

Tourists' Perception of Infectious Diseases in Malaysia

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Abstract

Objective: This study evaluated the perceptions of infectious diseases among tourists about risk categories of different diseases. **Materials and Methods:** A cross-sectional study using a self-developed research instrument was designed and used to collect data from the tourists visiting Penang, Malaysia. Descriptive, comparative, and inferential statistics were performed using Statistical Package for the Social Sciences. **Results:** One-half of the respondents perceived hepatitis A (50.3%), meningitis (52.3%), and typhoid fever (51.3%) as low-risk diseases, while about 37% and 33% tourists considered dengue and HIV/AIDS as high-risk diseases, respectively. **Conclusion:** The results suggest that tourists perceived varied risk levels of infectious diseases in Malaysia, indicating that the tourists should take proper preventive measures to avoid contracting these diseases.

Key words: Tourists, infectious diseases, perception, Malaysia

INTRODUCTION

Tourism was selected as part of the National Key Economic Areas (NKEAs) under the National Transformation Program (NTP) in Malaysia. The tourism industry contributed approximately RM 25 billion as a private investment and becomes the third largest contributor to the gross national income and questions regarding (GNI) of the country.^[1] In many cases, travelers have not received the immunizations, medications, or standby treatment usually recommended in their respective countries of origin, despite the range of opportunities for travel health advices available.^[2] Therefore, the public health burden of these diseases remains significant and travelers are still contracting diseases during international travels.^[3]

In Malaysia, infectious diseases can be categorized into food- and water-borne diseases. These diseases include cholera, hepatitis A, B, and typhoid. The category of vector-borne diseases includes dengue, malaria, and yellow fever. Some diseases are preventable if vaccinated such as acute poliomyelitis, diphtheria, measles, tetanus, and pertussis. Other infectious diseases include

AIDS, Ebola, tuberculosis (TB), leptospirosis, rabies, and meningitis.^[4] Dengue is reported to have the highest incidence rate of 392 per 100,000 population followed by TB (79.45). Likewise, TB has the highest mortality rate of 5.56 followed by AIDS (2.10) and dengue hemorrhagic fever (1.10).^[5]

However, the knowledge or information regarding a tourist's perception of infectious diseases in Malaysia remains limited, despite the significant increase in the number of tourists arriving and departing Malaysia. Over the past 10 years, the number of tourists in Malaysia has significantly increased. In fact these days, Malaysia is considered as a dream place for tourists and among the leading tourist attractions worldwide.^[6]

This increased tourists' volume could also result in an increased risk of acquiring infectious diseases among tourists and the general public.^[7,8] Therefore, this study aimed to evaluate the perceptions of infectious diseases among tourists

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in Malaysia and to identify their perceptions about diseases' risk categories.

MATERIALS AND METHODS

Study design and participants

This study was conducted in Pinang for 3 months (November 2017 and January 2018). Tourists were invited to participate in the self-administered study. A random sampling technique was used. In this cross-sectional study, the data were collected for 3 months. The study tool was comprised two parts: (a) Demographic data of the study participants, travel type, and travel status and (b) questions regarding perception of infectious diseases. The infectious diseases were categorized into three various categories, that is, high risk, low risk, and no risk.

Inclusion and exclusion criteria

Inclusion criteria include those tourists with the age of 18 years old and above, able to understand English language. Exclusion criteria include those with age <18, unable to understand English and those that denied to participate in the study. All participants signed a written informed consent before participating in the study. Confidentiality of the information from the tourists was maintained. Ethical approval was acquired from the concerned ethical committee under ST/UG/11-17.

Data analyses

The analysis of data was done using the Statistical Package for the Social Sciences version 24. Social demographic characteristics were described using descriptive statistics. The items in the questionnaires were presented in the forms of frequencies and percentages. Chi-squared test (χ^2) was used to determine an association between the two independent groups. $P < 0.05$ (two-tailed significance) was observed as statistically significant.

RESULTS

A total of 384 questionnaires were distributed among the study participants while 300 questionnaires were completely filled and returned. Thus, the response rate of the questionnaires was approximately 78.1%. Figure 1 represents the demographic characteristics of all participants ($n = 384$). The majority of the tourists were female (53%) while 47% were male. The majority of the tourists were aged between 20 and 29 years (42.3%).

