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# Role of *Pathya-Apathya* in the management of *Prameha* (Type-2 Diabetes Mellitus)

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## ABSTRACT

Diabetes mellitus is one among the metabolic disease caused by environmental factors such as obesity, unsatisfactory diet, sedentary lifestyle, increasing urbanisation and economic development as well as genetic factors, which is characterized by hyperglycemia, insulin resistance or relative insulin deficiency. According to WHO about 422 million people worldwide have diabetes and In India, there are estimated 77 million people above the age of 18 years are suffering from diabetes (type 2). In *Ayurveda* it can be correlated to *Prameha* by its clinical manifestation, which is caused due to *Kapha Vardhaka Ahara* and *Vihara* leading to vitiation of *Meda*, *Mamsa* and *Kleda* further leading to manifestation of *Prameha*. **Materials and Methods:** In this article with the support of both Ayurvedic and modern literature the information about the role of *Pathya Sevana* and avoiding *Apathya Ahara Vihara* in *Prameha* is dealt. **Result:** *Prameha* occurs by derangement of *Kapha Pradhana Tridosha* and *Dasha Dushya* where as in *Sthula Pramehi* the dominance of *Kapha Meda Kleda Dushti* has occurred so there needs application of *Chikitsasutra* mentioned by *Acharya Sushruta* says - स्थूलम अपतर्पनयुक्ताभिः | *Apatarpana Chikitsa* along with *Pathya Sevana* and avoiding *Apathya Ahara* and *Vihara*. **Discussion:** The majority of the *Pathya* in *Prameha* possesses *Kapha Medohara*, *Tikta Kashaya Katu Rasa*, *Laghu Ruksha Guna*, *Ushna Veerya* and *Katu Vipaka* properties which restores normal physiology of *Prameha*.

**Key words:** *Prameha*, *Pathya*, *Apathya*, *Diabetes mellitus*.

## INTRODUCTION

Sedentary behaviour (Physical inactivity), along with improper diet and nutrition are increasingly becoming part of today's lifestyle leading to the rapid rise of diseases such as diabetes, cardiovascular diseases or obesity. According to WHO Approximately 2 million deaths per year are attributed to physical inactivity. It reduces lipoprotein lipase activity, muscle glucose, protein transporter activities, impair lipid metabolism and diminish carbohydrate metabolism.<sup>[1]</sup>

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A majority of factors that are implicated in metabolic diseases are largely influenced by psychological stress including dysregulated glucose metabolism, neuroendocrine function accompanied with low-grade inflammation, and elevated blood pressure. Insulin resistance and subsequent appearance of type 2 diabetes mellitus are closely linked with high intake of sugars, fried food and red meat. On the contrary, reduced risk of type 2 diabetes mellitus development is observed in case of intake of vegetables having high content of antioxidants, fiber and other nutrient.<sup>[2]</sup>

Ayurveda is a science that has given importance to *Pathya* (diet and regimen) as a part of *Chikitsa*. *Pathya* is that entity which does not cause harm to the body and which is *Hitakara* to the *Manas*.<sup>[3]</sup> *Acharya Charaka* mentions the importance of *Pathya* as it does the *Mruduta* and *Alpata* of both *Kathinya Dasha* (accumulation of *Chaya Rupa Doshas*) and *Una Dasha* (vitiation of *Dosha* without attaining the stage of accumulation) resulting in inhibition of progression of disease.<sup>[4]</sup> *Acharya Kashyapa* described *Pathya Ahara* as "*Mahabheshaja*".<sup>[5]</sup> And *Yogaratanakara* states that

physician should give due consideration to *Nidana* (aetiology of the disease), *Aushadhi* (medicine), and *Pathya* while treating the patients, as these three destroys the disease, just like stoppage of water results in damage of *Ankura* (crop), and one should not indulge in *Apathya Ahara*, *Vihara* as these will worsen the prognosis of disease, like *Virudha (Lata)* grows up by the water derived from clouds.<sup>[6]</sup>

