

Syphilis almost eliminated everywhere, except in Africa

Prof. Chris Kenyon describes the different rates of decline of syphilis around the world.

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Dit is de omschrijving

The discovery of penicillin has led to a sharp decline of syphilis around the world, except in Africa. In a new study, Prof. Chris Kenyon of the Antwerp Institute of Tropical Medicine (ITM) describes the different rates of decline of syphilis around the world. This week the European Centre of Disease Prevention and Control (ECDC) also published its latest figures on syphilis in Europe.

With the exception of the Solomon Islands and Papua New Guinea, the 12 countries where 5% or more of pregnant women still have syphilis, are all Sub-Saharan African countries. Liberia (11.8%), Malawi (10.1%) and Somalia (8.7%) head this sad list. Prof. Chris Kenyon and his colleagues at the ITM investigated the reasons and reflect on what can be learned from the way syphilis evolved over the years. The study was published on 11 May in the journal *PLOS Neglected Tropical Diseases*. In the paper, Prof. Kenyon draws the history of syphilis and its dramatic decline worldwide after World War II, when penicillin became widely available. Unfortunately, the same does not hold true for Sub-Saharan Africa which still has more cases than anywhere else.

6% of pregnant women in Southern Africa have syphilis

Prof. Kenyon used data on syphilis from routine testing of pregnant women since 1918. These data are more representative of sexually transmitted diseases (STDs) within sexually active populations than overall detection rates, in which high-risk groups are often overrepresented. In most of the countries studied, the number of pregnant women with syphilis had already decreased to less than 1% before the advent of penicillin. In Southern and Eastern Africa, on the other hand, the prevalence remained about 6%, 50 years after the introduction of the antibiotic.

Sexual networks promoted STDs until they were dissolved by the AIDS epidemic

Prof. Kenyon's research suggests that during the period 1990-1999, the height of the AIDS epidemic, and in 2008, syphilis rates dropped very sharply in a number of countries where it was still prevalent. That is partly due to the systematic approach in managing STDs and changes in sexual behaviour. A further crucial factor, however, was that sexual networks were shattered when scores of people died of AIDS. Despite a fall in syphilis rates in Africa following the AIDS epidemic, the number of pregnant women with syphilis was still significantly higher in Sub-Saharan Africa in the 1990s and in 2008.

With the exception of the geographic location, no other associations were found

The scientists also investigated whether there were any links between the prevalence of syphilis and factors such as access to effective detection and treatment, health care spending and gross domestic product per capita. No such links were found. The only clear correlation was with the geographic location: i.e. Sub-Saharan Africa.

Syphilis, HSV-2 and HIV

In previous papers the researchers demonstrated a strong correlation between syphilis, herpes simplex virus - 2, and HIV prevalence. In other words, syphilis and herpes rates from before the HIV epidemic predicted which countries would go on to experience severe HIV epidemics.

“In order to reduce the threat of syphilis, herpes and hiv in Southern Africa, more work needs to be done to determine the common risk factors that enable the three sexually transmitted diseases to spread easily in some populations but not in others. Because herpes is an incurable condition it is implausible that differing treatment capabilities are responsible. The available evidence suggests that the densely interconnected sexual networks in some regions are a more plausible explanation,” said Prof. Chris Kenyon.

Syphilis in Europe

[Figures released this week by the European Centre of Disease Prevention and Control](#) (ECDC) show that syphilis is on the rise across Europe, including in Belgium, mostly among men who have sex with men (MSM). Belgium, which has a sentinel surveillance system, reported 1238 cases in 2014, compared to 1030 in 2013 and 778 in 2012. To put things into perspective: while Belgium reports 1238 cases on a total population of around 11,2 million, some countries in Southern Africa have more than five cases of syphilis for every 100 inhabitants.

“Here in Belgium we see less fear for HIV and more high-risk sexual behaviour, especially among subpopulations of men who have sex with men. However, better screening might also have an impact on the syphilis figures. The key message remains that safe sex is of the essence,” said Kenyon.

Syphilis

Syphilis is a highly contagious sexually transmitted disease, caused by the bacterium *Treponema pallidum*. The consequences of contracting syphilis can be dangerous if the disease is not effectively treated with penicillin. In a first stage a painless sore often appears in the vagina, the anus or around the mouth and is not always noticed. In a later stage the bacteria spread through the bloodstream, and cause symptoms such as skin rash, fever, headache, bone pain, inflammation of the lymph glands and hair loss. Only in the late stages, syphilis causes aneurysms and affects the spinal cord and brain. Fortunately this stage of irreversible damage is rarely reached in Belgium.