



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

International Journal of Recent Scientific Research  
Vol. 8, Issue, 1, pp. 15225-15232, January, 2017

**International Journal of  
Recent Scientific  
Research**

## Review Article

### AYURVEDIC DRUGS USED IN EYE DISORDER-A REVIEW

Nidhi Garg<sup>1</sup> and Akhil Jain<sup>2</sup>

<sup>1</sup>Agad Tantra Department

<sup>2</sup>Shalaky Tantra Dept. Ch. Devi Lal College of Ayurveda and Hospital Jagadhari

#### ARTICLE INFO

##### Article History:

Received 15<sup>th</sup> October, 2016  
Received in revised form 25<sup>th</sup>  
November, 2016  
Accepted 28<sup>th</sup> December, 2016  
Published online 28<sup>th</sup> January, 2017

##### Key Words:

*Kriyakalpa*, Ocular pharmacology,  
Ayurveda, *shalakyatantra*, eye diseases,  
healthcare seeking attitude.

#### ABSTRACT

From historical point of view it is evident that Ayurvedic drugs and procedure based therapies are exceedingly used in alleviating wide range of ocular conditions. *Shalakyatantra*-the core engrossing specialty of Ayurveda, deals with management of ocular illness and has been significantly contributing to the eye care. 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 procedures to follow in order to ensure healthy vision. At the same time, there are various challenging problems, arising before modern ophthalmologists compelling them to tread the virgin fields of medical knowledge hidden in ancient medical manuscripts. Many are aware of various eye ailments and remedies. But the impact of *Ayurvedic* treatments for these ailments is yet to be recognised by both medical fraternity and the public in general. One such *Ayurvedic* ocular therapeutic is *Kriyakalpa*. Ayurvedic literatures recount potential ophthalmic drugs for the management of surface inflammatory conditions of eye such as dry eye syndrome (DES) or Keratoconjunctivitis Sicca (KCS). The plant drugs such as *Berberis saristata* DC. and *Glycyrrhiza glabra* Linn. Are attributed with potential anti-inflammatory, anti-allergic and wound healing activities backed by scientific evidences.

Copyright © Nidhi Garg and Akhil Jain., 2017, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

#### INTRODUCTION

The importance of the eyes was underscored in *Ayurveda* by quoting eye as the most important of all organs: "*Sarvendriyanam Nayanam Pradhanam*" i.e. eyes hold special status among all the sense organs. Eyes are the most precious gift of the God to the living beings. Good vision is crucial for social and intellectual development of a person. *Ayurveda* the fountain head of Indian medicine was conceived as a science and preached in the country some thousands of years ago, long before the other countries could dream of systematizing the concept of remedies for human ailments. *Shalaky Tantra* is one among 8 specialties of *Ashtanga Ayurveda*, which deals with the diseases occurring above the clavicle. So it mainly deals with the sense organs; disease affecting them and their management. *Acharya Nimi* is considered as the expounder of this branch of *Ayurveda*. His view point on the subject of *Shalaky* is presented in first 26 chapters in *Uttar Tantra* of *Sushruta Samhita* wherein 19 chapters hold the Anatomy, Classification, Pathophysiology of diseases and their treatment, which reflects the importance of ophthalmology since ancient time. Eye is perhaps the only organ in the body whose anatomy, diseases and their treatment are detailed vividly and

systematically in *Ayurvedic* literature. *Ayurveda* is the most ancient medical system with an impressive record of safety and efficacy<sup>1, 2</sup> There is a growing recognition, nationally and internationally, of the need for incorporating the contributions of these systems of health knowledge into the dominant one to meet the limitations of modern medicine. *Ayurveda* offers comprehensive safe and effective approaches to manage eye disorders. Abysmally, several traditional aboriginal ophthalmic practices have been fundamentally dilapidated for want of tangible evidence on safety and efficacy; call for scientific research and validation. *Ayurveda* portray distinct concepts and principles of management of eye diseases and efforts being made to generate evidence efficacy of its approaches.<sup>3,4,5,6</sup> Certain clinical studies could able to generate scientific evidence on efficacy, extent of use, and effectiveness of drugs and therapies for surface lesions of the eye, allergic conditions, refractive errors well as neuro-ophthalmic conditions such as Age Related immature Cataract<sup>7</sup>, Chronic Simple Glaucoma<sup>8,9,10,11</sup>, Diabetic Retinopathy<sup>12</sup>, Retinitis-Pigmentosa<sup>13</sup>, Age related Macular degeneration<sup>14</sup>, Dry Eye Syndrome<sup>15,16</sup>, Abnormal Involuntary Movements of Eye<sup>17</sup>, Pain management in ocular conditions<sup>18</sup>, Myopia<sup>19</sup>, Allergic Conjunctivitis<sup>20,21</sup>, Viral Conjunctivitis<sup>22</sup>, Simple conjunctivitis.<sup>23,24</sup> Further the '*caksusya-rasayana*'

\*Corresponding author: Nidhi Garg  
Agad Tantra Department

(preservation and promotion of ocular health) approach of Ayurveda certainly provide safe and clinically effective ophthalmic drugs having diversified effects may be judiciously used to tackle intractable problems of the eye<sup>25</sup>

### **Ayurvedic Treatments for Eye Problems**

The triphala lotion is generally prescribed in case of eye problems. Triphala is a mixture of the two myroblans - belleric and chebula - and the Indian gooseberry. The choorna is soaked in water for half an hour to get the lotion. This lotion is used as an eye-wash three or four times in a day. Triphala lotion has potency to treat eye problems such as cataract and conjunctivitis. Washing the eyes regularly with triphala also keeps them moist and healthy. Chandrodaya vati is another important Ayurvedic preparation used in eye care. It is made into a paste in water and then applied externally over the eyes. Chandrodaya vati is beneficial in the treatment of allergic conjunctivitis and cataract.

