3HP

What is Latent TB infection?

Not everyone who is infected with Tuberculosis (TB) germ immediately develops TB disease. Some people go on to have a dormant form of TB that can be reactivated over time or when the immune system is suppressed. This form is called (latent) TB infection (LTBI), and treating it can prevent the person from getting active TB.

Overview of TB transmission

**STAGE 1:**
Exposure
TB germs are inhaled into the lungs of a healthy person via droplets sneezed, coughed or spat by another PERSON WHO IS ILL WITH TB

**STAGE 2:**
TB germs are recognised as invaders and are contained by the healthy immune system (white blood cells - including CD4 CELLS)
This is known as **LATENT TB OR TB INFECTION**

**STAGE 3:**
Immune system unable to contain the TB germ which escapes into the rest of the lungs - and possibly other parts of the body causing disease. This is known as **ACTIVE TB**

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Is treatment of TB infection effective?

Strong evidence shows that the treatment of latent TB infection (with isoniazid or rifampicin monotherapy, or in combination with other drugs) is effective in preventing progression to active disease in adults and children. There were an estimated 10 million new cases of tuberculosis (TB), around 1.2 million deaths from TB in HIV-negative people and 251,000 deaths from TB in HIV-positive people in 2019. The World Health Organisation (WHO) has set ambitious targets for reducing TB incidence and mortality by 90% in the next 10–20 years, with an aim to eliminating TB by 2035. Elimination of TB, however, cannot be considered without discussion of TB infection, its diagnosis and treatment. 1.7 billion people are estimated to have TB infection and are at risk of developing TB in their lifetime.

Is treatment of TB infection necessary?

It is extremely important to treat latent TB infection, particularly in those at high risk of progression to active TB disease, as it can avert the suffering and catastrophic economic costs associated with developing active TB.

What is 3HP?

3HP is a short-course Tuberculosis Preventive Treatment (TPT) regimen which is endorsed by the WHO. It combines high dose isoniazid and high dose rifapentine weekly for three months. 3HP is associated with significantly lower hepatotoxicity and higher rates of treatment completion than isoniazid preventive treatment.

Is 3HP superior to isoniazid monotherapy (IPT)?

There is no evidence that 3HP is more effective than IPT, but studies have shown 3HP to be equivalent to isoniazid in preventing progression to active disease. There is evidence, however, to show that 3HP is less toxic to the liver than isoniazid-based regimens. However, the risk of drug reactions is increased among those taking 3HP, but these are less likely to lead to discontinuation.

Is 3HP superior to other TB prevention therapy interventions other than isoniazid?

There has been no difference in clinical effectiveness found in the few studies where 3HP has been compared with other shortened regimens such as a four month regimen of rifampicin with or without isoniazid.

Is 3HP cost-effective?

Previously, most studies have found 3HP to be expensive in the short-term. However, the cost of rifapentine has recently been reduced in most countries including Malawi. The shorter duration of treatment and higher rates of treatment completion can make it more cost-effective in the long-term.