

Indonesian study reveals missed diagnosis of fungal infections in treated TB patients

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Scanning electron micrograph of *Mycobacterium tuberculosis* bacteria, which cause TB. Credit: NIAID

A study of tuberculosis patients in six Jakarta hospitals has revealed up to 13 percent of them had fungal lung infection—or aspergillosis—at the end of their treatment.

The findings could, warn the research team from Universitas Indonesia and The University of Manchester, have implications globally, wherever TB is found.

The study tracked 216 patients, showing eight percent had aspergillosis after six months—the end of their TB therapy. Another five percent were likely to have had it.

The study, published in *Thorax*, has major implications for the country which has the third highest number of TB patients in the world: in 2020 there were 824,000 cases and nearly 100,000 deaths.

Though most people recovered from TB, the researchers found they were then struck down with the debilitating lung [infection](#).

If the results of the study are repeated nationally, around 52,000 Indonesian patients could be similarly affected by the condition immediately after recovering from TB.

The study findings translate to around 600,000 people having their recovery from TB compromised by aspergillosis globally.

Professor David Denning from The University of Manchester is Chief Executive of the Global Action Fund for Fungal Infections (GAFFI) and Respiratory Fungal Infections Programme Lead for the National Institute for Health Research (NIHR) Manchester Biomedical Centre (BRC).

The NIHR Manchester BRC respiratory theme is helping to reduce [disease progression](#) and symptoms for people with respiratory conditions

by working towards earlier diagnosis and a more targeted approach.

Professor Denning said: "We already know that the survival of people with unconfirmed TB is worse than those whose TB infection is confirmed in the laboratory.

"That raises the likelihood that the wrong treatments might have been given to these patients.

"However, these survival data are not routinely collected by the World Health Organization, so it's difficult to know categorically."

The work was led by Drs Findra Setianingrum and Anna Rozaliyani from Universitas Indonesia in Indonesia.

Dr. Rozaliyani said: "So many patients apparently die of TB, but our study raises the important question of missed diagnosis of fungal lung disease and missed opportunities for treatment with antifungal therapy.

"We are now much more vigilant for aspergillosis in patients without a confirmed diagnosis of TB or in those who fail to recover completely."

Professor Denning added: "This is the first study to document how many people complete TB therapy but develop chronic pulmonary aspergillosis.

"Those affected were more often men, those with diabetes and older people. Some data indicate a 20 percent year one mortality for this fungal lung infection, so the import of these results is highly significant."

More information: Findra Setianingrum et al, A prospective longitudinal study of chronic pulmonary aspergillosis in pulmonary tuberculosis in Indonesia (APICAL), *Thorax* (2021). [DOI:](#)

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