### **Netra Kriyakalpa**

As the *Panchkarma* is the bases of *Kayachikitsa*, *Kriyakalpa* is the main therapeutic process for Ophthalmology in *Shalakya tantra*. The word *Kriyakalpa* built from two words: *Kriya* and *Kalpa*. *Kriya* means therapeutic procedures used to cure the disease and *Kalpa* means practicable, possible, manner of acting, a prescribed rule. So *Kriyakalpa* means specific formulation used for therapy in Ayurvedic Ophthalmology. It includes selection of specific procedure, preparation of special drug form and finally its proper application to the eyes. *Acharya Susruta* mention *Tarpan*, *Putapaka*, *Seka*, *Aschyotanam* and *Anjanam* under the heading of *Kriyakalpa*<sup>26</sup>. *Acharya Vaghbata* and *Sarangdhara* add *Pindi* and *Vidalaka* in them. *Acharya Charaka* had also told about *Vidalaka*.

### **Indications of Kriyakalpa**

In Ayurvedic classics, different types of indications are given for different *Kriyakalpas*.

These are as follows

#### **Tarpana**

*Tarpana* is indicated especially in *Vata-Pita* dominating personalities suffering from eye disease<sup>27</sup>

#### **Putapaka**

It is indicated when eye get fatigued after the *Tarpana*, i.e. for rejuvenation of eyes<sup>28</sup>. *Putapaka* is used to give energy to the eyes to overcome from fatigued stage.

#### **Seka**

Indicated in severe eye affections<sup>29</sup> i.e. in acute condition of eye diseases.

#### **Aschyotana**

It is indicated as a first procedure in all eye disease.<sup>30</sup>

#### **Anjan**

It is applied when the *doshas* are located only in the eyes and when the symptoms and signs get started according to the involvement of *doshas*<sup>31</sup>. It is indicated in *Pakwaawastha* of eye disorders. It is indicated not only in diseased eye but also in the normal eyes to maintain the visual power properly. It is

effective in *Lakshanas* like *Vedana*, *Ragata*, *Daha*, and *Shotha*. It has direct action on the ocular tissues especially on conjunctiva, so it is useful in conjunctival disorders. It flushes out debris and unwanted tissue due to its *Lekhan* property<sup>32</sup>.

### **Pindi**

Its symptoms and signs get started according to the involvement of *doshas*. It is indicated in *Pakwaawastha* of eye disorders. It is indicated not only in diseased eye but also in the normal eyes to maintain the visual power properly. It is effective in *Lakshanas* like *Vedana*, *Ragata*, *Daha*, and *Shotha*. It has direct action on the ocular tissues especially on conjunctiva, so it is useful in conjunctival disorders. It flushes out debris and unwanted tissue due to its *Lekhan* property. It is also called *Kawalika*<sup>33</sup>. Indicated in *abhisyantha* and oedema, itching and ocular pain.<sup>34</sup>

### **Vidalaka**

It is also indicated in the early stage of disease<sup>35</sup>.

### **Clinical Features of Aamaawastha of Netra**

Severe pain, redness, oedema, foreign body sensation, pricking type pain and watering<sup>36</sup>.

### **Clinical Features of Niraanawastha of Netra**

Severity of pain, itching, oedema and watering reduces and colour of eye become clear<sup>37</sup>.

### **Ocular Pharmacology**

Modern ophthalmology has reached a stage, where medical, surgical, laser and cryotherapy are playing an almost equal role in the management of eye diseases. Basic principle of ocular pharmacology is described here in brief<sup>38</sup>.

### **Modes of Administration of Topical Instillation into Conjunctival Sac / Extra Ocular**

Drops, ointment, Gels, and Ocuserts

### **Periocular route**

Subconjunctival injections, Sub-Tenon injections, Retrobulbar injections, Peribulbar injections

### **Intraocular Route: Intraocular injections**

**Systemic route:** As in Ayurveda, we are applying ophthalmic therapeutic either in the form of local therapy i.e. *Kriyakalpa* or in the form of systemic use i.e. oral *Chakshushya dravyas*. So here we will focus only on topical route. Eye drops are the simplest and most convenient method of topical application. The forms of drug instilled in eyes are of two types: Aqueous solutions and Aqueous suspensions. In Solutions, drug is totally dissolved, therefore totally available. These are for immediate action but it is quickly diluted by tears and drain to NLD. So tissue contact time is short. In suspensions, drug is present as small particles kept suspended in the Aqueous medium, particles do not leave the eye as quick as in Solutions. Therefore tissue contact time is increased. Ointment and Gel increases the bioavailability of the drug by increasing tissue contact time and by preventing dilution and quick absorption. Ocuserts form a system of drug delivery through a membrane. These can be placed in the upper or lower fornix up to a week and allow a drug to be released at a relatively constant rate. The

systemic routes include oral intake and intramuscular and intravenous injections. The intraocular penetration of systemically administered drugs mainly depends upon the blood-aqueous barrier. The passage through blood-aqueous barrier in turn is influenced by the molecular weight and the lipid solubility of the drug. No passage is allowed to large-sized molecules such as Sb, As commonly present in major collyria formulation. Only low molecular weight drugs can cross this bloodaqueous barrier. The corneal epithelial tight junction i.e. zonula occludens and the lipid-water-lipid sandwich layer provides mechanical and chemical barrier for the drug absorption. The lipophilic and hydrophilic substances can be effectively delivered. The permeability across the sclera depends on the size and weight of molecules

