



# INTERNATIONAL JOURNAL OF PHARMACY AND ANALYTICAL RESEARCH

ISSN:2320-2831

IJP AR |Vol.9 | Issue 2 | Apr - Jun - 2020  
Journal Home page: [www.ijpar.com](http://www.ijpar.com)

Review article

Open Access

## Ayurveda's role in *Arsha*/piles management: A classical review

Dr. Anjali Tamori<sup>\*1</sup>, Dr. Vishal Verma<sup>2</sup>

<sup>1</sup>M.S Ay Final Year Scholar, P.G Department of Shalya Tantra, Rishikul Ayurvedic P.G College Campus, Uttarakhand Ayurved University, Haridwar, India.

<sup>2</sup>Professor, P.G. Department of Shalya Tantra, Rishikul Ayurvedic P.G. College Campus, Uttarakhand Ayurved University, Haridwar, India.

\*Corresponding Author: Dr. Anjali Tamori

### ABSTRACT

*Arsha* (Piles) is a disease that impacts all socioeconomic groups of people. While the condition is beyond treatment boundaries, it has its own problems, such as excessive haemorrhage, swelling, and thrombosis, through which a patient gets serious discomfort and cannot perform his daily work. *Arsha* are engorged condition of veins surrounding the anal canal along with abnormal prolapse of enlarged anal cushion, characterized by dilated, swollen and inflamed pile mass associated with bleeding per rectum and some discharge from anus. Patient having chronic constipation or diarrhoea usually strain during defecation and due to this increased pressure on veins, there is pathological varicosity of the haemorrhoidal veins. Pile are typically arise due to impaired eating habits, altered lifestyles, genes, and pregnancies. It is one of the most frequent ano-rectal illnesses affecting as much as 50 % of the population by 40-50-years old age group. There are many procedures described in medical science for the management of piles, out of them haemorrhoidectomy is mostly preferred by surgeons. But there are possibilities of recurrence after some time of excision. People not only want to learn how to treat Piles/haemorrhoids but also want to know how to easily and naturally cure them. In Ayurveda, management for *Arsha*/Piles has been mentioned on the basis of chronicity and presentation of the disease. There are four modalities of treatment for the management of *Arsha*, out of them *Bheshaj Chikitsa* and *Kshar Karma chikitsa* shows marvellous results. The author focus at Ayurveda's role in the management of piles. The aim of this article is to review the studies carried out on *Arsha* in the department of Shalya Tantra Rishikul Campus, Uttarakhand Ayurved University Haridwar, Uttarakhand.

**Keywords:** *Arsha*, Piles, Pile mass, *Bheshaj Chikitsa*, *Kshar Karma*, *Pathya*, *Apathaya*.

### INTRODUCTION

Ayurveda is the traditional, ancient Indian system of health science which has immense potential to overcome many unsolved and challenging medical problems. *Arsha* is one of the

most common disease that tortures the vital force (*prana*) of the patient as an enemy. Its management remained a challenge for the medical profession. Present era of irregularity in food timing, changing food style, fast foods, sedentary life styles and mental stress, prolonged sitting or standing

positions, all these factors results in derangement of *Jatharagni* due to which vitiation of *Tridosha*, predominantly *Vata Dosha* occur. [1] These vitiated *Doshas* get localized in *Guda Vali* and *Pradhana Dhamani* [2] which further vitiates *Twak*, *Mansa*, and *Meda Dhatus* leads to development of *Arsha*. [3]

Many curative techniques like rubber band ligation, Cryosurgery, Infrared photo coagulation etc are in practice now a days. Unfortunately all these procedures are having their own limitations with the greater rate of complications, recurrence etc, and for these reasons there is a continuous search for newer method.

In *Ayurveda*, *Acharya Sushruta* has explained the disease under the heading of *Maharogas* [4] because it is *Dirghakalanubandhi*, *Duschikitsya* in nature and involves the *GudaMarma*. The gravity of this disease can be understood from a quote in *Manu Smriti* that people having this disease should not go for marriage. In *Ayurvedic* texts, several treatment methods like *Bhaisajakarma*, *Shastrakarma*, *Ksharakarma*, *Agnikarma* and *Raktamokshana* etc. are advised for *Arsha*.

