# Commentary: Training optometrists and allied ophthalmic personnel: Expanding horizon of diabetic retinopathy screening in India

Diabetic retinopathy (DR) is a major public health problem in India. With the rising number of diabetics in India, it is one of the most common pathologies seen in routine ophthalmic outpatient clinics. Diabetes-related eye complications often pose unique challenges to patients and surgeons. Even during COVID-19 times, these are one of the most commonly attended ophthalmic conditions requiring surgical intervention.[1,2] There is a need for early screening and referral system to prevent DR progression to end-stage DR. Efforts must be undertaken to provide multidisciplinary holistic patient care which helps in improving patient compliance as these patients need to be on lifelong follow-up and often suffer from other ocular and systemic co-morbidities as well.

For DR screening program to be successful, primary image acquisition and grading are the two most important components. A standard grading pathway involves examining the fundus images, grading the primary pathology along with an agreed standard operating protocol, deciding to refer for further assessment/treatment or to advise the patient for recall based on a decided screening interval.[3] It also involves undertaking regular surveillance for ungradable images.

In resource-limited Indian settings, every effort must be put to ensure the active involvement of at least every ophthalmic personnel in the DR screening program.[4,5] The article published in the current issue is a novel pilot project which focussed on training optometrists and involving them at the primary eye care screening level with the use of latest innovative technology like non-mydriatic fundus cameras.[6] The study managed to achieve a decent sensitivity of 88% and specificity of more than 90%. This has scope of improvement with long term training, repeated feedback sessions, and increased work experience. Involving optometrists offer several unique potential advantages. Combining the use of screening imaging modalities with optometrists provide the accessibility and scope of holistic eye care at the grass-root level.[7] Incorporating newer technologies like smartphone-based screening and artificial intelligence can be a gamechanger as they increase the scope of DR screening.[8,9]

Ideally, all graders should be trained in detecting DR as well as decision making based on local screening protocols. These should be formulated according to the local needs and resources. In the United Kingdom, it takes a minimum of 200 supervised grades of DR cases and three satisfactory test and training scores to become an independent unsupervised grader. This is part of the level 3 diploma in their training which enables them to detect and classify DR correctly. In India, there are no set guidelines or teaching modules for DR screening and grading. These standard modules should be incorporated as separate diploma courses for non-ophthalmic personnel. It should also be included in the routine curriculum of optometrists, residents, and fellows to improve their skills and give them a standard certification to practice DR screening in the community.[10-12] There should also be a scope of interacting with consultant ophthalmologists who can supervise them and clear their doubts.

For any screening program to be effective, there should be a strong emphasis on quality assurance. The performance and knowledge of graders should be monitored regularly through online tests and accreditation courses. These should be supplemented with feedback and quality improvement workshops. It should be compliant with protocols and standards to ensure optimal quality. If there is a heavy workload, there can be one primary grader who can segregate abnormal images and a second senior grader, who can identify the pathology and decide what adequate action to be taken.[3]

In summary, DR grading is an exhaustive process that requires a trained workforce, adherence to local guidelines, surveillance of high-quality output, and regular quality assurance. This will increase the accessibility of eye care facilities to underserved areas ensuring early screening, diagnosis, and referral of sight-threatening diabetic retinopathy for treatment.

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