*Acharya Charaka* quotes, one should take food in such a way that among three parts of the stomach, one part should be filled with solid food, one part filled with liquid and the last part should be left empty. Also *Guru Ahara* should be taken three fourth or half of the stomach capacity, whereas *Laghu Ahara* should not be consumed in excessive quantity.<sup>[7]</sup>

Diabetes mellitus is one among the metabolic disease, caused by environmental factors such as obesity, unsatisfactory diet, sedentary lifestyle, increasing urbanisation and economic development as well as genetic factors, which is characterized by hyperglycemia, insulin resistance or relative insulin deficiency, further leading to serious damage to the heart, blood vessels, eyes, kidneys and nerves over time.<sup>[8]</sup> The most common is type 2 diabetes, usually in adults which occurs when the body becomes resistant to insulin or doesn't produce enough insulin.

In the past 3 decades the prevalence of type 2 diabetes has risen dramatically in countries of all income levels. According to WHO about 422 million people worldwide have diabetes, the majority living in low-and middle-income countries and 1.5 million deaths are directly attributed to diabetes each year. In India, there are estimated 77 million people above the age of 18 years who are suffering from diabetes (type 2) and nearly 25 million people are prediabetics. More than 50% of people are unaware of their diabetic status which leads to health complications if not detected and treated early. India is one of the five countries which have highest sufferers of diabetes mellitus. Therefore, India is declared as "Diabetes Capital".<sup>[9]</sup>

In *Ayurveda* it can be correlated to *Prameha* by its clinical manifestations, *Prameha* is considered as one among the *Medavaha Srotodushti Vikara*, the word meaning of *Prameha* is "to flow" which is derived from

the Sanskrit root "*Mih-Sechane*" The Sanskrit term *Meha* literally means to micturate. It (*Prameha*) is qualified by prefix "*Pra*" meaning excess both in quantity and frequency.<sup>[10]</sup> *Prameha* is characterized by copious flow of cloudy or turbid urine, although the turbidity varies depending upon involvement of different proportion of *Doshas* and *Dushyas*.<sup>[11]</sup> On the basis of aetiology, *Acharya Sushruta* has classified *Prameha* as *Sahaja* and *Apathyanimitaja*.

- a) **Sahaja:** *Sahaja Prameha* occurs as a result of *Beeja Dosh* (genetic origin) and are *Krusha Pramehi*.
- b) **Apathyanimitaja:** It occurs due to unwholesome *Ahara & Vihara* (Faulty diet & life style errors) and are *Sthula Pramehi*.<sup>[12]</sup>

*Prameha Nidana* mentioned in *Samhita* can be categorized into *Aharaja*, *Viharaja* and *Manasika Nidana*.

#### **Aharaja Nidana**

*Atidadhisevana* (excessive consumption of curd), *Gramya*, *Audaka* and *Anupa Mamsa Atisevana* (excessive intake of meat of domestic, aquatic and marshy animals), *Paya Sevana* (excessive consumption of milk), *Navanna Sevana* (freshly harvested food articles), *Navapana Sevana* (freshly harvested food in the form of drinks), *Guda Vikara Atisevana* (preparations of Jaggery), *Ikshu Vikara Sevana* (sugarcane and its products), *Snigdha Dravya Sevana* (unctuous food), *Medavardhaka Dravya* (excessive intake of fat and fatty preparations), *Dravannapana* (consumption of liquids).<sup>[13]</sup>

High Sugar and Refined Carbohydrates: Diets high in sugars and refined carbs can lead to spikes in blood glucose and insulin levels, promoting a cycle of insulin resistance. High Fat Intake: Diets rich in saturated fats can disrupt insulin signalling pathways. Excessive fat can lead to lipid accumulation in muscle and liver, which negatively affects insulin sensitivity. Overeating, regardless of macronutrient composition, can lead to weight gain and increased fat deposition, particularly in the abdomen, exacerbating insulin resistance.<sup>[14]</sup>

#### **Viharaja Nidana**

*Asya-Sukham* (sitting in a comfortable position on chair with back support), *Swapna-Sukham* (Excessive sleep),

