

# 108 million people have correctable vision impairment, global study estimates

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Uncorrected refractive error (URE)—nearsightedness, farsightedness, and other focusing problems correctable by prescription lenses—is responsible for moderate to severe vision impairment in 101 million people and blindness in seven million people worldwide, reports a study in the March issue of *Optometry and Vision Science*.

"Uncorrected refractive error continues as the leading cause of [vision impairment](#) and the second leading cause of [blindness](#) worldwide," according to the article by Kovin Naidoo, OD, PhD, of Brien Holden Vision Institute, Durban, South Africa, and colleagues. The researchers note that their total of 108 million affected by URE accounts for 1 out of 90 of the world population.

## Growing Numbers of People with Impaired Vision and Blindness due to URE

Refractive error refers to any of the common vision problems causing decreased sharpness of vision, including myopia (nearsightedness), hyperopia, (farsightedness), or astigmatism. In developed countries, [eyeglasses or contact lenses](#) are routinely prescribed to correct these causes of impaired vision.

But millions of people around the world still have impaired vision or even blindness caused by URE. This potentially correctable vision impairment has a profound social and economic impact, including

limiting educational and employment opportunities for individuals, families, and communities.

In the study, a group of leading optometrists and ophthalmologists specializing in world blindness analyzed the best available research on URE. Pooled data from nearly 250 studies performed between 1990 and 2010 were analyzed to estimate the number of people affected by blindness and visual impairment due to URE, including trends in prevalence and differences by region.

Uncorrected refractive error was the leading cause of moderate to severe visual impairment, affecting an estimated 101.2 million people. It was also the second leading cause of blindness (after cataracts), affecting another 6.8 million. "In 2010, URE contributed 20.9 percent of all blindness and 52.9 percent of all moderate to severe vision impairment," Dr. Naidoo and coauthors write.

Age-standardized prevalence rates of blindness and vision impairment due to URE actually decreased during the period studied. However, because of population growth, the numbers of people affected increased substantially. Between 1990 and 2010, the number of people with blindness caused by URE increased by about eight percent and the number with vision impairment increased by 15 percent, compared to a 30 percent increase in world population.

In most regions, the proportion of moderate to severe vision impairment caused by URE ranged from 44 to 48 percent. The exception was South Asia, where the figure was over 65 percent—possibly reflecting the younger population in that region.

While acknowledging a lack of data for some regions and years, Dr. Naidoo and colleagues believe their study provides increased detail and higher accuracy, compared to previous estimates of global [visual](#)

[impairment](#). They conclude, "Our data again emphasizes that globally one of the most simple, effective, and cost effective ways to improve the burden of vision loss would be to provide access to affordable adequate spectacles to correct refractive errors with the appropriate human resources."

Anthony Adams, OD, PhD, Associate Editor of *Optometry and Vision Science*, comments: "This huge magnitude of vision impairment, so readily corrected, should be of interest to world societies and trigger even greater efforts to bring about correction."

**More information:** Kovin S. Naidoo et al. Global Vision Impairment and Blindness Due to Uncorrected Refractive Error, 1990–2010, *Optometry and Vision Science* (2016). [DOI: 10.1097/OPX.0000000000000796](#)

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