

CONTRIBUTIONS OF BHAVAPRAKASHA (PURVA KHANDA) TO SHALAKYA TANTRA – NETRA

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ABSTRACT

Ayurveda, the science of life is an integral and one of the most ancient forms of medical systems that primarily aims at prevention of diseases and promotion of positive health. Hence, rightfully called the ‘*mother of all sciences*’. One out of the eight branches of *Ayurveda*, *Shalakya Tantra* deals with the aetiology, diagnosis, prognosis, prevention and treatment of diseases that are located above the neck region such as the head, ear, nose, eye and throat. Among the 5 sense organs, *Ayurveda* has given prime importance to the eye and says “*Sarvendriyanaam madhye nayanam pradhanam*”. The functionality and essence of one’s life is determined by vision in the sense that what we visualize decides the quality of our life. One of the most revered lexicons of the medieval period, The *Bhavaprakasha Nighantu*, has been instrumental in emphasising on *netra* and its *chikitsa* with many types of treatment protocols pertaining to preventive and curative aspects stressing on the actions of each and every drug as it is also renowned to be the *Karmoushadhi Pradhana Nighantu*. There is a detail description of *chakshushya dravyas*, *achakshushya dravyas* which gives a quick review for the practitioners to select the drugs. *Purva khanda* contains 7 chapters that constitutes information about origin of *Ayurveda* and basic principles including anatomy, physiology, *dinacharya*, *rtucharya*, pharmacological principles, collection of herbs and drug substitutes, examination of the patients, principles of treatment in brief, explanation of *panchakarma* etc., The *Ayurvedic* perspectives regarding *netra chikitsa* w.r.to *Bhavaprakasha Nighantu (Purva khanda)* has been explored in this article.

KEYWORDS: *Bhavaprakasha Nighantu, Chakshushya dravyas, Achakshushya dravyas, Netra chikitsa.*

INTRODUCTION

The time period of *Bhavaprakasha Nighantu*, the *Karmoushadhi Pradhana Nighantu* is said to be the juncture of later half of 15th century (1530- 1600 AD) which is written by Bhavamishra who is said to be the son of Latakana Mishra belongs to Varanasi/Kanyakubja/Bihar. Other books written by him includes *Gunaratnamala*, *Tippani*/short notes on *Madhava nidana* and *Vaidya Nighantu*.

The commentaries are *Sadvaidya Siddhanta Ratnakara* (18th century) by *Jayadeva*. Another commentary is written by *Chunekar* (1969) to the *Nighantu* part.

The first known publication, along with commentary was in the year 1875 by *Sri Jivananda Vidyasagar Bhattacharya* from Calcutta.

The text is divided into 3 parts, *purva khanda*, *madhyama khanda* and *uttara khanda* consisting of around 10268 verses. It is further divided into 7 parts and 80 chapters.

KHANDA	CONTENTS
<i>Purva khanda</i>	7 chapters First five chapters contain the details of origin of <i>Ayurveda</i> and basic principles including anatomy, physiology, <i>dinacharya</i> , <i>rtucharya</i> , pharmacological principles, collection of herbs and drug substitutes. Sixth chapter contains examination of the patients, principles of treatment in brief. <i>Nighantu</i> , the major part contains 500 plant drugs, 20 mineral drugs and 4 to 5 animal products.

	Seventh chapter contains detail explanation of <i>panchakarma</i> .
<i>Madhyama khanda</i>	Contains 71 chapters which explain the diseases and treatment.
<i>Uttara khanda</i>	Deals with <i>Rasayana</i> and <i>Vajikarana</i> .

Now let us discuss regarding the contributions of *Purva Khanda*:

