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Health awareness and health issues among international tourists visiting Sri Lanka

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Abstract

Although Sri Lanka is a famous tourist destination in South Asia, the literature keeps on silent about the health related information among the international tourists. This study was conducted at seventeen popular tourist destinations in Sri Lanka from March 2017 to June 2017. Participants completed a questionnaire to elicit information concerning demographics, trip characteristics, health awareness, pre-tour health preparation and health issues encountered during the stay in Sri Lanka. The questionnaire was completed by 385 foreign travelers from 44 countries, representing all continents except Africa. Descriptive statistics were used to analyze the data. The result revels that the majority of tourists was aware that dengue is a common problem while most of tourists was aware that Hepatitis A, Hepatitis B, Tetanus, Rabies and Typhoid are common diseases in the country. Surprisingly, Yellow fever, Malaria, Zeca and Ebola were also reported as common diseases in Sri Lanka, although they are not recorded from Sri Lanka during the recent past. The result further indicates that the majority of tourists sought medical advices before visiting Sri Lanka. Vaccination and taking prophylactic medication were found to be the most common health precautions taken. Health issues are not very common among tourists to Sri Lanka since only very few tourists were reported with certain health issues. Most issues were minor, with spontaneous recovery.

Keywords: *Health issues, international tourists, prophylactic medication travelers, vaccination.*

1. Introduction

With the decisive conclusion of the war in 2009, Sri Lanka with its peaceful environment is now considered as one of the safest destinations for tourists to travel. Arrival of two millions of tourists in 2016 paved a new ground stone in the tourism industry of Sri Lanka (Sri Lanka Tourism Development Authority, 2017). Unlike the war time, the tourists can travel anywhere in Sri Lanka without being stopped by the authorities for security purposes. This situation has lead the tourists to diversify their experience from traditional sun, sea and sand to niche tourism practices including community based tourism, ethnic tourism, eco-tourism, adventure tourism etc. Tourism in Sri Lanka has surged to a new limit of over 2.1 million (2,116,407) arrivals in 2017, which is an increase of 372 percent over 2009 arrivals (447,890) and a continuous growth of tourists arrival to Sri Lanka is expected (Sri Lanka Tourism Development Authority, 2018).

Health and safety associated with international travel possibly the primary concern of modern international travelers. As a result, destination areas are taking adequate measures to ensure that the departing tourists are safe and happy while maintaining an acceptable level of health precautions to make sure that the international tourists do not get affected with communicable diseases available in the country visited (Ryan, 1997). Travel and tourism on the other hand is one of the most common ways in spread of diseases since it involves the movement of large number of people across the borders. International travelers porn to serious health issues with respect to the food, water, accommodation and hygiene factors (Baker, 2015; Lawton & Page, 1997). Previous studies stated that 55percent of international tourists to developing countries are recorded with some health problems and 8percent seek physicians either during their tour or upon returning home (Ericsson et al., 2006; Shaw, 2006; Steffen & Grieve, 2013). Although, Sri Lanka is a paradise for tourists, it is still been categorized as a developing country (United Nations, 2017). The most common reported health complications by the tourists visited developing countries include diarrheal diseases, followed by febrile illness, respiratory tract problems, skin problems, animal bites and injuries (Hill, 2000; Rack et al., 2005). However, deaths related to international travelers are very rare with one death out of 100,000 tourists visited to a developing country (Steffen, Amitirigala & Mutsch, 2008). Although international literature provides some valuable blue prints, many researchers (Greenwood et al., 2008; Redman et al., 2006; Sanders et al., 2008) identified that health problems of international tourists can vary greatly as per the geographical area of travel and traveler's characteristics.

The literature pertaining to tourists' health issues at the point of sale of tourism products are extremely limited (Lawton & Page, 1997). Similarly, the health awareness and incidents of health problems among the international tourists to Sri Lanka remains unknown. Present study is the first study to assess the health awareness and health problems among international tourists to Sri Lanka. Therefore, it is aimed to identify the health awareness of international tourists and spectrum of health problems among the international travelers to Sri Lanka. The findings will be significant to stakeholders of Sri Lanka tourism industry to develop Sri Lanka tourism through branding Sri Lanka as a safe destination to visit. Further, the health care professional will also be benefitted by being able to recommend appropriate preventive measures for international travelers to Sri Lanka.

