

# Malaria in pregnant women: research, epidemiology, policy, and practice

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## FOREWORD

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Malaria in pregnant women contributes to maternal anaemia and increases the risk of low birthweight, which is the principle contributor to infant mortality. Initial observations of the problem of malaria in pregnancy were described in the 1930s (Wickramasuriya, 1937); the breadth of the impact was apparent by the 1950s (Archibald, 1956; Spitz, 1959) and 1960s (Jellife, 1968). By the 1980s, a broader description of the problem in sub-Saharan Africa was available (Brabin, 1983) and a clear and detailed description of the extent of the problem in a malaria-endemic setting was published (McGregor *et al.*, 1983). The work by McGregor and colleagues led to the beginning of a wider discussion of the problem of malaria in pregnancy and the subject was trumpeted at the American Society of Tropical Medicine and Hygiene, as the Soper Lecture in 1984 (McGregor, 1984). Subsequently, symposia on the topic have been held and the extent and diversity of the problems in a variety of malarious settings have been discussed. Recently, investigators from a variety of disciplines gathered in Kisumu, Kenya, to discuss the basic biology, pathophysiology, epidemiology and control opportunities for the problem of malaria in pregnant women (Phillips-Howard, 1999), and the current reports, from an informal gathering during the Second European Congress on Tropical Medicine in Liverpool in 1998, continue this process.

The articles in this supplement embrace the similarities and the differences across geography (Thailand, India, and sub-Saharan Africa) and across malarial parasites (*Plasmodium falciparum* and *P. vivax*). The articles also describe some of the current thinking on immunology, placentology, epidemiology, and

prevention and control programmes. The articles raise some of the many challenges and opportunities. With malaria control employing antimalarial drugs for treatment, chemoprophylaxis, or prevention with intermittent presumptive therapy, there comes the problem of drug resistance. As we enter the next millennium, chloroquine has little efficacy against falciparum malaria. Other drugs and drug combinations still have substantial efficacy in sub-Saharan Africa. However, as McGready and Nosten (1999) describe, multi-drug resistance in *P. falciparum* comes with the availability and use of new agents, and pregnant women will be no different in this respect to anyone else. Moreover, these other drugs and drug combinations may involve more complex delivery and are bound to be more expensive, sometimes beyond the affordable limits of individuals, rural communities, and governments in Africa.

The search for answers to the questions: 'why is the first pregnancy so susceptible to the infection and consequences of malaria?', and 'why are parasites more concentrated or sequestered in placental blood?' remains in the research realm. Currently, the answers are elusive and lack a clear link to a specific intervention strategy. In the interim, deployment of available interventions and possibly multiple interventions is the most obvious best option.

The papers are presented by researchers, and there is a call for a link between researchers and the people responsible for public-health interventions and prevention programmes—including the involvement of communities, the private sector, and other partners. Upon reading the papers, many of the gaps in our knowledge and in our ability to