

Prevalence and Causes of Visual Impairment in Rural Myanmar

The Meiktila Eye Study

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Objective: To determine the prevalence and causes of visual impairment in the Meiktila district of central, rural Myanmar.

Design: Population-based cross-sectional study.

Participants: Random, stratified, cluster sampling of the inhabitants 40 years of age and older from villages in the Meiktila district was performed; 2481 eligible participants were identified and 2076 participated in the study.

Methods: The ophthalmic examination included presenting and pinhole Snellen visual acuity with an illiterate E chart, slit-lamp examination of the anterior segment, and dilated stereoscopic fundus examination. The principal cause of visual impairment was recorded.

Main Outcome Measures: Visual impairment and blindness were defined by both presenting and corrected visual acuity according to World Health Organization criteria: better eye < 6/18 and < 3/60, respectively.

Results: Comprehensive examinations, including Snellen visual acuity, were performed on 2073 participants (83.6%). The prevalence estimate of presenting visual impairment was 40.4% (95% confidence interval [CI], 36.1–44.7) and of presenting blindness was 8.1% (95% CI, 6.5–9.9). After pinhole correction, the corresponding prevalences were 26.8% (95% CI, 23.5–30.1) and 5.3% (95% CI, 4.0–6.6). Cataract, uncorrected refractive error, and glaucoma were the most common causes of visual impairment.

Conclusions: Visual impairment and blindness remain major public health problems in rural Myanmar. Specific programs directed toward reducing the cataract burden need to be implemented. *Ophthalmology* 2007; 114:2302–2308 © 2007 by the American Academy of Ophthalmology.

In 2002, the World Health Organization (WHO) estimated that there were 161 million people worldwide with visual impairment (corrected acuity, <6/18 in the better eye), including 37 million with blindness (corrected acuity, <3/60 in the better eye).^{1,2} If the definition is adjusted to include uncorrected refractive error, then it is estimated that 259 million people are

visually impaired.³ The burden of blindness is particularly severe in Southeast Asia and India; according to WHO estimates, most of the world's blind persons live in these regions.¹

Accurate ophthalmic epidemiologic data from Asia is needed to optimize the allocation of limited resources; recently, data from a number of population-based studies in this region have begun to meet this need.^{4–15} However, robust epidemiologic data from many Asian regions, including the Union of Myanmar (Myanmar), remain scarce. Although there is anecdotal evidence that the Trachoma Control and Prevention of Blindness Program in Myanmar has been highly successful, limited cataract survey data suggested that the prevalence of blindness in the adult population in rural regions of Myanmar may reach 90 per 1000 persons.¹

Over the preceding decade, the Ophthalmology Department at the Central Northern Health Service in Adelaide, South Australia, has established an ophthalmic educational program and a memorandum of understanding with the Ministry of Health (MOH) in Myanmar. With this background and the generous support of the MOH in Myanmar, the authors were able to conduct a population-based ophthalmic survey in the Meiktila district (Mandalay Division) in rural, central Myanmar. Here, the prevalence and causes of visual impairment in this region are reported.

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The authors are aware of no conflicts of interest, of any nature, pertaining to the article.

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