Commentary: Shifting our focus to diabetic retinopathy is the need of the hour

The initiatives started under the VISION 2020 program have made a huge impact on global eye health, especially in developing countries like India. One such initiative is the organization of outreach camps to identify and treat patients with avoidable blindness. The programs related to the diseases requiring one-time treatment like cataract and refractive errors have achieved huge success.[1] On the contrary, the programs associated with the diseases requiring long-term follow-up like diabetic retinopathy (DR) and glaucoma are still in their nascent steps. With the increasing life expectancy, sedentary lifestyle, and changing dietary pattern, diabetic retinopathy is expected to become a major health problem of the community.[2]

We congratulate the authors for performing a thorough systemic review on the prevalence of DR in India in the published article in the current issue of the Indian Journal of Ophthalmology.[3] The authors have performed an excellent meta-analysis of the various risk factors evaluated by the previous studies, gender being the only exception.[3] The evaluation of gender as a risk factor in epidemiological studies is important as several studies have shown a gender bias in health-seeking behavior.[4] The authors have correctly highlighted that most of the previous studies have been performed in South India and it is difficult to extrapolate the prevalence of DR in one region to other parts of the country as India is a conglomerate of people with different ethnicity, dietary habits, and probably genetic makeup. Hence, a nationwide study or multiple studies with the same inclusion/exclusion and evaluation criteria to determine the prevalence of DR, sight-threatening DR (STDR), and diabetic macular edema (DME) are needed.

The dietary habits vary with the geographical, cultural as well as socio-economic profile of people. Studies are warranted to evaluate the influence of different Indian dietary habits on DR and the indigenous diet(s) found to be beneficial should be promoted.[5] The job profile and sedentary lifestyle have also been found to influence the incidence of DR. Sedentary behavior is defined as any activity (sitting or reclining position) that is associated with minimal energy expenditure, i.e., ≤1.5 metabolic equivalents.[6] Kohli *et al*.[7] showed that the incidence of DR in state bus drivers was higher than that reported among the general diabetic population in India, which they hypothesized may be due to long working hours. Similarly, other professions which predispose to high risk of developing DR should be established.

The sample size of the study needs to be carefully calculated so that it has adequate power to evaluate the influence of the region and different parameters like dietary habits, rural-urban status, age, gender, socio-economic status, per-capita income, level of education, level of health-seeking behavior, and access to general and ophthalmic health care. The presence of other systemic diseases like hypertension, dyslipidemia, and chronic renal disease has a significant effect on the prevalence of DR, STDR, and DME. Such studies will go a long way in projecting the prevalence of DR in the future. This will help to formulate government policies and plan strategies for capacity building to screen and treat the ever-increasing load of patients of DR.

One of the difficulties in performing such studies is the availability of retina specialists for diagnosing and grading DR. However, the recent technological advances can be used to fill in this gap. The use of nonmydriatic fundus cameras and telemedicine has reduced the need for the retina specialist to travel to the various sites of cluster selection. The use of artificial intelligence (AI) to analyze retinal images can further enhance speed, accuracy, and consistency. However, a legal framework for the use of AI in DR screening is necessary before planning any large-scale studies.[8]

The last step is to create public awareness. It should be highlighted that in contrast to cataract, the management of DR is complex and needs life-long treatment. Just like diabetes itself, the management of DR does not end with a single time intervention. The need for a regular life-long follow-up as well as multiple sessions and modalities of treatment like laser, intravitreal injections, and vitrectomy should be emphasized.

Piyush Kohli, Chitaranjan Mishra

Department of Vitreo-Retina, Aravind Eye Hospital, Madurai, Tamil Nadu, India

Correspondence to: Dr. Chitaranjan Mishra, Department of Vitreo-Retinal Services, Aravind Eye Hospital, Anna Nagar, Madurai - 625 020, Tamil Nadu, India.
E-mail: drchitaranjan.gnec@gmail.com

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