

Diabetes, Vision & Homoeopathy

Dr. Tridibesh Tripathy^{1*}, Dr. Deepak Kumar², Dr. Sujit Deshmukh³, Shankar Das⁴, Dharmendra Pratap Singh⁵, Dr. Umakant Prusty⁶, Dr. Madan Mohan Mishra⁷, Dr. Jeevan Krushna Pattanaik⁸, Dr. Pramod Bihary Pradhan⁹, Mr. Anil Dubey¹⁰, Mr. Anjani Kumar¹¹, Rakesh Dwivedi¹², Dr. Mohini Gautam¹³

¹BHMS (Utkal University, Bhubaneswar), MD (BFUHS, Faridkot), MHA (TISS, Mumbai), Ph.D. in Health Systems Studies (TISS, Mumbai), Homoeopathic & Public Health Expert, Visiting Professor, Master of Public Health (Community Medicine) program, Department of Social Work, Lucknow University, Lucknow, UP, India

²MS (ophthalmology), Eye Specialist, Saint Mary's Hospital, Karauta, Lohta, Varanasi, Uttar Pradesh, India

³MS (ophthalmology), Eye Specialist, Specialization in Glaucoma, Saint Mary's Hospital, Karauta, Lohta, Varanasi, Uttar Pradesh, India

⁴Professor, Dean, School of Health Systems Studies, Tata Institute of Social Sciences, Mumbai & Former Director, IIHMR, Delhi, India

⁵Professor, Dean, Centre of Research Methodology, Tata Institute of Social Sciences, Mumbai, India

⁶Research officer (Homoeopathy), Regional Research Institute (Homoeopathy), Puri, Odisha under Central Council for Research in Homoeopathy, Ministry of AYUSH, Government of India

⁷Homoeopathic Practitioner with 30 years of Experience, Anugul, Odisha, India

⁸Medical Officer (Homoeopathy), Attached to Dr. Abhin Chandra Homoeopathic Medical College & Hospital, Bhubaneswar, Government of Odisha, India

⁹Nodal Officer (Homoeopathy), Directorate of AYUSH, Government of Odisha, Bhubaneswar, India

¹⁰Masters in Social Work, Co-ordinator, programs in the institution & outreach wing of institution, Saint Mary's Hospital, Karauta, Lohta, Varanasi, Uttar Pradesh, India

¹¹Masters in Social Work, Divisional Project Co-ordinator, National Nutrition Mission, Varanasi Division, Uttar Pradesh, India

¹²Professor, Co-ordinator, Master of Public Health (Community Medicine) program, Department of Social Work, Lucknow University, Lucknow, India

¹³Assistant Professor, Faculty, Master of Public Health (Community Medicine) program, Department of Social Work, Lucknow University, Lucknow, India

DOI: [10.36347/sasjm.2023.v09i09.020](https://doi.org/10.36347/sasjm.2023.v09i09.020)

| Received: 14.08.2023 | Accepted: 21.09.2023 | Published: 25.09.2023

*Corresponding author: Dr. Tridibesh Tripathy

BHMS (Utkal University, Bhubaneswar), MD (BFUHS, Faridkot), MHA (TISS, Mumbai), Ph.D. in Health Systems Studies (TISS, Mumbai), Homoeopathic & Public Health Expert, Visiting Professor, Master of Public Health (Community Medicine) program, Department of Social Work, Lucknow University, Lucknow, UP, India

Abstract

Review Article

Treating the eye of a diabetic patient is a challenging task for an ophthalmologist as they deal with Diabetic Retinopathy (DR). Uncontrolled sugar levels further leads to complications making the challenge tougher for the ophthalmologist. To meet these challenges, the current article examines the role of homoeopathy on a large scale at the national level [9]. The article delves into the current status of DR at nation at global & national level. Thereafter moves to epidemiology of DR, diagnosis of DR, management of DR & the burden of DR in India. It sees what the homoeopathic system of medicine can offer to deal with DR cases & the burden of DR. On a large scale, the blindness prevention in public health centers on vitamin A prophylaxis or vitamin A prevention. All these efforts are done for the younger age group. Currently, vitamin A prophylaxis starts from the age of 9 months & goes on till the children complete 5 years of age. From the age 9 months one dose of vitamin A is given to the children every 6 months till they complete 5 years of age. So in all, 9 doses of vitamin A are given to U5 children [9, 10]. Other diseases like DR, cataract, refractive error & glaucoma also contribute to blindness, In recent times, there has been a rise of such cases of vision loss & it is essential to understand the cause. There is a clear link between uncontrolled sugar levels & retinopathy. This phenomenon leads to masking of vision related symptoms thus resulting in unexpected blindness cases. These are actually Diabetic Retinopathy cases [9, 10, 26].

