

A Critical Review on Conventional approach to the *Netra Tarpana* Procedure.

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Abstract: The eyes are the window to look after the beauty of soul as it is not only limited with physical appearance but it is related with the healthy state of all sense organs. *Netra* (eyeball) is an essential sense organ of human body. There is hindrance even after salient progress and advances in the field of modern ophthalmology. Ophthalmology the effective control is still a challenge. There is a huge need to find out an ocular procedure for prevention and treatment of eye diseases having no or least adverse effect. In ancient medicine, *Kriyakalpa* has been described in a beautiful manner of maintenance of health of eye as well as treatment of various eye disorders. Out of these, *Tarpana* (ocular therapy) is one of the local therapeutic procedure where exact amount, dosage, schedule, frequency which if promptly used reveal an objective piece of evidence of excellent responses are already been mentioned by *Acharyas*. In this era, due to altered life styles, over use of gadgets, occupational hazards, it became essential to research those principles and practices of Ayurvedic Ophthalmology to preserve vision. In this article there is a review on *Tarpana karma*, their indication, contraindication, *samayak-heena-ati Lakshana*, modality of procedure has been discussed here.

Key Words: *Kriyakalpa, Netra, Tarpana, Samayak-heena-ati yoga Lakshana.*

1. INTRODUCTION:

Beauty of eye is the door to the inner soul beauty as it is not limited with the physical appearance but it with the healthy state of all the sense organs of the body. In ancient system of medicine, it has been quoted “*Sarvendriyanam Nayanam Pradhanam*”ⁱ i.e. *Netra* (Eye) is the prime sense organ among all sense organ which is considered as a source of *Pratyaksha Gyana* (direct perception). It has been explained by *Acharya Sushruta*. *Sushruta* has detailed nineteen chapters in *Uttartantra* that expound the medical, surgical and preventive aspects of *Netra* (Eye). *Netra* (Eye) is having predominance of *Teja mahabhuta*. Therefore, *Netra* has always a threat from *Kapha Dosha* which has precisely opposite qualities that of *Teja mahabhuta*.ⁱⁱ Eye is the site for *Alochaka Pitta*. As per *Ashtanga Hridhay*, sincere efforts should be made by every individual to preserve his/her vision till the last breath of life; because, for an individual who is blind, day and night are the same and this beautiful world is of no use to him even if he possesses a lot of wealth.ⁱⁱⁱ Tremendous advancement made in ophthalmic medicine in recent years has begun a new era in the history of ophthalmology. Modern ophthalmologists and scientists have been able to convince the new generation about the significance of eye care and the right procedure to follow in order to ensure the healthy vision. At a same time, there are various Challenging problems, arising before modern ophthalmologists compelling them to find therapeutic procedure hidden in ancient medical manuscripts. Clinical *Shalakyia Tantra* manages eye ailments via local and systemic measures. Among these two, topical application plays a pivot role. May be due to the limitation of systemic formulation to reach the target organ due to some blood barriers, the details of topical application are very clearly dealt with. With the advent of science, it has been proved that the systemic medicine is unable to cross the blood- aqueous, blood-vitreous and the blood- retinal barrier so topical application is inevitable in Ophthalmology. Each wing of *Ayurveda* has come out with *Vishishta Chikitsa* aside from *Samanya Chikitsa*.

Kriyakalpa:

Kriyakalpa - the local ocular therapeutic procedures are a group of special methods of drug administration, locally into the eye for the treatment of eye diseases, which provides nourishing effect to the eyes and improves visual acuity.

It meant to mitigate the *Sthanika Khavaigunya* proceed out of vitiated *Doshas* and their impact on *Netra Avayava*. It can also be used as *Swasthya samrakshaka Prayoga* to sustain the functional integrity of the sense organs and conquer the old age-related diseases.

Etymology:

Kriya = *Kri dhatu + Sa pratyaya*

The variants of which are *arambha, shiksha, nishkriti, pujana, sampradharana, upaya, karma, cheshta* and *Chikitsa*. *Kriya* means to perform, to do or to practise; the word *Kriya* refers to medical treatment.

