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**Effectiveness of Transfluthrin-Coated Inflammable-Fumes Insecticide-Paper (Rambo™) in the prevention of malaria in Kano, Nigeria**

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**Background:** A 15-months community Randomized Controlled Trial was conducted with the aim of assessing effectiveness of Transfluthrin-Coated Inflammable-Fumes Insecticide-Paper (TCIP) [Rambo™] on indoor mosquitoes and malaria.

**Methods & Materials:** The study was conducted in two communities, Panshekara and Danbare, Kano, Nigeria randomly selected as intervention and control respectively. 150 households (HHDs) were systematically selected in each of the two and their doors and windows were 'netted' with mesh-wire. In the intervention community there were 'netted-alone' and 'netted + TCIP' administered HHDs. Participants were allowed use of Insecticide-Treated-Mosquito-Nets. Additional 20 HHDs were randomly selected within the two communities as internal controls and were neither 'netted' nor administered TCIP. Fever, blood film microscopy for malaria parasite, haematocrit and entomological indices (indoor mosquito collection and determination of species at breeding sites) were conducted quarterly. Pyrethrum Spray Collection (PSC) technique was used to collect adult mosquitos monthly from rooms in both communities. Main malaria vector species were identified using molecular techniques (PCR). ELISA was used to identify circumsporozoite protein (CSP) of *Plasmodium falciparum*.

**Results:** A total 2565 persons were studied in Panshekara (1208) and Danbare (1357). There was declining trend in malaria through 4 quarters in Panshekara compared to baseline ( $\chi^2$ -trend,  $p=0.02$ ) and slight reduction in proportion with anaemia. In Panshekara, a total of 1592 *Culex* species were collected out of which 911 (57.2%) were from the internal control, 440 (27.6%) were from the screened 'netted' and 241 (15.1%) from 'netted + TCIP' treated HHDs. 396 Anopheline malaria vectors were collected out of which 339, 27 and 30 were from the control, 'netted' and 'netted + TCIP' treated sites respectively. In comparison to the baseline pre-netting phase, wire netting alone provided 51% protection against the nuisance of *Culex* mosquitoes, while netting plus TCIP provided 73% protection against *Culex* mosquitoes. The main malaria vectors species were *An. gambiae* s.s and *An. arabiensis* but *An. funestus* could not be analysed further. CSP of *P. falciparum* were seen in all the 3 vector species.

**Conclusion:** Very slight reduction in malaria and anaemia was observed. Protection conferred by TCIP was modest against *Culex* spp but small against the malaria vectors. TCIP complimented

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**Prevalence of malaria as a co-infection among HIV sero-positive individuals: A case study of individuals attending anti-retroviral treatment (ART) clinic at Holy Family hospital-Techiman in Ghana**

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**Background:** Malaria and HIV are two of the most common infections in sub-Saharan Africa and, to a lesser extent, in other developing countries. The determination of malaria and HIV co-infection rate is important because there are hypotheses and even study reports on the possible association between the two infections. This study was therefore carried out at Holy Family Hospital – Techiman between November 2011 and January 2012 with the main objective of determine the prevalence of malaria among HIV sero-positive patients attending anti-retroviral treatment clinic of the hospital.

**Methods & Materials:** The study design was cross sectional, restricted to randomly selected HIV sero-positive patients attending anti-retroviral treatment clinic of the hospital. All participants were sampled using participant leaflet and consent forms. A total of 400 HIV sero-positive patients between aged 1 year 8 months and 73 years were included in the study. Of these 292 (73%) were females and the rest 108 (27%) were males. A questionnaire was administered and 2mls of venous blood sample was drawn for detection of malaria parasite, estimation of CD4 count and haemoglobin level.

**Results:** The study revealed that 47 (11.75%) patients were slide positive for malaria parasite. There was no statistically significant difference in the prevalence rate for females (12.1%) and males (10.2%),  $P=0.6047$ . An overall prevalence of 67% (268 out of 400) anemia was observed in this study. The prevalence of anemia among the study participants who had malaria was 93.6% (44 out of 47). All patients studied had a CD4 cell count ranging from 3 – 1604 Cells/ $\mu$ l. The mean CD4 cell count of the patients was 386.2 ( $\pm 274.3$ ) Cells/ $\mu$ l. All patients with malaria infection had CD4 cell count ranging from 3 Cells/ $\mu$ l to 512 Cells/ $\mu$ l with mean CD4 cell count of 186.33 ( $\pm 133.49$ ) Cells/ $\mu$ l.

**Conclusion:** It is necessary in a malaria endemic area that routine malaria screening be adopted as part of the management policy to check HIV and malaria co-infection since only tuberculosis (TB) and hepatitis B virus are presently screen for.

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