#### **Kriyakalpa based on ocular pharmacologykriyakalp used formulation drug delivarysystemremark**

##### **Tarpana**

Simple Goghrita or Goghrita/oil prepared with medicine Used preparation is in aqueous suspension form. So it will cross corneal epithelium barrier easily. Due to more tissue contact time, active components of drug will absorb more. Mainly indicated in diseased conditions of Eyes.

##### **Putapaka**

Plant extracts after close chamber(ball wrapped by green leaves and layer of mud) combustion Used preparation is in aqueous solution form and active component concentration is high. Tissue contact time is very less. Used after *Tarpana* to increase *drasthibala* and in mild eye affections

##### **Seka**

Decoctions of raw drugs •Used as aqueous extract i.e. in concentrateform, but used on closed eye. Medicine is absorbed through the skin of lids. Indicated in severe eye affections.

##### **Aschyotana**

Decoctions of raw drugs. The active principle is aqueous extract. Tissue contact time is

It is used as a first line of treatment in all eye disorders.

##### **Anjana**

Liniment of drugs. Bioavailability is more due to more tissue contact time. *Anjanas* are mainly have *lekhana* properties which can gradually taper the thickness of the membrane and there by prevent the growth and also reduce the size.

##### **Pindi/Kawlika**

Poultice of different Medicine is absorbed through the skin of lids. Due to heat of poultice, local temperature is increases resulting in local vasodilation. So the drainage of toxin occurs from lesion site. Indicated in *abhisyandha* and oedema, itching and ocular

##### **Vidalaka**

Medicated paste is applied over the skin of lids. Medicine is absorbed through the skin of lids. Mechanical effect of pressure helps in reducing IOP by vasodilation and aqueous drainage. Indicated in early stages of eye diseases especially for curing burning, watering, swelling and redness of eye<sup>39</sup>

#### **Basis for Formulation Herbal Eye Drops**

Owing to limitations of different conventional agentsit is at this juncture that the need for safe and effective drugs that could effectively tackle dry eye syndrome. A vast number of indigenous drugs coupled with innumerable claims of their varied uses in alleviating wirange of ophthalmic affections calls for scientific validation for their safety and efficacy. Ayurvedic literatures record more than fifty ophthalmic plant drugs and more than forty metals minerals having diversified pharmacological actions on visual system and adnexa of the eye.<sup>40,41,42</sup> *Yastimadhu* (*Glyeyrrhiza glabra* Linn.) & *Daruharidra* (*Berberis aristata* DC.) are some of such medicinal plant sources having potential leads in the management of surface ocular inflammatory conditions such as dry eye syndrome, supported by textual references from Ayurvedic literatures backed by experimental and clinical studies. Pharmacological actions such as *caksusya* (conducive to vision), *netrya* (conducive to adnexa of eye), *netraruja-hara* (analgesic ophthalmic action), *netra sodhahara* (anti-inflammatory action) *netrakanduhara* (anti allergic action), *vranaropana* (wound healing effect) are attributed to these drugs.<sup>43,44</sup>

*Yastimadhu*(*Glyeyrrhiza glabra*)has shown notable anti-inflammatory action attributed to cortisone-like substance present in this plant that helps reduction of inflammation.<sup>45</sup> It is evident that the combination of ingredients viz. *Yastimadhu* (*Glyeyrrhiza glabra*), *Daruharidra* (*Berberis aristata*) certainly play a significant role in restoring the functions of tear film, prevention of ulceration and related checking inflammatory process and contributory to the comprehensive management of dry eye syndrome. The eye drops is formulated with these two plant ingredients and developed as per Indian Pharmacopeia (IP, 1996) complying quality standards and otherparameters such as isotonic to lacrimal fluid, particulate matter, pH, Sodium chloride content, sterility test besides permissible preservatives and packing specifications etc.<sup>46,47,48</sup>

#### **Home Remedies for Common Eye Problems**

Prepare a mixture of equal proportions of aniseed powder and coriander seed powder. Mix it with an equal weight of unrefined sugar. Take it in doses of 12 grams every morning and evening. It is beneficial for people with cataract. For people with weak eyesight, taking a mixture of the juices of raw parsley and carrots in a glassful amount everyday will provide great benefits. Mix one part of sugar with three parts of coriander. Grind them into a fine powder and put this mixture in boiling water. Keep it covered for one hour. Then filter it with a clean cloth. Use the filtrate as eye drops. This is an effective treatment for conjunctivitis. Immerse almonds in milk and keep them overnight. In the morning, mix this milk with sandalwood. Apply this on the eyelids. This reduces redness of the eyes due to exertion. Inhaling the odors of sesame mixed in honey reduces the excessive wateriness of the eyes. Take two small pieces of cardamom. Grind them and dissolve the powder in milk. Boil the milk and drink it at night. This makes the eyes healthier. mangoes, papayas and oranges. Green leafy vegetables such as spinach, coriander and colocasia also contain vitamin A. Among non-vegetarian foods, fish, liver and eggs contain vitamin A. Dairy products also have a fair amount of vitamin A in them. The risk of cataracts is reduced by

including vitamin C in the diet. Foods containing vitamin C such as Indiangooseberry, guava, orange, lemon and tomato, capsicum, cabbage, etc. must be included in the diet.

