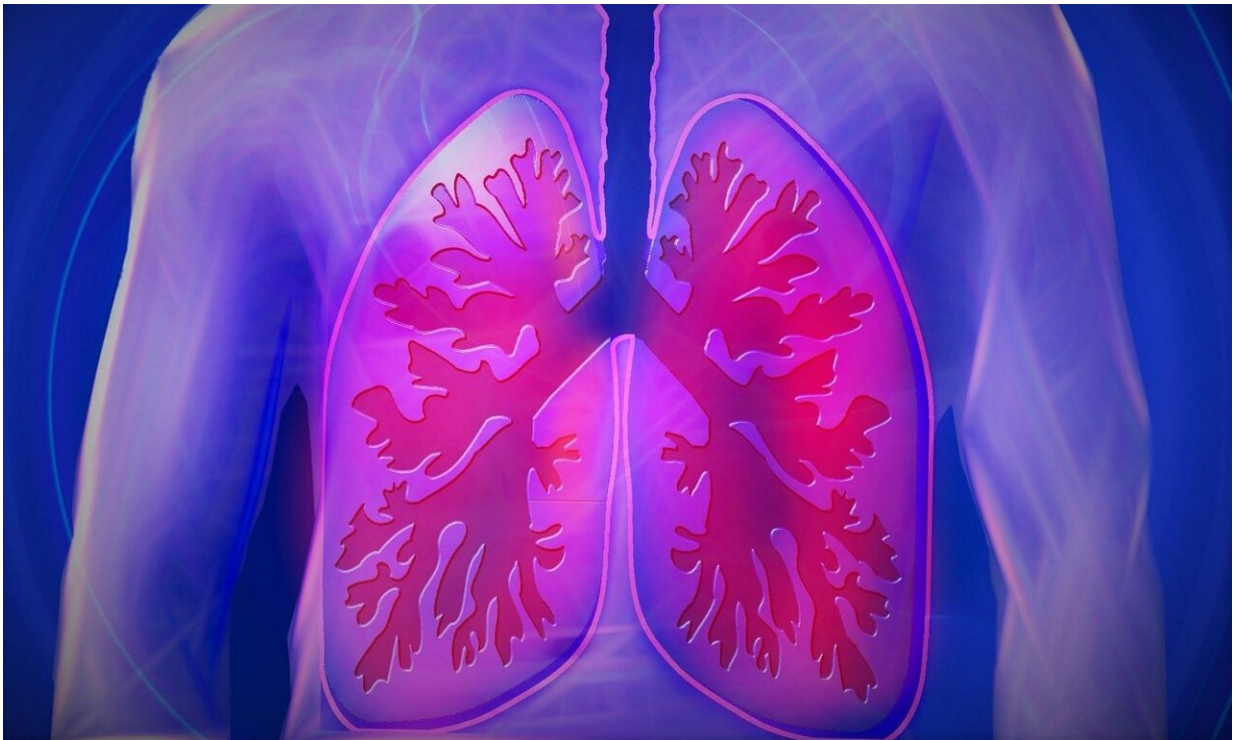


Tuberculosis epidemic causes lasting damage to lungs

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New research from the University of Dundee has revealed that the worldwide tuberculosis (TB) epidemic is leaving a legacy of chronic lung disease.

Scientists from the University, in partnership with the Respiratory

Research Network of India, have reported results from a study of more than 2000 Indian patients with evidence of permanent lung damage.

Researchers have found that more than 1/3 of patients who are successfully cured of TB with antibiotics developed permanent lung damage which, in the worst cases, results in large holes in the lungs called cavities and widening of the airways called bronchiectasis.

TB survivors and patients with a history of severe infections such as childhood pneumonia made up the majority of patients with lung damage in India. The research suggested that these infections left a legacy of daily cough, further chest infections and poor quality of life. Patients required further hospitalisations for treatment of their lung conditions in nearly 40 percent of cases. Lung function testing found that patients with post-TB lung damage had lost approximately 40 percent of their lung capacity, leaving many patients with persistent breathlessness.

The study was carried out by scientists at Dundee, working alongside doctors in hospitals and medical centres across India. They recruited 2,195 patients with established bronchiectasis from 14 Indian states to take part in the study. Patients provided a detailed medical history and CT and lung function results were assessed to evaluate the severity of their lung damage.

Professor James Chalmers, GSK/British Lung Foundation Professor of Respiratory Research at the University and lead author of the study, said, "This study calls urgent attention to the problem of Post-TB lung damage worldwide. TB is a curable condition with antibiotics and great steps forward have been made towards eliminating TB.

"But this study is a wakeup call because even if we manage to eliminate all TB worldwide tomorrow, we are going to be left with a legacy of chronic lung damage and bronchiectasis which will require better

recognition and better treatment."

When patients from India were then compared to patients with the same lung damage in Europe and the United States, lung damage was found to be more severe, lung function was worse and patients were more likely to be hospitalised for severe infections. Recommended treatment for these patients such as inhalers, physiotherapy and antibiotic treatment for infections were rarely provided.

According to the World Health Organisation's Global TB Report 2018, an estimated 2.8 million people have contracted TB in India, which represents one quarter of all TB cases worldwide.

The Indian Government has pledged to eradicate TB by 2025, however this study warns that the TB epidemic could have lasting consequences for the treatment of lung conditions in India and across the globe.

Evidence based treatments like physiotherapy exercises and antibiotics are inexpensive treatments which are proven to improve quality of life and reduce lung infections, but were available to less than 50 percent of Indian patients.

Professor Chalmers added, "The [lung](#) damage we observed in patients in India, not just those with TB but also those with other previous severe infections like pneumonia, was very severe lungs that were described by their doctors as "destroyed".

"These problems are preventable, with earlier recognition and prevention of TB and other infections like pneumonia and the consequences are treatable. Public health authorities need to step up their efforts to rapidly diagnose and treat TB, otherwise we could end up in a situation where we could see one epidemic replaced with another."

The research was published in *The Lancet Global Health*.

Provided by University of Dundee

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