PURVA KHANDA	
<i>Ayurvedapravaktra pradurbhava prakarana</i>	<ul style="list-style-type: none"> <i>Netre nashte bhagasya cha</i> – when <i>pushna</i> and <i>bhaga</i> lost their teeth and eye respectively, they were treated by <i>Ashwini kumaras</i>
<i>Srishti prakarana</i>	<ul style="list-style-type: none"> From <i>Satwa guna</i> and <i>Raja guna</i>, the eleven <i>indriyas</i> will evolve <i>Chakshurendriya</i> is responsible for <i>roopa grahana</i> <i>Agni mahabhuta</i> is present in the eye and responsible for visual sensation <i>Jeeveguna</i> – characters of life form - <i>netra unmeshanimeshakrutya</i> – blinking of eyelids is considered as one of the character
<i>Garbha prakarana</i>	<ul style="list-style-type: none"> Under <i>Rajaswala niyama</i>, it is mentioned that <i>ashrupata</i> (weeping), <i>anjana</i> (collyrium) has to be avoided If the pregnant woman cries, it causes <i>vikruta lochana</i> in the newborn During menstruation, if the woman applies <i>anjana</i> (collyrium), the child born may be devoid of vision <i>Indriyarth grahana</i> is considered as <i>atma guna</i> Under <i>Garbhini lakshana</i>, closing of eyes (due to drowsiness) is mentioned as one of the <i>lakshana</i> Under <i>Garbhalinga</i>, to indicate the male child, it is explained that right eye will be widened While explaining the <i>Anga-upanga</i>, he explains <i>bhruyuga</i> (eyebrow), <i>netradvaya</i> (two eyes), <i>dvekaninika</i> (pair of inner canthi), <i>drushtidvaya</i> (pair of pupils), <i>krishnagolou</i> (pair of corneas), <i>shvetabhagi</i> (pair of sclera), <i>vartma</i> (eyelids), <i>pakshma</i> (eye lashes), <i>apanga</i> (pair of outer canthi) <i>Mana</i> and <i>indriya</i> are considered as <i>Chetanadhishtana</i> <i>Vata dosha</i> is responsible for proper functioning of <i>indriyas</i> – <i>indriyapatavan</i> <i>Vyana vayu</i> is responsible for - <i>nimesha</i> (opening of lids) and <i>unmesha</i> (closing of lids) <i>Udana vayu</i> is responsible for <i>urdhwajatroogas</i> <i>Pitta dosha</i> is responsible for <i>roopagrahana</i> <i>Kapha dosha</i> is responsible for <i>samastendriya tarpana</i> – nourishment of all <i>indriyas</i> Under <i>dhatumala</i>, <i>netravat</i> is considered as <i>mamsa mala</i> <i>Jivatma</i> is considered with <i>indriya</i> and <i>buddhi</i> There are 10 apertures (<i>randhrani</i>), among them, two are <i>netra</i> In <i>douhrudavastha</i>, if <i>garbhini</i> consumes <i>mahisha mamsa</i>, then the child born may have <i>raktaksha</i> (red eyes) <i>Indriyas</i> are determined by the <i>Atma</i> “<i>Drushtishcha romakupashcha navardhate kadachana</i>” – According to <i>Dhanwantari</i>, the eyeball and hair follicles don't increase in size throughout life
<i>Bala prakaranam</i>	<ul style="list-style-type: none"> After 70 years, the power of sensory organs will decrease day by day (<i>kshinendriya</i>) <i>Pitta prakruti</i> persons will have <i>tamra akshi</i> (brown eyes) <i>Vata prakruti</i> persons will exhibit the qualities of <i>netra</i> as <i>khara</i> (dry), <i>dhusara</i> (brown), <i>vrunta</i> (round), <i>aruna netra</i> (red eyes), <i>mrutopama</i> (lustreless) <i>Pitta prakruti</i> person will exhibit the qualities of <i>netra</i> as <i>pinga akshi</i> (yellow eyes), <i>chala drushti</i> (fickle vision), <i>alpapakshma</i> (thin eye lashes), <i>himapriya</i> (preferring for cold), turns red colour on exposure to sunlight and due to <i>krodha</i> (anger) and <i>madhya pana</i> (alcohol consumption) <i>Kapha prakruti</i> persons will exhibit the qualities of <i>netra</i> as <i>raktanta</i> (reddish tinge at the inner canthus), <i>snigdha</i> (oily), <i>vishala</i> (wide), <i>dirgha</i> (lengthy), <i>suvakta</i> (clear), <i>shukla</i> (white), <i>asita pakshmalaksha</i> (black thick eye lashes)
<i>Dinacharya-rtu prakarana</i>	<ul style="list-style-type: none"> <i>Svastha</i> person will have <i>prasannendriya</i> – clear and well functioning of sensory organs <i>Pani</i> and <i>pada prakshalana</i> (washing of palms and soles) is considered as <i>chakshushya</i> <i>Dantadhavana</i> (brushing of tooth) and <i>gandusha</i> (holding medicated liquids in mouth for specified duration) are contraindicated in <i>netrarogi</i> <i>Nasya</i> helps in getting <i>vimalendriya</i> (clear senses) <i>Anjanavidhi</i> is explained in detail including indication/contraindication/action