## Definition

The word pile is derived from the latin word 'pila' which means a 'ball'. Thus a growth in the anus which is similar to ball likes shape is designated as piles. [5]

## Embryology of Guda

*Acharya Sushruta* has explained, *Guda* is *Sara* of *Rakta* and *Kapha* digested by *pitta* along with the active participation of *Vayu*. [6] *Guda is the Matrija* *Avyava* by *Acharya Sushruta* and *Acharya Vagbhatta* [7].

## Concept of Guda

The length of *Guda* is *four* and half *Angula* only and it is divided into two parts i.e. *Uttara Guda* and *Adhara Guda*. *Uttara Guda* stores *Mala*, and *Adhara Guda* is lower part helps in the evacuation of faeces [8]. There are total three *Valis* called *Pravahini*, *Visarjani* and *Samvarani* placed on one above the other at one and half finger distance from each other. At one and half finger distance from proximal end to distal end these *Valis* are located on one above the other like internal structure of the *Shankhavarta* [9] respectively. *Gudaustha* is located at half *yava* distance from the hair line i.e.

*Romapranta* and the last *Vali Samvarani* is located at one finger away from the *Gudaustha* [10]. Colour of *Guda* is like palate of the elephant [11].

*Guda* is considered as *Sadyah Pranahara Marma* [12] due to dominant nature of *Agni Guna* that means any damage to it can causes death. *Guda* is considered as *Pranayatana* [13] as its action is very important for normal functioning of the body.

## Anatomy of Anal Canal

The anal canal measures 3.8 cm in length [14]. It is the terminal portion of the large intestine. It begins at the anorectal junction and terminates at the anal verge.

It consist of three parts: [15]

- Upper part (mucous): 15mm; anal columns of Morgagni, anal valves, anal crypts, anal glands, pectinate/dentate line.
- Middle part (Transitional zone): 15mm- Transition pectin, while line of Hilton; pale, thin, glossy, squamous epithelium without sweat glands.
- Lower part (cutaneous): 8mm- true skin with sebaceous and sweat glands.

## Blood Supply

### Arterial [16]

#### Superior Rectal artery

It is the continuation of inferior mesenteric artery and supplies blood above pectinate line.

#### Middle rectal artery

A branch of internal iliac artery.

#### Inferior rectal artery

It is a branch of internal pudendal artery and supplies blood below the pectinate line.

## Venous [17]

From internal rectal venous plexus lies in the submucosa of the anal canal. It drains mainly into the superior rectal vein. They are situated in anal column at 3, 7, 11 'o' clock. Their saccular dilatation forms 'primary internal piles'.

## Classification of Arsha

*Arsha* are classified on the basis of origin, bleeding, and predominance of *Doshas* etc.

### On the basis of per-rectal bleeding

1. *Aardra*: also known as *Sravi Arsha*. They are bleeding piles due to vitiation of *Rakta* and *Pitta* main [18].
2. *Shushka*: They are non-bleeding piles due to Vitiation of *Vata* and *Kapha Doshas*. [19]

### On the basis of Origin

1. *Sahaja Arsha*: Considered as congenital Anomaly due to the disorder of *Beejadasha*.
2. *Janmottarkalaja*: These are acquired, occurs due to faulty life styles and food habits etc.

### According to site

1. *Bahya*: Occurred in *Bahya Vali*.
2. *Abhyantara*: Occurred in *Madhya* and *Antar Vali*.

### On the basis of the predominance of Dosha [20]

1. Vataj,
2. Pittaj,
3. Kaphaj,
4. Raktaj,
5. Sannipataj,
6. Sahaj

### On the basis of Prognosis [21]

1. *Sadhya Arsha (Curable)*: There is single *Dosha* involvement, located in *Samvarani* and it can be cured easily.
2. *Yapya Arsha (Palliative)*: There is involvement of two *Doshas*, situated in second *Vali*, chronicity is not more than one year, and it is difficult to be cured.
3. *Asadhya Arsha (Incurable)*: They are hereditary, There is involvement of all three *doshas* and situated in the internal *Vali*. These are incurable. Patient of piles having oedema on hands, face, feets, navel, anus and scrotum as well as pain in cardiac region and sides are incurable.

### On the basis of site of origin of Haemorrhoids [22]

1. **Internal Haemorrhoids**: Found proximally to the dentate line and are covered with the rectal mucosa.
2. **External Haemorrhoids**: Found below the dentate line and covered with skin. They are

develop due varicose condition of external haemorrhoidal plexus.

