



EXPLORING THE HISTORY OF PRE-TRAVEL HEALTH CONSULTATION REGARDING DENGUE FEVER MANAGEMENT AMONG FOREIGN TOURIST PATIENTS AT PRIMARY CLINIC IN BALI, INDONESIA

Ni Komang Ari Wahyuni^{1*}, Made Ririn Sri Wulandari², Ni Komang Purwaningsih³

^{1*} Sekolah Tinggi Ilmu Kesehatan Bina Usada, Bali, Indonesia
komangari1997@email.com

² Sekolah Tinggi Ilmu Kesehatan Bina Usada, Bali, Indonesia

³ Sekolah Tinggi Ilmu Kesehatan Bina Usada, Bali, Indonesia

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Abstract

Background – Knowledge of dengue fever management is highly beneficial for travelers, including foreign tourists. Tourists with good knowledge of dengue fever are expected to be able to maintain their health during travel. The implementation of a Pre-Travel Health Consultation program is one of the efforts that can be undertaken to improve traveler's knowledge and to prepare them for safe and healthy travel.

Objectives – This study aimed to exploring the history of pre-travel health consultation regarding the dengue fever management among foreign tourist patients at Primary Clinic.

Methods – This study employed a cross-sectional design with a sample size of 69 respondents selected through purposive sampling based on inclusion and exclusion criteria. The research instrument used was a questionnaire. Data were analyzed using the univariate analysis to determine the history of pre-travel health consultation regarding the dengue fever management.

Results – The results showed that the majority of patients, 42 (60.9%), had previously participated in pre-travel health consultation, and 46 (66.7%) patients had a good level of knowledge regarding dengue fever management.

Conclusion – This study is expected to serve as a reference for educational purposes in developing evidence-based nursing, particularly regarding pre-travel health consultation and the level of knowledge of dengue fever management among foreign tourists.

Keywords: Dengue Fever Management Knowledge, Pre-Travel Health Consultation, Foreign Tourists

Abstrak

Latar Belakang – Pengetahuan mengenai manajemen *dengue fever* sangat bermanfaat bagi para pelaku perjalanan wisata termasuk pada wisatawan asing. Wisatawan dengan pengetahuan yang baik mengenai *dengue fever* diharapkan dapat menjaga kesehatannya selama perjalanan wisata. Penerapan program *Pre-Travel Health Consultation* merupakan salah satu dari berbagai upaya yang dapat dilakukan guna meningkatkan pengetahuan wisatawan dan mempersiapkan wisatawan untuk perjalanan yang aman dan sehat.

Tujuan – Tujuan penelitian ini adalah untuk mengetahui hubungan riwayat *pre-travel health consultation* dengan pengetahuan manajemen *dengue fever* pada pasien wisatawan asing di Klinik Pratama, Bali, Indonesia.

Metode – Penelitian ini menggunakan desain *Cross Sectional* dengan sampel berjumlah 69 orang yang dipilih melalui teknik *Purposive Sampling* dengan menggunakan kriteria inklusi dan eksklusi. Instrumen penelitian yang digunakan adalah berupa lembar kuesioner. Data dianalisis menggunakan uji statistic deskriptif untuk mengetahui riwayat *pre travel health consultation* terkait pengetahuan manajemen *dengue fever*.

Hasil – Hasil uji penelitian menunjukkan sebagian besar atau 42 (60,9%) pasien pernah mengikuti kegiatan *pre travel health consultation* dan 46 (66,7%) pasien memiliki tingkat pengetahuan mengenai manajemen *dengue fever* yang baik.

Kesimpulan – Penelitian ini diharapkan dapat dijadikan sumber referensi bagi pendidikan untuk mengembangkan *evidence-based nursing* khususnya mengenai *pre-travel health consultation* dan kaitannya terhadap tingkat pengetahuan mengenai manajemen *dengue fever* pada wisatawan asing.