	<ul style="list-style-type: none"> In <i>Kshoura karma</i>, it has been mentioned that <i>nasa loma</i> should never be removed since it causes <i>drishterdourbalyam</i> <i>Padabhyanga</i> (foot massage) has been described to possess the benefit of <i>drushtiprasadakrit</i> <i>Udvartana</i> (powder massage) makes the <i>akshi drudha</i> <i>Snana</i> is considered to be <i>chakshushya</i> and is contraindicated in <i>akshishool</i> <i>Padukadharana</i> (wearing footwear) is also considered to be <i>chakshushya</i> <i>Kshudha vega nigrha</i> leads to <i>lochana dourbalya</i> <i>Nidra vega nigrha</i> leads to <i>netra gourava</i> <i>Hemabhajana</i> causes <i>drishtida</i> <i>Dakshina vayu</i> is also considered to be <i>chakshushya</i> <i>Laghu ushnesha</i> (turban) should be worn, else it leads to <i>akshiroga</i> <i>Padatradharana</i> (wearing footwear) is also said to be <i>netrya</i> Exposure to <i>dhuma</i> is considered as <i>netrayorahita</i> Under <i>maithuna yoga</i>, he explains if a man indulges in sexual activities with menstruating woman, the person will lose his vision If a person does <i>ushakala jalapana</i> (drinking water in early morning hours), he will never come across <i>akshiroga</i>
Mishra prakarana	<ul style="list-style-type: none"> <i>Dirghayu purusha</i> will have <i>soumya drushti</i> Under <i>Arishta lakshana</i>, he says the person will have the following symptoms if he is approaching death immediately, he will be with closed eye ball – <i>sankshipya</i>, irregular - <i>vishama</i>, rigid - <i>stabdha</i>, dry or excessive secretions – <i>ruksha/ atisrava</i> Substitutes for the drugs: <i>Haridra</i> for <i>Daruharidra</i> <i>Haritaki</i> for <i>Amalaki</i> <i>Yashtimadhu</i> for <i>Dhataki</i> <i>Katu rasa</i> promotes lacrimal secretion
Haritakyadi varga	<ul style="list-style-type: none"> <i>Haritaki</i> - <i>Abhaya</i> variety of <i>Haritaki</i> is useful for eye disease. If it is consumed along with food, it is considered to be <i>indriya balaprada</i> <i>Vibhitaki</i> is said to be <i>netrahitam</i> <i>Triphala</i>, <i>Jiraka</i>, <i>Samudraphena</i>, <i>Yashti</i>, <i>Lodhra</i> are said to be <i>chakshushya</i> <i>Shatapushpa</i>, <i>Tumburu</i>, <i>Darvi</i>, <i>Manjishta</i> help in curing eye diseases <i>Methi patra</i> is used in the form of <i>vidalaka</i> in the case of <i>abhishtyanda</i> <i>Lashuna</i>, <i>Saindhava</i> are said to be <i>netrya</i>
Karpuradi varga	<ul style="list-style-type: none"> <i>Karpura</i>, <i>Latakasturi</i>, <i>Nalika</i> are said to be <i>chakshushya</i> <i>Gandhamarjaraveerya</i> is considered to be <i>netrya</i> <i>Raktachandana</i>, <i>Lavanga</i> are considered to be <i>netrahitam</i> <i>Agaru</i>, <i>Sarala</i>, <i>Tagara</i>, <i>Saralaniryasa</i> are considered to be <i>akshirogahara dravyas</i>
Guduchyadi varga	<ul style="list-style-type: none"> <i>Jivanti</i>, <i>Mudgaparni</i>, <i>Shobhanjana</i>, <i>Eraka</i>, <i>Jalapippali</i> are considered to be <i>chakshushya</i> <i>Shveta/Rakta karaveera</i> is known to be used in <i>netrakopa</i> <i>Nimba</i>, <i>Aparajita</i>, <i>Sindhuvaara/Nirgundi</i>, <i>Kakamachi</i>, <i>Shatavari</i> and <i>Mahashatavari</i> are known to be <i>netrya</i> <i>Gunja</i>, <i>Bhadra munja</i>, <i>Asthisamhara</i>, <i>Akashavalli</i> are said to be <i>netramayahara</i> <i>Bhringaraja</i> and <i>Meshashrunji</i> are used in <i>netrarti</i>
Pushpa varga	<ul style="list-style-type: none"> <i>Varshiki</i>, <i>Malati</i>, <i>Yuthika</i> are used in <i>akshiroga</i> <i>Ketaki</i> is considered to be <i>chakshushya</i>
Aamradi varga	<ul style="list-style-type: none"> <i>Aamra</i>, <i>Kadali</i> are used in <i>nayanamaya</i> <i>Lakucha</i> is known to be <i>netra ahita</i> <i>Kalinda</i> and <i>Guvaka</i> decreases <i>drushti</i> <i>Kataka</i> and <i>Draksha</i> are considered to be <i>chakshushya</i>
Dhatvadi varga	<ul style="list-style-type: none"> <i>Suvarna</i>, <i>Yashada</i>, <i>Taramakshika</i>, <i>Tuttha</i>, <i>Kharpara</i>, <i>Sroto anjana</i>, <i>Mouktika</i>, <i>Gairika</i> and <i>Swarna gairika</i> are considered to be <i>chakshushya</i> If impure <i>Svarnamakshika</i> is consumed internally, it causes <i>netragada</i> <i>Kamsya</i>, <i>Kaparda</i> are said to be <i>netrahitam</i> <i>Rasa</i> is said to be <i>drushtibalaprada</i> <i>Kasisa</i> is said to be <i>netrakanduhara</i> <i>Shankha</i> is said to be <i>netrya</i>
Dhanya varga	<ul style="list-style-type: none"> <i>Raktashali</i> is known to be <i>chakshushya</i>

