Health system strengthening and education can reduce HIV-related deaths Tanzania

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Credit: DREAMM, St. George's University of London

Preliminary results presented at the [International AIDS Society (IAS) 2021 conference](#), show that a novel intervention and implementation strategies, including education programs and capacity building can reduce the number of deaths from Central Nervous System (CNS) infections related to HIV.

Led by Dr. Angela Loyse at St George's, University of London, the
DREAMM project is run in collaboration with the European &
Developing Countries Clinical Trials Partnership (EDCTP) and the
French Agency for Research on AIDS and Viral Hepatitis (ANRS). The
program aims to reduce mortality linked to HIV-related CNS infections,
which are responsible for up to a third of HIV-related deaths, in resource-
limited settings in Tanzania, Cameroon, and Malawi after
implementation of an intervention and implementation strategies.

The results presented at IAS 2021 focus on the findings from Tanzania,
in people living with HIV presenting in a hospital healthcare setting with
probable CNS infection, such as meningitis (cryptococcal, tuberculous
or bacterial) and/or cerebral toxoplasmosis (a parasitic infection of the
brain).

The DREAMM intervention implemented by the team consists of an
algorithm with the following key features: bedside diagnostic testing
using rapid diagnostic testing (in parallel to standard laboratory-based
microbiological tests) and the implementation of WHO-recommended
treatments for cryptococcal meningitis from another St George's-led
trial. Diagnostic tests and medicines were provided by the project.

Key implementation strategies, under the umbrella of local leadership,
included:

- A co-designed, freely accessible online education program,
  aiming to increase the knowledge of frontline healthcare workers
  to effectively diagnose and treat HIV-related CNS infections.
- Quality improvement in healthcare delivery including new
  diagnostic and treatment pathways for patients and laboratory
  specimens and increased communication between frontline
  healthcare workers.
- Continued laboratory capacity building and mentorship in

management of people living with HIV with advanced HIV disease to improve diagnosis and management of disease.

The team found that, following implementation of their intervention, 2-week all-cause mortality for these patients decreased from 57% (95% CI 44-69) to 29% (95% CI 20-39), while 10-week all-cause mortality decreased from 64% (95% CI 52-76) to 48% (95% CI 38-59).

The researchers note that after intervention, the number of patients receiving diagnostic lumbar punctures dramatically increased, with more patients receiving rapid diagnosis and treatment—which may explain the reduction in deaths.

Speaking on the preliminary results, Dr. Loyse, said, "Our initial findings from Tanzania have shown that the DREAMM intervention and implementation strategies can have a significant impact in reducing mortality from HIV-related infections such as meningitis in resource limited settings.

"While there are still improvements to be made on how to improve pre- and post-hospital care, we hope our findings clearly show that implementation strategies such as education, health system strengthening and mentorship are critical to reduce mortality from AIDS in real-world settings."

The next steps for the team will be to publish the full results across the five sites in Malawi, Cameroon and Tanzania included in the study in a peer-reviewed journal.

Provided by St. George's University of London

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