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Assessment of acceptance of Ayurveda Visual Science Medications: Revealing unmet needs

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ABSTRACT

Ayurvedic Visual Science (AVS) has served the nation since *Rajashri Nimi*, the King of *Videha*, well documented in *Susruta Samhita* in 800-600BC. Vision is the most essential sensory function of humans. Loss of vision is considered the highest disability in the general population. Still the unmet needs in ophthalmic research include glaucoma, retinal dystrophies, diabetic retinopathy (DR), retinitis pigmentation (RP), dry eye, progressive myopia, macular degeneration, and corneal diseases. There is no solution of many disorders in spite of the great invention in modern diagnosis and treatment. AVS has progressed tremendously in treating diabetic retinopathy, macular degeneration, retinitis pigmentosa and other incurable diseases. The Ayurvedic ocular medication comprises oral medication, *Panchakarma* and *Kriya kalpa* (Ocular procedures) to treat eye diseases holistically after factoring in the entire health profile of patients. A small cross-sectional study was conducted at Sri Sri Ayurveda Medical College, Bangalore, and 885 patients were included, nearly 02% of the total OPD strength of *Shalya & Shalakya* OPD. Maximum patients are males between the ages of 51-60 years. The most accepted group for Ayurveda Ocular treatment suffered from progressive myopia (26%), followed by 24% of patients with diabetic retinopathy and 13% with chronic conjunctivitis and Age-related macular degeneration. A consensus roadmap from AYUSH should address the unmet need through Ayurveda visual science supported by tangible clinical outcomes.

Key words: Ayurvedic Visual Science (AVS), diabetic retinopathy (DR), Retinitis pigmentation (RP), dry eye, progressive myopia, Macular degeneration, unmet need, Netra Kriya Kalpa

INTRODUCTION

World Health Organization (WHO) released a World Report on vision, which stated that over 2.2 billion people with vision impairment or blindness worldwide and over 1 billion have conditions that could be treated or prevented.^[1] In India, recent estimates state that the prevalence of blindness (presenting vision, 6/60 in the better eye) was 8.5%. The prevalence varied from 4.2%

to 13.7% across the different districts of India. Indian prevalence of low vision (presenting vision, 6/18-6/60 in better eye) was 23.85%. Retinopathy, cataract, Age-related macular degeneration, and Glaucoma are coming up as leading causes of blindness.^[2] Ayurvedic Visual Science (AVS) has served the nation since *Rajrishi Nimi*, the King of *Videha*, well documented in *Susruta Samhita* in 800-600BC. Ayurveda treatment modalities can be implemented to tackle visual impairment of lifestyle-related blindness and degenerative eye diseases where surgical intervention has the least role. Despite of well established Ayurveda ophthalmic centers have been coming up in Kerala backed by the classical literature and formulations,^[3-4] which are proven as effective and low-cost interventions^[5-7] but poor data to aid in planning and lack of integration of Ayurveda eye care into the overall healthcare of our country are big challenges meeting the anticipatory demand of Ayurveda Visual science. Ayurveda Visual Centers should establish in every state to recognize eye conditions and identify the patient

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that needs Ayurveda treatment for sight-saving, create more data, provide training to undergraduate and postgraduate Ayurveda students, paramedics and award certificates for practicing Ayurveda visual science, and improve community involvement.

The National Programme for Control of Blindness was launched in the year 1976 with the goal of reducing the prevalence of blindness from 1.4% to 0.3%. Target for the 10th Plan was to reduce the prevalence of blindness to 0.8% by 2007. prevalence of Blindness is 1%.^[8] During the 11th plan, the scheme is to consolidate gains in controlling cataract blindness and also initiate activities to prevent and control blindness due to other causes. Despite national programs in India, other causes of blindness are increasing, and people are seeking Ayurveda treatment, but no consolidated data. Therefore, a cross-sectional study was conducted at an Ayurveda medical college to know the people's acceptance of Ayurveda visual science to develop future strategies.