Keywords: Diabetic Retinopathy, Homoeopathy, Miasms, NPCB.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

Diabetes- History

Diabetes Mellitus (DM) was identified as a disease as early as 250-300 BC & was characterized by

the sweet properties of urine. From then, the disease has become an epidemic with chronic consequences. Uncontrolled diabetes is a cause of multiple secondary

complications out of which Diabetic Retinopathy (DR) is one of them [3, 5-8].

Diabetes is a Greek word meaning Siphon which means 'to pass through' & the Latin word Mellitus meaning honeyed or sweet. In the 17th century, it was known as 'Pissing Evil'. Diabetes was coined by Apollonius of Memphis around 250 BC. English text's first mentioned it in 1425. In 1675, Thomas Willis added the word 'Mellitus' to the word diabetes [5-8].

Epidemiology of Diabetes

India has the second largest number of diabetics worldwide. According to an estimate, over 74 million Indians were diagnosed with diabetes in 2021 & this is expected to rise to over 124 million by 2045. Type 2 diabetes accounts for over 90% of all diabetic cases in India [1].

A recent study by the health ministry indicates that around 101 million people in India, comprising 11.4% of the population have diabetes. Additionally, 136 million people or 15.3% may have pre-diabetes, which can progress to diabetes within five years. This situation is alarming & can be described as a 'diabetes epidemic'. Diabetes affects approximately one in every 11 adults globally [2, 3].

Globally, the prevalence of Diabetic Retinopathy (DR) among diabetic patients is estimated to be 27% there by leading to approximately 0.4 million cases of blindness worldwide. Thus, it is the fifth leading cause of blindness [11].

About Diabetic Retinopathy

In diabetic patients, chronic low grade inflammation plays a crucial role in the occlusion or blockage of capillaries. This leads to hypoxia or decrease in the oxygen supply within the retina. Dysfunction of retinal glial cells is also believed to contribute to initiation & amplification of retinal inflammation in Diabetic Retinopathy [3, 4, 9].

Thereafter the process leads to the over expression of Vascular Endothelial Growth Factor (VEGF) which is responsible for the hallmark vascular abnormalities observed in DR. Clinically, DR is categorized into two stages. These are Non Proliferative Diabetic Retinopathy (NPDR) & Proliferative Diabetic Retinopathy (PDR) [3, 4, 9].

In the early, DR (NPDR) stage, increased vascular permeability & capillary occlusion are distinguishable features in the retinal vasculature. Patients may exhibit retinal pathologies such as micro aneurysms that are small bulges in blood vessels caused by localized weakness. Along with that hemorrhages & protein deposits known as hard exudates also occur in retina. Fundus imaging can detect these abnormalities even if the patients are asymptomatic [3, 4, 9].

PDR represents the more advanced stage of DR that is characterized by neo-vascularization or formation of new blood vessels. Patients may experience severe vision impairment during this stage due to vitreous hemorrhage or retinal changes caused by abnormal new vessels [3, 4, 9].

Diabetic Macular Edema (DME) is the leading cause of vision loss in patients with DR. It involves swelling or thickening of the macula due to fluid that includes sub & intra retinal fluid. This fluid accumulation in the macula is triggered by the breakdown of the Blood-Retinal-Barrier (BRB) [3, 4, 9].

Blindness prevention in National Health Policy

The first National Health Policy was drafted in 1983, the second in 2002 & the recent one in 2017. In one of the goals, it mentions 'reduction of blindness prevalence to less than 0.25 per 1000 by 2025'. So in 8 years, it talks of reduction of 0.75 per 1000 or 0.009375 per year. Rapid survey on avoidable blindness under National Program for Control of Blindness (NPCB) conducted during 2006-07 showed reduction in the prevalence of blindness from 1.1% in 2001-02 to 1% in 2006-07. Vitamin A prophylaxis, cataract surgery & identification with risk reduction of DR are the mainstay of the NPCB. In addition to that, the NPCB proposes a comprehensive view on identification of all individuals with significant eye diseases across all age groups. This may be performed through school screening for refractive errors in children through the Rashtriya Bal Swasthya karyakram (RBSK) that focuses on identification of 4Ds which are Diseases, Deficiency, Defects since birth & Developmental delays. The program process also includes preventive strategies for diseases like Cataract, Glaucoma, Diabetic Retinopathy & Refractive Errors for adults through strengthening eye health services in both Government and Non-Government Sector [12, 13].

