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### Articles

## Measles and atopy in Guinea-Bissau

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### Abstract

#### Summary

**Background** Epidemiological studies have led to speculation that infections in early childhood may prevent allergic sensitisation but evidence to support this hypothesis is lacking. We investigated whether measles infection protects against the development of atopy in children of Guinea-Bissau, West Africa.

**Methods** We conducted a historical cohort study in Bandim, a semi-rural district of Bissau, the capital of Guinea-Bissau. 395 young adults, first surveyed in 1978-80 aged 0-6 years, were followed up in 1994. Our analyses were restricted to 262 individuals still living in Bandim for whom a measles history, documented in childhood, was judged to be reliable. We defined atopy as skin-prick test positivity ( $\geq 3$  mm weal) to one or more of seven allergens.

**Findings** 17 (12.8%) of 133 participants who had had measles infection were atopic compared with 33 (25.6%) of 129 of those who had been vaccinated and not had measles (odds ratio, adjusted for potential confounding variables 0.36 [95% CI 0.17-0.78],  $p=0.01$ ). Participants who had been breastfed for more than a year were less likely to have a positive skin test to housedust mite. After adjustment for breastfeeding and other variables, measles infection was associated with a large reduction in the risk of skin-prick test positivity to housedust mite (odds ratio for *Dermatophagoides pteronyssinus* 0.20 [0.05-0.81],  $p=0.02$ ; *D farinae* 0.20 [0.06-0.71],  $p=0.01$ ).

**Interpretation** Measles infection may prevent the development of atopy in African children.

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