	<ul style="list-style-type: none"> • <i>Mudga</i> is considered to be <i>netrya</i> • <i>Atasi</i> is said to decrease <i>druk</i>
Shaka varga	<ul style="list-style-type: none"> • <i>Shaka guna</i> is said to be <i>netra nihanti</i> • <i>Loni</i> and <i>Bruhalloni</i>, <i>Mulaka</i> and <i>Laghumulaka</i> cures <i>lochanaroga</i> • <i>Agastipushpa</i> is said to be <i>naktandhyanashana</i> • <i>Shigru</i> is considered to be <i>akshihita</i> • <i>Kaseru</i> and <i>Chichodha</i> does <i>nayanamaya nashana</i>
Mamsa varga	<ul style="list-style-type: none"> • <i>Guhashaya</i> (animals which live in burrows) is used in <i>netravikara</i> • <i>Parnamruga</i>, <i>Kukkuta</i>, <i>Ashva</i> are considered to be <i>chakshushya</i> • <i>Chaga</i> is used in <i>urdhwajatrugata roga</i> • <i>Rohitamundaka</i> (head of <i>rohita matsya</i>) relieves <i>urdhwajatrugata roga</i>
Krutanna varga	<ul style="list-style-type: none"> • <i>Chanaka rotika</i> (cake made of <i>Chanaka</i>) is said to be <i>achakshushya</i> • <i>Poorika</i>, <i>Mudgamodaka</i> are said to be <i>chakshushya</i> • <i>Kanjika vataka</i> is considered to induce <i>netraroga</i> • <i>Mamsarasa</i> is said to be <i>drushtashasyate</i> • <i>Rasala</i> is said to be <i>sarvendriya balakara</i> • <i>Yavasaktava</i> is used in <i>netramaya</i> • <i>Pinyaka</i> is known to cause <i>drushtidooshana</i>
Vaari varga	<ul style="list-style-type: none"> • <i>Dharajala</i> is said to be <i>rasayana/balya</i> • <i>Samudrajala</i> is said to be <i>drushtibalapaha</i> • <i>Tousharajala</i> cures eye diseases • Less quantity of water is indicated in <i>netramaya</i>
Dugdha varga	<ul style="list-style-type: none"> • <i>Hastini dugdha</i> is said to be <i>chakshushya</i> • <i>Naripaya</i> is said to be <i>chakshu shoola abhighataghna</i> • Consumption of milk at night is said to be <i>chakshurhita</i>
Navaneeta varga	<ul style="list-style-type: none"> • <i>Dugdhotya navaneeta</i> is said to be <i>chakshushya</i>
Ghrita varga	<ul style="list-style-type: none"> • <i>Gavya ghrita</i>, <i>Aja ghrita</i>, <i>Aavika ghrita</i>, <i>Nari ghrita</i>, <i>Haiyangavinam</i> (<i>ghrita</i> extracted from previous day milk) are said to be <i>chakshushya</i> • <i>Badava ghrita</i>, <i>Naveena ghrita</i> are used in <i>netrarogas</i> • <i>Dugdhanisruta ghrita</i> is considered to be <i>netrarogahrut</i> • <i>Purana ghrita</i> is said to be <i>timirapaha</i>
Mutra varga	<ul style="list-style-type: none"> • <i>Gomutra</i> is used in <i>akshiroga</i>
Taila varga	<ul style="list-style-type: none"> • <i>Tila taila</i> when used <i>abhyantara</i> (internally) / <i>Bahya</i> (externally) both are said to be <i>chakshushya</i> • <i>Atasi taila</i> and <i>Kusumbha taila</i> are said to be <i>achakshushya</i>
Madhu varga	<ul style="list-style-type: none"> • <i>Madhu</i> and <i>ardhyam</i> are considered as <i>chakshushya</i> • <i>Makshika</i> is considered to be <i>netramayahara</i>
Ikshu varga	<ul style="list-style-type: none"> • <i>Khanda</i> is said to be <i>chakshushya</i>
SECTION – 1 (PART –2)	
Dhatvadi shodhana	<ul style="list-style-type: none"> • <i>Svarnabhasma</i>, <i>Vanga</i> are said to be <i>netrya</i> • <i>Jasada</i>, <i>Loha</i>, <i>Tuttha</i>, <i>Rasa</i>, <i>Kharpara</i>, <i>Shodita ratna</i> are considered to be <i>chakshushya</i> • <i>Ashuddha Swarna makshika</i> is considered to cause <i>netragada</i> • <i>Hingula</i> is said to be <i>netramayaghna</i>
Snehapana vidhi	<ul style="list-style-type: none"> • <i>Ghrita</i> is said to be useful for <i>akshitarpana</i> • <i>Samyak snigdha lakshana</i> – <i>vimalendriyata</i> • <i>Snehana</i> helps in achieving <i>drudhendriya</i>
Panchakarma vidhi	<ul style="list-style-type: none"> • Under <i>avama</i>, <i>timira</i> is mentioned • Under <i>vamana vyapat- akshnorvyavrutti</i> – rotation of eye ball is explained which has to be treated with <i>ghritabhyanga</i> • <i>Virechana</i> is indicated in <i>akshiroga</i> • <i>Abhayadi modaka</i> is useful in <i>nayanamaya</i> • After taking <i>virechana dravya</i>, <i>sheetala jala</i> is useful for <i>netra prakshalana</i> • <i>Indriya prasada</i> is explained under <i>samyak virechana lakshana</i> • <i>Matra</i> is defined as the time taken for the blinking of eyelids • <i>Nasya</i> is indicated in <i>urdhwajatrugata rogas</i> • <i>Nasya yoga</i> –

	<ol style="list-style-type: none"> 1. <i>Guda</i> and <i>shunti</i> mixed with water 2. <i>Pippali</i> and <i>saindhava</i> mixed with water which are considered to be <i>akshigadapaha</i> 3. <i>Kumkuma</i> fried in <i>ghrita</i> and mixed with <i>sharkara</i> and <i>ksheera</i> is useful in <i>bhru</i> and <i>akshi roga</i> <ul style="list-style-type: none"> • <i>Bhumhana nasya</i> is indicated in <i>akshiroga</i> • <i>Pratimarsha nasya</i> is indicated after application of <i>anjana</i> • <i>Pratimarsha nasya</i> is said to prevent <i>urdhwajatrugata rogas</i> and said to be <i>indriyabalam</i> • <i>Atiyoga</i> of <i>nasya</i> causes <i>indriya vibhrama</i>
Dhumapana vidhi	<ul style="list-style-type: none"> • <i>Dhumapana anarha</i> – <i>Timira</i> • If <i>dhumapana</i> is advocated in unseasonal days and in excess it may cause complications which have to be treated with <i>anjana</i> • <i>Prayojana</i> of <i>dhumapana</i> is <i>prasannendriya</i> • <i>Gandusha</i> has to be done until the secretions come from <i>netra</i> • Benefits of <i>gandusha</i> and <i>kavala</i> is <i>indriya prasada</i> • During <i>swedana</i>, eye should be covered by cold objects • <i>Swedana</i> is contraindicated over eyes
Rogi pariksha	<ul style="list-style-type: none"> • Under <i>rogi pariksha</i>, <i>darshana pariksha</i> is explained first • <i>Netra darshana pariksha</i>: if affected by <i>vata dosha</i>, eyes will become <i>ruksha</i> (dry), <i>dhumra</i> (brownish), <i>aruna</i> (red), <i>antah pravishtha</i> (sunken eye) <i>stabdha vilokana</i> (vision becomes fixed) • If affected by <i>pitta dosha</i>, <i>haridra</i> (yellow), <i>rakta</i> (red), <i>harita varna</i> (green), <i>deepadveshi</i> (photophobia), <i>daha</i> (burning sensation) • If affected by <i>kapha dosha</i>, <i>atisnigdha</i> (oiliness), <i>salilapluta</i> (excess watery secretions), <i>dhavala varna</i> (white), <i>jyotirhina</i> (lustreless) • If there is an involvement of two <i>doshas</i>, there will be mixed symptoms and if three <i>doshas</i> are involved, all the characters will be there and the person will die • <i>Tridosha dushita lakshanas</i> are <i>netram antarmagnam bhrusham</i> (eye balls look sunken), <i>salilasravi</i> (watery discharge), <i>prantenonmilayatyapi</i> (half opened) • <i>Swastya lakshana</i> includes <i>prasannata</i> of <i>indriya</i> (well-functioning sensory organs) • In <i>pitta dosha vridhhi</i> there will be <i>netra peeta</i> (conjunctiva turns yellow), <i>kshinendriya</i> (diminished functions of sensory organs) • If <i>rakta dosha</i> is increased, there will be redness of <i>Shukla mandala</i> • If <i>Majja dhatu</i> is increased, it causes <i>netragourava</i> • <i>Oja kshaya</i> causes <i>vyathitendriya</i> • If <i>sweda mala</i> is decreased, it causes <i>chakshu rukshata</i>

