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Risk factors of malaria infection among rubber tappers living in the area of malaria control program in Prachuab Khiri Khan province in Southern Thailand

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Background: Enhanced by monsoon climate, Thailand is the world's top producer of natural rubber, especially in the Southern part. The routine life of rubber tappers starting from mid-night to shear the rubber trees. This tapping time was found coexisting with feeding habit of *An. maculatus* and *An. minimus*, the two commonly found malaria primary vectors in the South of Thailand. This study investigates the association between rubber tapper behaviors and malaria infection as reported in the notified disease surveillance system during the year 2010 in Prachuab Khiri Khan province, where Insecticide-treated net (ITN) and Long-lasting insecticidal net (LLIN) are freely distributed and Indoor residual spraying (IRS) is operated annually.

Methods: Random sample of 394 rubber tapper households were interviewed during October 2010 to May 2011. Poisson regression was used to identify potential characteristics associated with malaria episode within tapper households. Multilevel Poisson regression was used to test simultaneous effect of rubber tapper behaviours and household risk with malaria infection.

Results: Of 394 rubber tapper households, twenty-six (6.6%) had at least one family member age 18 years old and above experienced malaria infection in 2010. The estimated rate ratio (IRR) of having malaria among households that own farming huts was 2.9 (95% CI = 1.1–7.3; $p < 0.05$) after controlling for other individual and household characteristics.

Conclusion: In area where control programs are in place, malaria infection among rubber tappers is still common. Given a daily exposed to mosquito bite at multiple locations i.e. house and farming hut in rubber plantation, the rubber tappers are at occupational risk to malaria.

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Screening of prisoners for Human Immunodeficiency Virus (HIV), Hepatitis C (HCV) and B (HBV) in Punjab Province, Pakistan, 2009

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Background: The Chief Justice of Pakistan ordered screening of all prisoners across the country for HBV, HCV and HIV in April, 2009 due to the increased risk of infectious diseases in this population. This study therefore was conducted to assess the prevalence of these infections among prisoners in Punjab jails and develop control strategies.

Methods: A cross sectional study was conducted in collaboration with District Health Quarters and Teaching hospitals to screen all consenting prisoners confined in 32 prisons of Punjab from May 2009 to July 2010. HIV, HCV and HBV were tested by ELISA from serum samples.

Results: 16.64% of prisoners were positive for at least one of the infections. A total of 43,043 prisoners (consent rate: 86%) were screened for HIV, HCV and HBV. 97.4% were males. The mean age was 33 years for both males and females (range: 9 – 100 years). Among males, 5,487 (13.1%) were positive for HCV, 1,600 (3.8%) for HBV, and 336 (0.8%) for HIV. Among females, 178 (16%) were positive for HCV, 33 (3.1%) for HBV, and 11 (1%) for HIV.

Conclusion: Prevalence of HCV, HBV and HIV in prison population is substantially higher than the general population. Average annual turnover of Punjab prisons is 250,000 and this study estimated that approximately 41,600 prisoners infected with one of these diseases are being annually released without counseling and treatment. The National Judicial (Policy Making) Committee, in 2011, based on the study findings then notified mandatory screening of each prisoner at the time of entry. Infected prisoners will not be able to donate blood, and contagious prisoners will be segregated until adequately treated.

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