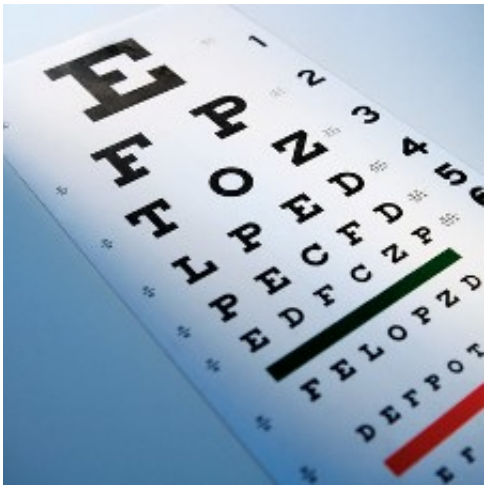
Israel makes dramatic advance in blindness prevention

July 10 2013



According to the World Health Organization, 80% of blindness is preventable or treatable—but it remains a severe health concern across the globe, even in industrialized countries.

Now hope is on the horizon—especially if countries are willing to emulate Israel's approach to eye health, says Prof. Michael Belkin of the Goldschleger Eye Research Institute at Tel Aviv University's Sackler Faculty of Medicine and Sheba Medical Center in a new study published in the *American Journal of Ophthalmology*. In the last decade, rates of preventable blindness in Israel have been cut by more than half—from 33.8 cases of blindness per 100,000 residents in 1999 to 14.8 in 2010.

This improvement, found across all four main causes of avoidable blindness—age-related deterioration, glaucoma, diabetes, and cataract—is unmatched anywhere else in the world, he says.

The secret is not only the innovative methods of treatment that were added to the Israeli medical system, but their universal availability and accessibility, as well as good patient compliance with treatment regimens, including the correct use of prescribed medications.

Israel also offers community-based programs, such as dedicated diabetes clinics, which promote early prevention and timely treatment for diabetes-related complications that can lead to blindness. Prof. Belkin notes that such programs save public and private health care money in the long term.

Advancing eye care

To evaluate the effectiveness of eye health care in Israel, Prof. Belkin and his fellow researchers Alon Skaat, Angela Chetrit and Ofra Kalter-Leibovici from TAU and Sheba, conducted a statistical study measuring rates of blindness in the Israeli population over twelve years. They discovered that Israel has emerged as a world leader in preventing avoidable blindness, reducing rates by over 56%. The rates of untreatable genetic causes of blindness remained steady over the same period.

Several solutions are employed by Israel, which approaches the problem of blindness from medical, public health, and cultural perspectives. For example, age-related macular degeneration, one of the leading causes of blindness in the industrialized world, is treated with a drug therapy originally approved for colon cancer tumors. By diluting the drug to create smaller doses for the eye—an idea that originated in the United States—it is possible to provide inexpensive therapy to thousands of

patients.

From the public policy standpoint, Prof. Belkin notes that the decline in blindness due to cataracts is due to a change in health care policy rather than any technical advance. Since the 1990's, patients have been able to choose their doctors privately for cataract surgery. This practically eliminated wait times for surgery and prevented the condition from growing worse over the long term.

Long term savings

Prof. Belkin believes that it's possible for any country to adopt Israel's strategies for reducing blindness. Although the initial costs can be daunting—such as the price of top-notch medications and setting up clinics—it's a worthwhile investment. Treating blindness as it develops rather than preventing it from the start is much more expensive for the healthcare system in the long term. Diabetes clinics in Israel pay for themselves in about two years' time, he says, factoring in their impact on preventing greater health concerns.

But even the most advanced and widely available treatments can't be effective if patients are not examined by an ophthalmologist and don't adhere to the treatment regimen. In Israel, an exceptionally high rate of adherence to these regimens is a major contributor to the prevention of blindness.

Provided by Tel Aviv University