

Feasibility of large-scale mass drug administration for malaria in Angumu health zone, Ituri, Democratic Republic of Congo

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Introduction

Conflict in DRC's northeast, has led to large-scale displacement. MSF has supported around 50,000 internally displaced people, together with the host community, in Angumu health zone, within the region, since 2019. Work there has focussed on supporting health facilities, community treatment sites, and distribution of long-lasting insecticidally-treated nets. WHO's recommendations for malaria in extreme complex emergencies include provision of mass drug administration (MDA). Angumu is a highly malaria-endemic area, with displaced people having relocated from an area with lower exposure to malaria. In Angumu, there are high levels of mortality linked with malaria, and crude and under-5 mortality rates have been shown to be above the emergency threshold in 2020 population survey data. In addition, healthcare systems are over-burdened due to population displacement, together with deterioration in access to healthcare caused by the COVID-19 pandemic. DRC's Ministry of Health, together with MSF, have implemented MDA with the goal of rapidly reducing malaria morbidity and mortality. We describe the intervention's feasibility, data on pharmacovigilance, and associations with reported malaria morbidity.

Methods

We implemented 3 MDA rounds spaced at least 28 days apart, for adults and children aged over 2 months, living in four health areas, covering a total population of 56,353. MDA involved delivery of two rounds of amodiaquine-artesunate and one round of artesunate-pyronaridine (Pyramax). Door-to-door distribution was chosen to reduce risk of COVID-19 transmission, with teams using COVID-19 protection measures. First doses were directly observed, and notification of adverse events (AE's) was implemented. We calculated administrative coverage, and estimated the number and reduction in weekly confirmed malaria cases reported from MSF-supported health facilities before (weeks 1-40/2020) and after (weeks 41-53/2020) MDA delivery, as well as comparing the difference between targeted (6 facilities) and non-targeted health areas (14 facilities).

Ethics

This abstract describes the evaluation of an implementation of an MSF programme. It was conducted with oversight from Monica Rull, Medical Director, Operational Centre Geneva, MSF.

Results

227 teams, involving two community health workers each, carried out MDA. The first MDA round, carried out between 24 September and 13 October 2020, reached 74,847 people (133%), and the second was executed between 9 and 27 November 2020, reaching 75,487 people (134%). The third MDA round ran between 17 December 2020 and 7 January 2021, reaching 78,227 people (139%). There were 679 mild and three severe (0.9%, of all those receiving MDA) AE's reported during the first round, and 425 mild and three severe (0.57%) AE's during the second round. None of the severe AE's reported were causally linked with MDA, after investigation. The average weekly number of malaria cases decreased by 81% (151 vs. 29) in MDA-targeted areas, as compared with a drop of 33% (139 vs 93) in non-targeted areas.

Conclusion

This was the first large-scale MDA of which we are aware, delivered in a highly malaria-endemic rural area, and the first MDA delivered using Pyramax. We faced delays with approvals and provision of antimalarials; MDA rounds took longer to implement than planned, with delays between rounds. We successfully provided three rounds of MDA using two different antimalarials, in a complex emergency setting. Implementation was during the COVID-19 pandemic yet reached high levels of coverage, and was linked with a reduction in reported malaria cases in MDA-targeted areas. Currently, the analysis of morbidity data and a retrospective mortality survey are ongoing.

Conflicts of interest

None declared.



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Trish Newport is the Deputy Program Manager for the MSF Operational Centre Geneva Emergency Desk. She has worked with MSF since 2008, in a wide range of contexts, doing a variety of positions including, nurse, medical team leader, project coordinator, medical coordinator, head of mission, emergency coordinator and intersectional representative.