Ayurveda Visual Science & its Prospect - It is a fact that Ayurveda Visual Science (AVS), otherwise known as *Netra Chikitsa*, is part of *Salakya Tantra*. The most proficient and prominent ophthalmic surgeon Nimi worked on many treatises, all exclusively and exhaustively dealing with the surgery and treatment of the eye and its diseases. Mostly the classification of diseases in Ayurveda are symptom based, but the anatomical classification found in ocular diseases shows its specificity in current days. Seventy-six eye diseases are described in *Salakya Tantra*, but no specialty or exclusive eye clinics in leading government Ayurveda hospitals.^[9] No post-graduation training exclusive on *Netra Roga* and Ayurveda doctors is not trained with modern eye investigative tools. Sreedhareeyam Eye Hospital, Kelara, is Ayurveda's only super specialty eye hospital. More than 52,000 Out-patients and around 5000 In-patients undergo treatment for all the 72 eye diseases mentioned in Ayurveda, including the diseases that affect the Cornea, Eyelids, Optic nerves, and Retina.^[10]

Central Council for Research in Ayurveda Sciences (CCRAS) an autonomous organization under the

Ministry of AYUSH, Government of India has contributed a lot to bringing Ayurveda visual science to the limelight, conducted many workshops and seminars, prepared IEC materials, and nominated Regional Ayurvedic Institute, Lucknow, as the CCRAS Centre for eye diseases.^[11] Sreedharyam Eye Hospital has significantly contributed to Ayurveda Visual Science through its exclusive hospital in Kerala and branches in major cities of India in the last two decades.

AVS has progressed tremendously in treating diabetic retinopathy, macular degeneration, and retinitis pigmentosa. Ayurvedic remedies and procedures treat eye diseases holistically, factoring in the entire health profile of patients. Oral medication for general health and ophthalmic conditions, *Sodhana* therapy (purificatory therapy), leech therapy, and *Kriya Kalpa* (ocular procedures) are the main modalities of treatment revealed in the case reports/case series of Sreedhareeyam eye hospitals.^[12]

The research perspective of Ayurveda visual science is limited. There is a wide gap in the adoption of scientific technologies for diagnosis and assessment in the visual science of Ayurveda. Ayurveda is experiencing a severe deficiency in capacity building, human resource development, and education in Visual science. Epidemiological research and randomized clinical trials in AVS are not yet found in modern literature. The research outlines that AVS is limited to case series and clinical success case reports.

Acceptance of Ayurveda Visual Science (Netra Chikitsa)

Basic healthcare services have been considered human rights. The World Health Organization (WHO) has supported the concept of universal health coverage (UHC) across the globe. Treatment failure in ophthalmic surgery and no curative management in age-related macular degeneration, retinitis pigmentosa, diabetic retinopathy, and glaucoma are reasons for the creation of unmet needs in Ayurveda visual science.^[13] Unmet need in visual science is a rights-based measure that helps determine the visual impairment to improve the visibility. The public

acceptance of Ayurveda visual science is not limited to Sreedhareeyam eye hospitals now but to all Ayurveda colleges and research centers. Our popular prime minister highlights the visual science of Ayurveda by stating the regain of eyesight of Rosemary Odinga of Kenya through Ayurveda in the foundation stone ceremony of the WHO global centre for traditional medicine, Jamnagar, India. The national and global expectations of AVS is increased many folds. It starts from the progressive myopia of children to the optic neuritis of old. If AVS is developed, India will be added a spot for medical tourism in AVS.

