

Nepal sees end in sight for trachoma

Nepal is on track to eliminate the eye disease by 2014, according to a recent meeting of health experts. Amy Yee reports on the country's progress against trachoma from the city of Pokhara.

All morning, a stream of people walked over rough dirt roads to a health clinic tucked next to a corn field in Paluntar village in western Nepal. Frail elderly women wrapped in saris walked barefoot for hours to reach the four-room clinic. Wizen elderly men in topis, traditional Nepalese hats, carried canes and umbrellas to shade themselves from the hot May sun.

By 10am, more than 60 people, including mothers, young children, middle-aged couples, and elderly citizens, waited patiently outside the clinic. Finally, three optometry assistants arrived in a pick-up truck from Pokhara, the nearest big city about 3 hours drive away. By the end of the day, more than 150 people from several nearby villages came to the free eye camp organised by the Himalaya Eye Hospital in Pokhara and the Laligurans Polyclinic in Paluntar.

One by one, patients read an eye chart taped to a wall in the clinic's small front yard. Then they crowded inside the clinic to have the optometry assistants peer at their eyes with flashlights, ophthalmoscopes, retinoscopies, and a portable slit lamp brought from the city.

About 80% of Nepal's population of nearly 29 million lives in rural areas where harsh conditions—from lack of clean water and hygiene to injury from smoky cooking fires and farm work—make eyes especially susceptible to disease and damage.

Loss of vision is devastating in Nepal, where poverty is endemic, terrain is rough, and there is a lack of basic services—from roads to water. In a country where 46% of the population lives below the poverty line, life expectancy is about 5 years after going blind, estimated Sunu Dalal, technical adviser at Nepal Netra Jyoti Sangh (NNJS), an eye-care

non-governmental organisation in Kathmandu founded in 1978.

Yet general hospitals and clinics in Nepal lack eye-care equipment and specialists. To fill the gap, about a dozen eye hospitals dedicated solely to eye care were established in the 1980s in cities and large towns across the country. Village eye camps like the one in Paluntar are crucial for Nepal's predominantly rural population who cannot get to city hospitals.

“Loss of vision is devastating in Nepal, where poverty is endemic, terrain is rough, and there is a lack of basic services—from roads to water.”

A 1981 national blindness survey showed that 0.84% of the population was completely blind. The report found trachoma, the world's largest infectious cause of preventable blindness, was Nepal's second-leading cause of avoidable blindness. In advanced stages of trachoma, eyelashes turn inward and scratch the cornea for an excruciating descent into blindness.

Today 0.39% of the population is blind, in part because the country has made big strides in fighting trachoma. In 1981, 6% of Nepal's population had trachoma; today that figure is 0.4%, according to NNJS. Indeed, Nepal is on track to eliminate trachoma by 2014, health experts affirmed at the 16th annual meeting of WHO's alliance called Global Elimination of Trachoma 2020 (GET 2020), held in Washington, DC, USA, in May.

The 1981 survey found trachoma was endemic in the Terai, the country's hot, dusty southwest lowlands, where it affected more than 20% of the area's population.

Conditions in Nepal's lowlands are similar to the poor Indian states of Bihar and Uttar Pradesh just across the border. “As you go down in altitude, by the time you reach the Terai, the environment is remarkably similar to sub-Saharan Africa”, noted Paul Emerson, Director of the Trachoma Control Program at the Carter Center in Atlanta, GA, USA.

Worldwide, 325 million people, especially children and women, are at risk of trachoma, and 41 million have active infections, according to US-based International Trachoma Initiative (ITI). Trachoma flourishes in dirty environments and close quarters in Asia, Africa, South America, the Middle East, and Australia. ITI estimates that trachoma is endemic in 53 countries. Infections can be transmitted through dirty hands, towels, and flies. Repeated infection leads to roughening of inner eyelids. More than 8 million people around the world suffer from trichiasis, the final stage of trachoma when entropion (in-turned eye lashes) causes scratching of the cornea and leads to blindness. Trichiasis patients have likened this pain to thorns scratching their eyes.



Locals get their eyes checked at an eye camp in Paluntar village in western Nepal

Trachoma is preventable and treatable with antibiotics, improved hygiene and sanitation, and simple surgery before the disease becomes too advanced. Yet it was largely overlooked until 1997 when WHO began to focus on eliminating trachoma. So far, the disease has been virtually wiped out in Morocco, Oman, Burma, Vietnam, the Gambia, and Ghana, though monitoring of the disease continues.