Kalpa = *Krip dhatu + Ghana pratyaya*

It means Practicable, feasible, proper or competent method of curing the diseases or treatment of sick; Hence, the word *Kriyakalpa* literally means to perform proper treatment.

Kriyakalpa	C.S	S. S	A. S	Sha.Sam	B. P
<i>Tarpana</i>	+	+	+	+	+
<i>Putpaka</i>	-	+	+	+	+
<i>Seka</i>	-	+	+	+	+
<i>Ashyotan</i>	+	+	+	+	+
<i>Anjan</i>	+	+	+	+	+
<i>Pindi</i>	-	-	-	+	+
<i>Vidalaka</i>	-	-	+	+	+

C.S= *Charka Samhita*, S. S= *Sushruta Samhita*, A. S= *Ashtanga Sangraha*,

B. P= *Bhavaprakasha*, Sha.Sam= *Sharangadhara Samhita*.

Tarpana is the first procedure for eye diseases. It is one of the particularize treatment for different eye diseases. *Tarpana* acts as a prophylactic and curative therapy for maintaining the natural acuity and condition of eyes. It has *Brimhana* quality. It cherishes the eyes, improves and invigorates the *Drishti Shakti*. It is preventive and remedial procedure in *Vataja* and *Pittaja Vikara*.

Etymology:

Tarpana= *Trup dhatu + Lyut pratyaya*^{iv}

The Literary meaning of the *Tarpana* is to give nourishment of the eye through Medicated *Ghrita, Ghritmanda, Vasa, Majja* etc which made stagnant in the eye for a specular time period in a particular formed frame.

Indication for *Tarpana*:

- In severe Dryness of the eyes.
- Muddy eyes / altered or loss of lustre of ocular surface
- Person feels darkness in front of eyes
- Stiffness of the eyelids
- Falling of eyelashes / Madarosis
- Deviated eyeball / Squint
- In extreme aggravation of the diseases of the eye i.e. *Vata-Pitta* predominant diseases
- Computer vision syndrome
- Degenerative disorder e.g. ARMD
- Refractive Error e. g. Myopia, Hypermetropia etc.
- Early presbyopia
- Early Cataract
- Neuro-Retinal Diseases such as Optic atrophy, Optic neuritis etc.

Acharya Vagbhatta has further added a list of disease specifically selected for *Tarpana* they are:

- *Kricchronmilana* (difficulty in opening eyes)
- *Siraharsha* (congestion of conjunctival blood vessels)
- *Sirotpata* (Episcleritis)
- *Arjuna* (subconjunctival haemorrhage)
- *Avarna Shukra* (corneal opacity)
- *Timira* (Myopia)
- *Abhishyanda* (Conjunctivitis)

- *Adhimantha* (Glaucoma)
- *Anyatovata* (referred pain in the eyes or Sphenoid sinusitis)
- *Vataparyaya*
- *Vatika* and *paitika* diseases of eyes as well as injured eyes due to *Abhighata*.

Contraindications for *Tarpana*:

- Red eye with mucoid / watery discharge
- After use of cosmetics
- Tired eyes
- Just after trauma
- Immediately after drinking water, alcohol and poison
- Suffering from cold, cough and respiratory disorder
- Very hot, very cold and cloudy weather

Preferred time: Early morning or afternoon

Prerequisites:

- A Chamber free from direct sunrays, wind and dust
- Furniture: Table 3''*6'' with clean mattress, sheets and a sitting stool
- Medicine: *Ghrita*, *Masha powder*, *water*
- Utensils: Plate, Bowl, Glass, induction
- Other: cotton swab, (For alternative method-swimming goggles with hole, 2 ml/5 ml syringe without needle)

2. PROCEDURE:

A. *Poorva karma*^v

Appropriate *Shodhan karma* should be carried out according to the procedure. Later *Sthanika Abhyanga* and *Mridu Swedana* are done.

