

BIOLOGICAL CONFIRMATION OF BACTERIAL MENINGITIS FROM 2021 TO APRIL 2023 IN THE DEMOCRATIC REPUBLIC OF CONGO

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Introduction

The burden of bacterial meningitis is enormous in terms of mortality and morbidity, with resource-limited countries being the most affected. The Democratic Republic of Congo regularly faces meningitis epidemics. Meningitis is one of the diseases under surveillance in the Democratic Republic of Congo. It is a disease with epidemic potential to be notifiable and continues to cause many victims every year in the world in general, and in the Democratic Republic of Congo in particular. Bacterial meningitis, a major cause of morbidity and mortality. The main bacteria involved are *Neisseria meningitidis*, *Streptococcus pneumoniae* and *Haemophilus influenzae*. But *Neisseria meningitidis* is of particular concern because of its ability to cause large outbreaks. While 12 *Neisseria meningitidis* serogroups have been identified, 6 of them (A, C, X, Y, W and B) are responsible for most epidemics.

Methods

Cerebrospinal fluid (CSF) samples were collected from patients with suspected meningitis as part of integrated disease surveillance and response and sentinel surveillance in the Democratic Republic of the Congo from 2021 to 30 April 2023 in all provinces reporting bacterial meningitis as part of integrated surveillance and in two provinces as part of sentinel surveillance, or CSF has been collected and sent to the National Public Health Laboratory for confirmation. The confirmation was made by culture and drt-PCR, the drt-PCR tests were carried out on site in the DRC following the capacity building and supply of consumables and reagents of the National Laboratory by CDC Atlanta with the financial support of the Centers for Disease Control and Prevention, Atlanta, USA and the World Health Organization.

Results

Surveillance data indicate a total of 18548 suspected meningitis cases including 1239 deaths (CFR 6.7%) reported from January 2021 to April 30, 2023. During this same study period, 907 CSF samples were collected and analyzed in the laboratory, representing a laboratory utilization rate of 5% (907/18548).

During this same study period, 907 CSF samples were collected and analyzed in the laboratory, representing a laboratory utilization rate of 5% (907/18548). On the 907 LCR laboratory analyses by PCR including 126 positive (57 *Neisseria meningitidis* W or 45%, 9 *Neisseria meningitidis* or 7%, 40 *Streptococcus pneumoniae* or 32%, and 18 *Haemophilus influenzae b* or 14%, 2 *Haemophilus influenzae non b* or 2%).

Conclusion

In view of this result, we note that from 2022 to April 2023, of the 100% of bacteria highlighted by drt-PCR, 45% or 57/126 are *Neisseria meningitidis* W, 32% or 40/126 are *Streptococcus pneumoniae*, 14% or 18/126 are *Haemophilus influenzae* b, 7% or 9/126 of *Neisseria meningitidis* C, and 2% or 2/126 *Haemophilus influenzae* non b.