

KNOWLEDGE, ATTITUDES, PRACTICES, AND SELF-TREATMENT OF SICK INTERNATIONAL TRAVELERS REGARDING COMMUNICABLE AND NON-COMMUNICABLE DISEASES

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ABSTRACT

Introduction: A number of international travelers has been increasing every year. Even careful prevention, some travelers developed illness. The objectives of this study were to assess the prevalence of self-treatment and describe knowledge, attitudes, and practices (KAP) of sick international travelers.

Methods: Sick international travelers visited at the Hospital for Tropical Diseases and the Queen Saovabha Memorial Institute during 2016 to 2017 were invited to participate and complete a questionnaire regarding demographic data, self-treatment, knowledge, attitudes, and practices. Data was analyzed using SPSS statistics software version 18.

Results: Three hundred twenty-two sick international travelers were enrolled and eligible for analysis. The majority of participants was Asian (64.9%). The common health problems were tropical infection (32%) and rabies post-exposure prophylaxis (18.3%). The prevalence of self-treatment before visiting medical service was 37%. The percentage of self-treatment was highest in the travelers presenting with upper respiratory tract infection (65.6%). According to the health-seeking behavior, 24.8% sought pre-travel advice, 30.4% bought travel health insurance. The mean knowledge score was 62.3% ±19.9% and the mean attitude score was 78.7% ±31.9%. Only 24.8% of travelers sought for pre-travel advice, 36.3% brought standby medication and 30.4% had travel health insurance.

Conclusions: Thirty-seven percent of sick international travelers tried to treat themselves before visiting medical service. The average knowledge and attitude scores were quite high. Even though the travelers had good knowledge and attitude, the practice was still low.

Keywords: knowledge, attitudes, practice, self-treatment, sick international travelers

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INTRODUCTION

International travel has become more popular over decades. Thailand is one of the most popular destinations for visiting. Low-cost airlines have had come a long way and become more popular among modern-travelers. The number of international travelers has continued to increase significantly, estimated from 541 million in 1995 to 1,161 million in 2014 (World Tourism

Organization, 2016) (Figure 1). Bangkok, the capital city of Thailand, was the world's number one tourist destination in 2013 due to many reasons such as crystal blue beaches, great spicy food, kind people, and low cost of living (Watts, 2013). Despite the large numbers of foreigners who stay in or travel to Thailand every year, relatively little is known about their knowledge, their awareness of risk, or how well they take care themselves before they go to a hospital when they get sick. Furthermore, there was a lot of data published on knowledge, attitudes and practice in order to analyze the KAP in international travelers to many global destinations (Van et al., 2003; Hamer and Connor, 2004; Toovey et al., 2004; Van et al., 2004; Zimmermann et al., 2013; McGuinness et al., 2015). Nevertheless, there is limited information about foreigners who get sick during their traveling. This study aims to assess the prevalence of self-treatment and describe knowledge, attitudes, and practices (KAP) of sick international travelers.

MATERIALS AND METHODS

We conducted a prospective, questionnaire-based study. The target populations were sick international travelers and sick foreigners in Thailand during 2016 - 2017. The inclusion criteria

were sick international travelers or sick foreigners, age at least 18 years old, and visited to the Hospital for Tropical Diseases or Immunization and Travel Clinic at the Queen Saovabha Memorial Institute. The participants were given the information regarding the research study and asked for an informed consent. Then, they were asked to fill the questionnaire. All participants were followed up by email or telephone at 1-6 weeks after the enrollment. According to data from the Hospital for Tropical Diseases between July and August 2016, around 14% of sick travelers had self-treatment before visiting the hospital. This data was used for calculation of sample size using n4studies application. The sample size calculation was at least 320 to achieve 95% confidence interval. Data was analyzed using SPSS statistics software version 18. This study was approved by the Ethic Committee of the Faculty of Tropical Diseases, Mahidol University (Ethic approval number:TMEC 16-092).

RESULTS

Three hundred twenty-two sick international travelers were enrolled and eligible for analysis. The majority of participants was from Asia (64.9%), followed by Europe (17.1%) and North America (12.4%). Most of participants were

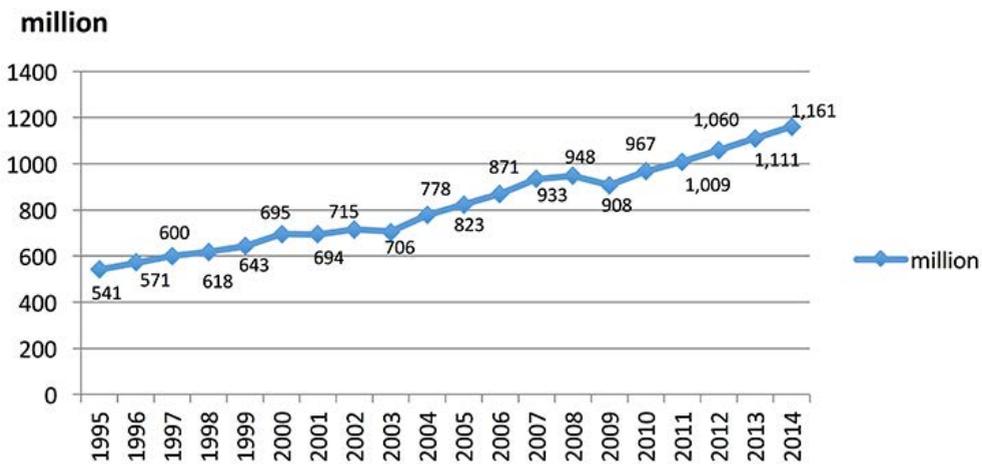


Fig 1- International tourism, number of arrivals around the world between 1995 and 2014 (World Tourism Organization, 2016)

university graduates (60.2%) (Table 1). The most common health problems were tropical infection (32%) and rabies post-exposure prophylaxis (18.3%) (Table 2).