*Avyayama* (avoidance of physical Exercise), *Tyakta Chinta* (no tension), *Alasya Prasakta* (lassitude), *Diwaswapna* (Sleep at day time).<sup>[15]</sup>

Sedentary behaviour reduces muscle mass and alters muscle composition, leading to decreased glucose uptake. Muscle tissue is a primary site for glucose disposal; less muscle leads to less ability to utilize glucose effectively. Physical Inactivity also contributes to increased body fat, particularly visceral fat. This type of fat secretes inflammatory cytokines, which can impair insulin signalling.<sup>[16]</sup>

### **Manasika Nidana**

Amongst *Manasika Nidana* mentioned *Shrama-Krodha*, *Shoka-Udvega*<sup>[17]</sup> are given importance as they play a major role in inducing the vitiation of the *Manasika Doshas* as well as *Shareerika Doshas*. These *Manasika Bhavas* vitiate the *Mano Doshas - Rajas* and *Tamas*. *Vridhhi* of *Tamo Guna* leading to loss of control over oneself further indulging in *Avyayama*, *Alasya*, *Ati Matra Sevana* and *Tamasa Prakruti* individuals possess qualities like *Vishaditvam*, *Ajyaanam*, *Akarma Sheelata*, *Nidralutvam* thereby raising the chances of an individual to develop a *Vyadhi*.

Due to *Nidana Sevana*, it leads to *Agnimandya* resulting in *Ama Utpatti* further leading to vitiation of *Kapha Pradhana Tridosha*, these combine with *Meda*, *Mamsa* and *Kleda* (body liquid), enters to *Mutravaha Srotas* and through *Adhomuka* it enters into *Basti Pradesha*, resulting in *Nisarana* of *Naanavarna Mutra* through *Bastimukha* leading to manifestation of *Prameha*.<sup>[18]</sup> When *Purvaroop* (prodromal symptoms) of the disease is left unnoticed, they manifest the *Pratyatma Lakshana* such as *Prabhuta Mootrata*, *Avila Mootrata* (turbid urination) along with *Lakshana* pertaining to specific *Dosha* predominance. *Prameha* occurs by derangement of *Kapha Pradhana Tridosha* and *Dasha Dushya* where as in *Sthula Prameha* the dominance of *Kapha Meda Kleda Dushti* has occurred so there needs application of *Chikitsasutra* mentioned by *Acharya Sushruta* says - स्थूलम अपतर्पनयुक्ताभिः<sup>[19]</sup> *Apatarpana Chikitsa* along with *Pathya Sevana* and avoiding *Apathya Ahara* and *Vihara* is the most acceptable *Chikitsa*.

### **Aharaja Pathya**

Patients with *Prameha* are advised to consume foods that are light to digest, such as *Yava* (barley), *Mudga* (green gram), *Tiktha Shaka* (bitter vegetables), *Purana Shali* (old rice), *Shashtika Shali* (*Oryza sativa*), *Truna Dhanya* (*Shyamaka*), *Purana Madhu* (old honey), *Chanaka* (Bengal gram), *Adhaki* (Pigeon pea), *Kulattha* (Horse gram), *Kapitta* (wood apple), *Jambu* (*Syzygium cumini*), *Tinduka* (*Diospyros tomentosa*), In oils *Danti* (*Baliospermum montanum*), *Atasi* (*Linum usitatissimum*) and *Sarshapa* (mustard oil) can be used.<sup>[20]</sup>

### **Viharaja Pathya**

In *Pathya Vihara*, *Prameha* sufferers should get up early in the morning and do physical exercise. *Acharya Charaka* detailed a variety of *Vyayama* (physical activities), *Udwartana* (powder massage), *Snana* (baths), and *Jalaavaseka* (sprinkling of water), *Lepa* with *Twak* (*Cinnamomum zeylanica*), *Ela* (*Elettaria cardamomum*), *Agaru* (*Aquilaria agallocha*), *Chandana* (*Santalum album*) and *Ratri Jagarana*.<sup>[21]</sup> *Acharya Sushruta* advised walking 100 *Yojana* in 100 days barefoot (1 *Yojana* = 7.5km) is the best preventive measure to avoid *Prameha* which means withdrawal of leisure life.<sup>[22]</sup>