Netra chikitsa: explained in Dhumapanavidhi

Different procedures are used to treat different *netra rogas* viz., *seka*, *aschyotana*, *pindi*, *bidalaka*, *tarpana*, *putapaka* and *anjana*.

Netra seka

Thin stream of medicated liquids are poured on to the closed eyes from a height of four *angula* and is administered in many ophthalmic disorders.

Ideally performed during the day but during emergencies it can be administered at night too.

Yoga: *Aja ksheera* boiled with *Eranda patra* can be used in the form of *seka* which cures *vataja abhishyanda*.

Dosha	Dravyas used	Duration
Vata	Sneha dravyas	600 matra kala
Pitta- Rakta	Ropana Kashaya	400 matra kala
Kapha	Lekhana Kashaya	300 matra kala

Aschyotana

Dropping of *Kashaya*, *Madhu*, or any *Sneha dravyas* on opened eyes from two *angulas* is called *aschyotana*.

Type	Matra
Lekhana	8 drops
Ropana	10 drops
Snehana	12 drops

Dosha	Dravyas used	Duration
<i>Vata</i>	<i>Tikta and snigdha dravyas</i>	600 <i>matra kala</i>
<i>Pitta- Rakta</i>	<i>Madhura and sheeta dravyas</i>	400 <i>matra kala</i>
<i>Kapha</i>	<i>Tikta, ushna and ruksha dravyas</i>	300 <i>matra kala</i>

Sukhoshna aschyotana is advised in cold climate and *Sheeta aschyotana* in hot climate.

The *matrakala* for all types of *ashcyotana* is 100. The duration may be extended if the drug used is not able to cure the diseases within this period.

Aschyotana should not be performed at night in any circumstances.

Yoga: The *sukhoshna kashaya* made of the roots of *Bilva*, *Agnimantha*, *Shyonaka*, *Patala*, *Gambhari*, *Brhati* and *Eranda* and the bark of *Shigru* is administered in *Vataja abhishyanda*.

Pindi

The *kalka* made up of specified *dravyas* taken in the same dose prescribed for *Kavala* and later packed in a cloth and pressed on the closed eye, relieves *abhishyanda*.

Dosha	Dravyas used	Duration	Yogas
<i>Vata</i>	<i>Snigdha and ushna dravyas</i>	600 <i>matra kala</i>	<i>Eranda patra, mula and twak</i>
<i>Pitta- Rakta</i>	<i>Sheeta dravyas</i>	400 <i>matra kala</i>	<i>Amalaka</i>
<i>Kapha</i>	<i>Ushna and ruksha dravyas</i>	300 <i>matra kala</i>	<i>Shigru patra</i>

Bidalaka

The external application of specified *dravyas* on the eye lids, excluding the eyelashes is called *bidalaka*. *Bidalaka matra* is similar to *mukhalepa*.

Yoga: Paste of *Yashti*, *Gairika*, *Saindhava lavana*, *Daruharidra* and *Tarkshya* mixed with *Jala* is useful in *Sarvanetra rogas*.

Netratarpana

In a room devoid of wind, direct sunlight and dust, the person is asked to lie in supine position. *Mashapali* is

constructed around the eyeball. On the closed eyes, *Shatadhouta ghrita* or *ghrita* prepared out of *ksheera* liquefied by keeping in warm water is taken and poured. Eyes may be opened slowly and later advise the patient to blink the eyes. This procedure is called *tarpana*.

Vatahara Kashaya tarpana is advised in conditions like *ruksha netra*, *syanda*, *kutula*, *avila netra*, *shirna pakshma*, *sirotpata*, *krichronmilana*, *timira*, *arjuna*, *shukla*, *abhishyanda*, *adhimantha*, *shushkakshipaka*, *shotha*, *vatapariyaya*.

Duration

Rogas	Matra kala
<i>Vartma roga</i>	300
<i>Swastha and kaphaja sandhigata roga</i>	500
<i>Kaphaja netra roga</i>	600
<i>Krishnagata roga</i>	700
<i>Drushtigata roga</i>	800
<i>Adhimantha</i>	1000

A hole has to be made at *apanga sandhi* and after the specified *matra kala*, *ghrita* has to be taken out. Later, *swedana* with *yavapishti* has to be given followed by *dhumapana* which helps to eliminate the residual *kapha dosha*. Depending on the severity of the disease, this procedure may be repeated for three or five days.

Proper sleep, awakening, clarity of eyes, proper functioning of eyes, relief from the disease and ease in opening and closing of eye lids are the *Samyak lakshanas* of *tarpana*.

Heaviness of eyes, turbidity, excessive oiliness, lacrimation, itching, thick secretions, foreign body sensation, pricking sensation are the *Atitarpana lakshanas*.

Absence of lacrimation, oedema, increase in disease, thick secretions, dryness and redness are the *Heena tarpita lakshanas*.

Eyes are affected by the influence of different *doshas*; *snigdha* or *ruksha kriyas* are advised accordingly in such conditions.

In circumstances like *durdina*, *atiushna*, *atisheeta dina* and when the person is having *chinta*, *bhrama* and when the *upadravas* are not subsided, *tarpana* should not be administered.

Putapaka

Mamsa (2 *Pala*) along with drugs (1 *Pala*) and liquids (1 *Kudava*) are grinded well and wrapped in thick leaves

and baked according to *putapaka vidhi*. Then from the same manner as *tarpana*.
boiled substance, *swarasa* is extracted and used in the

There are 3 types of *putapaka* viz., *Snehana*, *Lekhana* and *Ropana*.

Bheda	Yogya	Dravyas	Matra kala
<i>Snehana</i>	<i>Atiruksha</i>	<i>Sneha, mamsa, vasa, majja, meda, swadu aushadhi</i>	200
<i>Lekhana</i>	<i>Atisnigdha</i>	<i>Yakrut and mamsa of jangala desha mruga-pakshi, Krishna loha, raja, tamra, shankha, vidhruma, saindhava, samudraphena, kasisa, srotonjana, dadhimastu</i>	100
<i>Ropana</i>	Strengthens the vision, <i>pitta – rakta and vata, vrana</i>	<i>Stanya, jangala mamsa, madhu, ajya, tikta dravya</i>	300

Kashaya prepared out of the following *dravyas* i.e., *Nimba, Amruta, Vasa, Patola* and *Nidhigdika* known as *Pañcatiktaka* are used to treat the complications that arise out of *putapaka* in the form of *tarpana*.

Anjana

The *anjana* or collyrium is administered when the severity of the *dosha* has reduced. When a drug or preparation is smeared or rubbed or applied to eyes, it is known as *Anjana*.

The person should avoid looking at fire, wind, sky, bright objects and the mirror after *tarpana* and *putapaka*.

Bheda	Dravyas	Karma	Shalaka
<i>Lekhana</i>	<i>Kshara, tikshna and amla rasa dravyas</i>	It helps to drag the <i>doshas</i> present in eyelashes, blood vessels, temporal areas and sends them out through oral cavity, nose and eyes.	<i>Tamra, loha, ashma</i>
<i>Ropana</i>	<i>Kashaya, tikta and sneha dravyas</i>	Because of its <i>sheeta</i> and <i>snigdha guna</i> , it does <i>drishtiprasadana</i> .	<i>Anguli</i> - as it is very soft
<i>Snehana or Prasadana Anjana</i>	<i>Madhura and sneha dravyas</i>	Nourishes the vision.	<i>Swarna and rajata</i>

Bheda	Form of Anjana	Matra
<i>Lekhana</i>	<i>Rasanjana</i>	One <i>harenu</i>
	<i>Churnanjanana</i>	Two <i>shalaka</i>
<i>Ropana</i>	<i>Rasanjana</i>	One and half <i>harenu</i>
	<i>Churnanjanana</i>	Three <i>shalaka</i>
<i>Snehana or Prasadana anjana</i>	<i>Rasanjana</i>	Two <i>harenu</i>
	<i>Churnanjanana</i>	Four <i>shalaka</i>

Applicators of Collyrium: Stone or metals like gold in the form of slender rod, measuring eight *angula* in length and the applicator head imitating a bud or peanut are used to prepare applicators of collyrium.

Anjana may be applied beginning from the outer canthus.

Time of application based on season

Season	Time of application
<i>Hemanta and Shishira rutu</i>	Noon
<i>Grishma and Sharat rutu</i>	Early in the day or evening
<i>Varsha rutu</i>	When there are no clouds
<i>Vasanta rutu</i>	When it is not hot
<i>Any rutu (Always)</i>	In the morning or evening

It shouldn't be too cold or too hot or too windy or too cloudy when *anjana* is applied. Persons who are very much tired, weeping, fearful or who have consumed alcohol should not be administered *anjana*. In cases of acute fever and indigestion also, it is contraindicated. It should be avoided while controlling natural urges. If *anjana* is administered to such persons, they suffer from

redness, viscid secretions, cataract, pain, swelling and insomnia.

