

Projection of Eye Disease Burden in Singapore

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Abstract

Introduction: Singapore's ageing population is likely to see an increase in chronic eye conditions in the future. This study aimed to estimate the burden of eye diseases among resident Singaporeans stratified for age and ethnicity by 2040. **Materials and Methods:** Prevalence data on myopia, epiretinal membrane (ERM), retinal vein occlusion (RVO), age macular degeneration (AMD), diabetic retinopathy (DR), cataract, glaucoma and refractive error (RE) by age cohorts and educational attainment from the Singapore Epidemiology of Eye Diseases (SEED) study were applied to population estimates from the Singapore population model. **Results:** All eye conditions are projected to increase by 2040. Myopia and RE will remain the most prevalent condition, at 2.393 million (2.32 to 2.41 million) cases, representing a 58% increase from 2015. It is followed by cataract and ERM, with 1.33 million (1.31 to 1.35 million), representing an 81% increase, and 0.54 million (0.53 to 0.549 million) cases representing a 97% increase, respectively. Eye conditions that will see the greatest increase from 2015 to 2040 in the Chinese are: DR (112%), glaucoma (100%) and ERM (91.4%). For Malays, DR (154%), ERM (136%), and cataract (122%) cases are expected to increase the most while for Indians, ERM (112%), AMD (101%), and cataract (87%) are estimated to increase the most in the same period. **Conclusion:** Results indicate that the burden for all eye diseases is expected to increase significantly into the future, but at different rates. These projections can facilitate the planning efforts of both policymakers and healthcare providers in the development and provision of infrastructure and resources to adequately meet the eye care needs of the population. By stratifying for age and ethnicity, high risk groups may be identified and targeted interventions may be implemented.

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