2. Review of literature

Rapid international travel has provoked spread of many communicable diseases including Severe Acute Respiratory Syndrome (SAARS), Chikungunya, Dengue, Influenza, Ebola, Diarrhea, Malaria, sexually transmitted diseases (STD). SAARS outbreak in 2002 reports more than 8000 infections that attributed with 774 fatalities across five continents (World Health Organization, 2003). Olsen et al. (2003) reports that 0 percent to 18.3 percent of SAARS is transmitted through aircrafts. According to World Tourism Organization (2004), SAARS and related travel warnings has caused decline of nine percent of international tourist travel in 2003. The Chikungunya virus which was first reported in Africa in 1952, is transmitted through mosquito and often carried by travelers to different parts of the world (Baker, 2015). The outbreak of Chikungunya spreads over many countries and regions including India, Mauritius, Comoros, Seychelles, Madagascar, Indonesia, Europe, United States, Australia and Hong Kong through travelers (Bruce, Johnson & Tran, 2007; Charrel, Lamballerie & Raoult, 2007; Lanciotte, Kosoy & Laven, 2007; Lee, Wong & Lam, 2006; Panning, Grywna & Van Esbroeck, 2007).

Dengue is a flavivirus and spreads over Southeast Asia, South Asia, the Pacific, Caribbean, and Central, and South America (Gubler, 2002). The incidents in the United States were mostly reported in international travelers (Baker, 2015). About 30,000 travelers of the developing countries are infected with malaria annually (Kain & Keystone, 1998). However, the incidents reported from South Asia is around 0.1 – 0.01 percent per month (Steffen et al., 1999; Ohrt et al., 1997). Influenza, which is a global challenge even now, spread through aerosol or direct contact and usually, aircrafts provide an ideal enclosed space for transmission of the virus (Baker, 2015; Moser et al., 1979). Influenza has also been reported on cruise ships (Mutsch et al., 2005). Wilderness experience sometimes brings infectious diseases to the travelers. Bush-meat is an important source of income for millions of people living around the national parks (Karesh & Noble, 2009). However, bush-meat hunting, preparation and consumption are related to spread of several epidemics and pandemics including human immunodeficiency virus (HIV), Ebola, and severe acute respiratory syndrome (SARS) (Baker, 2015). There are many instances of travelers being affected by these viruses.

Ebola was first reported in West African countries including Liberia, Guinea, Sierra Leone and Nigeria. The tourists visiting infected areas are at a high risk if safety precautions are not followed. African tourism industry greatly suffered due to the spread of Ebola although few countries are reported with the same virus (Baker, 2015). Diarrhea is one of the most commonly found illnesses among international travelers (Fairley, 2014; Olanwijitwong et al., 2017; Ryan, Wilson & Kai, 2002). According to Steffen et al. (1983) and Ericsson (1998) 10 to 60 percent of travelers to developing countries get diarrhea, twenty percent were reported discontinuing their tours, and about 40 percent change their travel plan due to diarrhea. Further, it has been discovered that 43 – 79 percent of travelers to South Asian countries were also reported with diarrhea (Angelo et al., 2017). Travelers, with their anonymity, may place themselves at a great risk at foreign countries by engaged with sexual activities (Mulhall, 1993). According to Stricker et al. (1990) around five percent of travelers engage in casual sex during international travels and condoms are not being used by 50 percent of them. Ryan and Kain (2000) recommend that tourists must use condoms or relevant vaccine as pre and post precaution methods.

Personal safety is one of the prime motives of international travelers before selecting a destination to travel. The tourists expect a destination to be safe and clean (Haywood, 1990). Some researches indicate that tourists are rather concern about safety than that of the cost of the trip (Evans & Stabler, 1995; Ritchie, 1991). In addition to that, the Japanese tourists, Hong Kong residents and American travelers to Canada consider safety and cleanliness among the more important factors when selecting a destination to travel (Nozawa, 1992). Many studies identified some characteristics of the travelers who found with some health problems during their travels. They are less likely to receive pre-travel health precautions (Leder et al., 2004), more likely to visit and stay in remote rural areas (McCarthy, 2001), have direct contact with locals (Cobelens et al., 2000), use high-risk foods and beverages, travel at the last minute, and have longer trip durations (Mahon et al., 1996). However, according to Rudkin and Hall (1996), travel agents and tour operators tend to have less knowledge about the health risks faced by international travelers. Further, Dawood (1989) records that the professionals in travel agencies are unaware of the risks faced by the travelers.

