

Estimation of the Co-prevalence of Age-related macular degeneration and Glaucoma

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Purpose: Age-related macular degeneration (AMD) and glaucoma are the two most common blinding eye diseases in the U.S. and may be further disabling when concomitant. The purpose of this study is to estimate the past, present and future co-prevalence of AMD and glaucoma by national surveys and population projection data.

Methods: We combined the age, race and ethnicity data from the latest 2005 to 2008 National Health and Nutrition Examination Survey (NHANES) and the 2002 and 2008 National Health Interview Survey (NHIS). Participants' positive answers were defined as a "yes" when asked if they had ever been told by a doctor/health care professional that they had macular degeneration or glaucoma (or high pressure of the eye). The co-prevalence of AMD and glaucoma was determined by dividing the number of individuals who answered "yes" to both questions by the total number of respondents. Mean and age-stratified estimates were obtained for non-Hispanic Whites, Hispanics and non-Hispanic Blacks separately. The 2008 National Population Projection data was used to determine the number of affected individuals presently as well as in 2030 and 2050.

Results: Using previous NHANES and NHIS data, the mean co-prevalence of AMD and glaucoma varied among racial/ethnic groups: 0.5% in Whites; 0.3% in Hispanics; and 0.2% in Blacks. Co-prevalence increased with increasing age: for Whites, estimates ranged from 0% in those aged 40-49 years to 2.7% for 80 years and older; this trend was observed among the other groups but was more dramatic in Hispanics (0.1% to 2.9%) than Blacks (0% to 0.3%). Using National Population Projection data for 2015, the estimated current population is 535,270 (83% Whites; 10% Hispanics; 7% Blacks). The number of affected individuals will continue to grow but demonstrate changing demographics: in 2030 to 800,111 (80% Whites; 14% Hispanics; 7% Blacks); and in 2050 to 1,082,731 (71% Whites; 22% Hispanics; 6% Blacks).

Conclusions: The mean co-prevalence of AMD and glaucoma is greatest among non-Hispanic Whites and individuals 70 years and older. More than half-a-million Americans, predominantly non-Hispanic Whites, suffer from concomitant eye diseases presently. Growing populations in the coming years will affect an increasing number of Hispanics. This new information suggests that future health care policy decisions would need to adapt to this growing, changing population.