Diagnosis of DR

Slit lamp examination & dilated fundus examination are performed to diagnose DR. Additionally, Fluorescein Angiography (FA) may be used to determine the presence of retinal vascular abnormalities. Optical Coherence Tomography (OCT) determines the presence & site of intra retinal & or sub retinal fluid accumulation & retinal thickness measurements [3, 9].

Management

Precaution is the key. The latent dangers of diabetes related neuropathy, the monitoring of blood sugar levels at regular intervals while staying vigilant & aware of potential vision related symptoms [3, 4].

Adhering to a healthy & balanced diet, regular physical activity helps improve blood sugar control there by strengthening eye & promoting ocular health [3, 4].

Regular adherence to prescribed medications while managing stress is critical as stress can affect blood sugar levels thus contributing to retinal complications. The masking of vision related symptoms challenges early detection & timely intervention. Each diabetic must prioritize eye health by maintaining optimal blood sugar control. Since DR is a progressive disease, there is a need to emphasize regular detailed eye examinations to monitor progression. Some cases (up to 8-10%) may need specialized medical, laser or surgical treatment for the Retinopathy and these must also be followed as prescribed. There is sufficient evidence to suggest that strict metabolic control significantly reduces the progression rate but need for regular screening is paramount [3, 4, 26-28].

They should be staying aware of alternative symptoms while seeking prompt medical attention when necessary. They should also undergo regular eye check-ups to promptly report any changes in vision [3, 4].

As mentioned above, the causes of blindness are DR, cataract, glaucoma & refractive error. DR needs glucose monitoring, regular physical activity, healthy eating & adhering to doctor's advice. Other strategies are screening for DR risk factors, glycemic control, prompt diagnosis of DR. For cataract, the primary level care requires to do the visual acuity screening & those with visual acuity less than that the predetermined level are to be referred to higher centers. Similarly detection of individuals suffering from refractive error can be obtained through routine examination of patients at the institute & community level. The primary prevention of glaucoma is difficult as it is slow progressing. Risk factors need to be identified at the institute & community level are high intra ocular pressure, older age, race, genetic predisposition & systemic diseases such as hypertension & diabetes [26-28].

Homoeopathic Approach

There are two types of diabetes, one is diabetes mellitus & the other is diabetes insipidus. Here, mellitus is discussed [4, 5].

The lead author has picked up the drugs that are mentioned in capital letters under diabetes in Phatak's repertory. These are the drugs that act in high sugar levels thereby preventing DR. This DR leads to blindness. The drugs are Bovista, Helonias, Phosphorus, Phosphoric Acid, Tarentula, Terebinth & Uranium Nitricum [17].

Besides the potency medicines, the mother tinctures of Indian drugs can also be prescribed. DR is the leading cause of blindness here & because of DR, the retinal muscles get weakened & vision loss occurs. Hence, the medicines that cover both diabetes & DR are to be prescribed. Under diabetic retinitis, the drug mentioned is 'Secale Cor' [17].

There is one medicine mentioned under anemia of retina & the drug is Lithium Carb' [17].

If there is exudation in the retina, the drug is 'Kali Mur' [17].

If there is hemorrhage in the retina, drugs like 'Arnica', 'Bothrops', 'Crotalus Horridus', 'Haemamelis', 'Lachesis', 'Ledum', 'Phosphorus'.

If there is Hyperaesthesia of the retina, the drug is 'Oxalic Acid'.

If there is oedema in the retina, the drugs are 'Apis' & 'Kali Iod'.

In cases of Retinitis Pigmentosa, the drugs are 'Nux Vomica' & 'Phosphorus'.

In cases of thrombosis & degeneration of retina, the drugs are 'Hemamelis' & 'Phosphorus'.

Besides, the specific drugs for diabetes mellitus like Arsenic Bromide, Alloxan, Phaseolus, Phlorizin can also be prescribed [15, 16].

For prevention of uncontrolled sugar levels & DR, miasmatic prescribing should be done based on the predominant miasms [22].

Whenever sudden vision loss occur, emergency medicines like 'Plumbum Met' is to be prescribed if the cause is optic neuritis. The classic combination of 'Chininum Sulph' & 'Iodoformum' can also be prescribed in cases of retro-bulbar neuritis. Another classic example is the combination of 'Carboneum Sulph', 'Chloral Hydrate', 'Syphilinum' & 'Stramonium' potencies can be used. The point is that the diabetic & eye patients should carry these emergency medicines with them. This discipline will save lives [6-14].

