents inauspiciousness.<sup>73</sup>

In the field of psychology of fragrance, it is helpful to distinguish a number of categories for study: perfumes (e.g. fine fragrances, colognes); cosmetic and toiletry products that contain perfume (e.g. fragranced skin-care, hair-care and hand-care products); environmental fragrances (e.g. pot-pourri, room fresheners, etc.) and finally aromatherapy products (essential oils).

The psychology of fragrance encompasses the following behavioural effects of a product on the user: in respect of others' perceptions like of the appearance, personality, projected image; self-perception like self-image, moods, self-esteem, confidence and attitudes; interpersonal attraction like liking, sexual attraction.<sup>74</sup>



### Use of Ornaments

Wearing gems and ornaments adds to the prosperity, auspiciousness, longevity, grace, prevents dangers from snakes, evil spirits etc. It is also pleasant and charming and conducive to the promotion of *Ojas*.<sup>75</sup>

Also wearing gold ornaments in the upper part of the body and the silver ornaments in the lower part of the body. According to the scientific principles, silver reacts well with the earth's energy, while gold reacts well with the body's energy and aura. Therefore, silver is worn as anklets or toe rings while gold is used for the other upper parts of the body.

### Cleaning of feet and excretory orifices:

If an individual regularly cleans the feet and excretory orifices, it promotes the intelligence, brings about purity, cleanliness and longevity; it also eliminates any inauspiciousness and the bad effect of *Kaliyug* (The age of vices).<sup>76</sup>

### Care of Hair and Nails

The dressing and cutting of hair, beard, moustache and nails etc. adds to the aphrodisiac, longevity, cleanliness and beauty of the individual.<sup>77</sup>

Cutting nails reduces the risk of bacterial and fungal infection, reduces the risks of food poisoning, prevents inward nail growth, prevents injury and not cutting nails signifies poor hygiene.

### Use of Footwear

Use of footwear is beneficial for eyesight and tactile sensations, and prevents the feet from harm and any reptiles. It gives strength and facilitates the display of physical force and libidinal stimulant.<sup>78</sup>

Shoes not only help our feet to heal but can also aid in support and stability of the feet. Not all feet are perfect, so properly fitting shoes can help align your feet, ankles, knees, hips and back to correct your gait and improve posture.

Without supportive shoes, the biomechanics of the body are off causing unnecessary impact and stress on parts of your feet and knees that aren't meant for shock absorption or pressure. This can eventually lead to back, knee and foot pain.

***Acharya Charak* has also enumerated these Points which Enhances the Individuals Quality of Life:**

**Use of Umbrella**-Using an umbrella averts natural calamities, provides strength, protection, covering and well-being and guards against the sun, wind, dust and rains.<sup>79</sup>

**Use of Walking Stick**-Using walking stick helps prevent slipping and averts the enemy, gives strength and longevity and averts fear.<sup>80</sup>

**Simile of Personal Vigilance**-The wise individual should be vigilant about his duties to his own body like an officer in charge of a city and a charioteer towards the city and the chariot respectively.<sup>81</sup>

**Selection of Job**- Thus it is mentioned: An individual should adopt the means of livelihood which does not clash with the virtuous path of life. He should follow the path of peace and engage himself in studies. This is how one can attain happiness.<sup>82</sup>

## DISCUSSION

*Ayurveda*, the science of life has two basic principles “to maintain the health of a healthy person and to cure the disease of a diseased person. *Acharya Charak* laid down some rules and regulations regarding how to start your daily routines and what you have to do in your day to day life so that first principal is achieved. The *Matrasitiya Adhyaya* of *Charak Samhita* is devoted for the

