

ITM introduces better adapted diagnostics for bloodstream infections in West Africa

The simplified blood culture system is an important weapon in the fight against antimicrobial resistance

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Dit is de omschrijving

Wrong diagnosis and inadequate treatment of bloodstream infections (BSI) contribute to the increase of antimicrobial resistance (AMR). This affects hospitals and laboratories in low-resource settings the most, as they often lack the resources for correct diagnoses needed for the prescription of targeted antibiotics. The SIMBLE project led by the Institute of Tropical Medicine (ITM) in Antwerp is working on a simplified, cheap and robust blood culture system. This will enable better diagnostics and more accurate administration of antibiotics in low-income countries.

SIMBLE: Simplified Blood Culture System

With the SIMBLE project, researchers from ITM, together with a study team of African and European researchers, want to introduce better adapted diagnostics for bloodstream infections in West Africa. For this purpose, they designed the simplified blood culture system "Bactinsight" that can withstand tropical conditions such as dust, humidity and unreliable power supplies. A simple blood culture system enables the diagnosis of bloodstream infections in low-resource settings, resulting in improved treatment of bloodstream infections and a reduction in the misuse of antibiotics. The system is also affordable and easy to use.

Local production

Between 2022 and 2024, the research team will evaluate the system during a field study in Benin and Burkina Faso. They will install a production unit for the needed microbiology products in a shipping container and transport it to Benin. "By stimulating local production, we want to increase the availability of the products needed for the diagnosis of bacterial infections. Better diagnosis leads to better treatment and is thus an important weapon in the fight against AMR," says Liselotte Hardy, research coordinator of the SIMBLE project.

Sepsis kills 11 million people a year

Sepsis, an extreme inflammatory response of the body to an infection, is a major cause of illness and death worldwide. It is a possible consequence of bloodstream infections and, together with antimicrobial resistance, a growing problem in low-resource settings. Estimates are as high as 49 million cases per year and 11 million deaths are reported annually. Hospitals and laboratories in low-income countries usually do not have the resources to determine the cause of sepsis. As a result, doctors often prescribe antibiotics that do not target the specific cause of the infection. This fosters antimicrobial resistance.

Spread Awareness, Stop Resistance

Today is the last day of World Antimicrobial Awareness Week. Under the title Spread Awareness, Stop Resistance, this year's campaign pays extra attention to the theme. Antibiotic resistance is also high on the ITM's agenda. The institute prevents the further emergence and spread of resistant infections by developing new diagnostic tools and treatment strategies, promoting responsible antibiotic stewardship and, finally, investigating human, social and cultural factors.

The SIMBLE project is supported by the EDCTP2 Programme of the European Union and it involves seven international partners.