3. Methodology

This study is a descriptive cross-sectional study conducted among international travelers who were visiting Sri Lanka, who can read and able to fully understand either English, French or German language, in which the questionnaire is developed. The study was conducted in main tourist destinations in Sri Lanka covering a broad geographical area including Anuradhapura, Polonnaruwa, Sigiriya, Dambula, Habarana, Kandy, Matale, Nuwara Eliya, Bandarawela, Colombo, Negombo, Galle, Kalpitiya, Yala, Trincomalee, Batticaloya, and Jaffna.

The tourists were asked whether they like to participate in the survey. With their consent, self-administered questionnaires were distributed. Not more than one member from a tourist group was given a questionnaire to complete to reach a wider audience. Simple random sampling technique was adopted in this study. Every 3rd tourist was given a questionnaire to fill. The questionnaire collected information on demographic, travel characteristics, pre-travel health precautions and knowledge of prevailing diseases in Sri Lanka among the international travelers. The validity of the questionnaire was ensured by closely referring to the previous works on travelers' health awareness and communicable diseases, and health issues faced by the tourists. The data were collected during the period of March 2017 to June 2017. The population includes all the foreign tourists visited Sri Lanka during that period, which is 593,567 (Sri Lanka Tourism Development Authority, 2018). At a 95 percent confidence level, a population of 593,567 requires 384 samples, while a 1,000,000 will also need 384 samples (Saunders, Lewis & Thornhill, 2009). However, 412 questionnaires were distributed till the researchers reach a sample of 385 number of usable questionnaires.

Descriptive statistical analyses were conducted using SPSS for Windows, version 21 software. Continuous data are presented as mean with standard deviation for normally distributed values and median with range for non-normally distributed values. Categorical data are presented as number and percentage.

The study procedure including study setting and data collection using questionnaires were reviewed and approved by the Ethics Review Committee of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka (ref. n. ERC/2017/09) before initiation of the data collection.

4. Results and discussion

4.1 Demographics

The questionnaires were completed by 384 foreign travelers from 44 countries representing all continents except Africa. Demographic information of the international tourists who participated in the survey are given in Table 1. Among 384 participants 57.1 percent were female and 46.6 percent of the respondents was in 21 – 30 year age category. About 73 percent of them had at least a university degree. About 30.6 percent was professionals. It was further identified that a relatively even number of respondents are distributed among four income categories as mentioned in Table 1.

Table 1
Demographic characteristics of the respondents

Description	Percentage	n	Description	Percentage	n
Sex			Age (mean age 33.88)		
Male	42.9	159	Below 20	7.7	28
Female	57.1	212	21 – 30	46.6	169
Missing		14	31 – 40	19.3	70
Educational level			41 – 50	11.0	40
High school	14.7	56	51 – 60	10.8	39
College graduate	12.3	47	Above 60	4.4	16
University graduate	37.8	144	Missing		23
Master's & above	35.2	134			
Missing		4	Occupation		
			Business	11.7	44
Income			Professionals	30.6	115
Less than US $20,000	25.6	91	Scientists & technicians	19.7	74
US $20,001– 35,000	27.3	97	Retired	4.0	15
US $35,001 – 50,000	25.4	90	No occupations	9.3	35
Above US $50,001	21.7	77	Other occupations	24.7	93
Missing		30	Missing		9

4.2 Travel characteristics of the respondents

It was revealed that international travelers to Sri Lanka had several different travel behaviors. Only 14 percent of the tourists had been to Sri Lanka before. A vast majority (68.1%) of the tourists were staying more than 14 days in Sri Lanka. Also 73.5 percent of the tourists were travelling for pleasure and 59.7 percent were recorded as back packers who make self-arrange tours. The most popular destinations among the respondents were Kandy and Pinnawela (79.5%), Anuradhapura (72.9%), Colombo (70.3%), Sigiriya and

Dambulla (67.9%), Bandarawela and Ella (53.5%), Galle and Unawatuna (48%) and Nuwara Eliya and Kitulgala (42.6%).