3. **Interno - External Haemorrhoids**: They have variety of both internal haemorrhoids and the external haemorrhoids

### On the basis of pathological anatomy

#### Primary Haemorrhoids

These are total three and are called as classical positions of piles at 3, 7 & 11 o'clock. Superior rectal artery split into main branches right and left. The left branch as a single vessel ends at 3 o'clock, where the right branch splits into two branches-one splits anteriorly at 11 o'clock and the other splits posteriorly at 7 o'clock.

#### Secondary Haemorrhoids

Haemorrhoids present in between the primary haemorrhoids are known as the secondary haemorrhoids.

### On the basis of prolapse [23]

#### First Degree Haemorrhoids

Masses do not prolapse and not clearly visualized but veins become congested during defecation and bleeds.

#### Second Degree Haemorrhoids

They Protrudes into the lumen and descends to the anal orifice during defecation. Patient experienced a protruding mass during defecation but ascends / disappears spontaneously after defecation.

1. **Third Degree Haemorrhoids**: The protrusion of pile mass during defecation and remains prolapsed until manually replaced.
2. **Fourth Degree Haemorrhoids**: The pile masses are sufficiently large and not possible to replace them properly and thus remain permanently outside.

### Nidana of Arsha (Aetiology)

1. **Dietetic factors**: [24] Excessive or less intake of food, irregular intake and lack of fibrous diet etc., which disturbs *jatharagni* (digestive power) leads to poor digestion and constipation.
2. **Habits**: [24] Suppression of natural urges, Excessive indulgence of sexual activity etc. these factor increases *vata dosha*.
3. **Local factors**: Excessive vehicle riding, prolonged sitting or standing positions. [24]

4. **Genetic factors:** Due to involvement of *Beeja Dosh* of parents, genetic factors are responsible for *Sahaja Arsha*. Due to congenital weakness of walls of the haemorrhoidal veins etc. piles get transferred to next generation. [25]
5. **Other causes:** *Pleeha-vriddhi*, *Udararoga*, pregnancy, abdominal tumours, Straining during micturition, Portal hypertension. [25]
6. **Mandagni:** *Mandagni* is responsible for causing *Arsha*, *Grahani*, and *Atisara* and each of them is also responsible for each other.

### Lakshana (Symptoms) [26]

- **Vataj:** These *arshas* are dry, hard, painful, having various shapes, are usually of external origin, these *arsha* having irregular surface and are of various colours, these are associated with constipation and painful defecation.
- **Pittaj:** These *arshas* are usually of small sized, bluish coloured, moist fleshy masses, these pile masses enlarges with straining during defecation with passage of blood. They cause severe burning sensation during defecation.
- **Kaphaj:** These have wide based, smooth surface, oval shaped, fixed and fleshy masses. They generally do not bleed. They are associated with severe pruritus and mucous discharge.
- **Raktaja:** They leads to secondary anaemic condition due to immense bleeding during defecation.
- **Sannipataj:** Having mixed *Lakshana* of all *Doshas*.
- **Sahaj:** They are genetically transfer from one generation to next generation due *beejdosh* of parents. They have ugly appearance. Occurs mostly to immunocompromised Patient.

### Clinical features [27]

- **Bleeding:** It is the principle and called earliest symptom of haemorrhoids. Bleeding is bright red, painless and occurs during defecation in early stage. Patient complains that as the stool comes out, bleeding splashes in the pan. It changes colour of the toilet water. In later stage, bleeding occurs even without defecation.
- **Prolapse:** When the vein becomes larger and heavier, with each bowel movement there is partial prolapse occur gradually. Prolapse is minimal in initial stage. On the basis of prolapse there are four degrees of haemorrhoids. First degree haemorrhoids does not come out of the

anus. They only bleeds. Second degree haemorrhoids come out during defecation and gets spontaneously reduced. Third degree haemorrhoids come out during the act of defecation but they do not reduce by themselves, they need manual support to replace them. Fourth degree haemorrhoids are permanently prolapse. At this stage patient complained discomfort with feeling of heaviness in the rectum.

- **Pain:** It is not the characteristics of haemorrhoids unless they are associated with any complications like thrombosis or fissure-in-anus.
- **Mucous Discharge:** It occurs due to engorged mucous membrane. This mucous discharge causes pruritus ani.
- **Anaemia:** Because of persistent and profuse bleeding it is seen in long-standing cases of haemorrhoids. Without prolapse the internal haemorrhoid does not show any abnormal feature. Internal haemorrhoids can only be seen during the second and third degrees of haemorrhoid as patient strains and this too transiently and the prolapse disappears after the strain is over. The prolapsed piles can be seen at 3, 7 and 11 O'clock positions during fourth degree prolapse.

