Retinoblastoma Especially Deadly in Children in Low-Income Countries

Children with retinoblastoma, the most common childhood eye cancer, are nearly 17 times more likely to die within 3 years when they live in low-income countries rather than in high-income countries, according to a study in The Lancet Global Health. More advanced disease, older age at diagnosis, and less access to specialized care may contribute to the disparity.

The prospective study involved 4064 children in 149 countries who were diagnosed with retinoblastoma in 2017—about half of new cases worldwide that year. In low-income countries, just 57.3% survived 3 years compared with 99.5% in high-income countries. Overall, 12.8% died, of whom about 94% died from retinoblastoma or treatment complications.

At diagnosis, about 43% of children in low-income countries had cancer that spread beyond the eye compared with less than 1% in high-income countries. Extranodal tumor increased the risk of dying by nearly 9-fold compared with early intraocular disease. Up to age 3 years, older age at diagnosis also was associated with increased mortality risk.

Even so, low income remained a major independent risk factor for death. Although enucleation surgery and intravenous chemotherapy were almost universally available, limited access in low-income countries to specialized technologies, such as magnetic resonance imaging, targeted chemotherapy, radiotherapy, and focal treatments, may increase mortality risk. More aggressive disease also may be more common in low-income settings.

“Better awareness of the early signs, improving access to timely diagnosis...are critical to improving retinoblastoma outcomes worldwide,” lead author Ido Didi Fabian, MD, said in a statement.

Preventing COVID-19, Saving Lives in Lower-Income Countries

Investing in SARS-CoV-2 vaccination programs in 91 low- and middle-income countries (LMICs) could prevent millions of infections and hundreds of thousands of deaths more cost-effectively than do many other donor aid programs, an analysis in The Journal of Infectious Diseases reported.

The analysis used a mathematical model to project the cost and years of life saved by increasing population SARS-CoV-2 vaccination levels to 15%, 30%, 45%, and 60%. Overall, about 13% of people in low-income countries and less than 40% in LMICs are vaccinated, compared with 74% in high-income countries. Vaccination rates in the 91 LMICs modeled ranged from 0% to 86%.

In a highly contagious, lower-severity “Omicron-like” variant scenario, increasing current vaccination coverage to at least 15% in all 91 countries would prevent 11 million new infections and 120 000 deaths over about 1 year. The $0.95 billion cost of vaccination translates to a cost-effectiveness estimate of $670 per each year of life saved.

Increasing vaccination coverage to 60% would prevent up to 68 million additional infections and 160 000 deaths, translating to less than $8000 per year of life saved. Under a more severe variant scenario, the cost would be less than $4000 per year of life saved at 60% coverage.

“Funding expanded COVID-19 vaccine delivery in LMICs would save hundreds of thousands of lives, be similarly or more cost-effective than other donor-funded global aid programs, and improve health equity,” the authors wrote.

The Struggle to Control Blood Pressure in Middle-Income Countries

In a multiyear study in 4 middle-income countries, only about 30% of undiagnosed people with hypertension were diagnosed, and only about 25% of untreated individuals diagnosed with hypertension began treatment, according to a report in Science Translational Medicine. Just as important, most treated individuals lost blood pressure control, with many discontinuing their treatment altogether. The findings highlight the need to go beyond improving diagnosis to reduce premature deaths.

The longitudinal study included records of 8527 patients in China, Indonesia, Mexico, and South Africa who had complete data from follow-up periods ranging from 5 to 9 years. At baseline, most were undiagnosed for hypertension, ranging from 46% in South Africa to 65% in Indonesia. Overall, fewer than 1 in 6 patients were diagnosed but untreated; about 1 in 4 had been treated but their blood pressure wasn’t controlled. Less than 20% were treated with blood pressure controlled in any country, with China at 9% and Indonesia at 7%.

Once diagnosed, chances of progressing to treatment were low, ranging from 11% to 33%. Chances of achieving blood pressure control after treatment were even lower, ranging from 2% in Indonesia to 24% in South Africa. At the same time, chances of discontinuing treatment were high, ranging from 20% in South Africa to 70% in Indonesia. Chances of losing blood pressure control were even higher, ranging from 45% to 92%.

“[D]iagnosis and treatment initiation are major bottlenecks to achieving BP control. Nonetheless, treatment discontinuation and loss of BP control are equally problematic and reveal the dynamic nature and long-lasting demands of chronic disease care,” the authors wrote. — Howard D. Larkin

Note: Source references are available through embedded hyperlinks in the article text online.