

## Popular contraceptive could increase TB risk

One of South Africa's most commonly-used injectable contraceptives could increase women's chances of contracting tuberculosis (TB).



A recent meta-analysis of clinical observational data suggests that Depo-Provera - because it contains the synthetic hormone medroxyprogesterone acetate (MPA), which acts as an immunosuppressant - may increase women's chances of contracting HIV by up to 40%.

As a result, Professor Keertan Dheda and Dr Michele Tomasicchio, at the University of Cape Town's (UCT) Centre for Lung Infection and Immunity, saw the need to investigate whether the use of Depo-Provera could also increase the risk of TB infection, given the prevalence of disease in sub-Saharan Africa, and the fact that it remains the top infectious disease killer globally.

"We looked at two different injectable contraceptives that are commonly used in South Africa - Depo-Provera and norethisterone enanthate (NET-EN). Our data showed that Depo-Provera increases TB pathogenesis, while NET does not.

"We found that Depo-Provera actually down-regulates immune function genes that are associated with protection against TB and also up-regulates certain cell types that suppress your immune system," Tomasicchio explains.

Injectable contraceptives are widely used across sub-Saharan Africa, being the birth control of choice for about 16.5-million women in the region. The World Health Organisation (WHO) cites "their effectiveness, their simple re-injection schedule every two or three months, depending on the brand and their suitability for discreet use" as some of the main reasons for their popularity.

### Policy change

Tomasicchio would like to see the study results, along with those of future studies, drive a change in policy surrounding Depo-Provera usage in South Africa.

"My ultimate aim is to make sure that women are aware of the dangers of using Depo-Provera, particularly in the context of sub-Saharan Africa," he says.

"What should happen is government clinics in South Africa - and elsewhere - should move over to NET, because it simply is the safer choice."

Despite the fact that Depo-Provera has been proven to increase women's chances of contracting HIV and now also TB, the government is reluctant to change policies.

The reason for this is two-fold: Depo-Provera is cheaper to manufacture and to maintain, as it works on a three-monthly reinjection schedule while NET-EN must be administered every two months.

Tomasicchio said he plans to pursue this study further, to gain a better understanding of why and how MPA actually drive TB pathogenesis.

Ultimately, he hopes that the mounting evidence showing that Depo-Provera is not the safest choice will be taken to heart by the South African government and that policy changes will be made sooner rather than later.

**Source:** University of Cape Town

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