B. *Pradhan Karma*^{vi}

Classical Method:

Akshi Tarpana should be carried out in the forenoon or afternoon on an auspicious day after the food taken by patient has been digested and after the head and the whole body of the patient have been treated with purification measures properly. The patient is asked to lay down on his back in supine position, in a chamber free from direct sunrays, wind and dust, ventilated and good lighted is given mild fomentation with a cotton soaked in lukewarm water to the eyes. After that eyes are encircled with firm, compact and leakproof *Pali* (wall) made up of paste of powdered *Masha* (black gram). According to *Acharya Vagbhatta*, *Pali* is made up to a height of two *Angula*. The patient is asked to close the eye and over the closed eyes, liquified *Ghrita* should be poured very slowly till the entire eyelashes are under the liquified *Ghrita*. Patient is instructed to close and open his/her eyes (*Unmesha* and *Nimesha*). After retaining for the stipulated time, the *Ghrita* is drained out through the hole made near the outer canthus and the eye is irrigated by lukewarm water fomentation.

Alternative method:

Instead of paste of powdered *Masha* (black gram), swimming goggles can be used. For this, a hole is made in the glass of swimming goggles. The patient is asked to lay down on the bed wearing swimming goggles which are neither loose nor tight. The patient is asked to close the eye and over the closed eyes, liquified *Ghrita* should be poured with the help of syringe very slowly till the entire eyelashes are under the liquified *Ghrita*. Patient is instructed to close and open his/her eyes (*Unmesha* and *Nimesha*). After retaining for the stipulated time, the *Ghrita* is drained out by uplifting temporal side of goggles of each eye, placing a cotton pad to adsorb the whole *Ghrita*. To relieve the pressure over eyes due to swimming goggles, mild sudation is given by rubbing the palms and placing over patient's eyes. Then the *Ghrita* used priory which gets adsorbed in cotton pad can be used for massage over soles at bedtime.

After every use the goggles and syringe are washed with lukewarm water so as to avoid any contamination.

Retention period: 20-25 mint.

C. *Pashchata Karma*^{vii}

The *Kapha* which has already been stimulated by the potency of *Ghrita* should be eliminated by *Shirovirechana* (*Nasya*) and *Dhoompana* (Fumigation) with the *Kapha* mitigating property of drugs. Then the patient is advised to avoid direct exposure of excessive heat, cold, wind, lustrous and shiny things



Classical method of *Tarpana*



Alternate method of *Tarpana*

Sneha Dharana kala or period of retention of Ghrita:

Sneha Dharana Kala is implemented considering *Adhishthana* of diseases and severity of *Dosha Prakopa*.

Sneha dharana kala according to *Adhishthana* of diseases:

<i>Adhishthana</i>	<i>Susruta Samhita</i>	<i>Ashtanga Hridhay</i>	<i>Sharangadhara</i>	<i>Bhavaprakasha</i>
<i>Sandhigata</i>	300	300	500	500
<i>Vartmagata</i>	100	100	100	100
<i>Shuklagata</i>	500	500	600	-
<i>Krishnagata</i>	700	700	700	700
<i>Drishthagata</i>	800\1000	800	800	800
<i>Sarvagata</i>	1000	1000	1000	1000

SNEHA DHARANA KALA ACCORDING TO DOSHA PRAKOPA:

<i>Doshabheda</i>	<i>Susruta Samhita</i>	<i>Ashtanga Hridhay</i>	<i>Sharangadhara</i>	<i>Bhavaprakasha</i>
Healthy eye	500	500	500	500
<i>Kapha Prakopa</i>	600	500	500	500
<i>Pitta Prakopa</i>	800	600	-	600
<i>Vata Prakopa</i>	1000	1000	1000	1000

3. COURSE OF PROCEDURE^{viii}

Acharya Susruta without clarifying the condition of eye, simply asks to perform the procedure for one day, three days and five days or till the proper satiating feature are attained. *Dalhana* in his commentary quotes the view of *Gayadasa*, *Jejjata* & *Videha*. *Gayadasa* has given according to *Dosha* involvement while *Jejjata* has quoted according to the mild, moderate and severely aggravated *Dosha* for one, three and five days respectively. while, *Videha* says that the procedure should be carried out daily in *Vatika* diseases, alternatively in *Pittaja* and *Raktaja* diseases, with the interruption of two days in healthy eye and *Sannipataja* diseases and with the gap of three days in *Kapha* diseases. *Vagbhatta* agreed with *Videha* except for *Kapha* diseases where he advices an interruption of two days.