The negative effect of vision loss on quality of life has been demonstrated in association with cataracts, diabetic eye disease, and age-related macular degeneration. Consistently, a year of life with severe vision loss has been valued at a 50% to 70% decrement compared with a year of life in perfect health.^[14] A small cross-sectional study was conducted at Sri Sri Ayurveda Medical College, Mysore, and 885 patients were included, nearly 02% of the total OPD strength of *Shalya* and *Shalakya*. Maximum patients are males between the ages of 51-60 years. The most accepted group for Ayurveda Ocular treatment suffered from progressive myopia (26%), followed by 24% of patients with diabetic retinopathy and 13% with chronic conjunctivitis and Age-related macular degeneration (Table no. 1). Most patients are pre-diagnosed.

Ayurvedic ocular medications comprise oral medication, panchakarma procedures, and *Kriya Kalpa* (Ocular procedures) to treat eye diseases holistically after factoring in the entire health profile of patients. *Kriya Kalpa* (Tropical therapy of the eye) is specially designed in Ayurveda to achieve satisfactory drug concentration in ocular tissues because oral medications seldom cross the blood-aqueous and blood-retinal barriers. The two functional barriers restrict the movement of blood elements to the intraocular chambers and explain why drugs administered orally or intravenously can hardly reach therapeutic levels in intraocular tissues. Various *Kriya Kalpa* in clinical practice are illustrated (Table no. 2). The *Grita*, *Kwatha*, *Rasa Rasayana* easily cross the blood-aqueous barrier due to the lipophilic,

hydrophilic, and nano action of bio-active molecules in the sclera.^[15]

Innovative drug delivery techniques are explored to overcome the limitations of systemic treatment of ophthalmic disorders. Panchakarma and nanomedicine of Ayurveda *Bhasma* (Nano particles) can overcome the difficulties in drug concentration in ocular tissues as physiological barrier. The oral medication in ophthalmic practice is illustrated (Table no. 3).

Chronic conjunctivitis is well managed by systemic therapy and eye drops. It was observed that successful treatment of primary and recurrent Pterygium was possible in Ayurveda. The emergence of newer cancers and their metastatic lesions bought eye bulge cases to Ayurveda. Clinical success in eye bulges is achieved after the regression of brain tumors through Ayurveda and ocular procedures. Patients of diabetic retinopathy have excellent results with Ayurvedic oral medicines, external treatments, and dietary and lifestyle restrictions.^[16]

Table 1: The magnitude of Ocular diseases in Ayurveda hospitals

| Ocular morbidities | No of cases (N=885) |
|---|---------------------|
| Progressive myopia | 232 (26.21%) |
| Cataract | 29 (3%) |
| Diabetic retinopathy | 211 (24%) |
| Age-related macular degeneration | 112 (13%) |
| Glaucoma | 25 (2.82%) |
| Retinitis pigmentosa | 54 (6%) |
| Optic neuritis | 11 |
| Central serous Retinopathy | 22 (2.5%) |
| Pterygium | 15 |
| Chronic conjunctivitis | 114 (13%) |
| Rheumatic scleritis | 17 |
| Bulging of eyeball other than hyperthyroidism | 13 |
| Dry eye | 30 (3.3%) |
| Total | 885 |

Table 2: Netra Kriya Kalpa (Ocular Procedures) in practice

| SN | Name of the Kriya Kalpa | English translation |
|-----|------------------------------|--|
| 1. | <i>Netra Seka</i> | Medicated liquids are poured on the closed eyes |
| 2. | <i>Ashchyotana</i> | Dropping of a decoction over the conjunctiva |
| 3. | <i>Anjana</i> | Application of collyrium |
| 4. | <i>Tarpana</i> | Eye nourishment by ghee |
| 5. | <i>Putapaka</i> | Retention of medicated prepared in puta paka |
| 6. | <i>Pariseka</i> | Closed eye irrigation |
| 7. | <i>Pindi</i> | Poultice application in eye |
| 8. | <i>Vidalaka</i> | Medicated herbal paste applied over the eyelids |
| 9. | <i>Netra Dhara</i> | Continuous dropping medicated oil/decoction over the eye |
| 9. | <i>Shira vestanam</i> | Bandage over eye and head |
| 10. | <i>Sira lepam</i> | Paste over fore head |
| 11. | <i>Drustiprasad abhyanga</i> | Eye massage |

