



Cross sectional malaria surveys in 2 villages on the Thai-Burmese Border

Khin Maung Lwin, Julien Zwang, and François Nosten*

Shoklo Malaria Research Unit

Wellcome Trust - Mahidol University, Oxford Tropical Medicine Research Programme



OBJECTIVE

- Determine the prevalence of *P.falciparum* (Pf) and *P.vivax* (Pv) in 2 villages in Myanmar close to Thailand
- Investigate the dynamics, and the demographical patterns of malaria
- Examine the changing in prevalence between dry and rainy season

RESULT

P. falciparum & *P. vivax*

- 1390 persons were screened
- Pf dry season prevalence rate = 2.5% ranging from 2% to 3%
- Pf rainy season prevalence = 2.4% ranging from 2% to 4%
 - Male adults (5%) were more at risk of Pf than adult women (2%)
 - male older for Pf 28y and 22y, and for Pv 17y and 13y
- Pv dry season = 10%, ranging from 6% to 17%
- Pv rainy season = 5% ranging from 5% to 7%
 - 5 - 14 y prevalence (9%) higher compared to the 0 to 4 age group (6%), and the adults: 7%
- All Pf / Pv ratios < 1

YEARLY COMPARISON

- *P. falciparum* halved in male
- *P. vivax* halved in female

PATIENT & METHOD

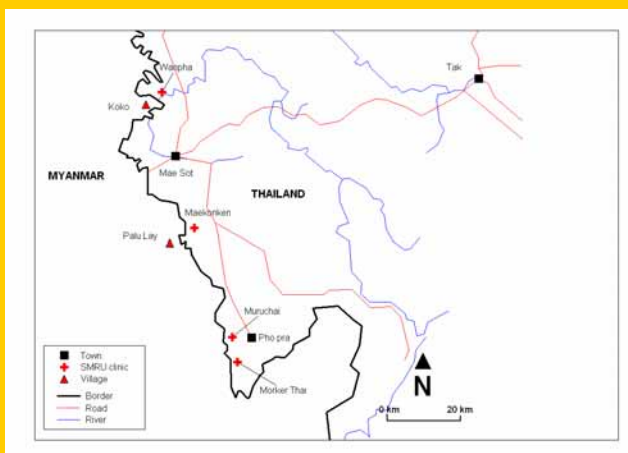
- Cross sectional surveys May and August 2006 in 4 Myanmar villages opposite Tak province (Fig. 1)
- Permission given by each village headman
- Prior to the surveys village census were conducted and the households were mapped
- In Palu Lay, the survey was exhaustive, in Koko a 100 households randomly selected
- Screening by malaria smear: all household occupants
- Age, sex, pregnancy status and history of fever were recorded
- People with fever or history of fever (last 2 days) also had a Paracheck®
- If positive: mefloquine-artesunate MAS3 treatment
- If negative: chloroquine treatment
- All positive smear results: home visitors back to the household for treatment within 2 days

MAP LOCATION & PICTURES

RIVER



SMEAR



PARACHECK RESULTS



SCREENING



CONCLUSION

- Rampant prevalence on the Myanmar side of the border
- Good malaria passive surveillance has decreased total malaria burden in particular :
 - *P. falciparum* in male - 50%
 - Pv in female - 50%
- No seasonal difference
- Malaria under control but risk of transmission of Pf due to migration from other areas of Myanmar
- Transmission of malaria in the permanent population is decreased by
 - good coverage for early diagnosis
 - early treatment with MAS3
- Pv gametocyte prevalence is higher than Pf

* Other contributors: Stephane Proux, Sakchai Krutsawatchai, Jerry Ramos, Naw Lily Khiricharon

SMRU is part of the Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand