

Research reveals extent of drug resistant vivax malaria

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New research into the extent and nature of drug resistant malaria is hoping to benefit the millions of people worldwide who suffer from the potential deadly disease.

In a study published in the prestigious medical journal, *The Lancet Infectious Diseases*, an international team of scientists and clinical researchers has systematically reviewed 129 clinical trials, involving 21,694 patients, to determine the global extent of reduced *Plasmodium vivax malaria* susceptibility to the frontline antimalarial treatment, chloroquine.

Vivax malaria causes over 200 million clinical infections a year, and is a major cause of morbidity and mortality in the Asia-Pacific region especially in young children. Chloroquine remains the first-line treatment for *vivax* malaria in most endemic countries in the general belief that it remains effective.

Lead author of the paper and Menzies senior research fellow, Professor Ric Price said the review highlighted that chloroquine resistance, although well recognised in *falciparum* malaria, has been significantly underappreciated in *vivax* malaria.

“*Plasmodium vivax* is fast becoming the predominant species of malaria outside of Africa – and there is now evidence of reduced susceptibility in most of these endemic areas,” Prof Price said.

“One of the greatest threats to malaria control and elimination efforts is the emergence and spread of antimalarial drug resistance.

“Menzies has taken a lead role, working with key partners in the Asia Pacific Malaria Elimination Network (APMEN) and the WorldWide Antimalarial Resistance Network (WWARN) to improve treatments that will ultimately eliminate malaria from the region.

“The power of such research collaborations will help support the optimisation of current antimalarial treatments, reduce the spread of antimalarial drug resistance, and save lives.”

Whilst the understanding of drug resistant *Plasmodium falciparum* parasites is quite well understood, the extent and nature of resistance in *vivax* parasites, is for the most part, unknown.

“One of the reasons for this is the difficulty in interpreting *vivax* clinical efficacy studies. Unlike *falciparum*, *vivax* forms hypnozoite liver stages that can lie dormant in the liver for many years before re-emerging,” Prof Price said.

“The study highlights a critical need for improved methods for monitoring drug resistance to inform antimalarial policy.”

Professor of Public Health at the University of Queensland, Professor Maxine Whittaker said that while Australia has been malaria free for decades, the threat is real and exists on our doorstep, across the Asia Pacific region.

“Australia plays a key role in supporting the regional efforts to eliminate malaria,” Professor Whittaker said.

“Australia needs to remain active in support the fight against malaria and the development of new treatments regimes to combat drug resistant malaria.”

The Lancet paper, *Global extent of chloroquine-resittant Plasmodium vivax: a systematic review and meta-analysis*, can be viewed here: [http://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(14\)70855-2/abstract](http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(14)70855-2/abstract)

The WWARN webpage on drug resistant P. vivax can be viewed here:
<http://www.wwarn.org/en/resistance/malaria/literature/chloroquine-resistant-plasmodium-vivax>

The APMEN webpage for Vivax Working Group can be viewed here:
<http://apmen.org/vivax/>

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Media note:

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Menzies Background:

Menzies School of Health Research is Australia's only Medical Research Institute dedicated to improving Indigenous health and wellbeing. We have a 28-year history of scientific discovery and public health achievement. Menzies works at the frontline, partnering with over 60 Indigenous communities across Northern and Central Australia. We collaborate to create resources, grow local skills and find enduring solutions to problems that matter.