maintenance of health. This chapter explain each and every details of daily routine so minutely and so wisely that by following this routine one can maintain his health and live disease free and *Dhirgayu* life. Starting from food that we eat *Acharya Charak* explained it so widely that how quality and quantity of food effects in our body like the quantity of food to be ingested depends on the power of digestion (*Agnibala*). The quantity of food that is taken, digested and metabolized in the proper time, without disturbing the equilibrium of *Doshas* and *Dhatus* can be considered as the proper quantity of food. The properties of the food items itself has no importance, as the intake of heavy items is advised as three-quarters or half of the stomach capacity should be taken, even so in the case of light items, for maintaining the proper functioning of the *Agni*. A lot is said about breakfast being the most important and the heaviest meal of the day. But, lunch should be the biggest meal of the day. This is because lunch coincides with the period when the *Pitta* is strongest in the body, which means that the *Agni* will be the strongest at that time. It will be able to digest a larger quantity of food as compared to breakfast or dinner. Dinner or supper should be the lightest meal of the day as the body gets closer to the rest mode with the digestive

power becoming weaker. Respecting this will mean that one would get better sleep as well. It will also become easier to empty the bowels in the morning. Not only this but the food that are contradicted are also mentioned by *Acharya Charak* in this chapter like *Vallura* (dried meat), dry vegetables, lotus tubers and stem. The meat of any diseased animal should never be eaten. Similarly, an individual should not take the following items regularly, *Kurcika* (Boiled buttermilk), *Kilata* (Milk products), pork, beef, buffalo meat, fish, curd, *Masa* and *Yavaka*. After explaining importance of food *Charak* give importance to the Personal Hygiene and others daily routine. For this he advised use of *Anjana* (Collyrium) and the utility of application of Collyrium to the eyes as a daily routine. An individual should regularly apply daily *Souvira Anjana* (Collyrium) to the eyes and *Rasanjana* should be applied once every five, or eight days for stimulating secretion from the eyes. The use of *Anjana* keep our vision intact and maintain the pH, viscosity, tonicity of our eyes. Then comes to *Dhoomapana*, how it is prepared, what drugs we used to prepare it, through which route we have to take it, what is the size of *shalaka*, what are the advantages of *dhoomapana* and also if some complication arise due to *dhoomapana* its management is also

explained. After that person has to take *Nasya*. The individual inhale *Anutaila* thrice in a day, every year during the three seasons: rainy season, autumn and the spring, when the sky is free from clouds. Explaining the advantages of *Nasya* *Acharya Charak* said that if the individual practices *Nasya* therapy as prescribed, and on time, his vision, smell and hearing are not affected, his hairs, beard and moustache do not become white or grey, hairs grow abundantly and do not fall off. Diseases like torticollis, headache, facial paralysis, lockjaw, rhinitis, hemicranias, and tremors of the head are thereby cured. Veins, joints, ligaments and tendons of the skull gain greater strength through *Nasya*. The face becomes cheerful and well-developed, and he gains a melodious voice. Freedom from defects and increased strength are bestowed upon all sense organs. Giving due importance to Oral hygiene *Acharya Charak* explained that an individual should use a tooth-cleaning stick whose top portion is crushed and which is either astringent, pungent or bitter in taste. This should be done in such a way that the gums are not affected. This removes the foul smell and tastelessness. It removes the dirt from the tongue, teeth and mouth causing increased taste for food. In addition to this tooth scrapping material, the effect of gargles, and the chewing material is advised

for the maintenance of oral hygiene. After that method and advantages of each and every daily routine is explained like oiling of head and ears, body massage its advantages, effect of bathing and its technique, use of clean dress, ornaments, body fragrances, how to clean your external orifices etc etc are explained. *Acharya Charak* in this chapter explain each and every detail of daily routine so minutely and so deep that by the application of *Matrasitiya Adhyaya* of *Charak Samhita* the goal of maintenance of good health is achieved.

## CONCLUSION

The *Charak Samhita* is famous as one of the remarkable accomplishments on ancient

Indian Science. All these credits goes to *Punarvasu Atreya*, *Agnivesha*, *Acharya Charak* and *Kashmiri Pandita Dridhabala* who are the preceptor, composer, redactor and amender respectively. Through his genius and intuition, *Acharya Charak* made landmark contributions to Ayurveda. In the *Charak Samhita Matrasitiya Adhyaya*, it can be seen in this article that daily activities have been outlined for individuals to follow in order to maintain a healthy lifestyle. As long as individuals follow these guidelines mentioned here, diseases are kept at bay, and it assists in keeping him healthy. Therefore, the *Charak Samhita* is considered as a complete encyclopedia of the *Ayurvedic* science.

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