

# A new approach to deliver malaria prevention interventions to pregnant women at a community level in Uganda

Anthony K. Mbonye

This PhD dissertation was accepted by the Faculty of Health Sciences, Copenhagen University, DBL-Institute for Health research and development, Charlottenlund, Denmark, and defended on October 6, 2006

Official opponents: Wen Kilama, Åse Bengård Andersen and Vibeke Rasch

Tutors: Pascal Magnussen and Ib Bygbjerg

Correspondence: Anthony K. Mbonye, Assistant Commissioner Health services, Reproductive Health Division, Department of Community Health, Ministry of Health, P.O BOX 7272 Kampala, Uganda.

E-mail: vpadmn@infocom.co.ug

Dan Med Bull 2006;53:460

## ABSTRACT

Malaria in pregnancy contributes greatly to maternal morbidity and mortality in sub-Saharan Africa. The effects of malaria are more pronounced among primigravidae and secundigravidae and WHO recommends that pregnant women in malaria endemic countries receive regular chemoprophylaxis or intermittent preventive treatment (IPT). Studies conducted in Kenya and Malawi have shown that IPT with SP given twice during pregnancy can reduce malaria episodes, severe anaemia and improve birth weight. Low utilisation of health services like antenatal care (ANC) in Uganda limits access to malaria prevention in pregnancy and has been attributed to cost of services and long distances to health units.

The objective of the study was to assess community based approaches for delivering IPT with SP to pregnant women in a rural area. The study included traditional birth attendants (TBAs), community reproductive health workers (CRHWs), adolescent peer mobilisers (APMs) and drug-shop vendors (DSVs). Primary outcome measures were: proportion of adolescents and primigravidae reached; gestational age at recruitment, adherence to two doses of SP, effect on anaemia, parasitaemia and low birth weight and cost-effectiveness of the new approaches.

2,785 pregnant women participated in the study. 92.4% of those using the new approaches got IPT during the second trimester vs. 76.1% at health units,  $p < 0.0001$ . At the new approaches 67.5% received two doses of SP vs. 39.9% at health units,  $p < 0.0001$ . Health units accessed more primigravidae, and adolescents than the new approach. IPT reduced the prevalence of severe anaemia from 5.7% to 3.1%,  $p < 0.04$  and parasitaemia from 24.5% to 16.3%,  $p < 0.001$ . The proportion of low birth weight was 8.3% at health units vs. 6.0% at the new approaches,  $p < 0.03$ .

Women using the new approaches incurred less costs to access ANC (US\$ 1.7) compared to US\$ 2.4 at health units. The cost per anaemic episode averted was US\$ 36.7 at health units vs. US\$ 53.9 at the new approaches. Cost per parasitaemia episode averted was US\$ 52.8 at health units compared to US\$ 95.3 at the new approaches. The second dose of SP had less impact on parasitaemia at all approaches leading to high cost-effective ratios; while the incremental cost per low birth weight baby averted by the new approach was US\$ 38.

The new approaches were well accepted (89.1% of women intended to use IPT during next pregnancy and 48.0% had recom-

mended it to other women). Factors that influenced acceptability were: awareness of dangers of malaria in pregnancy, perceived better health using SP and trusted resource persons.

The new approaches were effective in increasing access and adherence to IPT with an effect on anaemia, parasitaemia and low birth weight. Perceptions on SP, ITNs and malaria treatment seeking behaviour were used in designing the intervention study. Trust of patients in providers was found to encourage necessary behavioural changes.

The findings could be used to review the current policy on malaria prevention in pregnancy. An integrated system linking the new approaches with health units is recommended. Issues like staffing, training and drug supplies will have to be addressed and policy decisions to be guided by criteria such as: cost-effectiveness and involvement of the community resource persons in health promotion activities.