Kata Kunci: *Pengetahuan Manajemen Dengue Fever, Pre-Travel Health Consultation, Wisatawan Asing*

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INTRODUCTION

Traveling is one of the activities most favored by the general public. The Centers for Disease Control and Prevention (CDC) states that travel motivations vary depending on traveler's purposes, including business, adventure, education, leisure, and many other reasons (Cash-Goldwasser & Barry, 2018). Tourist destinations also vary and represent a crucial aspect that must be planned when individuals intend to travel. Some travelers even tend to choose destinations that offer attractive phenomena or unique experiences (Korzeniewski, 2017).

Indonesia is one of the most popular tourist destinations worldwide. Korzeniewski (2020) stated that each year, 50 million people travel from

industrialized countries to tropical regions. The number of international tourists visiting Indonesia has increased significantly. According to Badan Pusat Statistik Indonesia (2018), through its report *International Visitor Arrivals to Indonesia by Port of Entry* for the years 2013–2017, the total number of tourists visiting Indonesia was 8.8 million in 2013 and increased to 14 million in 2017. Furthermore, in 2019, international tourist arrivals reached 16.11 million visits, an increase of 1.88% compared to 2018, which recorded 15.81 million visits (Statistics Indonesia, 2020). Bali, as one of the most popular main destinations, recorded 3.2 million arrivals in 2013 and experienced a significant increase to 5.6 million arrivals in 2017 (Badan Pusat Statistik Indonesia, 2018).

As a tropical country, Indonesia is exposed to infections caused by various disease vectors, one of which is mosquito-borne diseases (MBD). Data from the International Association for Medical Assistance to Travelers (IAMAT) for Indonesia indicate that mosquito-transmitted diseases include malaria, chikungunya, lymphatic filariasis, Zika, and dengue fever (IAMAT, 2020).

Bali, as part of the Indonesian archipelago also classified as an area endemic for dengue disease. Dengue is caused by infection with the dengue virus, transmitted by *Aedes aegypti* and *Aedes albopictus* mosquitoes. Bali is also among the five provinces with the highest incidence of dengue in Indonesia (Kementerian Kesehatan Republik Indonesia, 2020). Previous studies showed that the incidence of dengue hemorrhagic fever (DHF) per 100,000 population in Bali Province from 2012 to 2017 was consecutively 65.5; 174.5; 210.2; 259.1; 483; and 105 (Yudhastuti & Lusno, 2020).

The increasing number of dengue fever cases can be influenced by several factors. Tourists' level of knowledge and individual behavior regarding mosquito-borne diseases also play an important role in dengue cases. According to Lawrence Green's theory, health behavior is influenced by several factors, one of which is knowledge (Hubley et al., 2021). Tourists with good knowledge of travel health are expected to be able to maintain their health during travel or tourism activities. Previous studies have also shown that although most travelers are well educated, many have poor perceptions and practices regarding travel health in maintaining their own health during travel (El-Ghitany et al., 2018). Limited knowledge leads to suboptimal behaviors related to dengue prevention among tourists. In addition, many travelers are still unaware of preventive methodologies to reduce dengue cases, one of

which is pre-travel health consultation (Wilder-Smith, 2018). Pre-travel health consultation prepares travelers for safe and healthy journeys by providing destination-specific education, immunizations, and medications for chemoprophylaxis or self-treatment. This consultation also provides a valuable opportunity to update routine medications related to travel health (Goodyer, 2019; Patel, 2019).

PTHC is a central element of travel medicine practice (Hatz & Chen, 2019). These encounters are time-limited contacts that require an efficient approach to maximize their usefulness in delivering preventive advice to prospective travelers. The outcomes of pre-travel consultations may be influenced by traveler engagement and the extent to which healthcare providers recognize travelers' personal health priorities (Flaherty et al., 2017; Savage et al., 2018). Pre-travel health consultation provides an opportunity to assess and reduce the risk of disease and injury among travelers (Hatz & Chen, 2019).