For vision loss accompanied with glaucoma, 'Osmium Met', 'Esserine' in potency & 'Areca Catechu' in mother tincture can be prescribed [15-23].

As mentioned above, in cases of day blindness which occurs due to deficiency of Vitamin A & loss of function of the cone cells of the retina, drugs like 'Lycopodium' & 'Bothrops' can be prescribed. The thirst generality distinguishes the two medicines. Prescribe the former to the thirstless & the later to the thirsty ones along with the nutrient vitamin A. Miasmatically, anti syphilitics are to be prescribed also [15-23].

Similarly, for night blindness cases that occur due to deficiency of vitamin A & loss of function of the rod cells, drugs like 'Physostigma' & 'Oleum Jecoris' can be prescribed. Miasmatically, anti syphilitics are to be prescribed also [15-23].

It is also equally critical to keep the Bach flower remedy known as 'Rescue Remedy' as these patients can be saved from sudden loss of vision as well [24].

Another preventive & curative medicine is the bowel nosode 'Bacillus Proteus' which is indicated in

'suddenness' of any symptom of the nervous system [21].

Burden of the problem at National Level

Table 1: Prevalence of Blood Sugar among adults in India [14]

Indicator	Gender	Urban	Rural	Total
Percentage of Women age 15 years and above who have high blood sugar level (141-160mg/dl)	Female	6.7	5.9	6.1
Percentage of Women age 15 years and above who have very high blood sugar level (>160mg/dl)	Female	8.0	5.5	6.3
Percentage of Women age 15 years and above who have high or very high blood sugar level(>140mg/dl) or taking medicine to control blood sugar level	Female	16.3	12.3	13.5
Percentage of Men age 15 years and above who have high blood sugar level (141-160mg/dl)	Male	7.8	7.0	7.3
Percentage of Men age 15 years and above who have very high blood sugar level (>160mg/dl)	Male	8.5	6.5	7.2
Percentage of Men age 15 years and above who have high or very high blood sugar level(>140mg/dl) or taking medicine to control blood sugar level	Male	17.9	14.5	15.6

This reflects the magnitude of the problem in the country from the perspective of diabetes as it is a metabolic disorder with an altered metabolism in the body. So males are more diabetic than females in India [14].

Currently, the Crude Death Rate includes Non Communicable Diseases (NCD) deaths and this trend is catching up as NCDs have the upper hand than the Communicable Diseases (CD) as a result of epidemiological transition. Diabetes is one such NCD with an improper heart in affected people [14].

In India, Homoeopathy is the third preferred system of treatment after Allopathy and Ayurveda. About 10% of the populations depend on Homoeopathy for their health issues.

Homoeopathy is used by 10% of the population in India. So, out of the 1300 million populations, 130 million use Homoeopathy or 130 million use Homoeopathy for their health issues. These 130 million consist of all age groups i.e. infant to old age [25].

A section among the 15+ age group suffers from diabetes as per NFHS 5. Considering that, it is 2/3rd of the population in India (15-65+ year age group) or 100 crore or 1000 millions. Out of this 100 crores, 27% adults are diabetic or about 27 crores are diabetic. These people are at risk from the rest 73 crores. As 130 million use homoeopathy, 2/3rd of the users will be in 15-65+ year age group or 98 million. So if homoeopathy is integrated in to the diabetic battle in India, 98 million people can be saved from being complicated diabetic cases. Application of these concepts in homoeopathy will reduce blindness issues & will be a boon in this regard [14, 17, 25].

Declaration of the lead author

Prof. Shankar Das, a co-author of the current article was the Ph.D. guide of the lead author at Tata Institute of Social Sciences, Mumbai. Prof. D.P. Singh was the teacher of the lead author at TISS, Mumbai during 1995-1997. The lead author also certifies that he has expressed his personal opinion based upon his public health and clinical experiences. The treatment approach or the medicines suggested are only suggestive in nature.

Acknowledgement

The lead author thanks Dr. Umakant, Dr. Pramod, Dr. Madan and Dr. Jeevan for their inputs in the Homoeopathic section and all the other co-authors & especially the two ophthalmologists as co-authors for their inputs in the Non-Homoeopathic section. The lead author also thank R.N. Mohanty, CEO, Sightsavers India & Sandeep Bhan, Technical Lead, Sightsavers India for going through the article & providing useful inputs to enrich the article. Mr. Mohanty is a professional colleague of the lead author.

