

## Feasibility and Safety of 1HP Regimen for Latent Tuberculosis Infection in Non-HIV Adult Detainees: A Study from Taiwan Detention Centers

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**Abstract :** Introduction: According to WHO recommendations, in countries with low TB incidence, systematic testing and treatment for latent tuberculosis infection (LTBI) can be considered for specific high-risk groups, including prisoners, healthcare workers, immigrants from high TB burden countries, homeless individuals, and people who use illicit drugs. Targeting detainees regardless of their sentence length, the program aims to identify individuals with LTBI and provide treatment to prevent the development of active tuberculosis. Method: In Taiwan's detention centers, the majority of detainees are defendants held in custody awaiting trial or sentencing. Chi-Mei Medical Center collaborates with the Tainan Detention Center, the Agency of Corrections, Ministry of Justice for this study. The target population includes detainees aged 18 and above, regardless of sentence length, excluding those under observation for compulsory rehabilitation, temporary custody, other cases, external work assignments, juveniles, or those with a detention period of less than six months. To facilitate the program, two pulmonology specialists who will oversee the LTBI outpatient clinic at the detention center hold educational meetings within the correctional facility. A list of detainees willing to participate is compiled, and IGRA testing and analysis are conducted. For individuals with positive IGRA results, a chest X-ray examination is performed to confirm and rule out active tuberculosis. The collaborating physicians provide consultation, prescribe the 1HP treatment regimen, supply the necessary medication, and educate participants on potential side effects and their management. Results: Among the 225 detainees who consented to IGRA testing, 18 tested positive (positivity rate: 8%), all of whom were male. Three individuals were transferred to other facilities before receiving 1HP treatment. Twelve individuals (80%) completed the 4-week 1HP treatment course. The average age of those who received 1HP treatment was 50.73 years. During the treatment period, 9 individuals (60%) experienced jaundice (elevated total bilirubin). However, after symptomatic treatment, the jaundice was resolved by the time the treatment course was completed. Three individuals discontinued the treatment before completing the 4-week course due to fatigue, rash with itching, and low blood pressure, respectively. No severe side effects, long-term complications, or deaths were reported. Conclusions: In non-HIV adult LTBI populations, the side effects of 1HP treatment were mostly mild and self-limiting. The findings of this study highlight the feasibility of the 1HP regimen in non-HIV adult populations, with a completion rate exceeding 80%.

**Keywords :** latent tuberculosis infection, preventive therapy, 1HP, safety

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