**Abstracts of the 6th European Congress on Tropical Medicine and International Health and 1st Mediterranean Conference on Migration and Travel Health**

## 2.1-059

### Evaluating the impact of interventions on malaria trends in the Andean Region

*D. Vargas, A. Rosas, B. Pineda, K. Tobar and O. Feo
*Organismo Andino de Salud, Lima, Lima, Peru*

INTRODUCTION Since October 2005, the Malaria Control Programme in the Andean Region border areas (PAMAFRO) has implemented several control strategies using community approach on 23 departments in the region. These interventions have been supported by the Global Fund to fight AIDS, Tuberculosis and Malaria.

OBJECTIVES To assess the impact of specific interventions on malaria trends in the Andean Region border areas.

METHODS Number of cases data from 2005 to 2007 was collected using records of the Epidemiologic Units from each of the departments involved in the intervention. Information about interventions was collected from the PAMAFRO Monitoring and Evaluation Unit. The analysis was performed at locality level using IPA (Annual Parasite Index) and two different categories: (1) localities reducing the IPA from 2005 to 2007, and (2) localities not reducing the IPA in the same period. Logistic regression analysis was used to evaluate intervention associated with reduction in the number of malaria cases.

RESULTS A total of 3318 localities were included in the analysis. Of them, 1320 (39.8%) were included in the first aforementioned category. Variables independently associated with malaria reduction were: training of microscopy technicians (OR 0.69; 95%CI: 0.51–0.92), training of community health workers to implement malaria control projects (OR 0.76; 95%CI: 0.65–0.89), training of health workers in diagnosis, rapid diagnosis tests distribution (OR 0.68; 95%CI: 0.57–0.82), and distribution of long-lasting insecticide-impregnated mosquito nets (OR 0.57; 95%CI: 0.42–0.79).

CONCLUSION According to these results, several strategies have shown effect on reducing malaria trends in the Andean Region border area. Activities focused on training of microscopy technicians, community health workers and health workers are important, as well as rapid tests and insecticide-impregnated mosquito nets.

| Interventions | Model Bivariado OR (IC 95%) | p | Multivaried Model OR (IC 95%) |
|---|---|---|---|
| Point of new diagnosis | 0.24 (0.17 – 0.32) | <0.001 | 0.32 (0.23 – 0.45) |
| Training to microscopistas | 0.69 (0.54 – 0.88) | 0.003 | 0.69 (0.51 – 0.92) |
| Training in prevention and promotion to CHW | 0.88 (0.83 – 0.93) | <0.001 | |
| Training in diagnosis and treatment to CHW | 0.60 (0.53 – 0.67) | <0.001 | |
| Training in Community alertness to CHW | 0.88 (0.82 – 0.95) | <0.001 | |
| Training in community projects CHW | 0.54 (0.47 – 0.63) | <0.001 | 0.76 (0.65 – 0.89) |
| Training in community plans to CHW | 0.17 (0.07 – 0.40) | <0.001 | |
| Training in investigator to CHW | 0.16 (0.06 – 0.40) | <0.001 | |
| Training in prevention and promotion to HW | 0.76 (0.65 – 0.88) | <0.001 | |
| Training in diagnosis and treatment to HW | 0.93 (0.86 – 1.01) | 0.057 | 1.24 (1.05 – 1.45) |
| Training in Community alertness to HW | 0.78 (0.68 – 0.90) | 0.001 | 0.77 (0.63 – 0.96) |
| Training in community projects HW | 0.65 (0.53 – 0.79) | <0.001 | |
| Training in community plans to CHW | 0.72 (0.51 – 1.02) | 0.061 | |
| Training in investigator to HW | 0.79 (0.56 – 1.11) | 0.181 | |
| Artesunato | 0.65 (0.54 – 0.78) | <0.001 | |
| Mefloquina | 0.58 (0.49 – 0.69) | <0.001 | |
| Test Rapid Diagnosis | 0.40 (0.34 – 0.46) | <0.001 | 0.68 (0.57 – 0.82) |
| ITN | 0.30 (0.22 – 0.40) | <0.001 | 0.57 (0.42 – 0.79) |

* CHW: Community Health Worker
HW: Health Workers
ITN: Insecticide-treated mosquito nets

## 2.1-060

### Malaria Prevention during the rainy season reduces mortality in severely ill Tuberculosis patients: data from an hospital setting in Guinea Bissau

R. Colombati[1], C. Silva Vieira[2] and *F. Riccardi[3]
[1]*University of Padova, Department of Paediatrics, Padova, Italy*[2]*National Reference Hospital for Tuberculosis, Bissau, Guinea-Bissau*[3]*University Tor Vergata, Department of Public Health and Cell Biology, Roma, Italy*

OBJECTIVE The increase of TB infection in Africa and the rise of TB mortality due to the combined effect of HIV and Malaria on TB pattern, demonstrate that new integrated models of care, accessible to the majority of the affected population are needed. TB Reference Hospitals can be the sites of integrated and free models of care for severely ill patients. The Hospital Raoul Follereau (RHF) is the National Reference Center for Tuberculosis in Guinea Bissau; it was completely destroyed after the 1998 civil war and re-opened to the public in 2004. Outpatient and inpatient diagnostic and treatment services are provided without charge. Admitted patients are usually in advanced stage of TB infection and arrive to the hospital in very severe clinical conditions. 2005 analysis of mortality pattern had shown a high death/discharge rate during the rainy season, compared to the dry season. Due to the high burden of malaria in Guinea Bissau during the rainy season, a two-step intervention was designed to reduce malaria infection and malaria related mortality in admitted TB patients.

METHODS Since 2006 environmental prevention with permethrin was performed in the 7500 sqm grass garden of the hospital every month during the rainy season (June-October). In 2007 cotrimoxazole prophylaxis with a single daily administration of 1 tablet of Trimethoprim 80 mg/Sulfamethoxazole 400 mg was added to the environmental prevention from June to October. Permethrin treated bed nets were given to every patient during all three years. Considered outcomes were death or discharge.

RESULTS Significant increase of discharges vs. deaths was observed from 2005 to 2007 (Fig.1) with an even more significant ($P = 0.00001$) drop in rainy season mortality, expressed as death/discharge rate (Fig.2). Major clinical characteristics were similar in the three groups of patients as shown in Table 1. The percentages of deaths during the first week of admission, and therefore not influenced by malaria prophylaxis, were also similar during the three years.