<i>Anjana</i>	Ingredients	Indications
Chandrodaya varti	<i>Shankhanabhi, vibhitaki majja, haritaki, manashila, pippali, maricha, kustha, vacha, ajaksheera</i> <i>Matra: harenu matra</i>	<i>Timira, mamsavridhi, kacha, patala, arbuda, ratryandha, varshika pushpa</i>
Kusumika varti	Eighty flowers of <i>tila</i> , sixty small grains of <i>pippali</i> , fifty flowers of <i>jati</i> and sixteen fruits of <i>maricha</i> <i>Matra: One and a half harenu</i>	<i>Timira, arjuna, shukla, mamsavridhi</i>
Snehana varti	Seeds of <i>amalaki, vibhitaki</i> and <i>haritaki</i> are taken in 1:2:3 ratio <i>Matra: Two harenu</i>	Pain caused by the aggravation of <i>vata</i> and <i>rakta</i>
Lekhana rasakriya	<i>Tuttha, svarnamakshika, saindhava, sita, shankha, manashila, gairika, samudraphena</i> and <i>maricha</i> and <i>madhu</i>	<i>Vartmaroga, arma, timira, kacha, shukla</i>
Ropana rasakriya	<i>Rasanjana, sarjarasa, jatipushpa, manashila, samudraphena, lavana, gairika</i> and <i>maricha</i> are finely ground with <i>madhu</i> and prepared like a <i>rasakriya</i>	It reduces <i>kleda, kandu</i> . Its application helps in the regrowth of lashes
Snehana rasakriya	Seeds of <i>kataka phala</i> is ground and a small quantity of <i>karpura</i> is added to it and applied	For <i>netraprasadana</i>
Lekhana churna	<i>Dakshanda twak, manashila, kacha, shankha, chandana, saindhava</i> are ground and applied daily	<i>Sarvakshi roga</i>
Ropana churna	<i>Rasaka</i> is ground finely on a stone and mixed with <i>jala</i> and allowed to settle. The residue is left and the water is taken out and sun dried. The water is dried and small flakes are formed, which are powdered and soaked in the decoction of <i>triphala</i> three times, dried and 1/10th of <i>karpura</i> is added to it	If it is applied to the eye, it cures all the diseases of the eye, without any doubt
Snehana churna	<i>Sauviranjana</i> is heated on fire and immersed in the decoction of <i>triphala</i> - seven times and soaked in <i>stanya</i> - seven times	If it is used as a collyrium regularly, it cures many eye diseases
Nayanamruta churna	Purified <i>naga</i> is melted and purified <i>parada</i> is added to it, in equal quantity. Then two times of <i>krishnanjana</i> is added to it and grinded finely. One tenth quantity of <i>karpura</i> is added to it	Used as a <i>pratyajana</i> and is also useful in other eye diseases. This is known as <i>nayanamruta</i>

Pratyajana: After the collyrium is applied, the diseases will be subsided, when the lacrimation is controlled and when there is clarity of vision, eyes are washed well with water and a *pratyajana* is applied. It shouldn't be washed with water if the disease is not subsided. This drug is applied in order to counter the effects of the previous applications.

Naga Shalaka: If an applicator rod is made of purified *naga*, which is heated repeatedly and immersed in the decoctions of *triphala, bhringaraja* and *shunti* and also in *ghrita, gomutra, madhu, ksheera* and *anjana* it is called as *nagashalaka* and *anjana* applied with this rod cures all the diseases of eye.^[1]

DISCUSSION

Bhavaprakasha, being one among the *laghutrayee* is a work written in a comprehensive, yet sophisticated language that is understandable by all. *Bhavamishra's* style of presentation exhibits the highest degree of excellence in terms of systematic classification of drugs and diseases and has been able to decode one of the most difficult disputes faced by humanity which is morbidity. The knowledge of *Ayurveda* scholars has been enlightened by *Bhavaprakasha's* excellence in arranging and systematically categorising the drugs and the

diseases. It is considered to be the one-stop solution for of all the useful information hidden in the wide range of dispersed *Ayurvedic* literature.

While explaining about the evolution of *indriyas*, he has followed the *Sankhya* philosophy and has also explained the paramount importance of *agni mahabhuta* in visual perception.

After 70 years, there will be decline in visual perception: With aging, there is change in the biochemical processes, reduced antioxidant activity and increased susceptibility of proteins to oxidative damage of the lens which might be responsible for clouding and cataract development of lens. Structural and functional changes in the cornea are produced due to ageing of cornea which makes it difficult for its protection and also refraction thereby affecting the normal functioning of vision.^[2]

Under *dinacharyartu prakarana*, it has been mentioned that a *swastha* person will have *prasannendriya* – clear and well-functioning sensory organs. *Acharya Sushruta* has also emphasised this concept as *prasanna atma indriya manaha swastha iti abhidhiyate* which is well accepted by WHO.^[3]

It has also been said that *nasya* helps in getting *vimalendriya*. To substantiate this, porous endothelium and highly vascularized epithelium present in the nasal route allow rapid absorption of substances into systemic circulation steering clear of hepatic first pass metabolism and evading the BBB that allows direct drug delivery to CNS.^[4] *Acharya Charaka* has explained that *nasa* is the portal for *shiras* and *Acharya Chakrapani* has metaphorically emphasised that the *dravyas* used for *nasya* will remove the morbid *doshas* by entering the head and he exemplified this by quoting that just as *ishika* is derived by taking out of adhered fibrous *munja* coating.^[5] So, *nasya* is said to detoxify the *urdhwajatu* by doing *sthanika dosha shodhana*.