4.3 Knowledge of prevailing diseases in Sri Lanka

According to Table 2, it was revealed that 79.85 percent of the respondents are aware of existing Dengue epidemic in Sri Lanka followed by Hepatitis A and Hepatitis B with the awareness level of 75.5 and 71.9 percent respectively. Further, 63.6 percent, 63.23 percent, 58.92 percent and 53.53 percent of the tourists responded that they are aware of availability of Tetanus, HIV, Rabies and Typhoid as existing diseases in Sri Lanka respectively. However, the study revealed that the majority of the respondents are not aware of availability of Leishmaniasis (70.72%), Leptospirosis (64.74%), Chikungunya (64.54%), H1N1 (59.80%), and Japanese Encephalitis (52.77%) diseases in Sri Lanka.

About 53 percent of the respondents was in the opinion that Sri Lanka is still affected by Malaria. Further, 41.87 percent of the respondents stated that there is Yellow Fever in Sri Lanka, although there is not. In contrast, 45.20 percent of the responded was right about non-availability of Ebola virus in Sri Lanka. Also, nearly 50 percent and 53 percent of the tourists indicated that they do not know whether there is Zeca and Leprosy in Sri Lanka, which are not available in Sri Lanka.

Table 2
Knowledge of prevailing diseases in Sri Lanka

Disease	Available (%)	Not available (%)	Don't know (%)
Diphtheria	45.3	7.6	47.1
Leprosy	25.7	21.9	52.5
Hepatitis A	75.5	3.2	21.3
Hepatitis B	71.9	3.3	24.9
Malaria	53	28.9	18.1
Merscov viral infection	15.14	10.21	74.65
Ebola	22.42	45.20	32.37
Dengue	79.85	5.46	14.70
Rabies	58.92	5.87	35.21
H1N1	24.88	15.32	59.80
Tetanus	63.6	5.77	30.62
Yellow Fever	41.87	22.73	35.41
Typhoid	53.53	4.16	42.31
Leptospirosis	27.44	7.82	64.74
Japanese Encephalitis	35.89	11.33	52.77
Leishmaniasis	20.78	8.51	70.72
Chikungunya	24.49	10.98	64.54
Cholera	39.04	16.27	44.70
Zeca	30.47	19.83	49.70
HIV	63.23	6.38	30.39
Tuberculosis	57.53	7.65	34.82

4.4 Pre-travel health preparations before visiting Sri Lanka

The preliminary analysis confirmed that 64.2 percent of tourists sought medical advices before visiting Sri Lanka. About 37 percent of tourists expressed that taking protective vaccinations is their main health advice received, while 20.1 percent expressed that they were warned against Typhoid, Hepatitis A, Hepatitis B, Rabies, Japanese encephalitis, Diphtheria, Tetanus, and Pertussis (DTP) and Tuberculosis (TB). Nearly 16 percent and 13 percent of the respondents had been advised about prevailing dengue epidemic in Sri Lanka and to drink only purified water respectively. Surprisingly, 2 percent of the respondent were advised to take precautions against Malayria although it is not reported from Sri Lanka during the recent past. Further, less than 1 percent of the tourists were warned against yellow fever and zeca, although they were never reported from Sri Lanka. Details of pre-travel health preparations are shown in Table 3.

Table 3
Pre-travel health preparations

Pre-travel health advises received	Percentage	Frequency
Receiving protective vaccinations	36.9	130
Warning against Typhoid, Hepatitis A, Hepatitis B, Rabies, Japanese encephalitis, Diphtheria, Tetanus, and Pertussis (DTP), Tuberculosis	20.1	71
Dengue, mosquitos warnings	15.6	55
Drink only purified water	12.7	45
Street food, food poisoning warnings	3.6	13
Malaria (paludism) warnings	2	7
Caution for Monkeys and street dogs bites	1.7	6
Avoid raw vegetables	1.4	5
Wash hands	1.1	4
Immunization	1.1	4
Stay out of direct sun	0.8	3
Yellow fever	0.8	3
First-aid	0.8	3
Paddy fields (rice)	0.5	2
Zeca	0.2	1

4.5 Health precautions of the tourists

The respondents have taken numerous measurements to protect themselves from communicable diseases during their travel in Sri Lanka (see Table 4). A vast majority of the respondents. i.e., 74.9, 71.2 and 63.5 percent had taken protective vaccines against Hepatitis A, Hepatitis B and Tetanus respectively prior to visit Sri Lanka. Further, the international tourists had taken vaccines against Diphtheria (55.5%), Typhoid (53.3%) and Dengue (35%). Also, as a precaution against Dengue the respondents were wearing long clothes with a response rate of 32.7 percent. Taking prophylactic medication found to be the most famous health precaution taken by the sample group against Mescov (94.7%), Rabies (79.7%), H1N1 (92.3%), Leptospirosis (96.4%), Japanese Encephalitis (73.4%), Leishmaniasis (93.9%), Chikungunya (88.1%), Cholera (92.3%), Tuberculosis (71.8%). It was further observed that the international tourists are taking prophylactic

medication against Malaria (47.7%), Ebola (91.9%), Yellow Fever (62.3%), Leprosy (79.4%), and Zeca (90%) mainly due to the low awareness of Sri Lankan health condition.

Table 4
Precautions taken before/while travelling in Sri Lanka

Disease	Taking the vaccine	Appropriate barrier methods (Long clothes, masks, gloves, condoms)	Using repellants	Taking Prophylactic medication
Diphtheria	55.5	0.7	2.2	41.5
Leprosy	13.1	0.9	6.6	79.4
Hepatitis A	74.9	0.7	2.3	22.1
Hepatitis B	71.2	1.4	2.1	25.3
Malaria	12.2	37.6	2.5	47.7
Merscov viral Infection	2.2	1.3	1.8	94.7
Ebola	2.6	2.1	3.4	91.9
Dengue	35	32.7	2	30.3
Rabies	14.4	1.7	4.7	79.7
H1N1	4.5	1.4	1.8	92.3
Tetanus	63.5	1.1	1.8	33.7
Yellow Fever	31.5	3.8	2.3	62.3
Typhoid	53.3	1.1	1.9	43.7
Leptospirosis	0.4	2.2	0.9	96.4
Japanese Encephalitis	12.5	13.3	0.8	73.4
Leishmaniasis	2.6	2.2	1.3	93.9
Chikungunya	3.8	6.4	1.7	88.1
Cholera	3.9	0.9	3.0	92.3
Zeca	1.3	3.5	5.2	90
HIV	19	1.6	2.8	76.6
Tuberculosis	23.8	2.0	2.0	71.8

Table 5
Reasons for seeking medical advices in Sri Lanka

Reasons for seeking medical advices in Sri Lanka	Percentage	Frequency
Ayurveda treatments	5.2	2
Diarrhea	7.8	3
Dengue	2.6	1
Flu and cold	18.4	7
Hypertension	2.6	1
Injury	13.2	5
Pregnancy	2.6	1
Risk with dengue, cholera	2.2	2
Sandflies bite	2.6	1
Skin rash	7.8	3
Vaccinations	31.5	12

4.6 Incidence and impact of health problems

A total 10.6 percent (38) of international travelers had consulted a physician during their travel in Sri Lanka. However, this includes 31.5 percent of the tourists who obtained protective vaccines in Sri Lanka. Flu and cold (18.4%) were the most common health problem among the respondents. The second and third most common health problems were injuries (13.2%), skin rashes (7.8%) and diarrhea (7.8%). Information regarding the incidence of health problems is given in Table 5.

5. Discussion

Although the number of international travelers visiting Sri Lanka continue to grow at a double digit growth rate, health awareness, health related problems associated with international tourists are largely unknown. In this study, it was revealed that a vast majority (79.85) of the tourists are aware of existing dengue epidemic in Sri Lanka. However, only 32.7 percent of the tourists were covering their bodies as a precaution against dengue while 35 percent were taking protective vaccine against the same. Fortunately, only one tourist (0.002%) was reported with Dengue from the entire sample. Sri Lankan situation is well below the South Asian reports that records of 0.1 – 0.01 percent of the tourists per month are infected with Dengue virus (Steffen et al., 1999; Ohrt et al., 1997). The awareness about Hepatitis A and Hepatitis B was also at a very high level indicating 75.5 percent and 71.9 percent responses respectively. That has lead 74.9 percent and 71.2 percent of tourists to take the protective vaccines prior to visit Sri Lanka respectively. This is contrast to the findings of Herck et al. (2004) who concluded that nearly 60 percent of European travelers to the developing countries have no protection against Hepatitis A.