### Examination [28]

- **Inspection:** Visually, it is possible to diagnose prolapsed haemorrhoids on the spot as they are visualized from outside the anal orifice. Internal haemorrhoids may come into view transiently when the patient is asked to strain.
- **Digital Examination:** It alone can not determine the diagnosis of haemorrhoids unless they are thrombosed or prolapsed as a firm mass that is usually oval in shape.
- **Proctoscopy:** The haemorrhoids will prolapse into the proctoscope. The pink or red coating of mucous membrane can identify haemorrhoids.
- Sigmoidoscopy
- Colonoscopy
- Barium enema

### Complications [29]

- Strangulation
- Thrombosis
- Ulceration

- Gangrene
- Fibrosis
- Profuse haemorrhage
- Suppuration or abscess formation
- Perianal haematoma

### Treatment at Modern Parlance [30]

It can be divided into 3 parts:

1. Conservative Treatment
2. Para-Surgical Treatment
3. Surgical Treatment

### Medical Treatment

- Hot sitz bath
- Bowel Regulation: Many symptoms can be relieved, by avoiding excessive defaecation straining. This can be done by advising high residue diet and mild laxatives.
- Anti-inflammatory agents like Diclofenac sodium in combination with steroids like hydrocortisone are helpful.
- Topical ointments for local applications may do well by reducing oedema and pruritus. During an attack of piles some relief of discomfort may be obtained by use of suppositories.
- Manual dilatation of the anus is often effective in relieving symptoms possibly by preventing congestion of haemorrhoidal veins. Anal dilators can be used in this way.
- To summaries we can say that there is no specific treatment that accepted uniformly. Number of treatments are currently available, rather symptomatic treatment is adopted which contains wide range of antibiotics, NSAIDS, laxatives, haemostatic agents, antihistaminic drugs, steroidal treatment, local anaesthetic applications and local antiseptic lotions and ointments.

### Para-Surgical Treatment

- Sclerotherapy
- Rubber band ligation
- Cryosurgery
- Lords Anal dilation
- Infrared Photocoagulation (IRC)
- Laser therapy
- Radiofrequency Coagulation
- Bipolar Diathermy

### Surgical Treatment

- Open Haemorrhoidectomy
- Ligation & Excision
- Excision with Clamp & Cautery
- Closed Haemorrhoidectomy
- Stapled Haemorrhoidectomy

### Treatment according to Ayurved [31]

#### There are four modalities of treatment

1. **Bheshaj Chikitsa:** Arshas, which are not chronic, are treatable with medicines having minimal vitiation of *Doshas* with insignificant symptoms and complications. Their management consists of Local and Systemic measures. Local measures aim to relieve symptoms and congestion in the local area. *Abhyanga*, *Swedana*, *Vasti*, *Dhoopana*, *Avagaha*, *Pralepa* and *Parisheka* are included in this. Systemic medicines work by stimulating appetite, regularizing intestinal behaviour, astringent action on blood vessels and keeping *Agni* and *Doshas* in equilibrium.

#### Conservative management for constipation-Laxative-

*Triphalachurna*, *Pancha-sakar churna* etc. Based on patient's *Koshtha*.

**Deepan-Pachan-Chitrakadivati**, *Agni tundivati*, etc.

**Arshoghna-** *Arshoghnavati*, *Arshkutharras* etc.

**Hot sitz bath-** *Sphatic bhasma*, *Triphala kwath* etc.

**Vrana-ropak-** *Jatyadi tail* etc.

**Vednahara-Madhuyastyadi tail**, *Triphala guggulu* etc

2. **Kshar karma:** The substance that expels out the “*Dushta Tvaka Mamsadi*” by its *Ksharana* action is called *Kshara*. [32] It is derivatives of plant drug ashes in the form of solutions, powder or crystals, all of which have the fundamental attribute of being alkaline. It is called *Kshara* because of its peculiar qualities to causes *Ksharana* of *Mamsa* and other *Dhatus* [33] when it applied. It indirectly cauterizes the tissue after applying on it, thus it is also known as potential cauterizing agent. On comparison with *Shashtra Karma* (surgery) and *Agnikarma* (thermal cautery) this is a milder technique. Among the *Anushastra* or *Upayantras* *Kshara* is the most important. This is the best among the sharp and subsidiary treatments as it acts like



*Chhedana* (excision), *Bhedana* (incision), *Lekhana* (scraping) and *Tri Doshaja* disorder *shamana*. On the basis of *Dosh* involvement mild *Kshara* should be used in *Pittaja* and *Raktaja* *Arshas* and stronger *Kshara* in *Kaphaja* and *Vataja* *Arshas*.