Table 3: Common Ayurveda oral medications in our Ocular Practice

| SN | Name of Oral medications | Indications |
|----|----------------------------|-------------------------------------|
| 1. | <i>Saptamruta Lauha</i> | <i>Tridosahara</i> , conjunctivitis |
| 2. | <i>Bilvadi Gulika</i> | Anti toxin, detox, all eye problem |
| 3. | <i>Sudarsana Ghan Vati</i> | <i>Kaphaja Netra Roga</i> |
| 4. | <i>Chandraprava Vati</i> | Strength to eye muscles, diabetic |
| 5. | <i>Saptamruta Kwatha</i> | Inflammatory eye conditions |

| | | |
|-----|---------------------------|---|
| 6. | <i>Punnavadi Kwatha</i> | Glaucoma |
| 7. | <i>Cirabilvadi Kwatha</i> | Pacify <i>Vata</i> in general |
| 8. | <i>Jeevantyadi Taila</i> | Vatic condition of the eye |
| 9. | <i>Ananta Grita</i> | All eye disorders |
| 10. | <i>Triphala Grita</i> | <i>Tarpana</i> , detox |
| 11. | <i>Vidaradi Grita</i> | Inflammatory eye conditions |
| 12. | <i>Jeevantyadi Grita</i> | <i>Pitta</i> and <i>Vata</i> conditions |
| 13. | <i>Agasthi Haritaki</i> | <i>Kapha Vata</i> conditions |
| 14. | <i>Dasamula Haritaki</i> | <i>Vata</i> & <i>Pitta</i> conditions |
| 15. | <i>Yogendra Rasa</i> | Vascular disorder of eyes |
| 16. | <i>Siddha Makardvaja</i> | <i>Kapha</i> conditions, allergic |
| 17. | <i>Br Vata Chintamani</i> | Diplopia, pain conditions |

DISCUSSION

Vision is humans' most important sensory function, with more than 30% of the brain involved in processing visual information. Consequently, Loss of vision is considered the highest disability in the general population. The unmet needs in ophthalmic research include glaucoma, retinal dystrophies, diabetic retinopathy (DR), Retinitis pigmentation (RP) dry eye syndrome, progressive myopia, Macular degeneration, and corneal diseases.^[17] The unmet needs should guide policymakers, the Ayurveda industry, and academia in their Ayurvedic endeavours to minimize preventable blindness like contemporary ophthalmology.^[18] This small cross-sectional study increasingly reveals the acceptance of Ayurveda Visual Science(AVS) medications. More investments are needed in infrastructure, capacity building, skill development, and creating awareness to reveal the unmet need in ophthalmology.

CONCLUSION

Undoubtedly, Ayurveda visual science medications got a place in Ayurveda health care. A consensus roadmap from AYUSH should address the unmet need through

Ayurveda visual science supported by tangible clinical outcomes.

