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## A Clinical Study to Evaluate the Efficacy of *Seka Karma* in the Management of *Praklinna Vartma*

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### ABSTRACT

*Seka Karma* is a *Kriya Kalpa* procedure, in which instillation of medicated *Kwatha* is done on closed and relaxed eyes for a fixed time period. It is done in inflammatory (*Amavastha*) conditions of *Vartma* (eye lids). *Acharya Sushruta* has described *Praklinna Vartma* under 21 *Vartmagata Rogas*. It is a disease of *Vartma* caused by *Kapha Dosha*. On reviewing the clinical presentation it can be correlated with blepharitis. Itching, accumulation of white dandruff like scales on lid margin, persistent soreness of the eyelids or eyes, greasy appearance of the lid margins, falling of eye lashes etc. are the main clinical features of blepharitis. Modern science treatments of blepharitis mainly aim at topical antibiotic ointment like Sodium fuscidic acid, Bacitracin, Chloramphenicol, Kenalog etc. along with topical weak steroid ointment like Fluometholone which usually provides symptomatic relief. Hence this study was designed to collect, evaluate and discuss about the mode of action of *Seka Karma* in the disease *Praklinna Vartma* (Blepharitis). The desired effect of *Seka Karma* was achieved by using *Seka Yoga* having *Haritaki*, *Vibhitaki* and *Amlaki* means *Triphala* having *Tridosha Shamaka* qualities.

### Aims & Objectives-

1. To evaluate the efficacy of '*Seka Yoga*' in the management *Praklinna Vartma* (Blepharitis).
2. To assess the efficacy of '*Seka Karma*' in the management of *Praklinna Vartma* (Blepharitis).

**Materials & Methods** -Fifteen clinically diagnosed patients of *Praklinna Vartma* (Blepharitis) were randomly selected from OPD/IPD of Rishikul Campus, Haridwar. *Seka Karma* was performed for fifteen days continuously.

**Results-** 46.7% patients showed marked improvement, 46.7% patients showed moderate improvement and 6.7% patients showed mild improvement.

### KEYWORDS

*Kriya Kalpa*, *Seka Karma*, *Praklinna Vartma*, *Blepharitis*



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## INTRODUCTION

*Acharya Sushruta* explained the Ophthalmology and ENT in a systemic manner in *Uttar Tantra* portion of his treatise *Sushruta Samhita*. First 19 chapters of *Uttar Tantra* have been dedicated to the prevention and cure of eye diseases. In the description of *Netra Rogas Acharya Sushruta* has described *Praklinna Vartma* under 21 *Vartmagata Rogas*<sup>1</sup>. *Praklinna Vartma* is *Kapha Dosha Pradhana Sadhya Vyadhi*<sup>2</sup>. It has similarities with blepharitis. Blepharitis is a subacute or chronic inflammation of the lid margins<sup>3</sup>. It is not contagious, generally does not cause any permanent damage to eyesight, but may become an uncomfortable and irritating problem. It is a common eye disorder caused by either bacterial or a skin condition such as dandruff of the scalp or acne rosacea. It affects people of all ages. Prevalence of Blepharitis in North India according to a survey is about 16.85%<sup>4</sup>. Some reports indicate that it is present in almost 47% of ophthalmic patients<sup>5</sup>. Both eyes are usually affected. Blepharitis frequently leads to associated ocular surface inflammation, including Conjunctivitis, functional tear deficiency, and Keratitis<sup>6</sup>. Chronic nature, uncertain etiology, frequent coexistence of ocular surface disease and high recurrence

rate make blepharitis difficult to manage<sup>7</sup>. Thus to find out an alternative treatment in *Ayurveda* and to give satisfactory result to the patient; the *Kriya Kalpa* procedures *Seka Karma* was used in this study. *Seka* is a form of *Kwatha Kalpana*. *Aschyotana*, *Seka*, *Bidalaka* and *Pindi* were used in *Amavastha* (acute eye condition)<sup>8</sup>. *Seka Kriya Kalpa* reduces accumulated *Doshas* locally in less time. As a topical drug it can reach in different ocular tissues and achieve higher bioavailability.