### **Aharaja Apathya**

*Prameha* patients should avoid *Gramya Mamsa* (meat of domestic animals), *Audaka Mamsa* (meat of aquatic animals), *Anupa Mamsa* (meat of marshy animals), *Madhura*, *Amla* and *Lavana Dravya Sevana* (sweet, sour and salty food), *Snigdha Dravya Sevana* (oily food consumption), *Guru Ahara Sevana* (heavy food consumption), *Picchila Ahara Sevana*, *Nava Dhanya Sevana* (newly harvested grains), *Ghrita* (ghee), *Taila* (oil), *Dadhi* (milk) and *Pishtanna* (highly carbohydrate rich food).<sup>[23]</sup>

### **Viharaja Apathya**

In *Apathya Vihara* of *Prameha* patients should refrain from lengthy periods of comfortable sitting, long periods of sleep, *Divaswapna* (sleeping during the day).

## DISCUSSION

## Aharaja Pathya

Shuka Dhanya	1. Yava (barley)	Kashaya Rasa, Laghu Ruksha Guna, and it is Kaphagna, Lekhana, Medohara. low in glycemic index 28+/-2.
	2. Shastika Shali (Oryza sativa) (rice which is harvested in 60 days)	Madhura Rasa, Laghu Snigdha Guna, Shita Virya and Tridoshagna.
Shami Dhanya	1. Mudga (Green gram)	Kashaya Madhura Rasa, Laghu Ruksha Guna, Katu Vipaka and it is Kaphahara. With low Glycemic index-38
	2. Kulattha (Dolichos biflorus)	Kashaya Rasa, Laghu Ruksha and Tikshna Guna, Ushna Virya, Katu Vipaka it is Kaphahara and it acts as Medohara, Bhedana and Lekhana. It is hypolipidaemic, hypoglycaemic and hypocholesterolemic.
	3. Adhaki (pigeon pea)	Kashaya Rasa, Laghu Ruksha Guna, Sheeta Virya, Katu Vipaka Kaphahara. With low Glycemic index- 30.99+/- 4.1
	4. Chanaka (Bengal gram)	Kashaya Rasa, Laghu Ruksha Guna, Sheeta Virya, and it is Kaphahara. With low Glycemic index- 8
Mamsa Varga	Gramya Kukkuta Mamsa (Domestic chicken)	Tiktarasa, Laghu Guna, Ushna Virya, Kaphahara. With low Glycemic index
Shaka Varga	1. Patola (Pointed gourd)	Tikta Katu Rasa, Laghu Ruksha Guna, Ushna Virya and Katu Vipaka it is Kaphahara. Glycemic index- 76+/- 24.
	2. Karavellaka (Bitter gourd)	Tikta Katu Rasa, Laghu Ruksha Guna, Anushna

		Sheeta Virya and Katu Vipaka. It is Kaphahara, Pramehagna. A compound called charantin in bitter gourd keeps the sugar levels low, Bitter gourd contains an insulin-like compound called Polypeptide-p or p-insulin which has been shown to control diabetes naturally. With low Glycemic index- 18.
	3. Shigru (Drum stick)	Katu Rasa, Laghu Ruksha Guna and Ushna Virya, Katu Vipaka, it is Kaphahara, Medohara, Krimihara, Deepana and Pachana. And it acts as antioxidant, diuretic. With low Glycemic index- 49.
	4. Koshataki (Ridge gourd)	Tikta Rasa, Laghu Ruksha Tikshna Guna, Ushna Virya, Katu Vipaka and it is Kaphahara. Acts as hypoglycemic, With low Glycemic index
	5. Kakamachi (Solanum nigrum)	Katu Tikta Rasa, Anushna Shita Virya and Tridoshagna.
Phala Varga	1. Jambu (Gauva)	Kashaya Madhura Amla Rasa, Laghu Ruksha Guna, Katu Vipaka, Sheeta Virya it acts as Kaphagna, Lekhana, Medohara. It is Antidiabetic, anti-inflammatory. Glycemic index- 12-24.
	2. Kapitha (wood apple)	Kashaya Rasa and Laghu Guna act as Kaphahara. With low Glycemic index- 38
	3. Amalaki (Indian gooseberry)	Amla Pradhana Lavana Varjita Pancha Rasa and Laghu Ruksha Guna, Sheeta Virya, Madhura Vipaka it is Tridoshahara and acts as Medohara, Pramehagna. With low Glycemic index- 15.

