Tracking malaria transmission at the antenatal clinic

The development of resistance to sulfadoxine-pyrimethamine is a threat to the effectiveness of intermittent preventive treatment for malaria during pregnancy (IPTp), especially in areas of east Africa where the A581G molecular marker denoting super-resistance is prevalent.1,2 As a result, alternative strategies for protection from malaria during pregnancy are being explored.3 One idea, intermittent screening and treatment during pregnancy (ISTp), involves a rapid diagnostic test (RDT) for the screening of women who present to antenatal clinics and use of highly effective artemisinin-based drugs to treat those with malaria parasitaemia.

As Anna Maria van Eijk and colleagues4 highlight in The Lancet Global Health, the inclusion of rapid diagnostic tests for malaria in to routine care at antenatal clinics could provide a valuable and extremely convenient source of information about local patterns in malaria transmission. Further, such a strategy has become feasible since the price of RDT has decreased sharply. However, for these data to be useful as a surveillance tool we must understand the relation between prevalence in pregnant women and the endemicity of infection in the general population, especially in children who are the most commonly sampled sentinels of infection and who bear most of the malaria burden.

This relationship will be complicated: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5

Pregnancy provides a second layer of complexity: the prevalence of malaria infection in non-pregnant adults is lower than that for children within the same setting,5 a finding probably related to the differing levels of immunity in the adult and child populations. Since immunity depends on previous exposure and also the longevity of infection,6,7 it will, then, vary with transmission intensity.5
at an antenatal clinic would receive presumptive treatment and benefit from decreased levels of exposure to malaria as a result.

Understanding how (or whether) the diagnosis of malaria infection in pregnancy can be of direct benefit to pregnant women, either in terms of safety, efficacy, effectiveness, or acceptability, of an intervention will be crucial in determining whether pregnant women at antenatal clinics are a viable resource for malaria surveillance.

Patrick G T Walker
MRC Centre for Outbreak Analysis and Modelling, Department of Infectious Disease Epidemiology, Imperial College London, London W2 1PG, UK
patrick.walker@imperial.ac.uk

PGTW is supported by a fellowship jointly funded by the UK Medical Research Council (MRC) and the UK Department for International Development (DFID) under the MRC/DFID Concordat agreement. The author declares no competing interests.

Copyright © Walker. Open Access article distributed under the terms of CC BY.


