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# Common Health Risks, Required Precautions of Travelers and their Customs Towards the Use of Travel Medicine Services

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## REVIEW

### Abstract

**Introduction:** There is an increasing number of people who travel around the world. Every traveler is exposed to nearly all infectious risks which may occur during his travel time. Some of the main risk factors can be water quality, temperature and high humidity and the exposure to multi-resistant microorganisms. To tackle the upcoming problem there is an imperative need to develop a new branch of medicine with the name of travel medicine. **Review Results:** A consultation prior to departure for an upcoming trip is required, focusing to a personalized healthcare plan, based on international scientific protocols and epidemiological studies. Travelers must acquire essential information about the prevailing hygiene conditions and climatic differentiations that occur in the region. Additionally there are several health risks upon the arrival at destination. A scheduled visit to a health professional is necessary, especially in the case of travelers suffering from chronic diseases or those taking medication, while vaccination is considered essential for specific destination countries. Healthcare professionals should be able to inform travelers and evaluate their needs. According to research studies on notion and attitudes travelers' specific risks, only few of them are well-informed during a trip. While most studies indicate that travelers have some kind of pre travel medical consultation, not all of them proceed to the required vaccinations and medications. **Conclusion:** Travelling for business or leisure around the world may be unhealthy. The importance of proper preparation prior to the travel requires to be adequately informed by specialized healthcare professionals, and to receive appropriate vaccinations and medications, when required. The results of the review of notions and attitudes of travelers during the trip indicate not only the need for further development of the branch of travel medicine but especially the need for the expansion and the availability of health services.

**Keywords:** travel medicine, knowledge, attitudes, precaution, health risks.

## 1. INTRODUCTION

It is a stunning reality that there is an imperative need to provide healthcare services to travelers worldwide. As a result a new branch of medicine was created, called travel medicine. According to the World Health Organisation (WHO), people who plan to travel need to contact a physician specialized in travel medicine, at least four to six weeks prior to departure. Unfortunately the majority of travelers do not consider the possibility to consult a medical service prior to the departure for an international trip. Every traveler who wants to consult a travel medical doctor prior to the departure can visit the centers of disease prevention in all European countries

(1, 2). A visit to the centers for disease prevention primarily aims to inform the traveler about potential health hazards of the destination, precautionary vaccinations, according to WHO guidelines and specific medication that might be required.

A consultation prior to departure for an international trip is very useful and should focus on a personalised health-care plan. Such a plan is based on international scientific protocols and on the latest epidemiological studies and reports (2). To undergo a consultation after the departure, it is essential to focus on the therapeutic schema of travelers who are not feeling well, so as to avoid complications. The measures mentioned above can be very

effective to the protection of public health. Nowadays, well organized travel health services around the world can easily be achieved, due to the rapid development of information technology combined with modern immigration policies (3).

There is an increasing number of people who travel around the world. In specific, 800 million people had travelled abroad for the year 2005 and this number is increasing year by year. The percentage of people who travel for vacation is amount to 50%, whereas a percentage of 15-20% travel for business purposes. Every traveler is exposed to nearly all infectious risks of the destination, and other destination specific health related risks, as well as during the course of the travel itself (1). Some of the risk factors include water quality, temperature, high humidity and the exposure to multi-resistant infectious organisms (4).

Travel medicine is devoted to the health of travelers who visit foreign countries. It is an interdisciplinary area concerned not only with prevention of infectious diseases but also with personal safety and prevention of environmental risks. The field of travel medicine encompasses a wide variety of disciplines including epidemiology, infectious diseases, public health, tropical medicine, high altitude physiology, psychiatry, occupational medicine, military and migration medicine and environmental health. Care of travelers is provided by those with formal training in tropical and travel medicine, aiming at pre-travel consultation and evaluation, contingency planning during travel and post-travel follow-up and care (2).

Each physician, nurse or other licensed health care professional who provide travel medical services, should receive theoretical and practical training in travel medicine. They should also be well-informed about geopolitical, geospatial and public health changes. Travelers' lives can be at risk by epidemics and natural or chemical disasters. In such cases, health-care professionals' reaction should be prompt (4). Skilled employees in travel agencies can also contribute to the promotion of travel medicine. According to studies, customers often ask travel agents for advice on all aspects of their trip, including both health risks and preventive actions they should be taken precautionary (3).

