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Global Prevalence of Blindness and Distance and Near Vision Impairment in 2020: progress towards the Vision 2020 targets and what the future holds.

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Footnotes

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Abstract

Purpose : To estimate global and regional prevalence estimates for blindness and vision impairment (VI) that are important for development of public health policies.

Methods : A systematic review and meta-analysis was conducted of population-based datasets relevant to global VI and blindness from 1980. Hierarchical models were fitted to estimate- by age, country, and year- the 2020 prevalence of (1) mild VI (presenting visual acuity worse than 6/12 to 6/18 inclusive), moderate to severe VI (MSVI; presenting visual acuity worse than 6/18 to 3/60 inclusive), and blindness (presenting visual acuity worse than 3/60); and (2) functional presbyopia (defined as presenting near vision worse than N6 or N8 at 40cm where best-corrected distance visual acuity was better than 6/12). Ninety-five percent uncertainty intervals (UI) were calculated.

Results : Globally, among 7.79 billion people living in 2020, an estimated 49.1 million (95% UI: 39.0-61.3 million; 54% female) were blind (0.62%; 95% UI:0.49%-0.78%), 221.4 million (95% UI: 197.7-247.0 million) people (2.81%; 95% UI:2.51%-3.13%; 55% female) had moderate VI, 33.6 million (95% UI: 29.7-38.0 million) people (0.43%; 95% UI:0.38%-0.48%; 57% female) had severe VI. The estimated number of blind persons increased (by 42.8%) from 34.4 million in 1990 to 49.1 million in 2020 yet global all-age age-standardised prevalence of blindness decreased between 1990 (0.85%; 95% UI:0.68%-1.1%) and 2019 (0.60%; 95% UI:0.48%-0.75%). Greatest reductions were observed in South Asia (-49%) and North Africa and Middle East (-43%) with the smallest changes in high income regions.

Conclusions : There is an ongoing reduction in the age-standardised prevalence of blindness and VI, yet the growth and ageing of the world's population is causing a substantial increase in number of people affected. Notable inter-regional and gender inequalities exist which highlight the need to scale up vision impairment alleviation efforts at all levels.

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