#### **Coriander (*Coriandrum sativum*)**

A decoction prepared from coriander can be used as an eyewash for people with conjunctivitis. There will be immediate reduction in the burning, redness and swelling of the eyes.

#### **Indian Gooseberry (*Emblica officinalis*)**

The Indian gooseberry, known as amalaki, is exceptional in treating ocular problems. It can bring relief in both conjunctivitis and glaucoma. Its juice is taken with honey for better effects.

#### **Indian Sorrel (*Oxalis corniculata*)**

The Indian Sorrel has exceptional properties in the treatment of several eye problems. A few drops of the juice of its leaves must be put in the eyes everyday to keep them free from strain. They can also be a good prevention for cataract.

#### **Marigold (*Calendula officinalis*)**

Marigold is taken as a cold infusion for washing eyes that are stressed. This brings a cooling effect to the eyes. It is also effective in cases of conjunctivitis.

#### **Parsley (*Petroselinum crispum*)**

The raw juice of parsley is effective for eye care. It can relieve the eyes of problems such as corneal ulcers, cataracts, weak eyes, conjunctivitis, ophthalmia and sluggishness of the pupils.

#### **Dietary Tips for Eye Care**

Vitamin A is directly responsible for the strength and power of the eyes. Hence, foods that are rich in vitamin A must be taken. Vitamin A is contained in all orange and yellow colored vegetables such as carrots, oranges and pumpkins and in fruits like mangoes, papayas and oranges. Green leafy vegetables such as spinach, coriander and colocasia also contain vitamin A. Among non-vegetarian foods, fish, liver and eggs contain vitamin A. Dairy products also have a fair amount of vitamin A in them. The risk of cataracts is reduced by including vitamin C in the diet. Foods containing vitamin C such as Indian gooseberry, guava, orange, lemon and tomato, capsicum, cabbage, etc. must be included in the diet.

#### **Dry eye syndrome (DES)**

It is an eye disease, which, in turn, is caused by either decreased tear production or increased tear film evaporation.<sup>49</sup> The Latin phrase "kerato-conjunctivitis sicca" indicates dryness and inflammation of the cornea and conjunctiva. Ayurvedic literatures describe DES as *shushkakshipaka*, *parishuskha-netra*, *ativishuskha--netra*, *asrusavarahanetra* and *asnigdhanetra* indicative of dryness of eye due to deficiency in tear film components.<sup>50</sup> There are many conditions which cause dryness of the eyes such as hypo function of lacrimal glands, mucin deficiency, conjunctival scarring etc.<sup>51</sup> Dry eye syndrome is the most common eye disease, affecting 5 - 6% of the population.<sup>52,53,54</sup> Management strategies of dry eye syndrome include mainly supplementation of tear preferably substitutes containing methylcellulose or carboxymethylcellulose or

identical substances which are viscous in nature.<sup>55</sup> The tear stimulants such as cholinergic drugs increase the tear production from lacrimal gland by stimulating secretions, but not been used in clinical practice. All these drugs do not have any effect on basic path physiology and they provide only symptomatic relief.<sup>56</sup>

#### **Ayurvedic Solutions for Dry, Tired Eyes**

According to Maharishi Ayurveda, the eyes are one of the most important organs in the body. All five elements play a role in maintaining eye health. Earth (prithvi) governs the muscular part of the eye, fire (tejas) rules the blood vessels, air (vayu) governs the color, water (apu) dominates the white area, and space (akasha) controls the tear ducts and channels. The eye is also governed by Alochaka Pitta, a subdosha of Pitta which becomes less balanced as we age. That's why it's important to care for your eyes throughout life. In the same way that Maharishi Ayurveda recommends preventing future health problems while you're still healthy, here are some simple things you can do to prevent eye disease and improve your vision.

#### **Watery eyes**

It is called excess lacrimation or Epiphora. It is the abnormal overflow of tears, found in one or both eyes. It can occur continuously or intermittently. Even though it is not a life threatening illness it may cause severe discomfort in most of the sufferers especially among the people of profession where more contact of eye is mandatory in maximum occasions. Excessive production of tears may be caused by emotional situations, dry eye conditions, irritations and allergic reactions, poor drainage of tear is usually due to anomalies in the position of the eyelid or the lacrimal punctum, improper blinking habits, infection conditions, injuries etc. To rule out the exact mechanism behind the excess lacrimation full ophthalmological examination should be carried. According to modern science depending upon the cause and site of affliction line of treatments will vary.

#### **Ayurvedic way of understanding of Excess lacrimation**

Charaka Samhita explains feature of excess lacrimation in several eye disorders. But more specifically and in simple way of understanding 'Akshi srava' is explained in Nimitantra, another Ayurvedic text book. The occlusion of Akshigata nadi (tubular structures of the eyes) results in this particular complaint and it is managed by Kaphahara chikitsa – Kapha balancing treatment srotoshodhaka (channel cleansing) and netrya – netra balakaraka (eye tonics) medicines. So, according to the condition Anjana (collyrium), Bidalaka (external application), Seka (pouring the medicaments), Ashchotana (eye drops) etc are mentioned in this respect.

