



Evaluating the impact of COVID-19 on malaria and other infectious diseases in Uganda

Understanding comorbidities

Background

Since the COVID-19 pandemic first emerged in 2019, 45 countries in sub-Saharan Africa have reported approximately 100,000 cases of infection and 2,500 deaths (at 31 May, 2020).^[1] Given that countries in the region carry a disproportionately higher share of the global burden of several infectious diseases — particularly malaria, but also HIV/AIDS and tuberculosis (TB) — concerns have emerged about the impact of COVID-19 on these endemic diseases.

With often fragile health systems and precarious access to healthcare, these countries already face a challenge in implementing effective health interventions to safeguard populations from endemic diseases. In 2018 alone, 93 percent of global malaria cases occurred in sub-Saharan Africa and the region accounted for 94 percent of global malaria deaths.^[2] Furthermore, 24 percent of new TB cases worldwide occurred in the region,^[3] and 25.7 million people were reported to be living with HIV/AIDS.^[4]

The potential impact of COVID-19 on the diagnosis, prevention and treatment of the most common causes of morbidity and mortality in sub-Saharan Africa is, therefore, of critical concern. Uganda is an ideal setting in which to investigate the possible interactions, given the country's high burden of malaria and other infectious diseases and reports of at least 446 cases of COVID-19 to date.^[1]

Country

Uganda

Donor

Malaria Consortium funded

Length of project

April 2020 – September 2020

Partners

National Malaria Control Division, Ministry of Health, Uganda

Mulago National Referral Hospital, Kampala, Uganda

Project outline and objectives

Recognising the heavy toll that malaria and other infectious diseases have on vulnerable populations in sub-Saharan Africa, Malaria Consortium and Uganda's Ministry of Health (MoH) will conduct a case series on COVID-19 patients — a descriptive clinical study that reports on patients with a particular condition who are receiving similar treatment. This research seeks to understand the burden chiefly of malaria (but also of TB and HIV/AIDS) among patients with COVID-19, and to assess the clinical consequences of potential interactions.

The case series will form part of the MoH's ongoing clinical assessment and care administered to COVID-19 patients. It will be carried out at all COVID-19 treatment centres across Uganda and will include patients of all ages, and at various stages of infection, who have a confirmed diagnosis of COVID-19 according to World Health Organization (WHO) and MoH guidelines.

Through this study, Malaria Consortium aims to:

- determine the prevalence of malaria among COVID-19 patients and evaluate the risk of malaria following hospital discharge
- determine the level of previous exposure to malaria among patients with COVID-19
- document the impact of malaria on clinical outcomes of patients with COVID-19
- assess the potential impact of currently used antimalarial drugs (artemether-lumefantrine and dihydroartemisinin-piperazine) on clinical outcomes among COVID-19 patients, when prescribed to treat their malaria infections
- document the clinical spectrum of malaria among patients with COVID-19
- evaluate the potential interactions between COVID-19 and other infectious diseases, including HIV/AIDS and TB
- describe health workers' perspectives on the management of malaria in COVID-19 patients.

References

1. WHO. Coronavirus disease 2019 (COVID 19) situation report — 132; 2020. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200531-covid-19-sitrep-132.pdf?sfvrsn=d9c2eaf_2.
2. WHO. World malaria report 2019. Geneva: WHO; 2019. <https://www.who.int/publications-detail/world-malaria-report-2019>.
3. WHO. Global tuberculosis report 2019. Geneva: WHO; 2019. https://www.who.int/tb/publications/global_report/en/.
4. WHO. HIV/AIDS. [no date; cited 2020 May 01]. Available from: <https://www.afro.who.int/health-topics/hivaids>.

© Malaria Consortium / June 2020

Unless indicated otherwise, this publication may be reproduced in whole or in part for non-profit or educational purposes without permission from the copyright holder. Please clearly acknowledge the source and send a copy or link of the reprinted material to Malaria Consortium. No images from this publication may be used without prior permission from Malaria Consortium.

UK Registered Charity No: 1099776

Contact: info@malariaconsortium.org

Cover image: Team at a recruiting site for the study in Uganda

Activities

In order to achieve these objectives, Malaria Consortium will:

- collate demographic and clinical information about patients in the study, including travel history, medical history, current symptoms and medications, and findings of clinical examinations
- train research assistants on study procedures, including infection prevention and control
- collect, test and analyse blood samples from patients, checking for previous exposure to malaria parasites, current malaria infection status, HIV, haematology and biochemistries
- use qualitative methods to assess health workers' perspectives on the management of malaria in COVID-19 patients
- develop a report documenting the findings of the study and prepare outputs for peer review.

Learning

The information on potential interactions between these comorbidities and COVID-19 will support enhanced case management approaches in similar settings.

We further anticipate that this study will contribute to our understanding of the possible wider community effects of COVID-19 among populations with a high prevalence of infectious diseases.