Further, about 63.6 percent, 58.92 percent and 53.53 percent of the tourists responded that they are aware of availability of Tetanus, Rabies and Typhoid as existing diseases in Sri Lanka respectively. However, contrast to their level of awareness, only 63.5 percent had taken vaccine protection against Tetanus, 79.7 percent rely on prophylactic medication against Rabies and 53.3 percent are taking vaccines against Typhoid. The respondents' awareness about the existing health situation proved to be highly inadequate since a majority of the respondents stated that they do not know about availability of Leishmaniasis (70.72%), Leptospirosis (64.74%), Chikungunya (64.54%), H1N1 (59.80%), Japanese Encephalitis (52.77%) in Sri Lanka. Additionally, a significant number of tourists responded that there is Malaria (53%), and Yellow fever (41.87%) in Sri Lanka while 45.20 percent of the tourists correctly mentioned that there is no Ebola virus in Sri Lanka. However, World Health Organization (2016) declared that Sri Lanka is free from Malaria since 2013 while Yellow Fever is reported only from the African and South American countries (World Health Organization, 2017). Also, nearly 50 percent and 53 percent of the tourists indicated that they do not know whether there is Zeca and Leprosy in Sri Lanka, which are not existing in Sri Lanka. The study further identified that 64.2 percent of tourists sought medical advices before visiting Sri Lanka while a European Airport Survey confirms only 52.1 percent had sought medical advices before their trips to the developing countries (Herck et al., 2004).

In this study, flu and cold was found as a the most common diseases among the international travelers that counts up to 18.4 percent. Physical injuries as a result of travel records second common health problem in Sri Lanka with 13.2 percent response rate whereas Hill (2000) and Rack et al. (2005) reports that injuries are frequent health problems faced by the tourists. Interestingly, contrast to other international findings, only 7.8 tourists were recorded with diarrhea, while previous studies including Black (1990) and Angelo et al., (2017) records that about 50 and 43 – 79 percent of travelers to Indian subcontinents are recorded with diarrhea respectively. As a result, the researchers can conclude that diarrhea is not particularly high in Sri Lanka when compared with other countries in the region. Further exotic diseases that includes H1N1, leptospirosis, typhoid etc. were not reported during the period. However, this does not mean that the tourists are not affected with exotic diseases, but the data collection might have been completed before or during the disease incubation time.

6. Conclusion

This study explored the health awareness and health issues of the tourists visiting Sri Lanka. It was discovered that international tourists' knowledge pertaining to communicable diseases and preventive measures are not adequate. However, most travelers found to have taking different preventive measures to avoid communicable diseases during their travels to Sri Lanka and as a result, tourists are facing relatively less health problems during their stay in Sri Lanka. Since Sri Lanka has high expectations over the tourism industry as a strong contributor towards it's fast development, much attention need to pay upon traveler's health knowledge that seriously affect the overall tour satisfaction. Thus, the study recommends the tourism stakeholders to increase the health awareness of the tourists visiting Sri Lanka to avoid any possible health complications. In addition to that tourism suppliers also have a responsibility towards the travelers' health since they are direct encounters with the tourists. Further, adequate measurements need to be taken to cultivate an overall health friendly environment in Sri Lanka to control communicable diseases. The results further gives valuable information to health care professionals when recommending appropriate preventive procedures for international travelers visiting Sri Lanka.

There are some limitations of this study. Since this is a cross-sectional study, it only records the health concerns of the tourists visiting Sri Lanka over a limited period of time (four months). The travelers during this period might not have been reflective of travelers throughout the year. Further, the tourists were travelling in Sri Lanka when they participated in this survey and there is no follow up regarding their post-travel health conditions. In addition, all health prevention activities were recorded on tourists' memory, subject to recall biasness.

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