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KEY WORDS : MALARIA / *PLASMODIUM FALCIPARUM* / RISK / FACTORS / RE-INFECTION

CHETTHA SOUDPRAKHON: RISK FACTORS OF FALCIPARUM RE-INFECTION IN MALARIA PATIENTS IN UM-PHANG DISTRICT, TAK PROVINCE, ALONG THE THAI-MYANMAR BORDER. THESIS ADVISORS: WICHAI TECHASATHIT, M.D., M.P.H. (Epid), KRONGTHONG THIMASARN, M.D. M.P.H.&TM., WITTHAYA SWADDIWUDHIPONG M.D., M.Sc. (Epid.) 69p. ISBN 974-664-952-3.

A case-control study on risk factors of acquiring re-infection of falciparum malaria was carried out in Um-phang District, Tak Province between March 1999-January 2000. The objectives were to identify potential risk factors on demographic, social, environmental and behavioral aspects involving acquisition of several episodes of falciparum malaria. Data were obtained by interview using a structured questionnaire. The questionnaire was developed, pre-tested and supervised by a senior epidemiologist.

Comparing between the study group (*i.e.* falciparum re-infection patients) and the control group (*i.e.* falciparum new-infection patients), results showed that gender, age, occupation, education level, and racial distributions were similar and did not relate with risk of acquiring multiple falciparum infections. The factors related with the probability of acquiring multiple falciparum infections with statistical significant at 95% confidence interval of univariate analysis were: condition of house-wall (OR = 2.19, 95% CI = 1.11-4.35), terrain around the house (OR = 2.82, 95% CI = 1.04-7.88), and condition of mosquito nets (OR = 3.40, 95% CI = 1.30-9.14). Following the multiple regression equation analysis, the condition of mosquito net is strongly associated with the probability of falciparum re-infection (OR = 2.74, 95% CI = 1.04-5.65).

In conclusion, the people in Um-phang district should use good material to build of their houses. They should live far away from potential mosquito-breeding places. More importantly, the good mosquito net is necessary to prevent re-infection of falciparum malaria in this population.