Table 1 presents travel type and status of the tourists. The majority of the study respondents visited Malaysia for leisure activities and sightseeing (72.7%). Most the respondents

were traveling with their friends (39.0%) followed by their relatives (34.3%).

Tourists' perception about various infectious diseases is presented in Table 2. About 37% considered dengue and 33% of the studied tourists thought HIV/AIDS were among high-risk diseases. Around one-half of the respondents perceived meningitis (52.3%) and typhoid fever (51.3%) were among the low-risk illnesses. On the other hand, 50.0% believed that polio while 39.3% considered cholera were among no risk category. Many of the respondents answered more than one answer in each category.

Table 3 represents the statistically significant ($P < 0.05$) relationship (correlation) between males and females of the study participants regarding two highly perceived diseases from each category, that is, high-risk diseases, low-risk diseases, and no risk diseases.

DISCUSSION

This study provides detailed information about perception of infectious diseases among tourists visiting in Malaysia.

Table 1: Tourists' traveling information

Characteristics	Frequency	Percentage
Travel type		
Leisure/sightseeing	218	72.7
Business	34	11.3
Visiting friends or relatives	25	8.3
Others	23	7.7
Travel status		
Friends	117	39.0
Relatives	103	34.3
Single/alone	80	26.7

Table 2: Perception of infectious diseases

Disease	High risk		Low risk		No risk	
	n	%	n	%	n	%
Hepatitis A	83	27.7	151	50.3	66	22.0
Hepatitis B	86	28.7	144	48.0	70	23.3
Malaria	92	30.7	141	47.0	67	22.3
Yellow fever	51	17.0	144	48.0	105	35.0
Typhoid fever	51	17.0	154	51.3	95	31.7
Cholera	48	16.0	134	44.7	118	39.3
Polio	23	7.7	127	42.3	150	50.0
TB	57	19.0	134	44.7	109	36.3
HIV/AIDS	99	33.0	136	45.3	65	21.7
Meningitis	57	19.0	157	52.3	86	28.7
Dengue	111	37.0	118	39.3	71	23.7

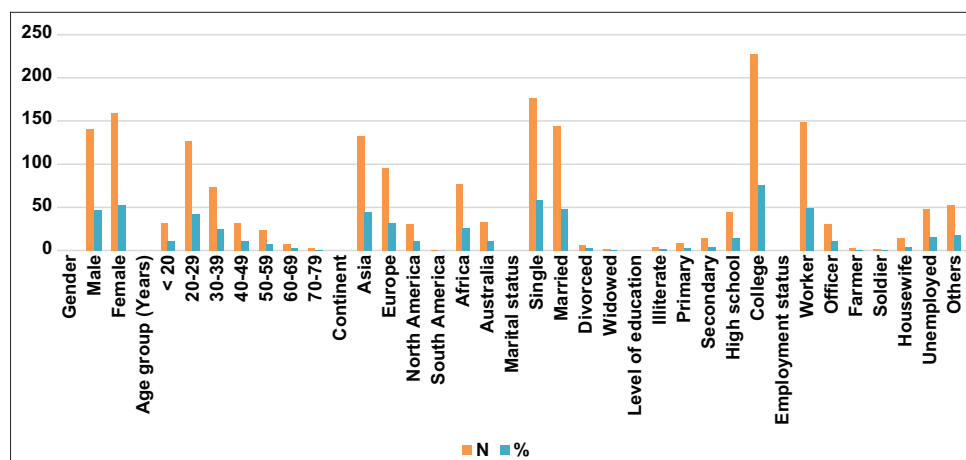


Figure 1: Sociodemographical data of the study participants (n = 384)

Table 3: Gender differences among tourists regarding different risks category diseases

No.	Statements	P-Value
1	HIV/AIDS is a high-risk disease	0.024*
2	Dengue is a high-risk disease	0.649
3	Typhoid fever is a low-risk disease	0.138
4	Meningitis is a low-risk disease	0.222
5	Cholera is a no risk disease	0.339
6	Polio is a no risk disease	0.093

*Significant at < 0.05 level

Overall, perception about various infectious diseases was divided into three main categories, that is, high-risk diseases, low-risk diseases, and no risk diseases. This study was novel to determine current perception of tourists in Malaysia regarding infectious diseases.

