

Combining insecticide sprays and bed nets 'no more effective' in cutting malaria

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There is no need to spray insecticide on walls for malaria control when people sleep under treated bed nets, according to new research.

Use of insecticide sprayed on internal [walls](#), when combined with insecticide-treated bed nets in homes, does not protect children from [malaria](#) any more effectively than using just insecticide-treated bed nets, the research led by Durham University and the Medical Research Council's Unit in The Gambia found.

The researchers said this was important as insecticide-treated nets and insecticide sprayed on walls are commonly used for controlling malaria and in many places both interventions are used together.

Malaria is spread by mosquitoes that bite inside houses at night time so scientists working in The Gambia looked to see if children sleeping in homes that had the walls sprayed with the insecticide DDT, and also slept under an insecticide treated bed net, were sick less often with malaria than those who just used a bed net.

The research, funded by the Medical Research Council (MRC), UK, is published today Tuesday, December 9, in *The Lancet*.

The study took place in 96 villages in The Gambia and 8,000 children were checked for malaria over two years.

At the end of the study there was no difference in the numbers of cases of malaria where the combination of spraying and nets was used compared with the use of bed nets alone.

Using mosquito traps in houses the researchers confirmed that insecticide sprayed on walls had no extra effect in repelling or killing mosquitoes.

As a result the researchers recommend that DDT,

or any other insecticide, is not used for spraying on walls in areas where there is high use of long-lasting insecticide nets and low to moderate numbers of malaria cases.

For the moment every effort should be made to make sure there is a higher use of bed nets, rather than on spraying insecticide on walls, the scientists said.

This will help keep costs down and increase the number of people who are protected, they added.

In 2010 and 2011, the Durham-led researchers monitored 8,000 children aged six months to 14 years, for signs of malaria. They found no difference between clinical episodes of malaria in children where bed nets were used to protect them against mosquitos when compared to children where bed nets were used in combination with DDT sprayed on walls.

As bed net use is high - at over 80 per cent - in this area of The Gambia, the researchers believe that concentrating resources on additional bed nets and encouraging the correct use of these in other areas, would be a more cost-effective solution to combatting malaria.

Professor Steve Lindsay, in the School of Biological and Biomedical Sciences, at Durham University, said: "There has been a gradual decline in malaria in The Gambia, linked to wider distribution of long-lasting insecticide treated bed nets."

"Our research looked at whether or not a combination of bed nets and spraying homes with [insecticide](#) could reduce further cases of malaria, but we found no evidence that this was a more effective method of combatting mosquitos than using treated [bed nets](#) on their own.

"Our advice is that high bed net coverage is sufficient to protect people against malaria in areas

of low or moderate transmission.

"However, where net coverage is low, the cost-effectiveness of additional control using indoor residual sprays such as DDT should be considered."

More information: *The Lancet*,
[www.thelancet.com/journals/lan ...](http://www.thelancet.com/journals/lan...)
[\(14\)61007-2/abstract](http://(14)61007-2/abstract)

Provided by Durham University

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