**Kshar Sutra Ligation:** It is a special excision technique by means of mechanical pressure and chemical action without the use of a knife. It is a parasurgical procedure that, slowly excises the pile mass. *Acharya Sushrut* mentioned *Kshar Sutra* in the management of *Nadi-vrana* and *Bhagandara*. But regarding *Kshar Sutra's* preparation, but *Chakrapani* (11th century) in his treatise *Chakradutta* has given reference of *Snuhi Ksheera Sutra* preparation by smearing repeatedly the latex of *Snuhi* and *Haridra* powder in the management of *Arshas*.

### Agni Karma

It is regarded as superior to other procedures because of non-recurrence of the disease. The procedure is carried out either by using fire directly or by using fire related objects. *Agnikarma* is indicated in *Vata Kaphaja Arshas* which is rough, flat, broad and hard. It can be employed even in prolapsed and third degree *Arshas*. It is contraindicated in *Raktaj* and *Pittaj* type of *Arsha*.

### Shastra karma

*Acharya Sushruta* indicated *Shastra Karma* in pile mass which are thin rooted, protruded and predominant with discharge. After observing all the pre-operative measures, *Chhedana Karma* of pile

mass should be done with the help of sharp instruments such as *Kharapatra*, *Mandalagra*, etc and the excised part is to be treated with *Agnikarma* in case of any remnant or to stop the active bleeding or secondary oozing of the blood vessels. After then *Kavalika* has to be applied and *Gophana Bandhan* should be done. This procedure is similar to that of ligation and excision procedure in practice today.

### Apathya

- **Ahara:** *Viruddha*, *Vistambika*, *Vidahi dravya* like *Chilies*, *Spices*, *fried food*, *Maida product*, *Non-vegetarian foods*, *excessive intake of oils*, etc. *Guru Ahara*, *Tila Khalli*, *Dadhi*, *Rooksha Ahara*, *Viruddha dravya in Rasa*, *Veerya*, *Vipaka*.
- **Vihara:** *Vega* *Dharana*, *Uttkutasana*, *Prushtayana*, *Atapasevana*, *Vamana*, *Basti*, *Poorva Desha Vayu Sevana*.
- Apart from these *Sushruta* has advised that suppressing natural urges (*Vegavarodha*), excessive travelling, taking the *teekshna pana* and *Dosha prakopaka Anna* should be prohibited.

## CONCLUSION

Piles are certainly one of the common ailments that affect lifestyles of mankind. Patient become frightened of defecation because of pain and bleeding per rectum. Therefore, *Ayurveda* certainly has immense potential for handling all *Arsha* successful phases without any complications.

## REFERENCES

- [1]. Chaturvedi Gorakha Nath and Shastri Kasinath *Charak samhita (Chikitsa sthana)*. Varanasi: Chaukhambha Bharati Academy; 2011, 419.
- [2]. Shastri Kaviraja Ambikadutta *Sushruta samhita (Nidana Sthana)*. Varanasi: Chaukhambha Sanskrit Sansthan; 2010, 306.
- [3]. Chaturvedi Gorakha Nath and Shastri Kasinath *Charak samhita (Chikitsa sthana)*. Varanasi: Chaukhambha Bharati Academy; 2011, 417.
- [4]. Shastri Kaviraja Ambikadutta *Sushruta samhita (Sutra Sthana 33/4)*. Varanasi: Chaukhambha Sanskrit Sansthan; 2010, 163.
- [5]. Kukreja Ajit Nanik singh *Anorectal Surgery Made Easy*. New Delhi; Jaypee Brothers Medical Publishers (P) Ltd. Replika Press Pvt.Ltd; 2013, 307.
- [6]. *Sushruta Samhita Ayurved Tattwa Sandipika* by Ambika Dutta Shastri, *Sharir Sthana* 4/26, 32
- [7]. *Sushruta Samhita Sharir Sthana* 3/31, 27, *Ashtang Hridaya Sharir Sthana* 3/4 by Kaviraj Atridev Gupt, page 250
- [8]. *Charak Samhita Sharira Sthana* 7/10, *Tika Chakrapani Virachita Ayurveda Dipika*, 926
- [9]. *Sushrut Samhita Nidan Sthan* 2/6, by Kaviraj Atridev Gupt , 237

