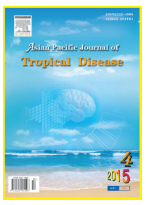
HOSTED BY
ELSEVIER

Contents lists available at ScienceDirect

Asian Pacific Journal of Tropical Disease

journal homepage: www.elsevier.com/locate/apjtd



Document heading doi: 10.1016/S2222-1808(14)60783-0

Treatment seeking behaviour and prevalence of treatment delay among malaria patients along Thailand-Myanmar border in Tak province

Krit Sonkong[1,2], Pornnapa Suggaravetsiri[3]*, Sunisa Chaiklieng[4]

[1]*Faculty of Public Health, Khon Kaen University, Thailand*

[2]*Tak Provincial Health Office, Tak Province, Thailand*

[3]*Department of Epidemiology, Faculty of Public Health, Khon Kaen University, Thailand*

[4]*Department of Environmental Health Science, Faculty of Public Health, Khon Kaen University, Thailand*

PEER REVIEW

Peer reviewer

Dr.Penny Neave, Department of Public Health. Faculty of Health and Environmental Sciences, Auckland University of Technology, New Zealand.
Tel:09 921 9999-7769
Email:pneave@aut.ac.nz

Comments

The paper is interesting and the methods used are valid and well presented. It contains useful public health messages and could contribute to reducing the incidence of malaria.
Details on Page 282

ABSTRACT

Objective: To investigate treatment seeking behaviour and the prevalence of treatment delay of malaria patients.
Methods: A cross-sectional study was conducted with malaria patients along the Thailand-Myanmar border in Tak province, Thailand.
Results: Most of patients (70.0%) were treated for fever before receiving treatment at a malaria clinic or public hospital. The sources of initial treatments were self-treatment (64.0%), malaria clinics (20.0%), public hospital (11.0%), sub-district health promotion hospital (3.3%), and malaria posts (1.1%). Prevalence of patients delayed more than one day after onset of symptoms was 79.4%, but doctor delay of more than one day occurred in only 1.3%. The prevalence of treatment delay (total delay) of more than one day was 79.6%. Patient delay and treatment delay were found to be significantly higher among hill tribe than Thai subjects (P=0.004 and 0.003, respectively) but, there was no significant association between ethnicity and doctor delay (P=0.669).
Conclusion: Patient delay in seeking treatment is a major problem along the Thailand-Myanmar border in Tak province, especially in hill tribe people. Self-treatment accounted for most of initial treatment sought by patients.

KEYWORDS
Treatment seeking behaviour, Prevalence, Self-treatment, Patient delay, Doctor delay, Treatment delay

1. Introduction

Malaria remains a serious illness, 300-500 million cases of illness and more than one million deaths occur each year worldwide[1]. Cases of malaria with the majority (85%) occurr in the African region, 10% in South-East Asia and 4% in the Eastern Mediterranean region[2]. In addition to its impacts on health, malaria has continued to be responsible for weakening the economies of many countries and worsening their cycles of poverty[3].

Malaria is a significant problem in Thailand, where there are more than 10 000 cases each year. A particular concern is Tak

*Corresponding author: Pornnapa Suggaravetsiri, Department of Epidemiology, Faculty of Public Health, Khon Kaen University 40002, Thailand.
Tel: +6643347057-42871
E-mail: porsug@kku.ac.th
Foundation Project: Supported by Graduate Research Fund, Khon Kaen University (Grant No.54222105).

Article history:
Received 25 Aug 2014
Received in revised form 29 Aug, 12 Sep 2014
Accepted 13 Oct 2014
Available online 6 Feb 2015

province, which is adjacent to the border with Myanmar, because people migrating across the border are causing an increase in transmission of malaria between the two countries[4]. Between 2008 and 2010, the prevalence of malaria in Tak has been higher than that in any other parts of Thailand[4-6]. The diverse ethnicities of people residing in this area, especially hill tribe people were vulnerable of high risk of infection .

Inappropriate treatment seeking behaviour and self-treatment prior to visiting health facilities were the main causes of progressing of disease and death[7,8]. The treatment seeking behaviour of people, especially following the onset of fever, a common symptom of malaria, is important for the effective case management and control of malaria[8,9]. Early diagnosis and prompt treatment are the control strategies for decreasing transmission and the prevention of complications[10,11] because diagnostic and treatment delays are major causes of complications and death[11,12]. A delay in treating *Plasmodium falciparum* (*P. falciparum*) malaria is especially serious because severe complication may occur within a few hours, and cerebral malaria is the most severe complication of *P. falciparum* infection occurring in patients and cause of death[10]. Early diagnosis and prompt treatment are part of effective disease management[10]. For appropriate case management, diagnosis and prompt treatment should happen within 24 h after the onset of symptoms[10]. Previous studies have provided very little information about the prevalence of treatment delay in the area of Tak province. The purpose of the present study was to investigate treatment seeking behaviour and the prevalence of treatment delay in malaria patients along the Thailand-Myanmar border in Tak province. The findings are expected to assist in the development of potentially more effective strategies to combat malaria in this area.

