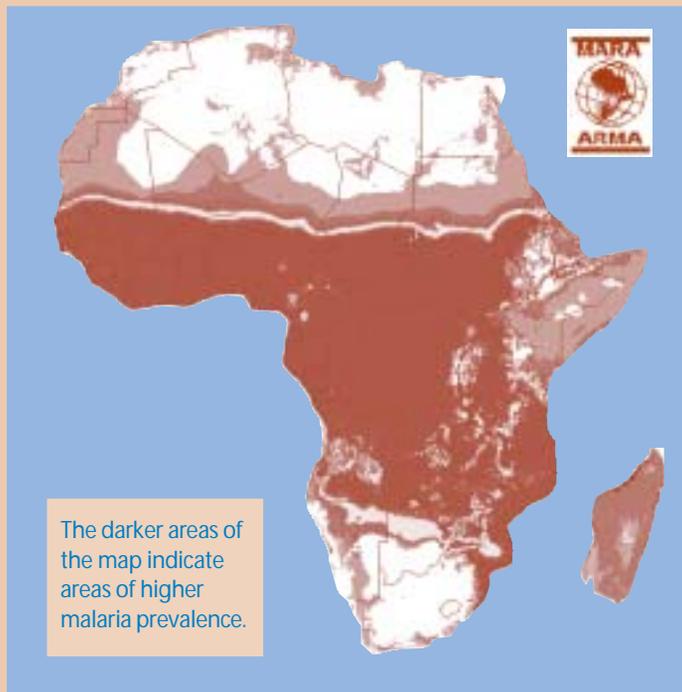


# Lives at Risk: Malaria in Pregnancy



# Wherever malaria exists, pregnant women are at risk



*In Africa, at least 24 million pregnancies are threatened by malaria each year. Less than 5% of pregnant women receive effective interventions. More than 60% of pregnant women in malarious areas visit antenatal clinics, which provides a good opportunity to manage malaria during pregnancy.*

## **Malaria during pregnancy is a risk to both mother and baby**

- For women...  
In particular, primigravid and HIV+ women are at greater risk for malaria and therefore anemia, severe malaria, and death.
- For infants...  
Placental infection leads to low birthweight, a major factor in infant illness and death.

**M**alaria in Africa is estimated to cause:

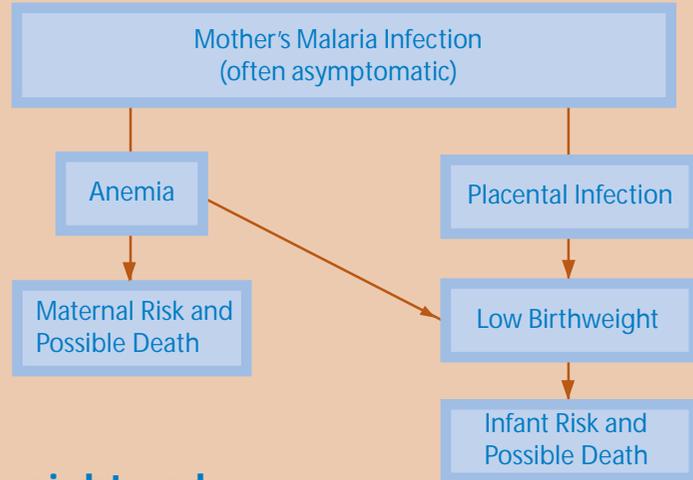
- 15% of maternal anemia; and
- 35% of preventable low birthweight

# The Risks of Malaria in Pregnancy

## Anemia

Malaria is a significant contributing factor to anemia. If severe, anemia puts women at an increased risk of death. Maternal anemia increases the risk of premature delivery and a low birthweight baby.

Whether maternal malaria immunity is high or low, a serious risk of maternal or infant death exists. When acquired maternal immunity is high, infection is often asymptomatic.



## Low Birthweight and Premature Delivery

Malaria infection of the placenta is a major contributor to low birthweight and premature delivery. Even if an infected mother does not have a fever, the baby may still be at risk.



## Increased Risk of Severe Malaria

Pregnancy reduces a woman's immunity to malaria, making her more susceptible to severe malaria than other adults. Treatment of acute malaria is more complicated in pregnancy.



# Programmatic Approaches for Malaria Control in Pregnancy

An integrated three-pronged approach is recommended to reduce the burden of malaria infection among all pregnant women and their babies.

## Intermittent Preventive Treatment (IPT)

All pregnant women in areas of stable *P. falciparum* malaria transmission, even without symptoms, should receive at least 2 doses of IPT after quickening (first noted fetal movement). To assure that women receive the appropriate doses, delivery of IPT may best be linked to routinely scheduled antenatal care visits. IPT can significantly reduce the negative consequences of malaria during pregnancy and is a safe, effective, deliverable, and cost-effective treatment. Currently, the drug of choice is sulfadoxine pyrimethamine (SP), but new drugs are being developed and tested and may also prove effective in the future.

## Insecticide-Treated Bednets (ITNs)

Sleeping under a treated bednet protects pregnant women and their babies from malaria. Ideally, all women of child-bearing age should sleep under treated bednets, protecting the child from the time of conception.

In Malawi, where IPT with SP has been the policy since 1993, a recent survey found that 75% of pregnant women had received at least one dose of the drug during pregnancy (30% received at least two doses). Women receiving SP during pregnancy had significantly lower rates of placental infection (reduced from 32% to 23%) and low birth-weight babies (a reduction from 23% to 10%). SP during pregnancy also reduced the rates of maternal anemia.

