

Remidio Fundus-On-Phone camera excels in detecting DR

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Topcon TRC-50DX



Remidio Fundus on Phone

A team of researchers from Aravind Eye Hospitals led by Dr. Rengaraj Venkatesh and Dr. Sabyasachi Sengupta scientifically assessed the use of smartphone-based screening for Diabetic Retinopathy (DR) in a 2-year prospective study.

The primary outcome of the study was to compare the sensitivity and specificity of the Remidio Fundus-On-Phone (FOP), a smartphone-based, portable fundus camera, and of TOPCON TRC-50DX, a traditional desktop fundus camera against standard clinical examination by an ophthalmologist for the detection of any type of DR.

233 eyes were imaged using both the devices and based on a comparison of the image grading output with clinicians' direct examination of the patients, images from FOP were found to better than the desktop system (TOPCON TRC-50DX) - images from the FOP were seen to be of excellent quality (59-74% vs 52-61%) which is unprecedented and quite surprising considering the cost of FOP being a fifth of the latter.

These findings are set to rewrite the existing and conventional protocols in diabetic retinopathy screening. This is particularly re-assuring to 400 million patients with diabetes worldwide who are at the risk of losing vision due to DR, if not detected early.

FOP scored over TRC-50DX in the areas of image quality, ease of use and patient comfort in the study. Less number of images from FOP was deemed ungradable (1.7-2.1%) compared to the TOPCON TRC-50DX (2.6-4.3%).

The Indian company, Remidio Innovative Solutions seems to have leveraged features of a standard smartphone camera in making a fundus camera portable, low cost while taking the output a notch higher. Earlier this year, an automated artificial intelligence algorithm was integrated on Remidio FOP for the first time in the world - delivering 99.1% sensitivity in detecting STDR or Sight threatening Diabetic Retinopathy.