## NEED OF THE STUDY :

In *Ayurvedic* classics different type of treatment were given for *Praklinna Vartma* ; they were having good effect on this disease but to know the effect *Kriyakalpa*, to minimize the recurrence of the disease and to achieve the maximum efficacy of the treatment, *Seka Karma* had been planned. It is less irritant, easily applicable and equally efficacious like other treatment.

## AIM AND OBJECTIVES

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## MATERIALS AND METHODS

### ETHICAL NUMBER:

UAU/R/C/IEC/2016-17/2

Clinical study was carried out in three phases:

(1) Diagnostic phase.

(2) Interventional phase.

(3) Assessment phase.

#### A) DIAGNOSTIC PHASE:

##### 1. CRITERIA FOR SELECTION–

a) **Selection of the Disease :** *Praklinna Vartma* is a very common and chronic disease. It is *Kapha Pradhana Vyadhi* which involve the *Netra Vartma* (eyelids) and causes the vitiation of *Rakta, Mamsa and Twaka Dhatu*.

b) **Selection of the Patients :** Patients presenting with clinical features of *Praklinna Vartma* - Blepharitis were selected from the OPD & IPD of P.G. Dept. of Shalaky Tantra; Rishikul Campus Haridwar.

c) **Selection of the Drug :** Because of easy process, high bioavailability, less time requirement *Seka Kriya Kalpa* procedure taken, this is useful in chronic condition of diseases where long term acting drugs are needed. The *Dravya* [drugs] of *Seka Yoga* (*Haritaki, Vibhitaki and Amlaki*) having *Tridosha Shamaka* properties. After proper

identification it was collected from local market in Haridwar and prepared properly in Rasashastra Department of Rishikul Campus Haridwar.

##### 2. CRITERIA OF INCLUSION :

- Patient presenting with sign and symptoms of *Praklinna Vartma* and Blepharitis.

- Patient willing to participate

- Age – 7yr -70yr.

- Sex – either sex

##### 3. EXCLUSION CRITERIA :

- Patients having diseases like Ectropion, Entropion, Trichiasis, Lagophthalmous, Acute/chronic infective conjunctivitis Corneal ulcer, Dacryocystitis, Dry eye, etc.

- Patients suffering from specific eye lid disorders like Tumour, Carcinoma, Skin allergies.

- Systemic diseases like- DM, HTN.

##### 4. CRITERIA FOR WITHDRAWAL :

1. If any serious condition or any serious adverse effects appear during the course of study which requires urgent treatment.

2. If patient wants to withdraw him/herself from the clinical study.

##### 5. CRITERIA FOR DIAGNOSIS:

All the patient of *Praklinna Vartma*



(Blepharitis) was diagnosed on the basis of various clinical presentation, laboratory investigation and findings.

### Subjective Parameters :

1. *Arujama (Alparujam) or Nishtoda* (Pain at lids).
2. *Kandu* (Itching at lids).
3. Burning sensation at lids.

### Objective Parameters :

1. *Bahyataha Shunama* (Lid oedema).
2. *Antah Klinnta or Srava* (Sticky discharge at lid margins)
3. Scaling at lid margins.
4. Falling of eye lashes
5. Meibomian gland expression.
6. Conjunctival scaring

### FUNCTIONAL EXAMINATION OF EYES:

External Examination, visual acuity, Slit lamp examination, Fundoscopy.

**Investigations:** Routine Hematology.

- Blood sugar (Fasting and PP)
- Erythrocyte sedimentation rate (ESR)
- Complete blood count

### B) INTERVENTIONAL PHASE:

**Study design :** The method adopted for the study was open randomized clinical study.

**Sampling:** A total number of 15 patients with signs and symptoms of *Praklinna Vartma* (Blepharitis) were registered and

treated with *Seka Karma* one time/ day (10-15 minute) up to 15 days.

**Plan of work :** The study was carried out as follows -

**Proforma :** A special proforma was prepared on the basis of signs and symptoms of *Praklinna Vartma* and Blapharitis described in *Ayurvedic* and modern text respectively to maintain the records of all findings (before and after treatment) regarding the patients.