#### **Ayurvedic herbs useful in watery eyes treatment**

Punarnava-Boerhavia diffusa  
Shigru-Drum stick-Moringa oleifera  
Guduchi-Tinospora cardifolia  
Hareetaki-Terminalia chebula  
Amalaki-Emblica officinalis  
Punnaga-Caryophyllum innophyllum etc

### **Ayurvedic medicines for external application for excess lacrimation**

Chandrodaya varti – Chandrodaya Varti is an Ayurvedic collyrium medicine, used in the treatment of early stage of cataract, pterygium, growth over the eyes, etc. This should be used strictly under medical supervision.

Nagarjuna varti  
Vimala varti  
Narikelanjana etc

### **Internal medication**

Saptamrita loha – Saptamrit Lauh is an Ayurvedic medicine in tablet or powder form. It is mainly used in the treatment of eye disorders, gastritis, abdominal colic, etc. It contains Iron Bhasma as its main ingredient.

Dhatri loha  
Punarnavasava  
Amalaka rasayana  
Dhatryarishtha

Phalatrikadi kashaya – useful for both eye washing and also for oral administration.

### **Excess lacrimation of the eyes**

Seeing the shining and penetrating objects, minute substances for prolonged period, excess stress, restless work to the eyes etc are to be avoided. Proper eye exercise, good sleep and regular application of collyrium will help to overcome excess lacrimation in significant way.

### **Ayurvedic home remedies for watery eyes**

1. A teaspoon of Triphala powder at night, after food, mixed with a teaspoon of honey and 5 drops of ghee, is consumed along with a cup of lukewarm water for 20- 30 days time.
2. Take a tablespoon of Triphala powder, mix it with 2 cups of water, boil and reduce to 1 cup and filter. Use this lukewarm kashayam to wash the eyes – 2 – 3 times a day for 10 – 20 days time.

### **Solutions for Dry, Tired Eyes**

If your eyes feel tired and dry, or are filled with crusty matter when you wake up, this is due to a disturbance in Vata dosha. Here are some ways to balance Vata dosha and refresh and lubricate your eyes.

When you wake up in the morning, splash your eyes and face with slightly warm water 10-15 times.

After returning from work or school, wash your feet in warm water and massage them with Moisturizing Herbal Massage Oil.

Drink fennel seed water each day. Boil 1/2 t. fennel seed in a cup of water, and boil it back until reduced to half. Sip when warm.

### **Solutions for Tense, Bloodshot Eyes**

Tense, bloodshot eyes are caused by an imbalance in Pitta dosha, and can be triggered by stress, exposure to smoke, pollution, fatigue, or insufficient or irregular sleep.

Apply Youthful Skin Eye Gel to the area around the eyes at night. This provides natural support for the delicate skin around the eyes, and has a Chakshushya effect (which means that it gives health and longevity to the eye area). It also increases soma and balances agni, and helps remove wrinkles and dark circles.

### **Healthy Eye Habits**

In general, you don't want to stare continuously at fixed objects in the distance. Blink periodically and look away at short intervals to keep from straining the eyes. At the same time, staring at the TV close-up is one of the main causes of myopia (nearsightedness), so watch TV from at least ten feet away not too near and not too far. Proper light is another factor in eye health, just like your mother told you. Avoid reading or working in either dim light or in bright sunlight. Staring fixedly in the distance or close-up is especially harmful in bright sunlight, especially if you're around water or reflecting objects. Wear sunglasses to protect your eyes in bright sunlight, but not to drive or read with, as this will cause strain. One of the biggest enemies of the eyes is lack of sleep. If you have a tendency to stay up too late, try going to bed just fifteen minutes earlier. Gradually bring your bedtime into alignment with the ayurvedic routine - before 10:00. If you wake up in the night and can't fall back asleep, try Deep Rest.

### **Morning Eye Routine**

1. Each morning upon waking (either before or after using the toilet), fill your mouth with water and hold for a few seconds with your eyes closed. Spit it out and repeat 2-3 times.
2. Splash your eyes and face with cool or slightly warm water 10-15 times. Repeat again in the evening when you return from work or school.

### **Yoga for Your Eyes**

Yogic eye exercises, if done daily, are a gentle and effective way to prevent vision problems from developing. They are especially recommended for children, but adults can help prevent farsightedness from developing in middle age, and even people who wear glasses can prevent their vision from getting worse. If you already do yoga regularly, continue with your normal routine, because most yogic exercises have a good effect on the eyes.

### **Yogic Eye Exercises (for strengthening eye muscles and releasing stress)**

1. Sit in the Sukhasana (easy pose) with your legs comfortably crossed and your spine, neck and head in a straight line. Look directly to the front at eye-level and breathe normally. This is the position of readiness.
2. Move your eyes upward to the ceiling and stay for two seconds. Look downwards and stay for two seconds. Close your eyes for two seconds.
3. Look toward the right side, as far as your eye will see, for two seconds. Look to the left side for two seconds. Look to the front again.
4. Close your eyes for 6-8 seconds.
5. This completes one round. Start with 2-3 rounds and increase up to four rounds.

