

# Characteristics of the Health Problems Among International Travelers Visiting International Hospital in Bali

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## Characteristics of the Health Problems Among International Travelers Visiting International Hospital in Bali

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### Abstract

Bali is one of the most popular tourist destinations in Indonesia. As one of the islands in a tropical country, Bali has its own risk of disease transmission. The increasing number and pattern of international travelers can affect morbidity and mortality. Research on disease problems among international travelers in travel destination countries is rarely reported. This study examines health problems concerning foreign tourists visiting hospitals in Bali. This cross-sectional study used total sampling on all medical records of international travelers visiting an international hospital in Bali. A total of 999 medical records were analyzed in this study. The mean age of the patients was 35.55 years. Most patients were female (53.9%) and used travel insurance (55.3%). Most health problems are complaints in the gastrointestinal system (22.3%). The primary health problem is the gastrointestinal system. Most patients use insurance to finance their health.

**Keywords:** Health Problems, Travelers, Infectious and Non-Infectious

### INTRODUCTION

Visits by international travelers to Indonesia always increase every year. In 2017, an estimated 14.4 million foreign tourists visited Indonesia. Bali, one of the most popular tourist destinations, showed a visit rate of 5.68 million, or 40.47%, in the same year.(1) The most common purpose of traveling to Bali is for holidays, business, work, school, congresses, or seminars.

Bali, as one of the islands in a tropical country, has its own risk of disease transmission. The diversity of health problems creates challenges for tourists visiting Bali. Traveling to tropical areas is associated with increased health risks.(2) The increasing number and pattern of foreign tourists can affect morbidity and mortality during and after travel.(3) The morbidity experienced by tourists is divided into various diseases such as acute and chronic diarrhea, cardiovascular problems, rabies infection, dengue infection ranging from mild to severe, malaria, and others.(4-11)

Since Bali is in a tropical region, tourists visiting Bali will inevitably be at risk of developing tropical diseases. In

2017, Masyeni *et al.* reported a dengue infection problem among international travelers.(12) Other infectious diseases, such as diarrhea, were also reported among international travelers visiting Bali.(13) Case reports reported that some patients experienced typhoid fever and malaria in Bali. (14,15) This condition also affects medical facilities in Bali that support international travelers. Some clinical facilities were available around tourist attractions, such as primary healthcare clinics and hospitals. (16)

Disease problems among international travelers in travel destination countries are rarely reported. Commonly, the research reported the problem after the traveler returned to their own country. This study examines health problems concerning foreign tourists visiting hospitals in Bali.

### METHODS

This cross-sectional study uses secondary data from medical records of international travelers seeking treatment at international hospitals in Bali. The research was conducted in October and November 2018.

The research population is made up of international travelers in Bali. The study population consists of international travelers seeking treatment at an international hospital in Bali. We performed a total sampling of medical record data in 2017–2018. The director of the hospital acknowledges the collection of data. We extracted medical record data, including age, gender, diagnosis, usage of travel insurance, and treatment type (inpatient or outpatient). We analyzed the data using SPSS Version 27 (SPSS). We analyzed the proportion of patients in each group with a specific demographic characteristic or diagnosis. We grouped the diagnoses based on the body system.

This research has received ethical approval from the ethics committee of the Faculty of Medicine, Udayana University, with number 2658/UN14.2.2.VII.14/

LP/2018. The licensing and investment agency of the Province of Bali also granted this research permit.

## RESULT

A total of 999 subjects were collected from medical record data. Most international travelers that visited the hospital were female (54%), compared to males (46%). As described in Table 1, travelers mostly suffered gastrointestinal problems (22.4%). The other common diagnoses that affect travelers are respiratory disease (17.5%), trauma (16.6%), and dermatology problems (9.7%). During the hospital visit, 55.3% of international travelers used travel insurance to cover their examination and treatment costs. Most international travelers (55.8%) were hospitalized for further treatment

**Table 1.** Population Characteristics (n=999)

Characteristics	n
Age (Yr) ± SD	34,53 ± 19,9
Sex	
Male	460 (46.0)
Female	539 (54,0)
Diagnosis	
Oral-dental	13(1.3)
Dermatology	97 (9.7)
Neurology	62 (6.2)
Ear, Nose, Throat, and Respiratory	175 (17.5)
Cardiovascular	33 (3.3)
Gastrointestinal	224 (22.4)
Genitourinary	73 (7.3)
Trauma	166 (16.6)
Febrile illness	87 (8.7)
Animal bite	10 (1.0)
Travel Insurance	
Yes	553 (55.3)
No	446 (44.6)
Treatment	
Inpatient	558 (55.8)
Outpatient	441(44.1)

## DISCUSSION

This study found that the number of international travelers was relatively high, with 999 cases in the study period. Most diseases found were gastrointestinal problems in tourists, in as many as 22.40% of cases. Gastrointestinal problems such as diarrhea are the most common problem for tourists worldwide, including international Bali travelers.(13) Diarrhea is the most common infection among travelers, affecting both children and adults.(17,18) This problem is related to risky behavior, such as poor food hygiene, especially when traveling to areas with a high risk for diarrhea. (2)

The second most common disease is a problem in the ear, nose, and throat region and respiratory tract problems (17.5%). The problem Respiratory tract disease is a disease whose transmission is straightforward because, through air droplets, contact occurs between humans. The spread of respiratory cases among tourists is relatively high. It was also essential to provide counseling about this problem to travelers.(2)

The top five tourist-experienced cases also include the prevalence of trauma. This study's trauma cases obtained had musculoskeletal trauma, head injuries, and other trauma-related diagnoses. Trauma, specifically road traffic accidents, is still the number one cause of death for US travelers.(19) Trauma due to traffic accidents is a health problem that is quite common among tourists. The problem can be fatal and require admission to a hospital or surgery.(2,20) Indonesia is also one of the countries with the most deaths related to traffic crashes. It is crucial to inform the traveler about the risk of traffic crashes and counsel the traveler on how to prevent them.(3)

The dermatology problem is one of the reasons tourists visit the hospital (9.7%). Skin disease is among the most common reasons tourists check themselves after traveling. The spectrum of skin diseases is broad, and the diseases often reported are insect bites, skin infections caused by bacteria, creeping eruptions, and

allergic skin reactions.(21,22)

This study found febrile illnesses in 8.7% of cases, with dengue fever being one of the most common diagnoses. Malaria infection, a significant travel health problem, was only diagnosed in two patients. Studies related to febrile illnesses have been reported in Bali, such as dengue infection, malaria, and typhoid fever. (12,14,15) A tropical infection acquired in the country of the visit is undoubtedly a problem for the traveler's country of origin. The most common infections causing fever among returning travelers are dengue and malaria.(23,24)

Most travelers (55.3%) use travel insurance to cover medical costs. Medical costs while traveling abroad can be prohibitive. The traveler needs to have travel insurance that covers the health risk.(25)

## CONCLUSION

Gastrointestinal problems are the most common problem affecting international travelers visiting Bali's hospitals. Most of the patients are female and use travel insurance. The results of this study are expected to be used as primary data for providing prevention education for international travelers.

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