### Informed Consent :

The purpose of the study, nature of the study, the procedure to be carried out and the potential risk and benefits were explained to the patients in detail in non-technical terms and trilingual. Thereafter written informed consent was taken from each patient before starting the study.

### Diet Recommendation-

Patients were advised to follow *Pathya Ahara* and *Vihara* as mentioned in *Netra Roga Chikitsa* in classics before and after the treatment.

### SEKA KARMA (Procedure):

#### 1. PURVAKARMA :

#### a) Proportion, quantity and method of preparation *Triphala Kwatha*–

*Yavakoota* (Coarse powder) of *Triphala* (*Hritaki:Vibhitaki:Amalaki 1:1:1*) was mixed properly and 4 times water added



(1part *Dravya* + 4 part water) and boiled at slow temperature till it became 3/4 (*Laghu*) of total amount means ¼ reduced. The medicated decoction was filtered with the help of cotton so that there are no minute particulates in the decoction.

#### b) Device/ Instruments for *Seka*:

*Seka* was done by *Jala Neti Yantra* because it gave a single thin *Sukshma Dhara* (1.5-2mm in amount of 250 ml). Other instrument which are useful for procedure collected before the procedure. (Figure -1)



Figure 1 Instruments for *seka*

#### c) Preparation of patient :

**Position of patient:** Patient is made to Supine position on *Kriya Kalpa* table.

**Cleaning of eyes and face:** Wiping/cleaning the skin of lids, orbital area and whole face with sterile cotton swab before *Netra Seka*.

***Snehana* and *Swedana* :** Before starting the procedure *Mridu Snehana/ Abhyanga* followed by *Swedana* was applied on face

and lids to relax the patient and increase the vasodilation of local area.

#### 2. **PRADHANA KARAM :**

After *Purva Karma* patients were advised to close the eyes and *Seka* was performed in the closed eyes from *Kaninaka Sandhi* as is indicated in the classical literature. (Figure-2)



Figure 2 *Seka karma* procedure

**Height of *Dhara*:** *Seka* was done from four *Angulas* (fingers about 6-6.5 cm).

**Site of *Dhara*:** The stream was given over *Kaneenka Sandhi* (inner canthus).

**Temperature:** Temperature of *Kwatha* which comforts the patients (*Sukhoshna*).

**Duration of Performing *Netra Dhara*:** Duration of the procedure at one sitting was 10minute.

***Netra Seka* performed in a day:** One time /day.

#### 3. **PASHCHATA KARMA:**

After the treatment, eyes was washed or cleaned with Luke warm water. Patient was



advised to take rest and not use the bright things also not to take *Kapha Vridhikara Ahara & Vihara*.

**Complications:** No complication of the procedure was noticed.

### C) ASSESSMENT PHASE:

**Criteria For Assessment:** Most of the signs and symptoms of *Praklinna Vartma* and Blepharitis described in *Ayurveda* are subjective in nature, to give the results objectively and for statistical analysis multidimensional scoring system have been adopted. Score was given according to severity of symptoms. Assessment was done on the basis of clinical feature of the patient before and after treatment by following the scoring pattern-

#### 1) *Arujam/ Alparujam* or *Nishtoda* (Severity of pain)

- 0 No pain
- 1 Occasional pain
- 2 Persistent do not disturb routine work
- 3 Disturb routine work

#### 2) *Kandu* (Itching at lid margins)

- 0 No itching
- 1 Occasional itching
- 2 Persistent do not disturb routine work
- 3 Disturb routine work

#### 3) Burning sensation at lids and eye

- 0 No burning sensation
- 1 Occasional burning sensation

- 2 Persistent do not disturb routine work
- 3 Disturb routine work

#### 4) *Bahyataha Shunama* (Lid oedema)

- 0 No oedema
- 1 Slightly narrowed palpebral fissure (3/4 of normal width) with congestion
- 2 Narrowed palpebral fissure with oedema (2/3 of normal width)
- 3 Narrowed fissure with severe oedema (1/3 of normal width)
- 4 Massive oedema (cornea barely visible)