### **Palming (for releasing stress from the eyes)**

1. Rub both palms together quickly for 8-10 seconds. This friction creates a mild heat.
2. Close the eyes and gently place the left palm over the left eye and the right palm over the right eye for one minute. Do not press the eyeballs with the palms - just let them gently rest there. Breathe in and out slowly to release stress.
3. Repeat 2-3 times.
4. Other poses that strengthen the eyes include the Bhujangasana (snake pose), Surya Namaskara (sun salutes), and Shavasana (rest pose).

### **Computer Fatigue**

If you have to stare at a computer screen up close for your job, or spend long hours doing any detailed close-up work, use these tips to banish eye fatigue. Every thirty minutes, look away from the computer and palm your eyes (see above). You can also get up for a short break, stretch or make a phone call. Dampen two wads of cotton wool with pure Organic Rose Water and place over closed eyes. Relax for 10 minutes with the pads over your eyes. Organic Rose Water has a cooling effect and is especially helpful for tired eyes. You can palm your eyes afterwards.

### **Eye-Healthy Foods and Drinks**

In general, follow your individual diet for your constitution and imbalances as recommended by Maharishi Ayurveda. But to strengthen your vision, or if you face particular eyestrain, add stewed apple, sprouted chickpeas, and raw carrot (an excellent source of Vitamin A) to your diet. For example, for breakfast eat a stewed apple and 1/4 cup chick peas which have been sprouted for two days. For lunch, eat a salad with shredded white daikon radish and one carrot, flavored with salt and lemon juice. You can also add cucumber, tomato or lettuce to taste. Vegetable soups, green leafy vegetables, and wheat bread are nourishing for the eyes. Dinner can include the same cooked foods, only less quantity. Drink plenty of water throughout the day. Constipation, or internal dryness, has an adverse effect on the eyes. But stay away from caffeinated drinks. Even though people drink coffee to release stress, it increases toxicity and dehydrates the body. Try substituting Raja's Cup, which is a traditional ayurvedic beverage that stimulates the mind, is a powerful antioxidant, and diminishes stress, toxins and the craving for caffeine. Almonds can be used to make a nourishing drink for the eyes. Grind 1/2 c. each of almonds, raw sugar and anise seeds and add 1/2-1 t. a day to a cup of warm milk. Another excellent ayurvedic remedy for improving vision is to remove the seeds from one pod of black cardamom and combine with 1 tablespoon of honey. Chew thoroughly. This strengthens vision if taken every day. Two excellent supplements to nourish the eyes are Premium Amla Berry and Organic Digest Tone (Triphala Plus). Both are rasayanas (health-giving ayurvedic elixirs) on their own, and are also special rasayanas for the eyes. Take one tablet of Amla Berry two times a day and 1-2 tablets of Organic Digest Tone twice a day.

### **CONCLUSION**

Ayurvedic literatures recount potential ophthalmic drugs for the management of surface inflammatory conditions of eye

such as dry eye syndrome (DES) or Keratoconjunctivitis Sicca (KCS). The plant drugs such as *Berberi saristata* DC. and *Glycyrrhiza glabra* Linn. Are attributed with potential anti-inflammatory, anti-allergic and wound healing activities backed by scientific evidences. 'caksusya-rasayana' (preservation and promotion of ocular health) approach of Ayurveda certainly provide safe and clinically effective ophthalmic drugs having diversified effects may be judiciously used to tackle intractable problems of the eye. In practice, therapeutic effect is found in all types of *kriyakaalp* Ayurvedic literatures record more than fifty ophthalmic plant drugs and more than forty metals minerals having diversified pharmacological actions on visual system and adnexa of the eye

### **References**

1. Mainstreaming of AYUSH under NRHM, Department of AYUSH, Ministry of Health and Family Welfare, Government of India New Delhi, 2009.
2. A Manual for Doctors on Mainstreaming of AYUSH under NRHM, Department of AYUSH, Ministry of Health and Family Welfare, Government of India New Delhi, 2008.
3. N.Srikanth, M.M.Padhi and G.S. Lavekar. Therapeutic potentials of Ayurveda in the Management of Age Related Ocular diseases: An Evidence Based Approach, *Journal of Research in Ayurveda and Siddha*, Vol. XXIX, No-1, Jan-March: 2008; 64-84.
4. N. Srikanth, A. K. Mangal and G. S. Lavekar; An Insight on Indigenous Ophthalmic Medicinal Flora: An Ayurvedic Pharmacological Basis, *Bulletin of Medico-Ethno-Botanical Research*. Vol. XXVI, 2005; 3-4: 65-74.
5. N. Srikanth, A.K. Mangal and G.S. Lavekar. Scientific Exposition on Medicinal plants indicated in Painful ophthalmic conditions: An Ayurvedic pharmacological perspective, *Journal of Drug Research in Ayurveda and Siddha*, Vol. XXVIII, 2007; 3-4: 26-42.
6. N. Srikanth, N. HariPriya, B. Venkateshwarlu, B. Das, S. Gaidhani and G.S, Lavekar. Aboriginal Medicinal Flora in Night Blindness Management: A Promising Move Towards Drug Development for Refractory Nyctalopia through Reverse Pharmacology *Journal of Drug Research in Ayurveda and Siddha*, New Delhi JDRAS. Vol. XXXI, No. 1-2, 2010; 19-34.
7. N. Srikanth, MrdulaDua and D.K. Mishra. Butia monosperma Root distillate Eye drops (PalashaMoola Arka) in Age Related immature Cataract : A Clinical observation, *Journal of Research in Ayurveda and Siddha*, Vol. XXVII, No. 1-2, Jan-June -2006; 12-23.
8. N. Srikanth. Management of open angle glaucoma - a case report, *AyurMedicine* Vol. II, 1999; 96.
9. N. Srikanth, and R.P. Hosmath. Management of Glaucoma with indigenous drugs - a clinical study, M.D Thesis submitted to Bangalore University, 1996.
10. N. Srikanth, K.K.Chopra, Jayaprakah Narayanan. The potent Antiglaucoma drug: Mahatriphalaghrita: A Pharmacological profile, *Aryavaidyan*, Vol. XI, No.2, 2001; 87-94.
11. N. Srikanth and K. D. Sharma. Prevention of Blindness through Ayurvedic Medical and Para-surgical approaches, Proc. National Seminar on Health for all in