***Samyaka Tarpita Lakshana*:^{ix}**

- *Sukhaswapna* (good / sound sleep)
- *Avbodhatva* (Blissful Awakening)
- *Vaishadhya* (Clearness of eyes)
- *Nivriti* (feels comforts)
- *Vyadhividhvasna* (cures the disease)
- *Kriya Laghvana* (feels easy in eye movement)

***Ati Tarpita Lakshana*:^x**

- *Netragaurava* (Heaviness in eyes)
- *Avila* (Indistinct vision)
- *Atisnidhta* (oiliness of eyes)

- *Ashru Srava* (Lacrimation)
- *Kandu* (Itching)
- *Upadeha* (stickiness)
- *Dosha Samutklishta* (Aggravation of Dosha)

Heena Tarpita Lakshana:^{xi}

- *Netra Rukshata* (Dryness of eyes)
- *Avila* (Indistinct vision)
- *Ashru Srava* (Lacrimation)
- *Asahyam Roopa Darshana* (Difficulty in vision)
- *Vyadhivridhi* (Aggravation of diseases)

Treatment of Heena and Ati Tarpana:^{xii}

Dhoompana, Nasya, Anjana, Seka either *Ruksha* or *Snighdha* are to be done for treating both conditions. *Tarpana* condition according to the predominance of *Dosha*. *Snighdha Seka* in the diseases of *Vata*, *Ruksha* in *Kapha* and *Sheeta Seka* in *Pitta* Predominant *Dosha*.

