

Isoniazid Preventive Therapy (IPT) and Immunocompromising Conditions

Haoran Fu*

Department of Health Science, Swinburne University of Technology, Melbourne, Australia

Corresponding author: Haoran Fu, Department of Health Science, Swinburne University of Technology, Melbourne, Australia, E-mail: haoranfu@gmail.com

Received date: March 18, 2024, Manuscript No. IPJPM-24-19046; **Editor assigned date:** March 20, 2024, PreQC No. IPJPM-24-19046 (PQ); **Reviewed date:** April 03, 2024, QC No. IPJPM-24-19046; **Revised date:** April 10, 2024, Manuscript No. IPJPM-24-19046 (R); **Published date:** April 17, 2024, DOI: 10.36648/2572-5483.9.2.240

Citation: Fu H (2024) Isoniazid Preventive Therapy (IPT) and Immunocompromising Conditions. J Prev Med Vol.9 No.2: 240

Description

Isoniazid Preventive Therapy (IPT) is a key intervention in the prevention of Tuberculosis (TB), particularly in populations at high risk of developing active TB disease. It involves the administration of the antibiotic isoniazid to individuals with Latent Tuberculosis Infection (LTBI) to prevent the progression to active TB disease. IPT is a cornerstone of TB control efforts, offering an effective and cost-efficient strategy to reduce the burden of TB globally. Latent tuberculosis infection occurs when individuals are infected with *Mycobacterium tuberculosis*, the bacteria that cause TB, but do not have active TB disease. While individuals with LTBI do not experience symptoms of TB and are not contagious, they are at risk of developing active TB disease, especially if their immune system becomes weakened. IPT aims to reduce this risk by treating LTBI, thereby preventing the progression to active TB disease and interrupting transmission within communities.

Immunocompromising conditions

The efficacy of IPT in preventing TB has been well-established through numerous clinical trials and observational studies. Studies have consistently shown that IPT significantly reduces the risk of developing active TB disease in individuals with LTBI, with efficacy estimates ranging from 60% to 90% depending on factors such as duration of treatment, adherence to therapy and population characteristics. IPT is particularly effective in preventing TB in high-risk groups, such as people living with HIV/AIDS, TB cases and individuals with silicosis or other immunocompromising conditions. IPT is typically administered as a daily or weekly regimen of isoniazid for a specified duration, ranging from 6 to 9 months, although shorter regimens have also been evaluated and found to be effective in certain populations. The choice of regimen depends on factors such as the individual's age, underlying health conditions, risk of TB

exposure and local epidemiology of TB drug resistance. Treatment adherence is critical for the success of IPT and efforts to support adherence, such as patient education, counseling and monitoring, are essential components of IPT programs.

TB screening

In addition to its efficacy in preventing TB disease, IPT offers several other benefits. By reducing the pool of individuals with LTBI, IPT contributes to overall TB control efforts and helps to achieve TB elimination targets. IPT also has the potential to improve individual health outcomes by preventing TB-related morbidity and mortality, reducing the need for costly TB treatment, and minimizing the risk of TB transmission to others. Furthermore, IPT is a cost-effective intervention, with favorable cost-benefit ratios compared to other TB control measures. Despite its efficacy and benefits, IPT implementation faces several challenges and barriers. These include limitations in TB screening and diagnostic capacity, concerns about isoniazid resistance and hepatotoxicity, stigma associated with TB and competing priorities within health systems. Addressing these challenges requires a comprehensive approach that includes strengthening TB diagnostic and treatment services, enhancing TB surveillance and monitoring systems, promoting TB awareness and education, and addressing social and structural determinants of TB risk. Isoniazid preventive therapy is a valuable intervention in the prevention of tuberculosis, offering an effective, cost-efficient, and evidence-based strategy to reduce the burden of TB globally. By treating latent tuberculosis infection and preventing the progression to active TB disease, IPT contributes to TB control efforts, improves individual health outcomes, and supports progress towards TB elimination. IPT programs, along with efforts to address implementation challenges and scale up access to IPT, is essential for achieving a world free of TB-related suffering and death.