Nonmydriatic digital imaging alternative for annual retinal examination in persons with previously documented no or mild diabetic retinopathy.


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PURPOSE: To prospectively evaluate the Joslin Vision Network (JVN) for follow-up annual retinal examination for level of diabetic retinopathy (DR). DESIGN: Prospective cohort study. METHODS: Fifty-two patients with no or mild nonproliferative DR (Early Treatment Diabetic Retinopathy Study [ETDRS] level \( \leq 35 \)) and no diabetic macular edema (DME) at dilated retinal examination 11 or more months earlier were imaged. Patients then had dilated retinal examination and color 35-mm seven standard field stereoscopic photography (ETDRS photographs) and completed a satisfaction survey. Level of DR determined from JVN images, clinical examination, and ETDRS photographs was compared. RESULTS: Two (1.9%) eyes had JVN images ungradable for level of DR. In the 102 gradable eyes (98.1%), JVN diagnosis exactly matched clinical examination for level of DR in 82 eyes (77.9%) and was within one level of DR in all eyes (100%). Three eyes (2.9%) had JVN images ungradable for DME; one of these eyes had DME by clinical examination. JVN diagnosis matched clinical examination for DME in all eyes (101) gradable by JVN. Fifty patients (96.1%) reported JVN imaging improved their understanding of eye disease, 100% were satisfied with JVN, and forty-eight (92.3%) would consider replacing dilated examination by their eye doctor with JVN imaging. CONCLUSIONS: JVN digital imaging closely matched clinical examination for level of DR and DME, would have resulted in no patients receiving less stringent follow-up, and was well accepted by patients. JVN digital imaging may be a suitable alternative for annual dilated retinal examination for determining level of DR or DME and appropriate follow-up comprehensive ophthalmic examination.

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