

**Title: Prevalence of unqualified sources of antimalarial drug prescription for children under the age of five: A study in 19 low- and middle-income countries**

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**Abstract: Background** Antimalarial drug resistance poses a severe danger to global health. In Low- and Middle-Income Countries (LMICs), there is a lack of reliable information on antimalarial prescriptions for recent malarial fever in children under five. Our study aims to determine the prevalence of unqualified sources of antimalarial drug prescription for children under the age of five in 19 low- and middle-income countries.

**Methods** We performed a cross-sectional study of the Malaria Indicator Survey (MIS) datasets (n = 106265) across 19 LMICs. The recent MIS datasets were used, and the study only included children under five who had taken an antimalarial drug for a recent malarial fever. The outcome variable was classified into two distinct categories: those who had taken antimalarial drugs for malarial fever from qualified sources and those who did not.

**Findings** Among LMICs, we found that 87.1% of children under five received an antimalarial prescription from unqualified sources who had recently experienced malarial fever. In several LMICs (Tanzania, Nigeria, and Ghana), a substantial portion of recent antimalarial prescriptions for malaria was taken from unqualified sources (about 60%). Some LMICs (Guinea (31.8%), Mali (31.3%), Nigeria (20.4%), Kenya (2.6%), and Senegal (2.7%)) had low rates of antimalarial drug consumption even though children under five received a high percentage of antimalarial prescriptions from qualified sources for a recent malarial fever. Living in rural areas, having mothers with higher education, and having parents with more wealth were frequently taken antimalarial from qualified sources for recent malarial fever in children under five across the

**Key words:** Antimalarial drugs, Under-five children, Unqualified prescription sources, Low- and middle-income countries, Malaria treatment, Health care quality, Drug safety, Public health

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