		It acts antioxidant, antiulcerogenic, antihypercholesterolaemic.
	4. <i>Tinduka</i> (Diospyros tomentosa)	<i>Kashaya Rasa, Laghu Ruksha Guna, Sheeta Virya, Katu Vipaka</i> and it is <i>Kaphahara</i> and <i>Pramehagna</i> .
<i>Gorasa Varga</i>	<i>Takra</i> (butter milk)	<i>Kashaya Amla Rasa, Laghu Guna, Kaphahara</i> is <i>Pathya</i> for <i>Prameharogi</i> . It is rich in source of Potassium, calcium, phosphorus, vitamin B12 & riboflavin. With low Glycemic index- 35.
<i>Truna Dhanya</i> (millets)	1. <i>Syamaka</i> (little millet)	<i>Kashaya Rasa, Ruksha Guna, Kinchit Ushna Virya, Katu Vipaka</i> , it is <i>Kaphahara, Kledahara</i> . With low Glycemic index-50
	2. <i>Kodrava</i> (kodo millet)	<i>Tikta Rasa, Laghu Ruksha Guna, Sheeta Virya</i> it acts as <i>Lekhana, Kaphahara</i> , With low Glycemic index-50.
<i>Purana Madhu</i> (Honey which is 12 months old)		<i>Kashaya Anurasa, Laghu Ruksha Guna</i> and it is <i>Kaphahara, Atilekhana, Ropana, Medogana, Pramehahara, Stoulyahara, Yogavahi</i> (catalyst substance).

### Viharaja Pathya

1. <i>Vyayama</i>	It improves ability to do work, lightness of the body, increases digestive capacity, burns excess fat. It prevents and minimizes weight gain, reduction in blood pressure, improvement in insulin sensitivity and glucose control and optimization of lipoprotein profile.
2. <i>Udvarthanam</i> (upward massage with powdered drugs)	<i>Kaphagna</i> and <i>Medohara</i> in action, removes heaviness of body. It opens up the minute channels and improves blood circulation and lymphatic drainage.
3. <i>Snana</i> (bath)	<i>Sramahara</i> (removes fatigue), <i>Swedagna</i> (eliminates sweat), it does <i>Agni Deepana</i>

	(stimulate the digestive capacity), <i>Ojaskara</i> (promotes strength and vitality). According to <i>Yogaratanakara</i> hot water bath destroys the <i>Kapha</i> and <i>Vata</i> .
4. <i>Nisijagarana</i> (awaking at night)	Those who suffering from <i>Kapha, Medha Vikara</i> and <i>Visha</i> awaking at night is beneficial. Sleep is induced due to <i>Kapha</i> and <i>Tamas</i> .

**Regular Physical Activity:** Incorporating aerobic and resistance training can improve insulin sensitivity, promote muscle growth, and enhance glucose uptake,

**Balanced Diet:** Emphasizing whole foods, including fruits, vegetables, whole grains, lean proteins, and healthy fats, can help maintain stable blood sugar levels and reduce inflammation.

### CONCLUSION

The majority of the *Pathya* in *Prameha* possesses *Kapha Medohara, Tikta Kashaya Katu Rasa, Laghu Ruksha Guna, Ushna Veerya* and *Katu Vipaka* properties. As a result, *Ushna Veerya* and *Tikta Kashaya Rasa* contribute to the normalization of *Agnimandya*. In turn, this aids in the development of *Dhatu*s that are proportional to *Samyak* qualities. *Bahudrava Shlesma Soshan* and the reduction of vitiated *Meda- Kleda* are helped by *Laghu Ruksha Guna*. Thus, once these factors get normalised in the body, they in turn make the *Srotas* (path) clear, which stops the depletion of *Dhatu*s and restores normal physiology. *Prameha* disease is thus alleviated.

