

Title: Integrated malaria prevention in low- and middle-income countries: a systematic review

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Background: Integrated malaria prevention is an innovative approach that advocates the use of several malaria prevention measures in a holistic manner at households.

Objective: The aim of this systematic review was to collate and summarise evidence on integrated malaria prevention in low- and middle-income countries.

Methods: PubMed, Embase, Cochrane library, Scopus, Web of Science, CINAHL, Google Scholar, OpenGrey, ProQuest, ClinicalTrials. Gov, and PACTR registry were searched. Integrated malaria prevention was defined as the use of 2 or more malaria prevention methods at a household holistically. The primary outcome variable was occurrence of malaria, while the secondary outcome was presence of mosquitoes in houses.

Results: A total of 6,652 studies were identified. After screening titles, 1,468 studies remained and were screened at abstract level, and 137 articles were retained and screened at full text level. Sixty-three articles qualified to be reviewed. Interventions were generally combinations of two or three of these methods - insecticide treated nets (ITNs), indoor residual spraying (IRS), repellents, insecticide sprays, larvicides and house improvements. However, most studies combined two methods (especially ITNs and IRS; and ITN and repellents). Outcomes were also varied including malaria prevalence, malaria incidence, and mosquito presence/numbers. Overall, preliminary findings indicate that integrated malaria prevention was effective in reducing the occurrence of malaria and mosquito presence.

Conclusion: These results are expected to inform practice, policy and programming in malaria endemic countries, as well as the design of a proposed randomized controlled trial on integrated malaria prevention in Uganda.

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