

The principal objective of the Ouagadougou urban health and equity initiative is to design and test strategies that reduce infant and child mortality among the urban poor. This note summarizes current knowledge on malaria in Burkina Faso, the leading cause of infant and child mortality in Ouagadougou and in the country as a whole.

Malaria is the leading cause of infant and child mortality

According to the National Malaria Control Programme¹ malaria accounts for 43% of outpatient consultations, 53% of admissions of children to hospital and 29% of deaths among children less than 5 years of age nationwide.

Research over the past two decades has documented that malaria is a top health problem in Ouagadougou as well as in rural areas of the country^{2,3,4,5,6,7,8}. Such research

has shown that in the capital of Burkina Faso, just as in rural areas, malaria is the leading cause of fever^{4,5} and probably the largest single

¹ Plan Stratégique pour la Lutte Contre le Paludisme au Burkina Faso, 2001 - 2005

² Rossi, P. *et al.* 1986 A longitudinal entomological survey on the transmission of malaria in Ouagadougou. *Parassitologia* 28(1): 1-15

³ Sabatinelli, G. *et al.* 1986. Prevalence of Malaria in Ouagadougou and the Surrounding Rural Environment During the Period of Maximal Transmission. *Parassitologia* 28(1):17-31

⁴ Coulibaly, C.O. *et al.* 1991. The role of Malaria in Febrile Diseases in the Urban Environment of Ouagadougou. *Ann. Soc. Belg. Med. Trop.* 71(1) : 5-10

⁵ Guigumde T.R. *et al.* 1991. Etude de la mortalité palustre dans le service de pédiatrie de l'hôpital de Ouagadougou. *Bull. Soc. Path. Ex.* 84 : 338-339

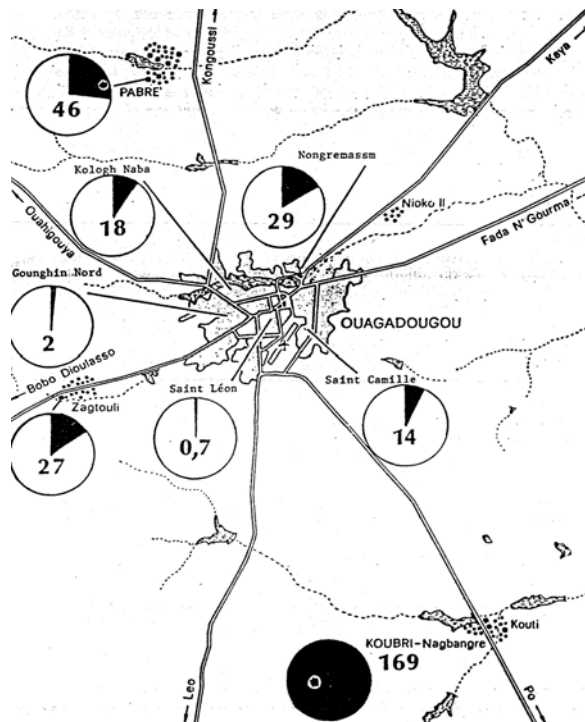
⁶ Sabatinelli, G. *et al.* 1996. Étude sur la dispersion d'*Anopheles gambiae* s.l. dans une zone urbaine de Ouagadougou (Burkina Faso). *Parassitologia* 28: 33-39.

⁷ Sanou I. *et al.* 1997 Formes cliniques du paludisme grave en milieu hospitalier pédiatrique de Ouagadougou. *Cahier Santé* 7; 13-17.

⁸ Modiano D. *et al.* 1999. Severe malaria in Burkina Faso : urban and rural environment. *Parassitologia* 41(1-3) : 251-4

cause of child mortality. However, urban malaria has a distinctive epidemiology and Ouagadougou is no exception.

Figure 1: Mean density of *Anopheles gambiae* resting inside homes in Ouagadougou and three proximate villages. Number in circle represents the number of FF/room, average captures in July-Aug-Sept 1984. Scale: 169FF/room=360°



Source: Rossi *et al.*, 1986

Urban malaria has a distinctive epidemiology and Ouagadougou is no exception

‘Widely different degrees of malaria transmission were documented in [Ouagadougou] mainly related to the spatial and temporal distribution of *Anopheles gambiae* larval breeding sites. Higher inoculation rates, depending both on higher vector densities and sporozoite rates, were documented in the villages.’² (see Figure 1)

Incidence of fatal malaria may increase where transmission falls

Ironically, while transmission of malaria may fall in core areas of the city, the incidence of severe

and fatal disease may increase in these same neighbourhoods. In one study

'The age distribution and the clinical patterns of severe malaria were compared in patients from urban areas characterized by relatively low transmission, and from rural areas where the mean inoculation rates are at least twenty fold higher. The mean age of the urban and rural patients was 4.8 +/- 3.0 and 2.2 +/- 1.9 respectively. The prevalence of coma was higher in the urban subsample (53.6 vs. 28.9%) while that of severe anemia was higher in rural patients (47.4 vs. 14.8%). Our data ... show that the epidemiological context influences the clinical presentation of severe malaria."⁸

It is notable that malaria remains such a great problem in cities where proper prevention and case management both at the household and clinic level are more feasible than in rural areas.

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Appropriate, affordable interventions exist but remain to be proven practical and effective against urban malaria

Research such as that carried out by CNRFP has documented the impact and acceptability in rural settings of Burkina Faso of Insecticide Treated Materials (ITMs)^{9,10,11} and pre-packaged chloroquine¹² to improve the home case management of simple malaria. In the next note we present these interventions as they have been tested in the rural African setting, and in Burkina in particular.

Bob Pond UERD
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⁹ Habluetzel A. *et al.* 1997. Do insecticide-treated curtains reduce all-cause child mortality in Burkina Faso? *Trop. Med. Int. Health* 2(9): 855-62

¹⁰ Habluetzel A. *et al.* 1999. Insecticide-treated curtains reduce the prevalence and intensity of malaria infection in Burkina Faso. *Trop. Med. Int. Health* 4(8): 557-64

¹¹ TDR news. February 2001. Do insecticide-treated materials merely delay childhood mortality? <http://www.who.int/tdr/publications/tdrnews/news/news64/bednet.htm>

¹² Sirima S.B. 2001. Pre-packaged antimalarials reduce progression to severe disease. TDR publications: <http://www.who.int/tdr/research/finalreps/no29.htm>

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