- the New Millennium, National Institute of Health and Family Welfare, Govt. India, New Delhi, February - 2003; 87-88.
12. N .Srikanth. A report on clinical trials in Diabetic Retinopathy, AyurMedline Vol. III. 2000; 53-55.
  13. N. Srikanth, MrdulaDua and D.K.Mishra. Management of Retinitis Pigmentosa (HraswaJadya) with Ayurvedic Therapies–A Case Report Ayurved Mahasammelan Patrika June. 2005; 65-70.
  14. S.M. Sathye. Clinical study of Amalaki Rasayana in patients suffering from Age Related Macular Degeneration(ARMD), *Journal of Research in Ayurveda and Siddha*, Vol. XXIX, No-1, Jan-March 2008; 27-37.
  15. N.Srikanth. K.K Chopra. A study on Dry Eye syndrome (Shushkakshipaka/Parishushkanetra) and its management, *Journal of Research in Ayurveda and Siddha*, VolXXII, No.1-2, 2001; 1724.
  16. N.Srikanth.Management of Dry eye Syndrome, Ayur Medline, Vol.IV pp.460-463.
  17. N. Srikanth. MrdulaDua and D.K.Mishra. Management of Abnormal Involuntary Movements of Eye Lids- A Case ReportAryavaidyanVol.XVII. No.1, Aug-Oct, 2003; 32-34.
  18. N. Srikanth, Hazra J,Chopra K.K. A Comprehensive Clinical Report on Role of An Indigenous drug Manjistha (*Rubia cordifolia*) in painful ophthalmic conditions, Ayurved Mahasammelan Patrika,Vol.IX: 2000; 58-64.
  19. N. Srikanth, MrdulaDua and D. K. Mishra. A Clinical Study on Role of NetraKriyaKalpas (Topical Ocular Therapies) and Internal Medication In Myopia (Timira-HraswaDrishti). *Journal of Research in Ayurveda and Siddha*, Vol. XXIV, No. 3-4, July-Dec-2005; 43-53.
  20. N.Srikanth, MrdulaDua and D.K.Mishra. Effect of Daruharidra (*Berberis aristata* DC.) Aschyotana in Allergic Conjunctival Inflammation – A clinical study, Aryavaidyan Vol. XVII., No. 4, May – July, 2004; 235-240.
  21. N. Srikanth, Mrdula Dua and D. K. Mishra. Clinical evaluation of Karpura {*Chinnamomum camphora* (L.)}Kshira (Milk) Aschyotana in Allergic Conjunctivitis, Ayurveda Mahasammelan Patrika, August 2003; 53-61.
  22. N. Srikanth, Mrdula Dua, Parveen Bansal and T. Bikshapathi. Clinical observation of Nimba (*Azadirachta indica* Juss.) and Siresha (*Albegzia lebbeck* Benth.) in Simple Epidemic Viral Conjunctivitis, *Journal of Research in Ayurveda and Siddha*, Vol.XXVIII, No.3, July-September 2007; 24-40.
  23. A. N. Rai, R. P. S. Bhatia, R. C. Chaudhary and P. J. Deshpande. Effect of Yastimadhu (*Glycyrrhiza glabra* Linn.) on Conjunctivitis, *Journal of Research in Ayurveda and Siddha* Vol.I, No.I, March1980; 21-24.
  24. R. C. Saxena. *Cyperus rotundus* in Conjunctivitis, *Journal of Research in Ayurveda and Siddha* Vol.I, No.I, March 1980; 115-120.
  25. N. Srikanth, (2000). The Actions and uses of Indigenous Ophthalmic Drugs, Chowkhambha Sanskrit Prathisthan, Delhi (Book).
  26. Sushruta. Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm.
  27. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Uttara Tantra18/4.Varanasi: Chaukhamba Surbharati Prakashana;
  28. Vagbhata. Ashtanga Hridaya. Sarvanga Sundari Comm. Arunadatta & Ayurveda-Rasayana comm.In: Hemadri D, Sadashiva SP, editors. Sutrasthana24/13.Varanasi: Chaukhamba Surbharati Prakashana; 2007
  29. Ibidem 24/12
  30. Sushruta. Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Uttara Tantra18/44.Varanasi: Chaukhamba Surbharati Prakashana.
  31. Vagbhata. Ashtanga Sangraha, Sutrasthana32/3.
  32. Sushruta. Sushruta Samhita DalhanaComm. Nibandhasangraha, Gayadasacharya comm.. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Uttara Tantra18/51-52. Varanasi: Chaukhamba Surbharati Prakashana.
  33. Vagbhata. Ashtanga Hridaya. Sarvanga Sundari Comm. Arunadatta & Ayurveda- Rasayana comm.In: Hemadri D, Sadashiva SP, editors. Sutrasthana23/8-9.Varanasi: Chaukhamba Surbharati Prakashana; 2007
  34. Sharngdhar Samhita of AcharyaSharngadhar with Jiwanprada commentary by Dr. ShailajaSrivastava, Uttarakhanda13/ 22. Varanasi: Chaukhamba orientalia
  35. Ibidem 13/25-31
  36. Agnivesha. Charaka Samhita, Comm. Chakrapanidatta. In: Jadavaji TA, editor. Chikitsa sthana.Varanasi: Chaukhamba Surbharati Prakashana; 2008.26/23
  37. Vagbhata. Ashtanga Hridaya. Sarvanga Sundari Comm. Arunadatta & Ayurveda- Rasayana comm. In: Hemadri D, Sadashiva SP, editors. Sutrasthana 32.Varanasi: Chaukhamba SurbharatiPrakashana; 2007
  38. Ibidem13/25-31
  39. Text book of Ophthalmology by A.K Khurana , 3rd edition, 2005 Agnivesha. Charaka Samhita, Comm.
  40. Chakrapanidatta. In: Jadavaji TA, editor. Chikitsasthana.Varanasi: Chaukhamba Surbharati Prakashana; 2008.26/231
  41. N Srikanth, The Actions and uses of Indigenous Ophthalmic Drugs, chowkhambha Sanskrit Prathisthan, Delhi, 2000.
  42. N. Srikanth, A.K. Mangal and G.S.Lavekar, An Insight on Indigenous Ophthalmic Medicinal Flora: An Ayurvedic Pharmacological Basis; *Bulletin of Medico-Ethano- Botanical Research..* 2005; Vol.XXVI: No.3-4, 65-74.
  43. N. Srikanth, A.K.Mangal and G.S.Lavekar, Scientific Exposition on Medicinal plants indicated in Painful ophthalmic conditions: An Ayurvedic pharmacological perspective, *Journal of Drug Research in Ayurveda and Siddha*, 2007; Vol.XXVIII: No-3-4, 26-42.
  44. J.P.N. Chanssuria, Studies on wound healing and effect of indigenous drugs on it., 1975; pp 198.
  45. Dhar, M.L. *et al.*: Screening of Indian plants for biological activity Part-I, *Indian J. Exptl. Biol.*, 1968; 6: 232.
  46. R.N. Chopra and U.N. Dhur Indigenous drugs of India U.N. Dhur and Sons Ltd. Calcutta., 1958.

