00269 Association Between Vision-specific Functioning and Mobility, and Objectively-assessed Cognitive Impairment

Eva Fenwick[1], Alfred Gan[1], Ryan Man[1], Preeti Gupta[1], Charumathi Sabanayagam[1], Cheng Ching-Yu[1], Christopher Chen[2], Carol Cheung[3], Ramani NV[2], Xu Xin[2], Hilal Saima[2], Wong Tien Yin[1], Ecosse Lamoureux[1]

[1]Singapore Eye Research Institute, [2]National University of Singapore, [3]The Chinese University of Hong Kong

Aims: Little is known about the relationship between subjective visual performance (i.e. vision-specific functioning [VSF] and vision-specific mobility [VSM]) and CI, in particular using objective measures. We examined these associations in a cross-sectional sample of Malays, Indians and Chinese in Singapore.

Methodology: Adults, aged ⩾60 yr from the Epidemiology of Dementia In Singapore (EDIS) study, were included. The EDIS study comprises participants from the Singapore Epidemiology of Eye Diseases study who screened positive for CI on the Abbreviated Mental Test or answered 'yes' to progressive forgetfulness. CI was determined using detailed neuropsychological testing and was defined as no cognitive impairment-no dementia [NCIND], mild CIND, and moderate CIND or worse. VSF and VSM were measured using continuous scores of the Reading & Accessing Information, and Mobility & Independence scales of the Impact of Vision Impairment questionnaire, respectively. Multivariable logistic regression models explored the association between VSF and VSM, and severity of CI, respectively, adjusting for key risk factors.

Result: Of the 875 participants (48.9% males, mean age (SD) 65.5 (7.0) years), 277 had NCIND, 281 mild CIND and 317 moderate CIND or worse. Compared to NCIND, the odds of having moderate CIND or worse increased significantly with each unit worsening of VSF and VSM (OR [odds ratio]: 1.16, 95%CI [confidence interval] 1.02-1.32, p=0.025 and OR: 1.14, 95%CI 1.01-1.30, p=0.041, respectively). Similarly, compared to mild CIND, worse VSF and VSM scores were associated with higher odds of having moderate CIND or worse (OR: 1.27, 95%CI 1.14-1.41, and OR: 1.25, 95%CI 1.12-1.39, respectively).

Conclusion: Difficulty performing vision-dependent daily living activities may be linked to impaired cognitive functioning, even after adjusting for vision. While confirmatory longitudinal data are needed, interventions to optimize VSF and VSM, such as magnifiers and approach magnification, good lighting and contrast, large-print materials, and orientation and mobility in patients with poor vision are warranted.