4. INDICATION OF TARPAN WITH VARIOUS FORMULATION:

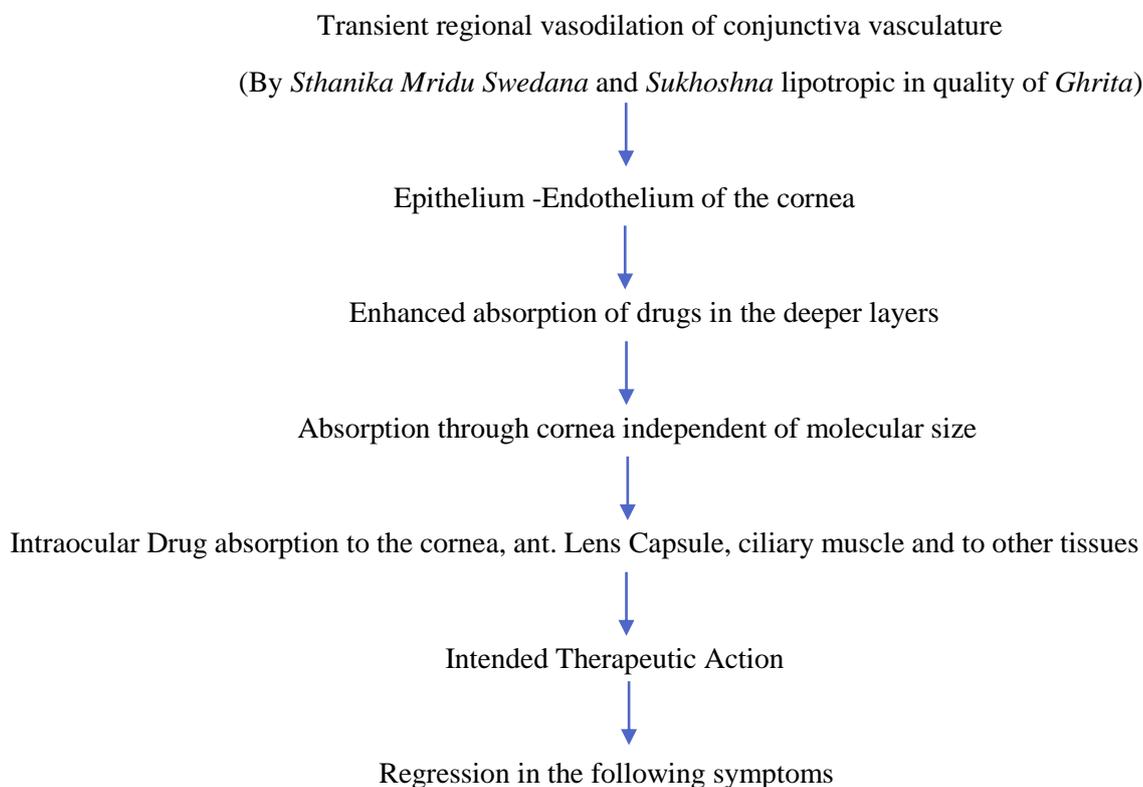
SAMHITA	FORMULATION	DISEASES
<i>Sushruta Samhita:</i>	<ul style="list-style-type: none"> ▪ <i>Triphaladi Ghrita</i> ▪ <i>Tilyaka Ghrita</i> ▪ <i>Trivruta Ghrita</i> 	<i>Amladhyusita, Shuktika, Pittaja Vidagdha Drishti, Kapha Vidagdha Drishti</i>
	<ul style="list-style-type: none"> ▪ <i>Purana Ghrita</i> 	<i>Timira</i>
<i>Chakradatta</i>	<ul style="list-style-type: none"> ▪ <i>Madhukadi Ghrita</i> ▪ <i>Vruksaadanyadi Ghrita</i> ▪ <i>Patoladi Ghrita</i> ▪ <i>Shashakadya Ghrita</i> ▪ <i>Kakolyadi Ghrita</i> ▪ <i>Mahatriphaladi Ghrita</i> ▪ <i>Triphala Ghrita</i> ▪ <i>Nagavallabha Ghrita</i> 	<p><i>All Abhighattaja Akshiroga</i></p> <p><i>Corneal Ulcer and Opacity</i></p> <p><i>Sarva Akshiroga</i></p> <p><i>Timira, Naktandhya, Kacha, Nilika, Arbuda, Abhishyanda, Adhimantha, Pakshmakopa etc</i></p> <p><i>Timira, Kacha, Arbuda, Akshisotha, Kandu, Abhishyanda, Arma, Shukra, Vartmagata Roga.</i></p>
<i>Ashtanga hridaya</i>	<ul style="list-style-type: none"> ▪ <i>Jivantyadi Ghrita</i> ▪ <i>Drakshadi Ghrita</i> ▪ <i>Vasa</i> 	<p><i>Timira</i></p> <p><i>Kacha, Timira, Abhishyanda, Shirashoola</i></p> <p><i>Naktandya, Vataja Timira, Krichrabodha</i></p>
<i>Yoga Ratnakar</i>	<ul style="list-style-type: none"> ▪ <i>Dashamula Ghrita</i> ▪ <i>Rasnadi Ghrita</i> ▪ <i>Baladi Ghrita</i> ▪ <i>Laghu Triphaladi Ghrita</i> ▪ <i>Bibhitakadi Ghrita</i> ▪ <i>Patoladi Ghrita</i> 	<p><i>Vataja Timira</i></p> <p><i>Sarva Akshiroga</i></p> <p><i>Netra Shukra</i></p>

5. BASIC PRINCIPLES OF OCULAR PHARMACOLOGY:^{xiii}

- **Routes of drug administration:** In *Kriyakalpa*, mucosal and cutaneous routes are commonly used as they are good absorbing surface.

- **Solubility and bioavailability:** For mucosal absorption it should be water and lipid soluble. In the suspension of drug as a small particle kept suspended in an adequate medium by a dispersing agent (Medicated ghee or oil). Particles do not leave the eye as quick as solution which increases the tissue contact time as in *Tarpana karma*.
- **Absorbing Surface:** for ocular therapeutics, conjunctiva and cornea form the main absorbing surface. The corneal epithelium and endothelium are lipophilic so fat soluble drug penetrates through it. The stroma is hydrophilic so water soluble drug easily crosses the stroma. So, the drug should be lipophilic and hydrophilic in nature to cross all the layers of cornea. The drug contact time has an effect upon the absorption and penetration of drug. So, specific duration has been mentioned by *Acharyas* as per the disorder.
- **Physical State of drug:** Colloids are more slowly absorbed than crystalloids. Fat soluble substance reach the circulation more slowly than water soluble drugs. So, in *Tarpana* substances rich in fat soluble are kept for longer duration.
- **Vascularity of absorbing surface:** Increased vascularity by local massage or local heat enhances absorption of drugs which is done in *Tarpana karma* as a preoperative procedure.
- **Molecular Size:** A substance with less molecular weight passes readily through the cell membrane. So, the drug prepared in high concentration