Financial support and sponsorship: Nil

Conflict of interest: Nil

REFERENCES

1. Statista, diabetes in India, statistics & facts, <https://www.statista.com>
2. Anjana, R. M. (2023). Metabolic non-communicable disease health report of India: the ICMR-INDIAB national cross-sectional study (ICMR-INDIAB-17), the lancet diabetes & endocrinology, 11(7), 474-489.
3. Upadhyaya R S, keep an eye on sugar level for perfect vision, TOI, Sunday special, Lucknow edition, page number 4, July 16, 2023.

4. Davidson, Principles & Practice of Medicine, ELBS 16th Edition, Longman Group (FE) Limited, ISBN-0-443-04482-1.
5. Mandal A, history of diabetes mellitus, news-medical.net/health/history-of-diabetes-asp.
6. <http://www.diabetes.ca/diabetes-and-you/what/history>
7. <http://www.ncbi.nlm.nih.gov/pubmed/11953758>
8. <https://www.japi.org/>.
9. May & Worth, manual of diseases of the eye, 11th edition, 1954, edited by T.K. Lyle & A.G. Cross, pp 724, 305 figs (32 col.pl). Bailliere, Tindall & Cox, London.
10. GOI, MOHFW, Mission Indra Dhanush, RI program, 2016
11. BMC ophthalmology, prevalence & factors associated with diabetic retinopathy. <https://bmcophthalmol.biomedcentral.com>articles>.
12. DGHS, NPCB, <https://dghs.gov.in>
13. GOI, MOHFW, background document, NHP, 2017.
14. IIPS and ICF. 2021. NFHS 5, 2019-2021: India: volume 1, Mumbai: IIPS.
15. Murphy, R. (2017). Lotus Materia Medica, 3rd edition, B. Jain publishers (P) Ltd, 2017, ISBN-978-81-319-0859-4.
16. Murphy R. (2017). Homoeopathic Medical Repertory, 3rd edition, B. Jain publishers (p) Ltd, 2017, ISBN-978-81-319-0858-7.
17. Phatak, S. R. (2002). A Concise Repertory of Homoeopathic Medicines, B. Jain publishers (P) Ltd, 2002, Reprint edition, ISBN-81-7021-757-1.
18. Allen, H. C. (1993). Key notes and characteristics with comparisons of some of the leading remedies of the Homoeopathic Materia Medica with Bowel Nosodes, Reprint edition, B. Jain publishers Pvt. Ltd, 1993, ISBN-81-7021-187-5, book code, B-2001.
19. Boericke William, New Manual of Homoeopathic Materia Medica with Repertory, reprint edition, 2008, B. Jain publishers private limited, New Delhi, pages- 362-366, ISBN- 978-81-319-0184-7.
20. Hobhouse Rosa Waugh, Life of Christian Samuel Hahnemann, B. Jain Publishers Private Ltd, Delhi, Reprint Edition 2001, ISBN- 81-7021-685-0.
21. Paterson, J. (1993). Introduction to bowel Nosodes, Paper presented at International Homoeopathic League council, Lyons, France, 1949: as an addendum in H.C. Allen Key Notes, Reprint Edition, 1993.
22. Sarkar, B. K. (1984). Organon of Medicine by Hahnemann, M. Bhattacharya & Co. 1st edition 1955, 8th edition, 1984.
23. Phatak, D. S., & Phatak, S. R. (2006). Repertory of the Bio-chemic medicines, B. Jain Publishers (p) Ltd, 2006 edition, 1st edition 1986. ISBN- 81-7021-723-7.
24. Boedler, C. R. (1998). Applying Bach flower therapy to the healing profession of Homoeopathy, B. Jain publishers(p) Ltd, reprint edition 1998, 1st edition 1996. ISBN-81-7021-786-5.
25. Popularity of Homoeopathy in India, bjainpharma.com/blog/popularity-of-homoeopathy-in-India, 2023.
26. GOI, national eye institute, diabetic retinopathy, <https://www.nei.nih.gov>.
27. Beaser, R. S., Turell, W. A., & Howson, A. (2018). Strategies to improve prevention and management in diabetic retinopathy: qualitative insights from a mixed-methods study. *Diabetes Spectrum*, 31(1), 65-74.
28. Strategies for prevention of blindness, <https://perpustakaanrsmicendo.com>2018/08>.
29. GOI, MOHFW. RBSK, NHM, <https://nhm.gov.in>index4>