

## Shorter malaria treatment proven as effective in treating seriously ill children as standard course

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(Medical Xpress) -- A shorter anti-malaria treatment is as effective in treating seriously ill children as the standard regimen, according to new research. Researchers have shown that three doses over two days of the drug artesunate are as effective in killing the malaria parasite in the blood as five doses over three days.

The findings could ensure children with severe malaria are more likely to complete their treatment, potentially saving lives. Reducing the number of doses could also significantly reduce the cost of administering drugs.

The study was conducted in sub-Saharan Africa and led by Professor Sanjeev Krishna at St George's, University of London and Professor Peter Kremsner at the University of Tübingen in Germany. The findings were published online today (16 December) in the *Journal of Infectious Diseases*.

The team studied 171 children aged between six months and 10 years old, all with severe malaria, in hospitals in Gabon and Malawi. The children were divided into two groups and treated with intravenously administered artesunate. One group was given the current World Health Organization-recommended regimen of five doses over 72 hours. The other group was given a slightly higher dose three times over 48 hours. All the children received the same overall quantity of artesunate.

The researchers measured how quickly the [drug](#) killed the malaria parasites in the blood. In all cases assessed, the parasite was killed swiftly. Seventy eight per cent of the three-dose group were almost clear of parasites in the blood within 24 hours of the start of treatment. This compares with 85 per cent of the five-dose group.

The results showed that three doses were similar to five doses in overall effectiveness of clearing parasites in the blood. After 48 hours, the average parasite reduction among the three-dose group was 99 per cent. In the five-dose group, parasite clearance in the blood was 100 per cent. Such levels will ensure the patient is out of immediate danger. At this point, a follow-up regimen of other anti-malarials can be used to clear remaining infection elsewhere in the body.

Malaria kills 800,000 around the world each year, with around 90 per cent in sub-Saharan Africa.

Professor Krishna said: "The five-dose regimen has been in place for a number of years, but the WHO's recommendations are based on large studies mainly looking at improvements in survival levels. We suggested there was a better, simpler way to administer this highly effective drug, so we looked at how the parasites actually respond to the treatment.

"Now we know the shorter treatment works as effectively, this could lead to very significant improvements in how we use artesunate. If you imagine a busy [malaria](#) ward in an African hospital with 30 seriously ill children all needing to be given their regular doses, the pressure on doctors and nurses means some children are very likely to miss doses. A shorter regimen would make this much less likely."

Professor Krishna estimated that, by reducing the extra vials of the drug, equipment and staff needed to administer the five-dose regimen, switching to three doses could reduce the cost in resource-poor settings

by 40 per cent.

He added that the next step in further improving treatment regimens is to explore different methods of administering by injection to reduce costs further and enhance efficiency.

**More information:** The paper can be read at [jid.oxfordjournals.org/content ... 4/infdis.jir724.full](http://jid.oxfordjournals.org/content...4/infdis.jir724.full)

Provided by St. George's University of London

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