

KEY WORD: COST/EFFECTIVENESS/MALARIA

CHAWEEVAN KITTISUKSUNTORN : A COMPARISON OF COST EFFECTIVENESS  
FOR DETECTING PLASMODIUM FALCIPARUM MALARIA BY THICK BLOOD FILM,  
ELISA AND QBC. THESIS ADVISOR : PROF. SOMKID KAEWSONTHI, SURANG  
TANPRADIST, M.D. 82 PP. ISBN 974-583-499-8

This study aims to provide an analysis of operating costs and a comparison of cost-effectiveness of malaria case detection and detection of Plasmodium falciparum malaria using the three methods; TBF, ELISA and QBC. The study was a cross sectional study using both primary and secondary data. Primary and secondary data were collected from patients attended malaria clinic at Tambon Huaykhayang, Amphur Thong pha phum, Kanchanaburi Province during November 1992 to February 1993 where a pilot study of the Malaria Division on the effectiveness of TBF, ELISA and QBC was implemented.

This report presented a comparison of total costs of malaria case detection at field level using the three methods. Aggregate costs per blood slide examined, reflected costs incurred by provider and costs incurred by patients as a result of false positive (FP) and false negative (FN) cases. The effectiveness of case detection of each of the three methods were the measurement of cases detected by each method against a 'target standard'. The 'target standard' was developed from 3 year statistics of effective slides examined by TBF in the study area. The TBF was used to develop 'target standard' because the method was world wide approved by malariologists and used by the Malaria Division.

It was found that more than 90% of cost incurred by provider (internal direct costs) were labour cost and material cost. Aggregate cost per blood slide examined by TBF, ELISA and QBC were 10.73, 42.72 and 51.24 Baths respectively. Cost incurred by patients as a result of FP and FN in detection of malaria cases depend upon the number of FP and FN from each method. Case detection using ELISA and QBC have more FP and FN than TBF. The proportion of false positive slides (FP) using TBF:ELISA:QBC were 1:20:59. Proportion of false negative slides (FN) using TBF:ELISA:QBC were 1:7:3. The results of high FP and FN rate raised important questions concerning reliability of the three methods and should be considered by malariologists for further study to confirm the reliability of each method.

In the study of cost-effectiveness in malaria case detection using TBF, ELISA and QBC, it was found that cost per percentage effectiveness in the detection of malaria case using TBF is much less than that of QBC and ELISA; 129.63, 780.18 and 1052.63 Baths respectively. Cost per percentage effectiveness in detection of Plasmodium falciparum malaria by TBF is also much less than ELISA and QBC; 122.48, 772.88 and 832.78 Baths respectively.