### REFERENCES

- Park JH, Moon JH, Kim HJ, Kong MH, Oh YH. Sedentary Lifestyle: Overview of Updated Evidence of Potential Health Risks. Korean J Fam Med. 2020 Nov; 41(6):365-373. doi: 10.4082/kjfm.20.0165. Epub 2020 Nov 19. PMID: 33242381; PMCID: PMC7700832.
- Borse SP, Chhipa AS, Sharma V, Singh DP, Nivsarkar M. Management of Type 2 Diabetes: Current Strategies, Unfocussed Aspects, Challenges, and Alternatives. Med Princ Pract. 2021; 30(2):109-121. doi: 10.1159/000511002. Epub 2020 Aug 20. PMID: 32818934; PMCID: PMC8114074.
- Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba surbharati

- prakashanam sutrasthana, 25<sup>th</sup> chapter, verse 45, Page no 359.
4. Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba surbharati prakashanam Chikitsa sthana, 30<sup>th</sup> chapter, verse 329, Page no 796
  5. Bhisagacharya Satyapal, Kashyapa Samhita, Chaukhambha Sanskrit Sansthan, Reprint edition, 2021 khila Sathana chapter 4, verse 6, P-378.
  6. Yogaratnakar, (Vidyotini Hindi Commentary by Vaidya Laxmipati shastri) Brahma Shankar shastri editor; Chaukhamba Prakashan; Varanasi, pathya apthya vidhi, verse 3, Page no 315.
  7. Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba surbharati prakashanam Sutrasthana, 5<sup>th</sup> chapter, verse 7, Page no 76.
  8. Davidson; Davidson's principle and practice of medicine; edited by Nicolas A boon, Nicki R. Colledge, Brian R. Walker; 22 edition; Page no. 722.
  9. Diabetes - India (who.int)
  10. Amarakosha. Ksheeraswami commentary edited by Sharma and sardesi. Poona Oriental Book Agency, Poona. 1941.
  11. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Nidanasthana 6<sup>th</sup> chapter, verse 6, page no 290.
  12. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Chikitsasthana 11<sup>th</sup> chapter, verse 3, page no 451.
  13. Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba surbharati prakashanam Chikitsa sthana, 6<sup>th</sup> chapter, verse 4, Page no 188.
  14. Hotamisligil GS. Inflammatory pathways and insulin action. Int J Obes Relat Metab Disord. 2003; 27 Suppl 3:S53-5.
  15. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Nidana sthana 6<sup>th</sup> chapter, verse 3, page no 289.
  16. Holloszy JO. "Skeletal muscle "mitochondrial deficiency" does not mediate insulin resistance. Am J Clin Nutr. 2009; 89(1):463S-466S.
  17. Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba Surbharati Prakashanam Nidana sthana, 4<sup>th</sup> chapter, verse 25 & 36, Page no 506 & 508.
  18. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Nidanasthana 6<sup>th</sup> chapter, verse 4, page no 289.
  19. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Chikitsasthana 11<sup>th</sup> chapter, verse 4, page no 451.
  20. Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba surbharati prakashanam Chikitsa sthana, 6<sup>th</sup> chapter, verse 19-21, Page no 191-192.
  21. Acharya Charaka, Charaka Samhita (Ayurveda Dipika Commentary of Chakrapani Datta), Yadavji Trikamji, editor, reprint edition. Varanasi; Chaukhamba surbharati prakashanam Chikitsa sthana, 6<sup>th</sup> chapter, verse 50, Page no 197.
  22. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Chikitsa sthana 11<sup>th</sup> chapter, verse 12, page no 453.
  23. Acharya Sushruta, Sushruta Samhita (Nibhanda Sangraha commentary of Dalhanacharya & Nyaya Panjika commentary of Gayadasa, Yadavji Trikamji. editor, 1st edition, Varanasi; Chaukhamba Sanskrit Samsthana 2014, Chikitsa sthana 11<sup>th</sup> chapter, verse 5, page no 451.

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