- [10]. *Sushrut Samhita Nidan Sthan 2/5*, Kaviraj Atridev Gupt , 237
- [11]. *Sushrut Samhita Nidan Sthan 2/6*, by Kaviraj Atridev Gupt , 237
- [12]. *Sushrut Samhita Sharir Sthana 6/9* ,Ayurved Tattwa Sandipika by Ambika Dutt Shastri , 52
- [13]. *Charak Samhita Sharira Sthana 7/9*, Tika Chakrapani Virachita Ayurveda Dipika, 924
- [14]. B.D. Chaurasia Human anatomy New Delhi; CBS Publications; 2, 2004, 381-383.
- [15]. SRB's Manual of Surgery rectum and anal canal, 6(25), 2019, 943.
- [16]. Manipal Manual of Surgery, Rectum and anal canal, 4(31), 772.
- [17]. SRB's Manual of Surgery rectum and anal canal, 6(25), 2019, 944.
- [18]. *Charak Samhita Chikitsa Sthana 14/38*, Tika Chakrapani Virachita Ayurveda Dipika, 515.
- [19]. *Ashtang Hridaya Nidan Sthan 7/9*, by Kaviraj Atridev Gupt, 332.
- [20]. Shastri Kaviraja Ambikadutta *Sushruta samhita (Nidana Sthana)*. Varanasi: Chaukhambha Sanskrit Sansthan; 2010, 306
- [21]. Shastri Kaviraja Ambikadutta *Sushruta Samhita (Nidana Sthana)*. Varanasi: Chaukhambha Sanskrit Sansthan; 2010, 310
- [22]. S. Das A Concise text book of surgery Kolkata; 8Published by S. Das. Old Mayor's Court; 13, 2014, 1075-1076.
- [23]. S. Das A Concise text book of surgery Kolkata; Dr. Published by S. Das. Old Mayor's Court. 13, 2014, 1077.
- [24]. Shastri Kaviraja Ambikadutta, *Sushruta Samhita (NidanaSthaana)*. Varanasi: Chaukhambha Sanskrit Sansthan; 2010, 306.
- [25]. S. Das A Concise text book of surgery Kolkata; Published by S. Das. Old Mayor's Court; 13, 2014, 1075-1076.
- [26]. Shastri Kaviraja Ambikadutta *Sushruta samhita (NidanaSthaana)*. Varanasi: Chaukhambha Sanskrit Sansthan; 2010, 307-309.
- [27]. S. Das A Concise text book of surgery Kolkata; Published by S. Das. 10, 1076-1077.
- [28]. S. Das A Concise text book of surgeryKolkata; Dr. Published by S. Das. 13, Old Mayor's Court; 13, 2014, 1077.
- [29]. S. Das A Concise text book of surgeryKolkata; Dr. Published by S. Das. Old Mayor's Court; 13, 2014, 1077-1078.
- [30]. M Sriram Bhat SRB's Manual of Surgery New Delhi; Jaypee Brothers Medical Publishers (P) Ltd; 2013, 1042.
- [31]. Chaturvedi Gorakha Nath and Shastri Kasinath *Charak samhita (Chikitsa sthana)*. Varanasi: Chaukhambha Bharati Academy; 2011, 46-50.
- [32]. *Sushruta Samhita*, Ayurveda Tattwa Sandipika by Ambika Dutta Shastri, Sharira Sthana 11/4, 34
- [33]. *Sushruta Samhita*, Ayurveda Tattwa Sandipika by Ambika Dutta Shastri, Sharira Sthana 11/4, 27.
- [34]. Chaturvedi Gorakha Nath and Shastri Kasinath *Charak samhita (Chikitsa sthana)*. Varanasi: Chaukhambha Bharati Academy; 2011, 430-433.
- [35]. Chaturvedi Gorakha Nath and Shastri Kasinath *Charak samhita (Chikitsa sthana)*. Varanasi: Chaukhambha Bharati Academy; 2011, 419.