47. N. Srikanth, Ancient Ocular Therapeutics- An Integrated approach, Ayur Medline, 1999; 1: 93-103.
48. N. Srikanth, R.M. Anand and K.D. Sharma, Standardization and Development of New Ayurvedic ophthalmic Drugs (with special reference to ocular pharmacology) – An Urgent Need. Bulletin of Medico-Ethano- Botanical Research, July-Dec 2000; Vol.XXI, No.3-4: 81-89.
49. N. Srikanth, P. Pant, V.K. Lal and G.S. Lavekar, Standardization of Ayurvedic Ophthalmic formulations with special reference to some biological parameters – An appraisal of experimental studies Proc. National workshop on parameters for standardization of Ayurvedic drugs, Department of AYUSH, Govt. of India, 2005; 31-39.
50. "Keratoconjunctivitis, Sicca". e-Medicine. WebMD, Inc. January 27, Retrieved on September 3, 2010.
51. Sushruta, Sushruta Samhita, Uttarasthana, Chowkhambha Sanskrit Series Varanasi, 1979.
52. Dutta L .C., Modern Ophthalmology, Jaypee Brothers, Medical Publishers New Delhi., 1994.
53. Schaumberg DA, Sullivan DA, Buring JE, Dana MR. "Prevalence of dry eye syndrome among US women", *Am. J. Ophthalmol.*, August 2003; 136(2): 318–26.
54. Lin PY, Cheng CY, Hsu WM, Tsai SY, Lin MW, Liu JH, Chou P. "Association between symptoms and signs of dry eye among an elderly Chinese population in Taiwan: the Shihpai Eye Study". *Invest Ophthalmol Vis Sci.*, May 2005; 46(5): 1593
55. "Keratoconjunctivitis, Sicca". The Merck Veterinary Manual. Merck & Co., Inc. Retrieved., 2006; 11-18.
56. Lemp MA. "Management of Dry Eye". *American Journal of Managed Care.*, 2008; 14(4):
57. S88–S10157. Kojima, T.; Higuchi, A.; Goto, E.; Matsumoto, Y.; Dogru, M.; Tsubota, K. "Autologous Serum Eye Drops for the Treatment of Dry Eye Diseases". *Cornea.*, 2008; **27**: S25–S30.

\*\*\*\*\*

**How to cite this article:**

Nidhi Garg and Akhil Jain.2017, Ayurvedic Drugs Used In Eye Disorder-A Review. *Int J Recent Sci Res.* 8(1), pp. 15225-15232.