

# Children from the poorest families are twice as likely to contract malaria than the least poor

June 20 2013

---

The collaborative study, led by Durham University and the London School of Hygiene & Tropical Medicine, is published today in *The Lancet* and unusually brings together the health and development communities. Half the world's population is at risk from malaria. A review of studies from different locations across the world with risk factors for the disease showed clearly that in these impoverished communities, the risk of malaria was doubled in the poorest children compared with the least poor.

The team considered how aspects of development, such as improved house construction, could complement existing interventions such as insecticide-treated bednets or spraying insecticide on the walls of houses. Funding from the project came from the UK government's Department for International Development (DIFD). The team of researchers looked at the relationship between [malaria](#) and socio-economic status (SES) in children aged 15 and under.

A widely cited example suggests that a 10 per cent reduction in malaria is associated with 0.3 per cent growth in Gross Domestic Product in sub-Saharan Africa.\*\*

Steve Lindsay, Professor in the School of Biological and Biomedical Sciences, at Durham University said: "There has long been an association between poverty and malaria, but here we clearly

demonstrate that in impoverished communities it is the poorest who suffer most, irrespective of where they live in the world. The fact that the chances of contracting the disease are so much higher among the poorest of the poor compared with the least poor is really quite startling.

"Wealth is positively associated with other factors known to be beneficial in combating the disease, including better educated parents, greater quality of housing, better access to treated bednets and antimalarials and improved nutritional status of children. Malaria and poverty therefore constitute a vicious cycle for the poorest households, exacerbating variation in health and wealth."

Although there has been a significant reduction in the instances of the disease globally over the last ten years, malaria remains one of the most significant global public health problems. According to the World Health Organisation, there were about 219 million cases of malaria in 2010 and an estimated 660,000 deaths. Africa is the most affected continent: about 90 per cent of all malaria deaths occur there.

Professor Lindsay said: "Long-lasting insecticidal nets and indoor residual spraying are both highly efficient ways of reducing transmission quickly and, combined with anti-malarial drugs, are undoubtedly a major reason for the decline in malaria seen in sub-Saharan Africa. However, such pressure on mosquito and parasite populations has already led to the spread of resistant strains of mosquitos and malaria parasites.

"In addition, we are experiencing 'donor fatigue', due to the financial crisis in the West, which could create a grave risk of a resurgence of malaria. It is vitally important that we continue to control malaria with insecticide-treated bednets and indoor residual spraying, which can only be done with financial support from the West."

Lucy Tusting an Epidemiologist at the London School of Hygiene and

Tropical Medicine, said:

"Malaria and poverty have been closely associated throughout history and it was mainly development that caused the disease to disappear from Europe and North America in previous centuries. As Africa develops, the story is likely to be similar. However it is vital to maintain high use of insecticide-treated bednets, indoor residual spraying and effective antimalarial drugs.

"Many aspects of development can protect against malaria, such as better housing or land drainage. In Khartoum, Sudan, [malaria control](#) has focused on improving drainage in the city, repairing leaking water pipes and changing irrigation techniques to reduce standing water, at relatively low cost. Malaria control programs elsewhere could adopt similar policies."

Professor Richard Smith, Health Economist at the London School of Hygiene & Tropical Medicine, said:

"The analysis represents a comparison of the very poorest children with the least poor children within highly impoverished communities. The difference in the odds of malaria in the poorest children are likely to have been even greater if the studies were expanded to include children from wealthier homes."

The research also involved collaborators at the Institute of Development Studies in Brighton, and the National Malaria Control Program, Khartoum, Sudan.

The research team advocates that development programmes should be an essential component of malaria control. Increased wealth and improved standards of living directly stemming from socio-economic development could prove fundamental in ensuring that malaria transmission continues

to decline in much of Asia, South America and Africa, as witnessed historically in Europe and North America.

**More information:** \* Socio-economic status (SES) was indicated by 1) not owning defined household assets, 2) having relatively low household income, 3) a low score in an asset-based index of SES, constructed by principal components or factor analysis or 4) parents having an unskilled rather than an skilled occupation.

\*\*Gallup J, Sachs J. The economic burden of malaria. Am J Trop Med Hyg 2001; 85-96

Paper title: "Can socio-economic development be an effective 'intervention' against malaria? A systematic review and meta-analysis"

Provided by Durham University

Citation: Children from the poorest families are twice as likely to contract malaria than the least poor (2013, June 20) retrieved 5 May 2024 from <https://medicalxpress.com/news/2013-06-children-poorest-families-malaria-poor.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.