Commentary: Targeted screening for effective detection of vision threatening diabetic retinopathy

Various techniques of retinal examination and different types of screening programs have been devised over the last decade for detection of diabetic retinopathy (DR).[1] The success of any such program is based on how effective it has been in detecting and treating vision threatening diabetic retinopathy (VTDR) and thereby reducing the blinding complication of DR. In this context, the article by Sagnik *et al*.[2] is very relevant and informative and should help us to devise new strategies for effective screening of DR. The authors performed a subgroup analysis of the data on all enrolled participants above the age of 40 years from four major population-based studies from India. [3-6] They concluded that persons with diabetes between the age of 50–69 years and those with systolic blood pressure ≥140 mm Hg have a higher risk of VTDR. Therefore, targeted screening of this vulnerable population alone can result in identifying 93% of all patients with VTDR among persons with diabetic retinopathy. However, the authors did not look into both micro and macroalbuminuria, two important risk factors for presence of retinopathy and severity of retinopathy.[7]

How do we change our strategy and approach to screening programs based on these observations?

a. The diabetic retinopathy screening guidelines in India should emphasize and give importance to identification of VTDR and to target the vulnerable population. The present guidelines fail to address this issue.[8]

b. Similarly, the National Task Force on Diabetic Retinopathy should create awareness among primary care physicians and endocrinologists on the importance of identifying the vulnerable population and getting them examined for treatable diabetic retinopathy.

c. All major departments of internal medicine in district hospitals, medical colleges, and large multispecialty hospitals including dedicated diabetic centers should have facilities for remote screening of diabetic retinopathy either through telemedicine or through the cloud format. Remote screening refers to the transmission of images to a central reading center using a network. A recent report from Japan demonstrates how successful remote screening is in detecting treatable diabetic retinopathy using nonmydriatic wide-field imaging.[9]

d. Finally, the rapid development of artificial intelligence and deep learning algorithms for detection of diabetic retinopathy may make it easier to identify patients at a higher risk of losing vision.[10]

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