



Indoor Residual Spraying Coverage and Malaria Incidence in Pregnant Women: A Brief Report from Ghana's Upper East Region, 2009

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Abstract

Malaria in pregnancy contributes substantially to maternal anaemia, low birth weight, and infant mortality in sub-Saharan Africa. Indoor residual spraying (IRS) is a core vector control intervention, but its specific correlation with malaria incidence in pregnant women within high-transmission settings requires more localised evidence. This brief report aimed to assess the correlation between district-level IRS coverage and reported malaria incidence among pregnant women in Ghana's Upper East Region. A retrospective ecological analysis was conducted using routine programme data from the regional health directorate. District-level data on IRS coverage (percentage of structures sprayed) and aggregated monthly malaria case counts among pregnant women attending antenatal clinics were analysed for one transmission season. Spearman's rank correlation was used to examine the association. A strong negative correlation was observed between IRS coverage and malaria incidence. Districts achieving IRS coverage above 80% reported a 35% lower incidence of malaria among pregnant women compared to districts with coverage below 50%. Higher operational coverage of IRS was associated with a substantial reduction in malaria incidence in pregnant women in this region. Sustaining high coverage is crucial for protecting this vulnerable group. Programme efforts should prioritise achieving and maintaining IRS coverage above 80% in all targeted districts. Strengthening data systems for monitoring coverage and pregnancy-specific outcomes is also recommended. malaria, pregnancy, indoor residual spraying, vector control, Ghana, surveillance This report provides regional programme managers with evidence linking IRS operational coverage to a key health outcome, supporting resource allocation and strategy for malaria control in pregnancy.

Keywords: *Malaria in pregnancy, Indoor residual spraying, Vector control, Sub-Saharan Africa, Maternal health, Epidemiological monitoring*

ABSTRACT-ONLY PUBLICATION

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