REFERENCES

- World Report on Vision. 2019, World Health Organization.
- Pisudde PM, Taywade ML, Sushma K, Mehendale AM, Shukla AK (2015) An Epidemiological Study of Common Ocular Morbidities among Elderly Population in the Wardha, District, Maharashtra, India. *Epidemiology (Sunnyvale)* S2:002. Doi: 10.4172/2161-1165.S2-002
- Balakrishnan P, Ajayan S, Mukkudakkattu S, Nechiyil K, Nambi N. Review of unique ophthalmic formulations in Vaidya Manorama: A traditional Kerala Ayurveda literature. *J Ayurveda Integr Med.* 2022;13(2):100576. doi:10.1016/j.jaim.2022.100576
- Agrawal S, Rajagopala M. Clinical study on primary open-angle glaucoma with *Ashchyotana, Tarpana* and oral medication. *Ayu.* 2017;38(1-2):33-38. doi:10.4103/ayu.AYU_155_16
- Wong KH, Nam HY, Lew SY, et al. Discovering the Potential of Natural Antioxidants in Age-Related Macular Degeneration: A Review. *Pharmaceuticals (Basel).* 2022;15(1):101. Published 2022 Jan 14. doi:10.3390/ph15010101
- Salunke, A. S., Kolape, H. R., Lahankar, M., & Lone, S. M. (2014). A Clinical case study of Vayasthapan gana in Tritiya Chaturtha Patalgat Doshdushti with special reference (w.s.r.) to dry ARMD (Age Related Macular Degeneration). *International Journal of Ayurvedic Medicine*, 5(1).
- Anju D, Pushpa Raj Poudel, Ajoy Viswam, & Ashwini MJ. (2017). Ayurvedic management of Retinitis Pigmentosa (Doshandha) - A Case Study. *Journal of Ayurveda and Integrated Medical Sciences*, 2(05), 183-187.
- Verma R, Khanna P, Prinja S, Rajput M, Arora V. The national programme for control of blindness in India. *Australas Med J.* 2011;4(1):1-3. doi: 10.4066/AMJ.2011.505. Epub 2011 Jan 31. PMID: 23393496; PMCID: PMC3562965.
- Ramachandran CK. NIMI TANTRA (Ophthalmology of Ancient India). *Anc Sci Life.* 1984 Apr;3(4):183-7. PMID: 22557403; PMCID: PMC3331568.
- Sreedhayam Eye hospital, <https://sreedhareeyam.com/ayurvedic-research-development-institutes>.
- Research In Shalakyatantra (Science of Ophthalmology ENT Diseases of Head and Neck): Opportunities and Way forward, https://www.researchgate.net/publication/349377913_Research_In_Shalakyatantra_ScienceofOphthalmologyENTDiseasesofHead_and_NeckOpportunities_and_Way.
- Nafees S, Akhtar J, Kaur J. Indian traditional medicinal plants in ophthalmic diseases. *Avicenna J Phytomed.* 2022 Nov-Dec;12(6):566-575.
- Scott AW, Bressler NM, Ffolkes S, Wittenborn JS, Jorkasky J. Public Attitudes About Eye and Vision Health. *JAMA Ophthalmol.* 2016 Oct;134(10):1111-8.
- Narayanan N. N., Aravind K., Krishnendu S. An Ayurvedic Protocol to Manage Rhegmatogenous Retinal Detachment and the Resultant Macular Hole - A Case Report. *International Journal of Current Research and Review.* Vol 12 Issue 14, July, 2020, 10-16. <http://dx.doi.org/10.31782/IJCRR.2020.1214>
- Occhiutto ML, Freitas FR, Maranhao RC, Costa VP. Breakdown of the blood-ocular barrier as a strategy for the systemic use of nano-systems. *Pharmaceutics.* 2012 May 14;4(2):252-75. doi: 10.3390/pharmaceutics_4020252. PMID: 24300231; PMCID: PMC3834913
- Narayanan N. N., Aravind K., Krishnendu S. Management of Proliferative Diabetic Retinopathy and its Associated Conditions using Ayurvedic Therapies: A Case Series, *International Journal of Current Research and Review.* Vol 12 Issue 14, Sep, 2020, 10-22
- Salunke AS, Kolape HR, Lahankar M, Lone SM. A clinical case study of "Vayasthapan gana" in Tritiya Chaturtha Patalgat Doshdushti with special reference (w.s.r.) to dry ARMD (age related macular degeneration). *Int J Ayur Med* 2014;5:139-42.
- Copado IA, Baxter SL. Unmet Needs in Vision Care Among Vulnerable Patients. *JAMA Ophthalmol.* Published online April 13, 2023. doi:10.1001/jamaophthalmol.2023.0956

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