Individuals diagnosed with dementia aged 60 and older decline. Such data will not only allow better understanding of the association between diabetes and lower extremity disability. However, persons with dementia may be less likely to seek medical care for eye conditions due to their cognitive impairment. Some studies have shown that dementia is associated with other chronic conditions, such as diabetes mellitus and geriatric syndromes.

REFERENCES

HIGH PREVALENCE OF UNDIAGNOSED EYE DISEASES IN INDIVIDUALS WITH DEMENTIA

To the Editor: With the world’s population aging, dementia and eye diseases pose a growing burden. However, persons with dementia may be less likely to complain of visual symptoms and report early impairment in vision, and thus, many vision-threatening eye diseases may be underdiagnosed and undertreated. Data are limited regarding the prevalence of eye diseases in individuals with dementia and the proportion of these eye diseases that are undiagnosed. Some studies suggest that individuals with underdiagnosed or undertreated visual problems are more likely to develop cognitive decline. Such data will not only allow better understanding of the needs of individuals with dementia but also improve the design of effective eye disease screening programs in these individuals. The current study explored the use of a simple retinal photograph to detect four major age-related eye diseases in a cohort of individuals with dementia and the prevalence of these diseases that are undiagnosed.

METHODS

Individuals diagnosed with dementia aged 60 and older were consecutively recruited from July 2009 to December 2012 from three tertiary hospitals in Singapore. All underwent clinical, neurological, and neuropsychiatric assessments. Dementia was diagnosed based on Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria, and the severity was assessed using the Clinical Dementia Rating (CDR). Digital retinal photographs were taken using a standard retinal camera, after pupil dilation using tropicamide 1% and phenylephrine hydrochloride 2.5%. Two retinal fundus photographs of each eye were obtained, centered at the optic disc and at the fovea. Ophthalmologists and trained graders assessed the photographs for the presence of eye pathology. Of the major age-related eye diseases studied, qualified graders assessed age-related macular degeneration (AMD) and diabetic retinopathy (DR) using standard grading systems, and an ophthalmologist reviewed the photographs to identify glaucoma (defined as having optic disc features of glaucoma) and cataracts (defined based on media opacity).

An interviewer-administered questionnaire was used to ascertain past history of AMD, DR, or previous laser photocoagulation treatment, cataracts, or glaucoma from participants or caregivers. Undiagnosed eye disease was defined in participants who were not aware that they had the eye diseases but with eye pathology identified from retinal photographs.

RESULTS

Two hundred sixty-eight individuals with dementia were recruited, 264 of whom had gradable retinal photographs. Of these, 239 (90.5%) had at least one eye disease, 160 of whom (66.9%) had previously undiagnosed conditions. Figure 1 shows the frequency of undiagnosed and diagnosed age-related eye diseases in the cohort with dementia. AMD was the most frequent eye condition that was undiagnosed (90.1%), followed by DR (77.6%) and glaucoma (75.7%), whereas cataract had a much lower frequency as an undiagnosed eye condition (18.4%), even though it was the most prevalent eye disease in the dementia cohort.

Figure 1. Frequency of undiagnosed and diagnosed age-related eye diseases (age-related macular degeneration (AMD), diabetic retinopathy (DR), glaucoma, and cataract) in the cohort with dementia.