Trachoma and 16 other neglected tropical diseases together afflict 1 billion people worldwide, but most are “a forgotten disease of a forgotten people who live beyond the end of the road”, said Emerson of the Carter Center. Those with trachoma are “not a population with a loud voice—or any voice. Politicians and policy makers don’t fall over trichiasis patients on their way to work”, he added.

However, neglected tropical diseases are finally getting more attention. WHO published a new report on the topic in 2010. This February partners in alliance with WHO committed US\$785 million to target ten neglected tropical diseases until 2020; the Bill & Melinda Gates Foundation pledged \$363 million of that.

Eliminating trachoma alone worldwide requires \$748 million, noted Danny Haddad, Director of the ITI. “We know how to get rid of blinding trachoma. We have the tools we need. We have a plan”, said Haddad. “We can help poor families in developing countries escape the cycle of poverty.”

In Nepal, the fight against trachoma has gained momentum for several reasons, including funding from and coordination among key international partners, donors, and the Nepalese Government.

Over the years, Eyecare Foundation of the Netherlands, Seva Foundation and Orbis of the USA, Swiss Red Cross, Norwegian Church Aid, Christoffel Blinden Mission of Germany, and Lions International, among many others, have all supported eye care in Nepal. With their help, eye hospitals

and dozens of eye centres and clinics with trained staff have been established across Nepal.

Prevention and treatment for trachoma is fairly inexpensive and simple through surgery, antibiotics, facewashing, and environmental cleanliness, a strategy known by the acronym SAFE. At earlier stages, eye infections can be treated with oral antibiotics taken once a year, usually for several years. In Nepal, pill distribution can cost as little as \$0.10 per person annually.

Surgery for trachoma happens at a later stage, but before blindness. It involves cutting the upper eyelid so that eyelashes no longer turn inward. Eye experts say the straightforward surgery costs \$20–50, takes about 20 minutes, and can be done with local anaesthesia. Optometry assistants, not just ophthalmologists or surgeons, can do the operation.

In a major milestone, US drug maker Pfizer and the Edna McConnell Clark Foundation co-established the ITI in 1998. As of September, 2011, Pfizer had donated 225 million treatments in 19 countries, worth an estimated \$5 billion.

In 2002, the National Trachoma Program (NTP) was established in Nepal by the ITI, various partners, and the Nepalese Government. In the 3 years after the NTP launched, active trachoma prevalence was dramatically reduced by 40% in areas where programmes were implemented.

With the end of trachoma in Nepal in sight, US aid agency USAID in 2010 started funding the Neglected Tropical Diseases Control Program in Nepal, led by RTI International, a US consultancy.

Health experts say that surgery and antibiotic distribution are straightforward; the major challenge is improving sanitation and hygiene. Only 31% of Nepal’s population has access to improved sanitation such as toilets so open defecation is common. In the lowlands, temperatures can soar in the summer and sources of clean water can be scarce. Literacy in Nepal is 48%, so educating people about

sanitation and hygiene and changing behaviour is also a hurdle.

To raise awareness of sanitation in Nepal, education campaigns use brochures, posters, flipcharts, radio announcements, and programmes in schools and village health centres run by teachers and local health volunteers. Building and maintaining latrines through the government’s ministry of sanitation has been crucial to improving sanitation and reducing disease-carrying flies.

Nepal’s progress in battling trachoma is especially remarkable considering the country was racked by a 10 year civil war between 1996 and 2006. And although Nepal struck a peace accord in 2006, infrastructure and basic services have deteriorated because of political instability since then. Today 14-hour power cuts and countrywide strikes are common.

But Dharmal Prasad Raman, country director for RTI’s neglected tropical disease control programme in Nepal, points out that fighting trachoma does not require much hardware. Even during the civil war, annual drug distribution was still implemented by village networks. “The health sector was least affected during the insurgency”, said Raman.

Nevertheless, more work remains for Nepal to meet its 2014 target to eliminate trachoma. At least 35 000 operations must be done. Last year 3000 surgeries were targeted, but only about 900 completed, according to a 2011 RTI report submitted to USAID. In 19 districts, trachoma prevalence is still 5–9%.

But back at the eye camp in Paluntar, the outlook is bright. No cases of trachoma were detected that day. 75-year-old Krishna Bahadur Thapa and his 67-year-old wife walked an hour and a half to get their eyes checked. “It is good to have camps”, said Thapa, whose eyes are still clear and alert beneath his jaunty pink hat. “We can get help to see this world.”

Amy Yee