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Latent tuberculosis – What should we know and what should we do?

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ABSTRACT

Summary: Tuberculosis (TB) remains a threat to human health as it has been ranked tenth among the most lethal diseases caused by Mycobacterium tuberculosis (MTB). MTB is acid-fast tubercle bacilli that causes active and/or latent tuberculosis infection (LTBI). Accumulatively, 1.5 million deaths caused by TB in 2020 have been reported worldwide and one in four people is estimated to have LTBI. During the latent state, the pathogens remain resilient in the macrophages of the infected person within the granuloma and the patients usually show no clinical symptoms. The LTBI patients can be TB carriers and they can transmit the disease to their close contacts especially among immunocompromised persons after the reactivation of the infection. Therefore, early detection of LTBI is important as it can be treated to prevent the reactivation and transmission of the disease. The World Health Organization recommended a treatment for LTBI using one or a combination of drugs namely isoniazid, rifapentine, and rifampicin. At the moment, Tuberculin Skin Test and Interferon-gamma release assays with PPD, and ESAT-6 with CFP-10 antigens, respectively, are taken into consideration as latent tuberculosis screening tests. However, these tests show positivity in active TB patients and have low sensitivity in immunocompromised individuals. Moreover, TST shows cross-reactivity to BCG and non-tubercule mycobacterial strains while IGRA shows a lower predictive value, which limits the discrimination of active TB and LTBI. Thus, a new point of care testing governed by specific MTB latent biomarkers is urgently needed to increase the performance and predictive value of diagnostic tests for LTBI detection.

Keywords: Tuberculosis, isoniazid, Tuberculin skin test

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Community case report: A cross-border technology-driven health promotion

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ABSTRACT

Summary: Digitalizing health promotion intervention in the new millennium is key to providing better health outcomes to the nation. This study reports on a one-day virtual elderly health education program (EHEP) on fall prevention among the elderly population in Malaysia and Indonesia. This program aims to increase awareness of risk factors and prevention of falls, and to develop a fall prevention e-booklet. EHEP was conducted in collaboration with an Indonesian non-governmental organization (Rumpun Nurani Foundation) and the Department of Public Health Medicine, Faculty of Medicine, Universiti Teknologi MARA (UiTM) on 13th August 2022 via the Zoom platform. Activities included were a video demonstration on elderly fall prevention exercises, knowledge-transfer through several health talks sessions delivered by the public health physician, geriatrician, and psychiatrists, also the fruitful interactive session between UiTM medical students and health volunteers from Rumpun Nurani Foundation to develop a fall prevention e-booklet. A total of 100 participants (20 local participants and 80 international participants) took part in the EHEP. At the end of the program, dual-language e-booklets (Malay and Indonesian) were produced and benefited the participants with knowledge and skills to prevent and manage falls in the elderly. This success kickstarted a long-term cross-border technology-driven health promotion in shaping the future of preventive medicine.

Keywords: health promotion, elderly health education program, geriatrician