6. MODE OF ACTION:



7. REVIEW OF RESEARCHERS TO UNDERSTAND THE CLINICAL UTILITY:

Tarpana is a therapeutic procedure used in the treatment of various Eye diseases. Variety of Tarpana Formulation have been followed in various researches. Its clinical utility can be understood by reviewing these researches. The dioptric power of spherical lens was reduced to 10 to 20% in most the researches. Significant result ($P < 0.001$)^{xiv} been recorded in symptoms like *Durastha Avyakta Darshana* (Indistinct Distant vision), *Netrasrava* (Watery discharge), *Shiroabhitapa* (Headache). Clinical Refraction for spherical lens, average improvement of 15-30% can be achieved through Tarpana. In old myopias, average improvement about 20% can be seen with just *Tarpana*. Various formulations like *Mahatriphaladi Ghrita*, *Jivantyadi Ghrita* etc can be used for *Tarpana*.

8. CONCLUSION:

Tarpana is the prime ocular procedure of Kriyakalpa. After reviewing various researches and available scientific data regarding *Tarpana* it can be concluded that *Tarpana* is a superior therapy merely using eye drops. *Tarpana* acts on

the Principle of *Bahya Snehana*. It can Successfully cross the defensive Barrier present in the eye for absorption and nourishes the ocular and periocular structures and also strengthen the sphincters. On behalf the drug used for *Tarpana* it also provides nutrition directly to the targeted organ. Changes in dioptric power and visual acuity are objective evident hence can be used for successful management of myopia.

REFERENCES:

- ⁱ Acharya Manik, editor. Chanakya Neeti, Azadpur, Delhi, Sadhana Publication 2004 pg. 86
- ⁱⁱ *Charak Samhita* of Agnivesh, elaborated by *Charka* and *Dridbala*, edited with Charaka Chandrika Hindi commentary by Dr. Brahmanand Tripathi, vol. 2, Chaukhambha Prakashan, Varanasi, Seventh edition:2000, *Charak Sutrastana* 5/16 pg.115.
- ⁱⁱⁱ *Ashtanga Hridhay* of *Vagbhatta*, edited with the Vidyotini Hindi commentary by Kaviraja Atrideva Gupta, edited by Murthy KR Srikant, Chaukhambha Krishnadasa Academy, Varanasi vol. 2 13/98; 2002 pg. 130.
- ^{iv} *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, fourth edition:2001, pg.73.
- ^v *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/05.
- ^{vi} *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/6-8.
- ^{vii} *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/10-11.
- ^{viii} *Sushruta Samhita*, Nibandha Sangraha commentary by Dalhana edited by Trikamji Yadavji, Chaukhambha Surabharati Prakashan, Varanasi, *Sushruta Uttartantra* edition:2008, pg.529.
- ^{ix} *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/13.
- ^x *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/14.
- ^{xi} *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/15.
- ^{xii} *Sushruta Samhita*, edited with Ayurveda Tattva Sandipika Hindi commentary part 2 by Dr. Kaviraja Shastri Ambika Dutta, Chaukhambha Prakashan, Varanasi, *Sushruta Uttartantra* 18/16.
- ^{xiii} Sharma VN. Essentials of pharmacology, Basic Principles and general concepts, 3rd edition, CBS publishers and distributors, New Delhi; 2007 pg.673.
- ^{xiv} RM Poonam, Sumedha J Pundge, Mahesh Prasad Sad et.al under the title “A clinical study on the role of Akshi Tarpana with Jivantyadi Ghrita in Timira.”edited 2011