#### 5) *Antaha Klinnata* or *Srava* (Discharge at lid margins)

- 0 Mating of eye lashes absent
- 1 Mating of 2-4 eye lashes
- 2 Mating of 5-7 eye lashes
- 3 Mating of 8-10 eye lashes

#### 6) Scaling

- 0 No Scale
- 1 1-5 Scales
- 2 6-10 Scales
- 3 > 10 Scales

#### 7) Falling of eye lashes

- 0 No fall of eye lashes
- 1 Falling of 1/3rd of total eye lashes
- 2 Falling of 2/3rd of total eye lashes
- 3 Falling of > 2/3rd of total eye lashes

#### 8) Conjunctival scaring

- 0 No conjunctival scaring
- 1 Arlt's line conjunctival scaring
- 2 Discrete conjunctival scaring



3 Lid deformity scaring

### 9) Meibomian gland expression

0 Normal, Clear, may have a few particle

1 Opaque with normal viscosity

2 Opaque with increased viscosity

3 Severe thickening (Toothpaste like)

### STATISTICAL ANALYSIS:

The information regarding demographic data was given in percentage. The data obtained in clinical study is subjected to statistical tests and analysed. **Wilcoxon's signed rank test (W- value)** was applied to evaluate % relief before and after treatment in each group and finally result were incorporated in terms of Probability (P).

**Table 1** Demographic data

Variables		No. of Patients	%
<b>Gender</b>	MALE	9	60%
	FEMALE	6	40%
<b>Education</b>	Uneducated	2	13.3%
	Primary	6	40%
	Higher Secondary	6	40%
	Graduate	1	6.7%
	Post Graduate	0	0.0%
	<b>Occupation</b>	Service	4
	Labour	7	46.7%
	Business	1	6.7%
	Housewife	3	20%
	Student	0	0.0%
<b>Socio-economic status</b>	Lower Middle	4	26.7%
	Middle	6	40%
	Upper Middle	5	33.3%
<b>Prakriti</b>	VP	3	20%
	VK	7	46.7%
	PK	5	33.3%
<b>Dandruff History</b>	No	6	40%
	Yes	9	60%
<b>Chronicity</b>	<1 YR	6	40%
	<2 YR	6	40%
	<3 YR	1	6.7%
	<4 YR	2	13.3%

### OBSERVATION AND RESULTS

Out of all 15 subjects registered for the present study 60% were male and 40% were females. 40% belonged to middle class, 33.3% to upper middle class and 26.7% to lower middle class. 40% of them were having higher secondary and primary education. 46.7% were labourers and 26.7% were in service. In terms of *Prakriti* 46.7% were *Vata Kapha Prakriti* and 33.3% were *Pitta Kapha Prakriti*. 60% of them were having dandruff history. In chronicity, 40% were having a chronicity of approximately from 1-2 years. (Table 1)





**EFFECT OF THERAPY:** Since the observations were on ordinal scale so, we used Wilcoxon Signed Rank Test to test the efficacy of therapy.

**IN SUBJECTIVE CRITERIA:**

**Arujam/ Alparujam/ Nishtoda (Severity Of Pain) :** Before treatment median score of Severity of pain in both eyes was 2.00 which reduced after treatment to 1.00 with a relief of 53.1% (p- value=0.000) which is statistically significant.

**Kandu (Itching At Eyelids) :** Before treatment median score of Itching at eyelids in both eyes was 2.00 which reduced after treatment to 1.00 with a relief of 61.8% (p-value=0.000) which is statistically significant.

