

Malaria combination drug therapy for children

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Credit: CDC

A drug combination of artemisinin-naphthoquine should be considered for the treatment of children with uncomplicated malaria in settings where multiple parasite species cause malaria according to Tim Davis from University of Western Australia, Fremantle, Australia and colleagues in new research published in this week's *PLOS Medicine*.

Malaria is a mosquito-borne parasitic disease that kills approximately 600,000 people every year. Several different parasite species cause malaria and in some settings, such as Papua New Guinea, two species, *Plasmodium falciparum* and *Plasmodium vivax*, are responsible for the majority of malaria infections. However, the two species respond differently to currently available anti-malarial drugs.

The authors compared the current recommended therapy for uncomplicated malaria in children in Papua New Guinea, artemether-lumefantrine, with a different combination therapy, artemisinin-naphthoquine. Using a randomized, controlled trial study design including 186 children with *Plasmodium falciparum* infections and 47 children

with *Plasmodium vivax* infections, the researchers found that artemisinin-naphthoquine was non-inferior to (no worse than) artemether-lumefantrine for treating *Plasmodium falciparum* (a difference of 2.2% [95% confidence interval ?3.0% to 8.4%] for reappearance of infection within 42 days) but was more effective for treating *Plasmodium vivax* (a difference 70.0% [95% confidence interval 40.9%-87.2%] for reappearance of infection within 42 days).

The authors conclude, "[t]he efficacy, tolerability, and safety of three daily doses of artemisinin-naphthoquine suggest that this regimen should be considered together with other currently available effective [artemisinin combination therapies] for treatment of uncomplicated malaria in [Papua New Guinea] and similar epidemiologic settings with transmission of multiple *Plasmodium* species."

More information: Laman M, Moore BR, Benjamin JM, Yadi G, Bona C, et al. (2014) Artemisinin-Naphthoquine versus Artemether-Lumefantrine for Uncomplicated Malaria in Papua New Guinean Children: An Open-Label Randomized Trial. *PLoS Med* 11(12): e1001773. DOI: [10.1371/journal.pmed.1001773](https://doi.org/10.1371/journal.pmed.1001773)

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