Previous studies have been published regarding the importance of pre-travel health consultation. Pre-travel consultations have been associated with lower rates of foodborne illness (Tan et al., 2018). Khan et al. (2016) stated that pre-travel consultation may be beneficial for travelers by educating them on various topics such as food and water precautions, destination-specific vaccinations, and self-management of dengue among travelers.

A preliminary study was previously conducted involving 10 foreign tourists who visited a primary clinic and found that 7 of them stated they did not know how to manage dengue if it occurred. In addition, based on interview results, 8 out of 10 foreign tourists reported that they had never been exposed to information regarding endemic diseases in Indonesia, particularly dengue in Bali. Furthermore, the interviews revealed that these eight individuals had no prior experience participating in PTHC before departing for Bali. Based on the above background, the researchers were interested in conducting a study on the exploration of the history of PTHC regarding dengue fever management among foreign tourist patients in Bali.

METHODS

This study employed a quantitative research method with a correlational research design and a cross-sectional approach. The population in this study consisted of 220 foreign tourist patients over the past three months. Sampling was conducted using a purposive sampling method based

on inclusion and exclusion criteria, resulting in a total of 69 respondents. The study must undertaken ethical review as stated by Yanti et al. (2024). This study conducted after obtaining ethical clearance from the Ethics Committee of Sekolah Tinggi Ilmu Kesehatan Bina Usaha Bali. The data collection was employed using Questionnaire and the data analysed by univariate analysis.

RESULT AND DISCUSSION

In this study, it was found that the majority of foreign tourist patients were male, and most of them came from the United Kingdom, as presented in Table 1. Table 2 shows the results of the identification of the history of participation in Pre-Travel Health Consultation among foreign tourist patients at Prima Primary Clinic, and Table 3 indicates that the majority of patients (66.7%) had good knowledge of dengue fever management.

Table 1. Demographic Characteristic of Foreign Tourist Patients

Variables	n=44	%
Ages (Mean ± SD, Min – Max)	(33.93 ± 9,72, 16 - 55)	
Gender		
Male	42	60,9
Female	27	39,1
Level of Education		
Junior High School	2	2,9
Senior High School	15	21,7
University	52	75,4
Occupation		
Not Working	2	2,9
Private Sector	3	4,3
Civil Employee	4	5,8
Private Employee	42	60,9
Others	18	26,1
Length of Stay in Bali (Median ± IQR, Min-Max)	(7,00 ± 8, 1 - 84)	
Nationality		
Australia	6	8,7
Austria	1	1,4
Belgia	1	1,4
Brazil	2	2,9
British	12	17,4
Bulgaria	1	1,4
Canada	3	4,3
China	1	1,4
Costa Rica	1	1,4
Danish	1	1,4
Estonia	1	1,4

Finland	1	1,4
France	1	1,4
Germany	3	4,3
Italian	1	1,4
Korea Selatan	1	1,4
Mexican	1	1,4
Netherlands	2	2,9
New Zealand	3	4,3
Norway	2	2,9
Russian	5	7,2
Serbia	2	2,9
Singapore	1	1,4
South Africa	3	4,3
Sweden	2	2,9
Ukraine	4	5,8
USA	7	10,1

Table 2. Identification of History of Pre-Travel Health Consultation Participation

Variable	Category	f	%
<i>Pre-Travel Health Consultation</i>	Yes	42	60,9
	No	27	39,1

Table 3. Knowledge of Dengue Fever Management

Variable	Category	f	%
Knowledge of Dengue Fever Management	Good	46	66,7
	Poor	23	33,3

The results of this study indicated that the majority of foreign tourist patients who participated as respondents had previously attended PTHC, totalling 42 individuals or 60.9%. This suggests that most respondents in this study had an adequate understanding of several topics discussed during the pre-travel health consultation, one of which is dengue fever management.