Over 50% of tourists perceived hepatitis A as a low-risk disease. Similar studies carried out in Canada and the USA reported the same results, respectively.^[9,10] However, a different study reported higher number of tourists perceived hepatitis A as high-risk disease.^[11] In general, the WHO reported that most developed countries have the perception that hepatitis A is a high-risk ailment thus proposed that at least two doses of hepatitis A vaccination should be taken before embarking on a journey to developing countries.^[12,13] Similarly, about 48% of the respondents perceived hepatitis B as low-risk disease. These findings were consistent with an earlier study that reported the similar findings.^[14] This low-risk perception can be attributed to the practice of hepatitis B vaccination in their living countries.^[15] In a general perception and as per the literature, hepatic B or A is considered lower risk ailments compared to HIV.^[9,16]

Majority of the respondents in this study perceived malaria as a low-risk disease (47%). Since malaria is present in Malaysia, there is great chance of being infected with Malaria during travel.^[17] Likewise, a study carried out in

Kenya reported a similar finding.^[18] In contrast, other studies performed in China,^[19] and Kenya^[18] reported that malarial infection was perceived as a high-risk disease among tourists. Malaria is common in developing countries. Therefore, the tourism sector should consider malaria a serious infection with potentially high risk.^[19-21] However, there had been a 42% steady decline in malaria infection in Malaysia over couple of the past years which possibly accounts for the low-risk perception.^[22] Nonetheless, the disease has not been eradicated.

Furthermore, less than 50% of the respondents perceived yellow fever as a low-risk disease during travel. Similarly, a low perception risk was also reported in other studies.^[23,24] However, some studies conducted in India, Spain, Thailand, and Kuwait indicated yellow fever poses a very high risk to those traveling to Asian countries.^[14,24] Yellow fever is considered to be very dangerous because there is no available treatment. Hence, vaccination and prevention are the only ways to avoid yellow fever.^[25] This plausibly explained the absence of awareness regarding yellow fever among travelers to Malaysia. Thus, there is a strong need to create awareness regarding yellow fever among travelers and also to increase the number of authorized centers providing the yellow fever vaccines across the globe.

The high-risk perception of dengue was the highest among respondents in this study. In Malaysia, dengue disease is considered a major health problem issue.^[26] Based on a 2016 report by the WHO, about 100,000 dengue cases and 231 related death were recorded in Malaysia.^[27] Dengue infection is considered a high-risk disease because it can be transmitted by mosquitoes, which are widespread in tropical and subtropical countries.^[23] Similarly, a different study carried out in Indonesia reported a very low perception of dengue infection by tourists.^[28] A large number of travelers visiting South Asia have been hospitalized due to dengue infection.^[29] This explains the high-risk perception of the disease by tourists. Therefore, enormous efforts should be directed to creating and increasing awareness among

travelers regarding dengue, particularly to those with previous episodes to avoid future dengue complications like dengue hemorrhage fever.

According to our study findings, only 16% of the respondents perceived cholera as a high-risk disease. Several studies carried out in European airports,^[12] Australia,^[30] and Japan^[15] also reported similar findings. Although the World Health Organization proclaimed in 1991 that cholera vaccination certificates are no longer required by any country or territory,^[31] yet according to a study, it was reported that in the Netherlands, still vaccination against cholera for travelers is advised.^[32] In addition, Austrian experts also recommend immunization against cholera for travelers visiting cholera prevalent areas. The history of cholera is related to trade caravans, migration, and refugee camps. It is also strongly associated with water and the sea. Cholera is also linked to poverty, poor hygiene, and contaminated inland waters. There was no statistically significant correlation ($P < 0.05$) observed among males and females in low-risk and no risk categories. There was a statistically significant difference observed among males and females considering HIV/AIDS is a high-risk disease.

CONCLUSION

This study suggested that tourists perceived varied risk levels of infectious diseases while travelling to Malaysia, that is, ranged from high to none based on the responses. Most of the studied diseases were perceived as low risk or no risk except few, which may indicate that the tourists might not take proper preventive measures such as vaccinations to avoid contracting these diseases.

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