2. Materials and methods

A cross-sectional study was conducted to investigate treatment seeking behaviour and the prevalence of treatment delay in malaria patients along the Thailand-Myanmar border in Tak province. The study site consisted of the five districts with a high prevalence of malaria along the Thailand-Myanmar border in Tak province: Mae Sot, Phop Phra, Umphang, Mae Ramat and Tha Song Yang (Figure 1).

The subjects were patients with malaria who had received laboratory-confirmed diagnosis of malaria as shown by the presence of all species of the *Plasmodium* parasite by thick blood film. They were treated in 11 malaria clinics and 5 public hospitals between January 2011, and December 2011. The inclusion criteria included Thai nationality, residence in one of the five districts and age of more than 15 years. The exclusion criteria included change of permanent residence and psychosis. The subjects were selected by stratified random sampling from the malaria clinics and public hospitals. Data were collected from the patients by the use of a structured interview questionnaire and also from their medical records. The data obtained in these ways consisted of information about demographic characteristics, treatment seeking behaviour, species of infecting parasite, date of onset of symptoms, date of seeking treatment at malaria clinics or public hospitals, and date of diagnosis and initiation of treatment.

Early diagnosis and treatment was defined as when treatment was initiated within 24 h after the onset of symptoms[10]. Patient delay was the time elapsing between the onset of symptoms and seeking treatment at a malaria clinic or public hospital when this was more

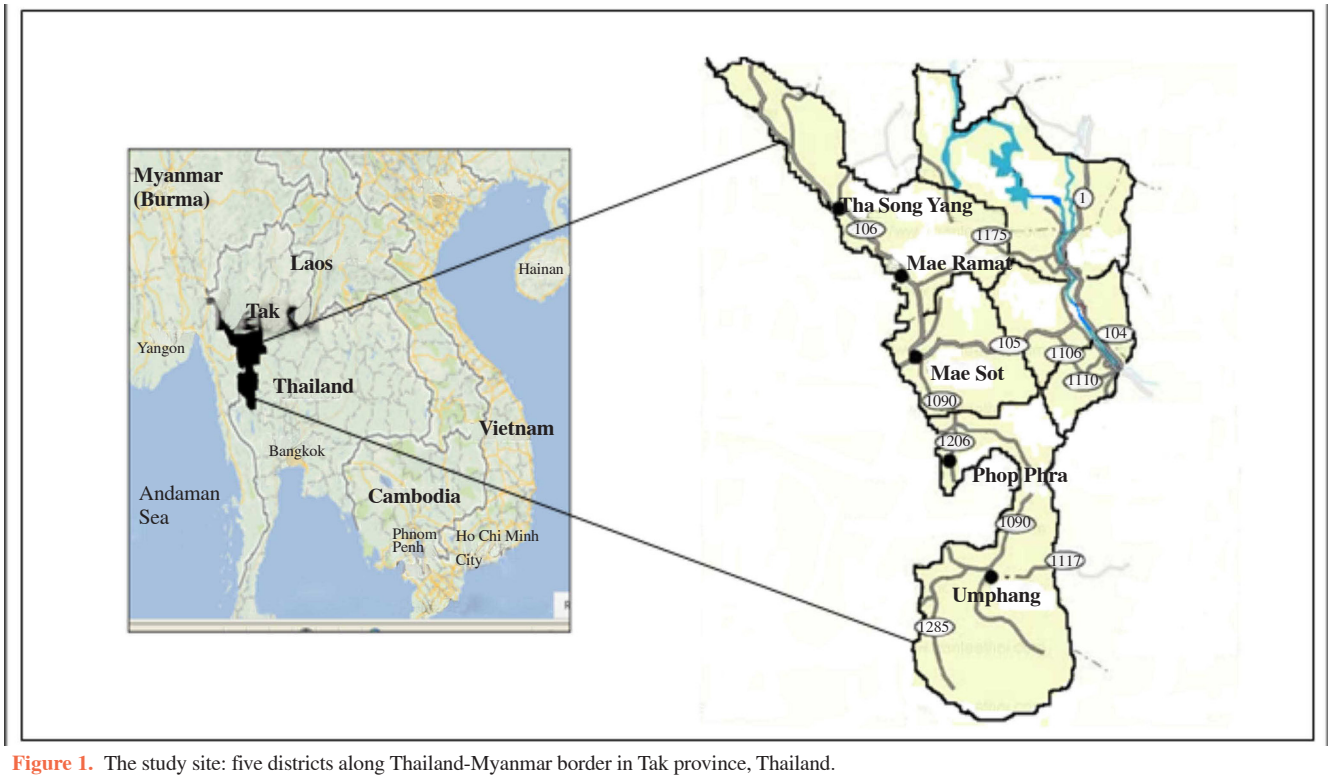


Figure 1. The study site: five districts along Thailand-Myanmar border in Tak province, Thailand.