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ASIA EDITION

Singapore researchers show Underweight diabetics are prone to TB

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The study by Singapore Chinese Health Study is based on data from over 60,000 middle-aged to older adults and calls for TB screening among these patients

"'Persistent cough in underweight patients with diabetes warrants screening for active tuberculosis." This is the message in the editorial of the December 2019 issue of the *International Journal of Tuberculosis and Lung Disease*, based on findings from a Singapore-based study that have reported that patients with diabetes and who were also underweight had an eight-fold increase in their risk of contracting active TB, compared to obese individuals without diabetes.

Health experts have established that diabetes is a risk factor for active TB disease. Epidemiologic studies have also shown that individuals with low body mass index (BMI), especially those in the lean or underweight range, have a higher risk of active TB compared to their heavier counterparts. However, since increased BMI is a risk factor for diabetes, most patients with diabetes tend to have high BMI in Western populations. In contrast, in Asian populations, and also in Singapore, a large proportion of patients with diabetes are not overweight, but are lean or even underweight. Hence, it is of public health importance to study the joint effect of diabetes and BMI in modulating the risk of TB in Asian populations, where diabetes develops at lower BMI.

Researchers in Singapore, led by Koh Woon Puay, who is Professor at Duke-NUS Medical School and the National University of Singapore's Saw Swee Hock School of Public Health, used data from the population-based study, the Singapore Chinese Health Study, to examine the combined association of diabetes and BMI with risk of active TB disease.

Professor Koh, the Principal Investigator of the Singapore Chinese Health Study, explained, "The key finding in this study is that diabetes and low BMI are independent risk factors for active TB disease. Hence, patients with diabetes and who are also lean or underweight have a substantially increased risk from the effects of both factors."

Dr Cynthia Chee, a co-author of the study, commented, "Singapore's TB incidence rate of 35 to 40 per 100,000 population is 5–10 times that of the US, Australia and the UK. Diabetes is a major problem in Singapore, affecting one in nine persons aged 18 to 69. In order to bring down our TB rate, it is important for all physicians to have a heightened awareness of the link

between diabetes and TB, so as to facilitate the early diagnosis of active TB in this important risk group."

"The National Tuberculosis Programme – also known as the Singapore Tuberculosis Elimination Programme, or STEP – welcomes the publication of this landmark study and is proud to have played a part," said Adjunct Associate Professor Jeffery Cutter, Acting Director, National Tuberculosis Programme, National Centre for Infectious Diseases.

Based on this study, Professor Anthony Harries, who is a renowned researcher in TB from the *International Union Against Tuberculosis and Lung Disease,* called for physicians in diabetes clinics to practice targeted screening with a focus on underweight individuals, and for the conduct of trials to study the value of targeted TB preventive therapy among underweight patients with diabetes