This finding is supported by previous research conducted by Al-Abri et al. (2016), which also found that most travellers had participated in pre-travel consultations and therefore had a good level of understanding (63.2%). However, this study contrasts with other research, such as that by (Paudel et al., 2017), which found that only 45 out of 180 participants (25%) had undergone pre-travel health consultation.

PTHC is a central element of travel medicine practice (Hatz & Chen, 2019). These consultations are time-limited encounters that require an efficient approach to maximize their usefulness in providing preventive advice to prospective travellers. The outcomes of pre-travel consultations may be

influenced by traveller engagement and the extent to which healthcare providers recognize the personal health priorities of travellers (Flaherty et al., 2017; Savage et al., 2018).

The findings of this study indicate that PTHC is known to most travellers. However, the fact that some travellers do not participate in PTHC suggests that their engagement often remains superficial—they may only be aware of general information about travel destinations and potential risks, without a deeper understanding. This limited engagement can result in minimal adoption of recommended health behaviours during travel (McGuinness et al., 2015).

This study also found that some respondents did not participate in PTHC before traveling. The researchers believe that several factors may influence travellers' willingness to attend pre-travel consultations, although these factors were not further explored in this study.

The results of this study show that the majority of tourist respondents had a good level of knowledge regarding dengue fever management, totalling 46 individuals (66.7%). The fact that most patients had a good level of knowledge about dengue fever management suggests that the respondents not only understood the information but were also able to apply it into behaviour, enabling more effective management of dengue fever.

Studies assessing travellers' knowledge of dengue fever management are still limited. However, there is research that supports the findings of this study, indicating that 54.5% of travellers had a good level of knowledge during visits to Indonesia (Aini & Agustin, 2019).

Based on the findings of this study, where the majority of respondents had a good level of knowledge, it can be concluded that international tourists tend to possess adequate knowledge. In this study, knowledge of dengue fever management is defined as travellers' understanding of measures that can be taken to prevent or manage dengue fever during travel.

The good knowledge possessed by tourists regarding several indicator components in this study implies that respondents were able to understand the causes of dengue fever, recognize and comprehend its symptoms, and understand the mechanisms of dengue transmission.

In addition, the majority of respondents were also aware of preventive measures against dengue fever. Some of the preventive actions included in the questionnaire instrument were covering water storage to prevent mosquito breeding, using mosquito repellent lotion, and similar measures.

However, the study also found that some respondents still had a low level of knowledge regarding dengue fever management, indicating the need for optimization. The researchers believe that there are other factors that may influence the level of knowledge about dengue fever management, although these predictors were not further explored in this study.

CONCLUSION

The results of this study indicate that the majority of foreign tourist respondents (60.9%) had attended a PTHC, reflecting adequate understanding of travel health topics, including dengue fever management. Most respondents (66.7%) demonstrated good knowledge of dengue fever, including its causes, symptoms, transmission mechanisms, and preventive measures such as covering water containers and using mosquito repellents. However, some respondents had not participated in PTHC, and a few still exhibited limited knowledge of dengue management, suggesting that awareness and preventive practices are not yet uniform among foreign tourists. Traveller engagement in PTHC may be influenced by factors not explored in this study.

FUTURE IMPLICATIONS

Efforts should be made to strengthen the availability and accessibility of PTHC programs for international tourists to enhance awareness and adoption of preventive health behaviours. Educational materials in PTHC could focus more on locally endemic diseases, such as dengue fever, using interactive and practical approaches to promote behavioural change. Further research is needed to identify factors influencing travellers' participation in PTHC and their knowledge levels, including psychosocial aspects, educational background, and travel motivations. Additionally, these findings can inform evidence-based travel health practices and policies to reduce the risk of vector-borne diseases. Regular monitoring and evaluation of PTHC effectiveness are recommended to ensure optimal adoption of recommended health behaviours during travel.

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