

Editorial



Need of Practical Strategy for Improving Awareness of Acceptance of Tuberculosis Preventive Treatment among the Public and the Healthcare Workers

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Since the emergence of COVID-19 in 2020, the threaten of emerging infectious diseases (EIDs) has attracted great attentions and echoes either from professional institutions, governments or public. The conceptualization of “Disease X”, which covers more than 30 families of viruses, has strongly actuated various resources into the development of medical countermeasures and the research across all families of pathogens. On the other hand, the endemic even pandemic old communicable diseases, such as tuberculosis (TB), malaria, HIV/AIDS, etc., should never be neglected. Globally in 2023, the estimated TB cases was 10.8 million and the estimated deaths was 1.25 million according to the Global Tuberculosis Report 2024 by World Health Organization (WHO)^[1]. The most affected countries are India, Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh, and the Democratic Republic of the Congo.

By the end of 2023, nearly all major indicators are still far from the milestones of 2025 of the End of TB Strategy^[1], including the TB incidence rate, the number of TB deaths. Although the notified incidence of pulmonary TB declined remarkably from 116.9 (/100,000) in 2005 to 47.6 (/100,000) in China^[2], the estimated TB incidence rate and the number of TB deaths by the end of 2023 are still higher than the predicated targets of 2025 in the End of TB Strategy. One of essential indicators contributing to the TB incidence is the coverage of TB preventive treatment (TPT). As a new global target for 2027 (90% coverage among high-risk populations) set at the 2023 UN high-level meeting on TB, the global TPT coverages in 2023 was only 21% among household contacts of people diagnosed with TB and 56% among people living with HIV^[1].

WHO estimates that 1/4 global population may carry latent TB infection (LTBI), which can be diagnosed by Mantoux tuberculin skin test (TST) and interferon-gamma release assay testing. About 5-

10% LTBI individuals will progress to active TB within the first five years post-infection. In the guideline issued by Chinese Center for Disease Control and Prevention (China CDC) in 2021^[3], proper TBT is recommended for the LTBI people in high-risk group, i.e., children < 5-year-old as the close contact of etiologically confirmed TB cases, HIV/AIDS patient with LTBI, student as the close contact of active TB case, etc. Since those LTBI individuals are asymptomatic, the willingness of those population for TBT become the precursor. Although a small number of the studies has been conducted previously for the acceptance of TBT in China, limited sample-sizes, geographic coverages, and cohort types prohibit to reflect the whole scene of China.

Ren et al.^[4] in China CDC presented their recent data addressing the acceptance and barrier for TPT among 1,077 LTBI cases whose occupations were healthcare workers (HCWs), students, teachers, etc. Those LTBI cases were carefully screened from 17,826 individuals from 10 different counties. Surprisingly, the overall acceptance ratio for TBT was 17.5%. It was not unexcepted that the lower educated individuals displayed lower acceptance rate for TBT. However, remarkably lower acceptance ratios were addressed among the HCWs (7.7%) and teachers (8.0%), which were significantly lower than the cohorts of students (32.0%) and other occupations (40.3%). Ren et al.^[4] also figured out the main reasons for refusal of TBT and identified higher rates of misconception regarding the uncertain effect of TBT on prevention among HCWs (70.8%) and the concern of the side effects of chemoprophylaxis among teachers (88.9%). On the contrary, only a few subjects (6.1%) proposed the economic concerns.

Despite of some limitations, e.g., sample-size and lacking elder population, the findings of Ren et al.^[4]

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are meaningful. In addition to low overall acceptance rates for TBT, two cohorts of HCWs and teachers with LTBI, who have the potential to influence other people, showed unpredictably low acceptance rates. HCWs are the population with remarkable high-risk to be infected with *Mycobacterium tuberculosis* when they supply the service to the patients. On the other hand, the medical advice of HCWs will influence the patients' compliance to TBT. Unfortunately, numbers of studies have also revealed that the proper conception and the acceptance rates for TBT implementation to LTBI population of general HCWs both in China and other countries with high TB burden are not satisfied^[5-7]. The influence of teachers on the attitudes and cognitions of the students, particularly the students in the middle and high school is crucial. Apparently, the negative attitudes of HCWs and teachers on TBT have been the major obstacle. The study of Ren et al. reminds again the importance and urgency of setting and implementing practical education strategy of TBT among the public in China, particularly among the HCWs.

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