**Burning sensation:** Before treatment median score of Burning sensation in both eyes was 2.00 which reduced after treatment to 1.00 with a relief of 53.3% (p-value=0.000) which is statistically significant. **(Table 2)**

**Table 2** Subjective Criteria

Clinical Feature	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
<i>Arujam/alparujam/Nishtoda (Severity of Pain) RE</i>	2	1	-3.494 <sup>a</sup>	0.000	53.1	Sig
<i>Arujam/alparujam/Nishtoda (Severity of Pain) LE</i>	2	1	-3.494 <sup>a</sup>	0.000	53.1	Sig
<i>Kandu (Itching)RE</i>	2	1	-3.520 <sup>a</sup>	0.000	61.8	Sig
<i>Kandu (Itching)LE</i>	2	1	-3.520 <sup>a</sup>	0.000	61.8	Sig
<i>Burning Sensation RE</i>	2	1	-3.557 <sup>a</sup>	0.000	53.3	Sig
<i>Burning Sensation LE</i>	2	1	-3.557 <sup>a</sup>	0.000	53.3	Sig

**IN OBJECTIVE CRITERIA:**

**Antahklinnata/ Srava (Discharge/ Matting of eyelashes) :** Before treatment median score of Matting of eyelashes in Right eye was 3.00 which reduced after treatment to 1.00 with a relief of 66.7% (p- value=0.001) which is statistically significant. Before treatment median score of Matting of eyelashes in Left eye was 2.00 which reduced after treatment to 1.00 with a relief

of 64.9% (p- value=0.000) which is statistically significant.

**Bahyatah Shunam (Lid oedema):** Before treatment median score of Lid oedema in both eyes was 2.00 which reduced after treatment to 1.00 with a relief of 67.7% (p-value=0.000) which is statistically significant.

**Scaling at lids:** Before treatment median score of Scaling at lids in Right eye was 3.00 which reduced after treatment to 0.00



with a relief of 83.8% (p-value=0.001) which is statistically significant. Before treatment median score of Scaling at lids in Left eye was 2.00 which reduced after treatment to 0.00 with a relief of 75.0% (p-value=0.001) which is statistically significant.

**Conjunctival Scaring:** Before treatment median score of Conjunctival scaring in both eyes was 0.00 which reduced after treatment to 0.00 with no change 0.0% (p-value=1.000) which is statistically not significant. Median was 0.00 before treatment because in maximum (more than

half i.e.13) number of patients had conjunctival scaring Grade 0.

**Falling of Eye Lashes:** Before treatment median score of Falling of eyelashes in both eyes was 2.00 which reduced after treatment to 1.00 with a relief of 55.0% (p-value=0.001) which is statistically significant.

**MGE (Meibomian gland expression):** Before treatment median score of M.G.D in both eyes was 2.00 which reduced after treatment to 1.00 with a relief of 56.8% (p-value=0.000) which is statistically significant. (Table 3)

**Table 3** Objective Criteria

Clinical Feature	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
<i>Antahklinnata/Srava</i> (matting of eyelashes) RE	3	1	-3.464 <sup>a</sup>	0.001	66.7	Sig
<i>Antahklinnata/Srava</i> (matting of eyelashes) LE	2	1	-3.482 <sup>a</sup>	0.000	64.9	Sig
<i>Bahyatah Shunam</i> (Lid oedema) RE	2	1	-3.520 <sup>a</sup>	0.000	67.7	Sig
<i>Bahyatah Shunam</i> (Lid oedema) LE	2	1	-3.520 <sup>a</sup>	0.000	67.7	Sig
Scaling at lids RE	3	0	-3.453 <sup>a</sup>	0.001	83.8	Sig
Scaling at lids LE	2	0	-3.460 <sup>a</sup>	0.001	75.0	Sig
Conjunctival Scaring RE	0	0	.000 <sup>b</sup>	1.000	0.0	NS
Conjunctival Scaring LE	0	0	.000 <sup>b</sup>	1.000	0.0	NS
Falling of Eye Lashes RE	2	1	-3.317 <sup>a</sup>	0.001	55.0	Sig
Falling of Eye Lashes LE	2	1	-3.317 <sup>a</sup>	0.001	55.0	Sig
MGE (Meibomian gland expression) RE	2	1	-3.535 <sup>a</sup>	0.000	56.8	Sig
MGE (Meibomian gland expression) LE	2	1	-3.535 <sup>a</sup>	0.000	56.8	Sig



