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Drug-Resistant Tuberculosis Can Be Cured, Researchers Say

By Nicole Ostrow

Aug. 6 (Bloomberg) -- Drug-resistant tuberculosis, including the most dangerous form, can be cured without hospitalization when treatment is individualized and supervised daily, according to a Harvard-led study in Peru.

More than half of patients whose disease fought off multiple drugs, including those with extensively resistant TB that can lead to death, were cured after getting customized drug regimens and social support to help them complete treatment, researchers said. The study appears in tomorrow's New England Journal of Medicine.

Forty-nine countries have reported at least one case of extensively drug-resistant tuberculosis, which was thought to be potentially untreatable in developing and rich countries, said Mario Raviglione, a TB specialist with the Geneva-based World Health Organization, in an accompanying editorial in the journal. The findings show that having drug-resistant TB isn't a "virtual death sentence," he said.

"Aggressive treatment can result in higher cure rates than previously thought and reported," Raviglione said in an Aug. 1 e-mail. "The challenge will be to achieve the same in places like Russia, China, India, South Africa," which account for about two-thirds of all drug-resistance TB cases in the world.

An estimated 1.65 million people die each year from TB. Of those, 130,000 have drug-resistant strains, according to Raviglione.

The study, funded in part by the Seattle-based Bill and Melinda Gates Foundation, was conducted of 651 patients in Peru from 1999 to 2002. Of the 48 with extensively drug-resistant tuberculosis, 60 percent were cured. Of the 603 with multidrug-resistant TB, 66 percent were cured.

Resistant Disease

Patients with multidrug-resistant TB aren't helped by the two most commonly used treatments, isoniazid and rifampin, which are available in generic form. Those who are extensively resistant fail to respond to those medicines and the most important drug classes used next in treatment.

In the study, the patients were given individualized drug treatment based on lab tests that identified five or more medicines that appeared to work against their TB strains. They also

received surgery if needed, and nutritional and psychological support. Health-care workers provided daily, supervised treatment in the home or at community health centers.

On average it took 24.8 months for those with multidrug resistance to be cured and 26 months for those with the more extensive resistance.

Outpatient Success

In some parts of the world, patients with drug-resistant TB are confined against their will in hospitals, researchers said. The study also is encouraging because it shows aggressive treatment outside the hospital works, researchers said.

“Our study shows that effective treatment does not require hospitalization or indefinite confinement of patients,” said Carole Mitnick, the study’s lead author and an instructor in the Department of Global Health and Social Medicine at Harvard University, in a statement. “This ambulatory form of treatment exists, is successful, and can be widely implemented in resource-poor settings.”

Tuberculosis is caused by germs that are spread through the air. The bacterial infection generally affects the lungs, although it can attack the kidneys, spine or brain, according to the U.S. Centers for Disease Control and Prevention. Symptoms include weakness, weight loss, fever and night sweats. When the lungs are infected, symptoms include coughing and chest pain.

Drug-resistant tuberculosis is spreading because many patients aren’t tested for resistance until after they’ve been treated repeatedly with standard therapy, Mitnick said in an Aug. 4 e-mail.

Poor Countries

In poor countries, hospitals don’t have adequate infection control and place patients with tuberculosis in with the general population, which allows the disease to spread. A shortage of drugs beyond the initial therapy makes it difficult for doctors to treat drug-resistant tuberculosis, she said.

“Tuberculosis can be cured,” Mitnick said. “But creating highly, resistant disease through repeated, inadequate treatments limits success even with carefully crafted, supported, individualized treatment regimens.”

Other countries, she said, can replicate what was done in Peru. A new test that allows drug-resistant tuberculosis to be identified in two days rather than two months will allow patients to be put on the proper treatment more quickly.

Mitnick said she is seeking funding to conduct studies of drug-resistant tuberculosis treatments, ways to improve treatment with existing drugs and shorten therapy duration. More studies also are needed to find medicines that produce better results and have fewer side effects for patients with drug-resistant tuberculosis, she said.