According to treatment behavior, 37% tried self-treatment before visiting medical service. The

percentage of self-treatment was highest in the travelers presenting with upper respiratory tract infection (65.6%) followed by lower respiratory tract infection (58.3%). The lowest self-treatment group was found in the participants bitten by mammals (1.7%) (Table 3).

Table 1 Demographic data

Demographic data	Sick international travelers (N=322)
Age (mean±SD)	33.1±12
Sex	
Male	154 (47.8%)
Female	168 (52.2%)
Graduate	194 (60.2%)
Immigrant/Expatriate*	131 (40.7%)
Country of origin	
- Asia	209 (64.9%)
- Europe	55 (17.1%)
- North America	40 (12.4%)
- Australia	7 (2.2%)
- Eurasia	4 (1.2%)
- South America	4 (1.2%)
- Africa	3 (0.9%)

*Excluded T-westerner group = 44

Table 2 Diagnosis of sick international travelers

Group of diagnosis	Sick international travelers (N = 322)
Tropical infection	103 (32%)
Diarrhea	29 (9%)
Upper respiratory tract infection	32 (9.9%)
Lower respiratory tract infection	12 (3.7%)
Urinary tract infection	6 (1.9%)
Viral infection	15 (4.7%)
Skin problems	16 (5%)
Parasitic infection	12 (3.7%)
Dyspepsia	10 (3.1%)
Trauma	5 (1.6%)
Rabies post-exposure prophylaxis	59 (18.3%)
Other complaints	23 (7.1%)

According to KAP score assessment, the participants answered 12 tick-box questions. The average knowledge score was 62.3 ±19.9% and average attitude score was 78.7 ±31.9% (Table 4)

Even though the travelers had good attitudes towards pre-travel advice seeking and vaccination, only 24.8% did seek pre-travel advice. Just 36.3% of sick travelers carried medications for their inevitable sickness, and only 30.4% had travel health insurance (Table 5).

DISCUSSION

Best to our knowledge, this is the first prospective questionnaire-based study that focus on self-treatment of sick international travelers. According to treatment behavior, 37% of sick

international travelers tried to treat themselves before visiting medical service. This finding was higher from a previous study done in backpackers traveling to Thailand (24.1% tried to take their own medication) (Mansuangan et al, 2016). A factor that may impact to the results may be resulting from a difference of studied sites. In this study, we enrolled only sick international travelers at medical services which had more symptoms and needed management, while the previous study enrolled participants in a community (Khao San Road area) with any health problems.

The highest percentage of self-treatment was found in the group of participants with upper respiratory tract infection (65.6%), followed by lower respiratory tract infection (58.3%). The

Table 3 Prevalence of self-treatment*

Diagnosis	Number of participants with self-treatment (*)
Overall	119/322 (37%)
Tropical infection	51/103 (49.5%)
Diarrhea	14/29 (48.3%)
Upper respiratory tract infection	21/32 (65.6%)
Lower respiratory tract infection	7/12 (58.3%)
Urinary tract infection	2/6 (33.3%)
Viral infection	7/15 (46.7%)
Skin problems	6/16 (37.5%)
Parasitic infection	3/12 (25%)
Dyspepsia	1/10 (10%)
Trauma	1/5 (20%)
Rabies post-exposure prophylaxis	1/59 (1.7%)
Other complaints	5/23 (21.7%)

*The percentage of self-treatment was calculated within a group in each disease category

Table 4 Knowledge and attitude assessment

Evaluation	Score
Knowledge (%), mean±SD	62.3 ±19.9
Attitude (%), mean±SD	78.7 ±31.9

Table 5 Practice assessment

Practice	Total
Sought pre-travel advice	80 (24.8%)
Brought standby medications	117 (36.3%)
Classification of standby medications	
Malaria pill	20 (6.2%)
ATB	42 (13%)
Anti-diarrhea	58 (18.1%)
Other drugs	66 (20.5%)
Brought travel insurance	98 (30.4%)

lowest percentage of self-treatment group was found in the participants got bitten by mammals (1.7%). These finding may be explained by those with respiratory tract symptoms usually tried to treat themselves with antihistamine or nasal decongestant before seeking medical center. In contrast, persons got bitten by mammals usually did first aid care such as cleaning the wound and required appropriate health care treatment. So, most of them needed to visit medical center for rabies post-exposure prophylaxis and they did not need to take any medications before visiting the hospital.

Surprisingly, most travelers (62%) did not know whether all areas in Thailand were endemic area for malaria or not. They overestimated the risk of malaria in Thailand and the result was in contrast with a previous study of knowledge, attitudes, and practices on prevention of infectious diseases. Van et al. (2003) found that 25% of travelers visiting malaria endemic areas in Africa perceived their risk as low, and 11% thought they were not at risk. The reason for over estimation of malaria risk was unknown. It may be a perspective of some international travelers who thought that malaria risk could occur in all areas in the tropical countries.

Even though most participants had good attitudes towards pre-travel advice seeking and vaccination, the percentage of travels consulting a doctor before or received vaccines before traveling were still low. In a questionnaire, we did not ask

the reasons not visiting a doctor or receiving vaccines, however these may be resulting from several reasons. Firstly, pre-travel clinic may be hard to find in some countries such as developing countries. Secondly, travelers visiting to non-tropical industrialized countries may think there was no need for pre-travel advice. Lastly, visiting a doctor for pre-travel advice and buying travel health insurance are expensive in some countries. In conclusion, travel medicine education and health awareness should be promoted to minimized the risk of international travelers' illness.

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