Global causes of vision loss in 2015: are we on track to achieve the Vision 2020 target?

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Vision impairment, including blindness, is a major public health concern in middle-aged and elderly adults worldwide, associated with diminished quality of life and increased risk of falls and death.[1,2] Estimates suggest that 36 million people were blind and 217 million people had moderate or severe vision impairment worldwide in 2015.[3] The Global Action Plan for 2014–19 adopted by WHO member states sets a global target of a 25% reduction in the prevalence of avoidable vision loss due to cataract and uncorrected refractive error by 2019 from the 2010 baseline level.[4] The Vision Loss Expert Group reported that 54% of 32·4 million people blind and 71% of 191 million people with moderate or severe vision impairment in 2010 were attributed to cataract and uncorrected refractive error.[5] The effect of interventions on avoidable blindness and the progress made towards achieving the targets over the period 2010–15 are therefore important to assess with up-to-date and accurate data. In *The Lancet Global Health*, Seth Flaxman and colleagues[6] from the Vision Loss Expert Group presented the causes of blindness and distance vision impairment in adults aged 50 years or older in all 21 regions of the world in 2015, described the trends from 1990 to 2015 using an updated Global Vision Database, and made projections of avoidable vison loss prevalence to 2020. Since the previous report based on data from 65 countries,[5] in this report, 61 new studies were added, giving a total of 288 studies contributing data from 98 countries.

36 million adults of all ages were estimated to be blind and 217 million had moderate or severe vision impairment in 2015. The top three causes of blindness worldwide were cataract, uncorrected refractive error, and glaucoma, and the top causes of moderate or severe vision impairment were uncorrected refractive error, cataract, and age-related macular degeneration. In adults aged 50 years or older, 55% of blindness and 77% of moderate or severe vision impairment were contributed by cataract and uncorrected refractive error. Glaucoma accounted for 8·5% of blindness and age-related macular degeneration for 4·4% of moderate or severe vision impairment. Although cataract and uncorrected refractive error were the leading causes of blindness and moderate or severe vision impairment in all regions, large disparities were observed between regions. Blindness due to cataract was less than 22% in high-income subregions, but more than 43% in east Asia, southeast Asia, Oceania, and most of sub-Saharan Africa. Prevalence of moderate or severe vision impairment due to uncorrected refractive error was remarkably high (66·4%) in south Asia. Blindness due to cataract and uncorrected refractive error was more common among women than among men.

Cataract and uncorrected refractive error together accounted for more than 55% of blindness in 1990 (56·3%) and 2015 (55·4%) in adults aged 50 years and older. Vision loss due to avoidable or treatable causes (cataract, uncorrected refractive error, trachoma, glaucoma, diabetic retinopathy, and corneal opacity) decreased marginally over the years, from 83·0% in 1990 to 81·2% in 2015 and is projected to decrease to 80·8% by 2020. The authors estimated that 2·5% of the global population had avoidable vision loss due to cataract and uncorrected refractive error in 2010 and projected this figure to increase to 2·7% by 2020.[6]

Limitations of the study include imprecise estimates from use of different definitions of blindness and vision impairment between studies and absence of country-level data for many countries. Additionally, age and ethnicity-specific information was not available in most of the studies. With the population ageing and increased life expectancy worldwide, the burden of avoidable vision loss in adults older than 75 years is substantial[7,8] and several studies have also observed ethnic differences in the prevalence of vision impairment. Therefore, future studies assessing causes of vision loss need to incorporate information about cause-specific blindness in the much older adults and across ethnic groups, which would be useful for identification of at-risk groups and development of targeted interventions to reduce the burden of avoidable vision loss. Furthermore, standardisation of the definition of blindness and vision impairment and more nationally representative surveys than have been done so far are needed for international comparison and worldwide reporting.

Although the age-standardised prevalence of blindness and moderate or severe vision impairment decreased from 4·6% in 1990 to 3·4% in 2015,[3] the number of people with avoidable visual loss has increased substantially because of growth and population ageing, and this trend will continue up to 2020. The study findings suggest that a substantial gap remains between the target set and what has been achieved so far and highlight the need for more coordinated efforts than have been made so far at global, regional, and country levels in terms of political and financial commitment, capacity building and training of more eye care personnel, improvement of access to eye care, enhancement of preventive and primary eye care services, sharing of best practices in implementation of programmes for prevention of blindness, raising community awareness through public-private partnership, and monitoring the progress by systematic data collection.

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We declare no competing interests.

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