**Rogerson et al.**

*Trans R Soc Trop Med Hyg* 2000 Sep-Oct;94(5):549-53.

## Case Management of Malaria Illness

Pregnant women with symptomatic malaria are at higher risk for fetal loss, premature delivery, and death. Treatment of malaria during pregnancy aims to cure the infection. All women should be screened for anemia and managed accordingly.

# Take Action to Protect Pregnant Women from Malaria

**Policies:** Adopt and implement policies to prevent and manage malaria during pregnancy, including the provision of intermittent preventive treatment and insecticide-treated bednets through antenatal clinics and the prompt treatment of clinical malaria.

**Commodities:** Ensure availability and affordability of effective antimalarial drugs and insecticide-treated bednets. Work to reduce taxes and tariffs on necessary commodities: netting, insecticides, drugs, bednets, etc.

**Education:** Support efforts to raise awareness of malaria in pregnancy among different target populations, including maternal and reproductive health providers, HIV/AIDS counselors and program managers, community workers and peer counselors, and women and men in the community. Support efforts to raise awareness on the value of receiving antenatal care.

**Partnerships:** Build partnerships between maternal and newborn health services and malaria control programs, such as Making Pregnancy Safer and Roll Back Malaria.

At the Abuja Summit in 2001, 31 African heads of state resolved to provide effective malaria interventions to 60% of women by 2005.

## Programmatic Approaches

The high utilization of antenatal clinics and reproductive health clinic services by African women provides an opportunity to strengthen malaria prevention and treatment services in the clinic setting. In areas with low clinic coverage, community-based programs are a good entry point and a place to promote antenatal clinics.

## Cost-Effectiveness

IPT and ITNs are highly cost-effective interventions, approximately equal to measles vaccination.

In highly malarious western Kenya, women in their first four pregnancies who were protected by insecticide-treated bednets delivered 28% fewer low birthweight babies, compared with women who were not protected.

**ter Kuile et al.**

*Am J Trop Med Hyg* 2003 Apr;68(4 Suppl):50-60.

# Malaria in Pregnancy Resources

## Resources

*Strategic Framework for Malaria Control During Pregnancy in the WHO Africa Region.* World Health Organization. 2003.

*The Africa Malaria Report 2003.* World Health Organization and UNICEF. This report takes stock of the malaria situation and of continuing efforts to tackle the disease in Africa.

"The Burden of Malaria in Pregnancy in Malaria-endemic Areas" in *The American Journal of Tropical Medicine and Hygiene*, Vol. 64, Number 1-2, Supplement, January-February 2001. R. Steketee et al.

"Severe Falciparum Malaria" in *Transactions of the Royal Society of Tropical Medicine and Hygiene*, Vol. 94, Supplement 1, April 2000. ISSN 0035-9203. This supplement presents the latest recommendations on treatment of severe malaria, including treatment during pregnancy.

"Safety, efficacy and determinants of effectiveness of antimalarial drugs during pregnancy: implications for prevention programmes in Plasmodium falciparum-endemic sub-Saharan Africa" in *Tropical Medicine and International Health*, Vol. 8, No. 6, June 2003. R. Newman et al.

*Essential Care Practice Guide for Pregnancy, Childbirth and Newborn Care and Managing Complications in Pregnancy and Child Birth: A Guide for Midwives and Doctors.* Two IMPAC documents addressing health interventions to be provided during pregnancy, child birth and newborn care at all levels. ([www.who.int/reproductive-health](http://www.who.int/reproductive-health))

*Essential Health Sector Actions to Improve Maternal Nutrition in Africa.* Huffman SL, et al. LINKAGES project, Academy for Educational Development, 2001. This manual describes six actions, including actions against malaria, that health programs should implement to improve women's nutritional status. ([www.linkagesproject.org](http://www.linkagesproject.org))

*News to Save Lives: Approaches to Malaria and Pregnancy.* Malaria and Pregnancy Network, SARA project, Academy for Educational Development, 2001. This press kit gives journalists or policy makers unfamiliar with the research on malaria and pregnancy background information, African success stories in treating malaria during pregnancy, and sources for further information. (<http://sara.aed.org>)

*Malaria during Pregnancy Resource Package: Tools to Facilitate Policy Change and Implementation.* Maternal and Neonatal Health Program. A compilation of generic tools that can support national malaria and reproductive health program managers to implement their strategy on the prevention and control of malaria during pregnancy.

## Websites and other information sources

World Health Organization, [www.who.int/health-topics/malaria.htm](http://www.who.int/health-topics/malaria.htm)

UNICEF, [www.unicef.org/programme/health/mainmenu.html](http://www.unicef.org/programme/health/mainmenu.html)

Malaria Foundation, [www.malaria.org](http://www.malaria.org)

Malaria Consortium, [www.malariaconsortium.org](http://www.malariaconsortium.org)

Roll Back Malaria, [www.rbm.who.int](http://www.rbm.who.int), <http://mosquito.who.int>

Making Pregnancy Safer (MPR)/Reproductive Health and Research (RHR) website: [www.who.int/reproductive-health](http://www.who.int/reproductive-health)

**Roll Back Malaria  
Partnership Secretariat**  
World Health Organization  
20 Avenue Appia  
Geneva 1211, Switzerland  
e-mail: [bandaj@who.int](mailto:bandaj@who.int)

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