

### Polymerase Chain Reaction and Mosquito Dissection as Tools to Monitor Filarial Infection Levels Following Mass Treatment in Gampaha District, Sri Lanka

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**Background:** Mass Drug Administration (MDA)-based Global Lymphatic filariasis (Lf) eradication programmes are aimed at stopping transmission of *Wuchereria bancrofti* by its mosquito vector. The study was designed to compare one year post treatment (mass distribution of Diethylcarbamazine-Albendazole) infection rates of *Wuchereria bancrofti* in *Culex quinquifaciatus*, the main vector of Lf in Sri Lanka using Conventional dissection techniques and a Polymerase Chain Reaction (PCR) assay based on parasite specific *Ssp1* repeat which amplifies a fragment of 188 bp.

**Methods:** Field study was conducted in 45 sites in all Medical Officer of Health (MOH) areas in the Gampaha district, Sri Lanka; identified by the Anti Filariasis Campaign (AFC) as having high-risk for bancroftian filariasis transmission. Indoor-resting mosquitoes were collected by aspiration from 20 houses per each site. Part of the mosquitos were used for dissection and the remainder was used for PCR to detect the filarial parasites in mosquito.

**Results:** Mosquito dissection data revealed 42.22% (19/45) of the sites were infested with mosquitoes positive for *Wuchereria bancrofti*, indicating 8 transmission active MOH areas (53.33%; 8/15). An infection rate of 5.26% was observed among the mosquitoes caught from households and the larval density was 8.7 per positive mosquito. PCR investigation revealed that 46.67% (21/45) of the sites were positive for *W. bancrofti* DNA, indicating 11 transmission active areas (73.33%; 11/15). The PCR was found to be more sensitive compared to microscopy in detecting the filarial parasite in field collected mosquito samples with respect to the MOH areas.

**Conclusion:** The PCR technique employed offers scope for detection of the filarial parasites with higher sensitivity and specificity; is efficient and rapid. This technique applied for the first time in Sri Lanka, can be adopted as a diagnostic tool for the detection of filarial parasites in the vector population in surveillance to enable effective control of filariasis in the country.

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### Condom Use Varies with Age and Partner Types Among High Risk Heterosexual Men in Hong Kong

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**Background:** Monitoring the trend of practice of safer sex in high risk population is an important element contributing to assessment of the overall risk for HIV and STI spread in a locality. Hong Kong public STI clinics provide free STI management to local residents. The profile of attendees provides a convenient platform to track the sexual risk pattern.

**Methods:** An annual survey of all new attendees at the public STI clinics was conducted during November from 2000 to 2005. The nurse-administered survey included questions on demographics and risk behaviours. Only male heterosexual attendees were included. Data on age, ethnicity, frequency of condom use with commercial sex workers and non-commercial sex workers in previous 3-month period were collected for analysis.

**Results:** There were 6272 heterosexual male attendees from 2000 to 2005. Over 95% were Chinese and median age 40. Ninety-percent reported ever visited a commercial sex worker, 72% visited in previous 1 year and 61% in previous 3 month period. The proportions of always, usually (>50%), sometimes (≤50%), never using a condom during commercial sex in the preceding 3 months were: 44%, 27%, 9% and 20% respectively. Two-thirds reported having regular sex partners in the preceding three months, and only 21% and 18% reported always and often use of condoms with these partners. Proportion of men practiced regular (always or usually) condom use with commercial sex workers was less among those below 20, and the rapidly decreased among men after 40 years of age. A similar trend was observed for condom use with non-commercial sex partners (Graphs 1 and 2).

**Conclusion:** The younger and older men are less likely to practice safer sex. Only one in four men over 40 regularly used condoms with non-commercial sex partners. Condom use varies significantly with age and partner types among high risk heterosexual men in Hong Kong.

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