Padabhyanga has been described to possess the benefit of *Drushtiprasadakrit*. To justify this *Acharya Vagbhata* has emphasised the presence of 2 *nadis* that go from the *padamadhya* to *netra*.^[6] *Ayurveda* explains that the development of organs that is both *pada* and *netra* have their origin from *vaikarika* and *rajasika ahankara* and both develop in the same month of intrauterine life. Thus, by therapy on *pada*, we can have its effects on *netra* because of their similar origin. In pedal inunction, the absorbed *taila* through the *rasa* in the skin and blood in the *siras* gives nourishment to the eyes. According to physiology, Since both eyes and feet are having same somatic sensory location (area – 2 of the cortex), *padabhyanga* helps in their stimulation.^[7]

Udvartana makes the *akshi drudha*. Rubbing helps in increasing circulation, secretion, absorption and also influences metabolism. It also stimulates the cutaneous nerve endings and in turn improves the condition of the nervous system.^[8]

Nidravegadharana causes *indriya gourava* and we can understand that sleep deprivation can lead to dry eyes, itchy eyes, blurry vision, eyelid twitches and lower tear production in the short term and can be a precipitating factor for myopia, glaucoma, ischemic optic neuropathy and diabetic retinopathy in the long term.^[9]

Katu rasa promotes lacrimation: The capsaicin or allyl isothiocyanate can irritate the membranes in eyes causing the lacrimal ducts to wash away the irritant particles. The spicy substances cause irritation in the eyes, leading to increased lacrimation or watering since the capsaicin makes direct contact with eyes causing swelling, redness and pain.^[10]

Vamana contraindicated in *timira*: The inspiratory thoracic muscles and abdominal wall muscles contract leading to raise in the intra thoracic and intra-abdominal pressures during the process of *vamana*. This leads to diminished venous return to the heart and decreased stroke volume subsequently increasing the venous system pressure due to increasing intra thoracic pressure against a closed glottis. There might be a risk of

spontaneous rupture of the retinal capillaries due to sudden raise in IOP.^[11]

Virechana is indicated in *netra rogas*: At the molecular level, *virechana* can modulate the physiological, biochemical and immunological activities. It can also correct the vascular pathology by enabling the absorption of subretinal fluid. Anti-haemorrhagic physiological mechanisms can also be enhanced by *virechana* that causes *koshtha shodhana*. *Drishti* is one of the *pitta sthanas* and *virechana* helps in the mitigation of *pitta*. *Virechana* also helps in preventing photoreceptor degeneration by its *vyavayi*, *vikasi*, *sukshma*, *ushna* and *teekshna guna*.^[12]

Exposure to smoke can lead to irritation, stinging, burning, redness, excessive watering of the eyes and temporary vision changes in the short run due to collection of tiny unburnt particles, gases and water vapour and rubbing the eyes can damage the cornea as well whereas in the long-term effect, it can cause dry eye syndrome and ocular allergies as well.^[13] *Acharya Sushruta* has also emphasised the ill effects of smoke exposure in the context of *Dhumopahata lakshanas* in which burning sensation and redness of eyes are also one of the symptoms.^[14]

Swedana is contraindicated in *netra*: According to *Acharya Charaka*, three parts of the body that include *vrushana* (scrotum), *hridaya* (heart or thoracic region) and *Drishti* (eyes) must be given mild sudation or should not be given sudation at all.^[15]

Detail knowledge is given about the drugs related to *netra*: *Vibhitaki*, *Raktachandana*, *Lavanga*, *Sindhuvara*, *Kakamachi*, *Kamsya*, *Shigru*, *Triphala*, *Lodhra*, *Jeeraka*, *Samudraphena*, *Yashti*, *Karpooora*, *Jivanti*, *Mudgaparni*, *Laghumulaka*, *Draksha*, *Rasa*, *Suvarna*, *Yashada*, *Tuttha*, *Gairika*, *Suvarna gairika*, *Raktashaali*, *Kukkuta*, *Mudgamodaka*, *Hasti dugdha*, *Dugdhotha navaneeta*, *Gavya ghrita*, *Ajaghrita*, *Tila taila*, *Lashuna*, *Saindhava*, *Nimba*, *Shatavari*, *Mahashatavari*, *Kataka*, *Shankha*, *Mudga* are said to be *chakshushya* or *netrahitakara dravyas*. *Madhu* and *ardhyam* are considered as *chakshushya* and specifically *ardhya* type of *madhu* is considered to be *atichakshushya*. Drugs like *Tumburu Darvi*, *Manjishta*, *Sarala*, *Tagara*, *Asthisamhara*, *Gomutra*, *Kadali*, *Shatapushpa*, *Gunja*, *Makshika*, *Amra*, *Agaru*, *Guhashaya mamsa* are said to cure different *netra rogas*. *Kasisa* helps to reduce *netrakandu*. *Agastipushpa* is said to be *naktandhyanaashana*. *Naripaya* is considered to be best in ocular injuries. *Puranaghrita* is said to be the best *timirapaha dravya*. Since the subject matter of dealing with the details of these drugs may be vast in the present article, the same will be dealt in our further works.

While explaining *netra chikitsa* vast explanation is given about the *kriyakalpa* procedures including various formulations, indications and contraindications.

CONCLUSION

With all the above references from *Bhavaprakasha*, it is evident that *Bhavamishra* rightfully mentioned all the do's and don'ts with respect to ocular health. It is now our duty to decode the precious knowledge that this treatise consists of and more importantly implement it in our lives in order to lead a healthier life. Having considered all the aspects like the preventive and curative aspects of ocular health, *Bhavaprakasha* gives us a holistic approach on how to take good care of the most *pradhana indriya* among all the *indriyas* which is *netra*. *Netra swasthya* is vital and this treatise has given us all the *upayas* and *upacharas* to follow in order to maintain *netra swasthya* and cure *netra vikaras*. Therefore, since inquisitiveness and discoveries are 2 inseparable terms, the more we explore such treatises, the more we discover and unravel for the greater good.

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