## DISSCUSSION

According to *Dosha*, in *Alpa Bala* disease *Ashchyotana* is helpful and in *Balwana* disease *Seka* is best<sup>9</sup>. As the disease *Praklinna Vartma* (Blepharitis) is chronic and sometimes becomes more painful that's why *Seka Karma* was chosen for the study. *Seka* can improve the eyelids disorders due to its deep penetrating properties. The thickness and integrity of stratum corneum is an important factor determining the transdermal drug absorption. Thicker skin is a greater barrier to passage of the drug. The skin of eyelid is the thinnest in the body and it measures approximately 0.05 cm. The dermis is composed of rich network of elastic fibers, blood vessels, lymphatic's and nerves<sup>10</sup>. Penetration of a drug occurs through the stratum corneum, underlying viable epidermis, dermis, and then finally into the circulatory and lymphatic system. *Sukhosna Kwatha* (mild hot fomentation) removes debris, bacteria, bacterial toxins, scales and crusts from the minute folds of the skin and thereby helps to maintain the lid hygiene. *Seka Karma* improves the vascular supply by vasodilation and helps in faster and effective absorption.

### PROBABLE MODE OF ACTION OF SEKA KARMA:

*Seka Karma* helps in removing of debrided tissue and scales. As it used in *Sukhoshna* form it leads increased blood flow which enhances absorption of drugs. Degradation of the absorbed material with the help of essential enzymes (*Pachana* by *Bhrajakagni*<sup>11</sup>) leads new metabolites formation which pacify *Doshas* locally. The active principles reaches to the deeper tissues through *Siramukha* & *Swedavahi Srotas*. *Seka Karma* deblocks the obstruction in *Swedavahi Srotas* & allows the local toxins to flow out through the *Sweda*, thus clearing out the micro channels. Thus breaks the pathogenesis cycle leading to the alleviation in the symptoms.

### ACTIONS OF SEKA YOGA:

*Triphala* have *Tridoshaghna* qualities, so that it can counteract vitiated *Doshas* to disintegrate the pathology of the disease. Due to *Katu*, *Tikta* and *Kashaya Rasa* and *Deepana -Pachana* property which helps in *Ama Pachana*. *Ama* formation is also responsible for *Srotorodha* in *Netra Sira*. The *Shuddha Srotasa* allow the free movement of *Tridosha*. *Laghu*, *Ruksha Guna* of Drug allow *Lekhana*, *Pachana*, *Vrana Ropana*. *Ushna Veerya* has *Lekhana*, *Chhedaniya*, *Shodhana*, *Rasayana*, *Chakshushya* and *Vata – Kapha Shamaka* effect. The drug having *Madhura Vipaka*



possess *Rasayana*, *Cakshushya*, *Jeevaniya*, *Balya* etc. properties. These properties of *Seka Yoga (Triphala)* help to break down the *Samprapti* - pathogenesis of the disease. *Triphala* strengthens the eyes<sup>12</sup>. Research has found that *Triphala* is a potent antioxidant<sup>13</sup>, anti-microbial<sup>14</sup> Ingredients of *Seka Yoga* are having *Karmas* (actions) like *Tridosahara*, *Kaphaghna*, *Kṛmighna*<sup>15</sup>, *Chakshushya*<sup>16</sup>.

#### OVERALL EFFECT OF THERAPY:

- The present study shows that 07 patients (46.7%) showed marked improvement, 07 patients (46.7%) showed moderate improvement, 01 patients (6.7%)

showed mild improvement and no patient (0.0%) showed no response or cured by treatment.

- None of the patients remained unchanged/uncured in treatment group.
- In none of the case discussed, any sign and symptom of the recurrence & incontinence was ever found out during study period or follow up.
- No adverse reaction of any drugs/procedure was observed during the course of study and post treatment follow up. (**Table 4**)

**Table 4** Overall effect of therapy

Overall Effect	Frequency	%
Cured	0	0.0
Marked Improvement	7	46.7
Moderate Improvement	7	46.7
Mild Improvement	1	6.7
No Improvement	0	0.0

#### CONCLUSION

*Seka Karma* in *Praklinna Vartma* (Blepharitis) has shown significant result. However clinical trials on a large sample with long duration of follow up is necessary to establish the efficacy of *Seka Karma* as a procedure of choice and to analyze the recurrence rate after treatment. By this study it can be concluded that *Seka Karma* can be advised for successful treatment in patients of *Praklinna Vartma* (Blepharitis) as it is

cost effective and given better efficacy in treatment.



