

Capacity building for diabetic retinopathy screening by optometrists in India

The disproportionate number of patients needing ophthalmic care demands the role of the optometrists in eye health management. The scope of the optometry services is no longer limited to refraction and visual rehabilitation, and has been widened to include the screening, referral, and management of complex retino-vascular pathologies like diabetic retinopathy (DR).^[1,2] It has been established that the early detection and timely intervention of DR can prevent or delay blindness due to DR in 90% of the diabetic population.^[3] The authors of this study must be congratulated for proposing a model for the optometry coordinated DR screening in India, which will address the unmet need of the management of DR in the community.^[4] The 7-month fellowship program was methodically divided into three phases, which are 1. Observation (1 month) 2. Hands-on training (4 months) and 3. Service delivery (2 months). This division ensures a smooth learning and maximal output from this training program. In this study, the sensitivity and specificity of detection of sight-threatening DR were 88 and 90% and of diabetic macular edema (DME) were 72% and 92%, respectively. These sensitivity and specificity levels are comparable to previous similar studies and acceptable as per the recommendation of the National Institute for Clinical Excellence, UK.^[2,5]

At the end of the second phase of the training, the sensitivities and specificities of the screening of DR done by the optometrists were assessed against a retina specialist. The provision of additional training and assessment in case of below-par performance of the optometrist would make the curriculum more robust. In addition, the inclusion of a group of experienced retina specialists by formulating a task force will have a wider recognition of this course.

This study carries many future perspectives. First, in a previous study by Prasad *S et al.*, the authors used slit-lamp bio-microscopy-based screening of DR and used a criterion for grading and referral of these patients.^[6] The authors of this study used fundus photography for grading of DR by the optometrists.^[4] In the future, artificial intelligence will play a major role in the grading and referral of patients with DR while the optometrists role will be to help in the coordination of the teamwork in the prevention and management of DR. Second, the recognition of this certificate course at the university level and by the Government authorities will provide more scope and will increase their interest of the candidates in pursuing

this course. Third, this course will help to train more number of optometrists in the management of DR across the country. This will help policymakers, NGOs, and other stakeholders in formulating and implementing strategies that will help fight DR at the community level.


Kim Ramasamy, Chitaranjan Mishra

Department of Vitreo-Retina, Aravind Eye Hospital, Madurai, Tamil Nadu, India
E-mail: kim@aravind.org

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About the author



Dr. Ramasamy Kim

Dr. Ramasamy Kim, DO, DNB, is currently a senior faculty in Vitreo Retinal Services, and the Chief Medical Officer at the Aravind Eye Hospital and Postgraduate Institute of Ophthalmology, Madurai. He is the Director of Aravind's telemedicine network and Information Technology services. Dr. Kim graduated in medicine in 1988 from the Siddhartha Medical College, Vijayawada. He completed Diploma in Ophthalmology from Aravind Eye Hospital, Madurai in year 1991 and Diplomate of the National Board in 1994. Dr. Kim has published several research papers in peer reviewed journals and book chapters. He has been honored with Lifetime Achievement Award at the 33rd Asia-Pacific Academy of Ophthalmology Congress, Hong Kong; Best Doctor Award by the Tamil Nadu Dr. M.G.R. Medical University at the Silver Jubilee celebrations of the University; Dr. Sudha Sutar Vitreo Retinal Oration Award by the Vidharbha Ophthalmic Society, Nagpur; Dr. Rustom Ranji Oration at the Annual Meeting of Andhra Pradesh Ophthalmological Society; and the prestigious Rhett Buckler Award for the best video at the American Society of Retina Specialists film festival, Vancouver, Canada. He is one of the early pioneers to introduce Tele-ophthalmology in India. His current interest is in using artificial intelligence (AI) in screening diabetics for the presence of diabetic retinopathy (DR). Working with Google, he has deployed an AI-based screening tool for real-time DR screening in India.