## REFERENCES

1. Acharya Sushruta, *Sushruta Samhita; Ayurveda - Tattva - Sandipika Hindi commentary*; Edited by Kaviraja Ambikadutta Shastri; Chaukhamba Sanskrit Sansthan, Varanasi, Edition; Reprint 2010; *Uttar Tantra* 3/7, pp.19.
2. Acharya Sushruta, *Sushruta Samhita; Ayurveda - Tattva - Sandipika Hindi commentary*; Edited by Kaviraja Ambikadutta Shastri; Chaukhamba Sanskrit Sansthan, Varanasi, Edition; Reprint 2010; *Uttar Tantra* 1/33-34, pp..16.
3. Khurana AK, *Anatomy and Physiology of Eye*, 2<sup>nd</sup> edition, CBS Publisher & Distributer Pvt. Ltd. New Delhi, chap15, pp.365.
4. Pakistan journal of ophthalmology : Prevalence of Oculo-Visual Disorders amongst University Students in Varanasi District, North India, vol.28, Apr-Jun2012, pp.86.
5. American Academy of Ophthalmology Blepharitis.  
[http://www.spitalmures.ro/\\_files/protocoale\\_therapeutice/oftalmologie/blepharitis-2.pdf](http://www.spitalmures.ro/_files/protocoale_therapeutice/oftalmologie/blepharitis-2.pdf).
6. Blepharitis Preferred Practice Pattern; American Academy of Ophthalmology, October 2013 available at [www.aao.org.ppp](http://www.aao.org.ppp).
7. Blepharitis Preferred Practice Pattern; American Academy of Ophthalmology, October 2013, available at [www.aao.org.ppp](http://www.aao.org.ppp).
8. Upadhyaya Pratibha Anjana (Corrylium): Ancient Ocular Drug Modality, World Journal Of Pharmacy and Pharmaceutical Sciences, Volume 5, Issue 7, pp433-438, May-June 2016 Available from: [www.wjpps.com](http://www.wjpps.com).
9. Acharya Sushruta, *Sushruta Samhita; Ayurveda - Tattva - Sandipika Hindi commentary*; Edited by Kaviraja Ambikadutta Shastri; Chaukhamba Sanskrit Sansthan, Varanasi, Edition; Reprint 2010; *Uttar Tantra* 18/44, pp.99.
10. Sailesh Konda, Susan R. Meier-Davis, Brenda Cayme, Jutaro Shudo, Age related percutaneous penetration Part 1-Skin factors. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22622279>
11. Acharya Vagbhata, *Astanga Hrdayam; Vidyotini Hindi Commentary*; Edited by Kaviraja Atrideva Gupta; Chaukhamba Prakashan, Varanasi, Edition: Reprint 2009; *Sutra Sthana* -12/.14, pp.122.
12. “Triphala Health Article” Healthline, Connect to Better Health <http://www.healthline.com/galecontent/triphala> (accessed 24 Feb 2009)
13. Neethu S Kumar Pharmacological and therapeutic effects of *Triphala* – A literature



review Journal of Pharmacognocoy and Phytochemistry 2016; 5(3): pp.23-27, available at [www.phytojournal.com](http://www.phytojournal.com).

14. Neethu S Kumar Pharmacological and therapeutic effects of *Triphala* – A literature review Journal of Pharmacognocoy and Phytochemistry 2016; 5(3): pp.23-27, available at [www.phytojournal.com](http://www.phytojournal.com).

15. *Acharya Sushruta, Sushruta Samhita; Ayurveda - Tattva - Sandipika Hindi* commentary; Edited by *Kaviraja Ambikadutta Shastri; Chaukhambha Sanskrit Sansthan, Varanasi*, Edition; Reprint 2010; *Sutra Sthana* 46/199, pp.260.

16. Journal of Ethnopharmacology; v.58 (2) 1997, pp. 75-83.