## 2. COMMON HEALTH RISKS OF TRAVELERS

Health risk factors of travelers are related with transportation means, nutritional and living conditions, climatic conditions, natural or human-related disasters and finally individual habits of travelers. The most common problem is relatively high frequency of accidents. Exposure to unknown environmental conditions, lack of concentration and insufficient information, classify accidents among the first in the rank of common travelers' health problems (1).

Many infectious diseases are related with consumption of contaminated food and water. Diseases such as Brucellosis, Cholera, Listeriosis, Leptospirosis, Typhoid Fever and Hepatitis A and E are directly associated with

the consumption of food and water. It is estimated that over 40% of travelers would suffer from diarrhea known as "traveler's diarrhea". This is a mild self-limiting disease with duration of less than five days and is caused by bacterial infection and parasites with the most frequent reason being *E. Coli*.

Diseases occurring after skin incisions are of major importance to public health. Malaria is a serious parasitic disease and an important cause of death worldwide. One out of 300 million people diagnosed with malaria worldwide die annually. The incidence rate of malaria among travelers is estimated to be 30,000 annually. In most cases of malaria, transmission occurs through mosquito bites and infection by the *Plasmodium* of Malaria. The clinical symptoms include high fever, headaches, diarrhea, abdominal pain or cough (5). Furthermore, sexually transmitted diseases such as AIDS, Hepatitis B and C can be transmitted by sexual contact, use of non-sterile implements, tattooing, acupuncture, earrings etc. Also, diseases such as Syphilis, Gonorrhea, Human Papilloma Virus (HPV) and Herpes Genital may be transmitted sexually (6).

High altitude with simultaneous barometric pressure is responsible for the appearance of altitude related syndromes, pulmonary edema and stroke. Symptoms such as nausea, headache, fatigue and insomnia usually appear in 24-48 hours, due to lack of oxygen (7). Excessive heat, especially combined with the intense drought may disturb the electrolyte balance so that dehydration symptoms may appear. The exposure to the solar radiation is responsible for burns and dermatitis (1).

## 3. PREVENTIVE MEASURES PRIOR TO AN INTERNATIONAL TRIP

Preparation of the travel should begin at least one month prior to the departure. Travelers must acquire essential information about hygiene conditions of the final destination, the climate and other special conditions (5). A scheduled visit to a health professional is necessary, especially in the case of travelers suffering from chronic diseases or those taking chronic medication. In many cases vaccination is considered essential for specific destination countries. Vaccination criteria are age, sex, underlying pathological diseases as well as the frequency of diseases in the host country (8).

Depending on the hosting country, required vaccines may include those against Hepatitis A, Yellow Fever (especially in Africa, South America and the Amazon), Japanese Encephalitis and Meningococcal (especially if the trip lasts more than one month or if travelers have close encounters with local residents (9). Depending on length of stay and the condition of the journey accomplished the vaccines of rabies, hepatitis B, influenza (it's recommended to people who travel in groups and in tropical zone) and measles-mumps-rubella and poliomyelitis (5).

Consumption of food and-or beverage with caution is considered to be of major importance to protect the health of travelers. Travelers should eat in recommended places and they should under no circumstances buy food

and beverage from street cantinas. Fruit and vegetables with thick shells (provided that are well washed), as well as well-cooked and canned foods may also be consumed. Hand hygiene (washing and using alcohol solution), is important before meals or after using the toilet. Partially cooked foods, shellfish, fresh salad, fresh milk and food exposed to ambient temperatures should be avoided (10). It is also recommended to use bottled, sealed or boiled water for drinking. In countries with poor sanitary living conditions there should be given special attention to the consumption of other beverages such as coffee, tea and mineral water, while beer and wine should be opened up in front of the client. Under no circumstances should there be consumed water from springs or drills (10).

Insects pose a risk factor for travelers' health. Flies, mosquitoes and ticks can become intermediate hosts of various diseases. Protective measures include appropriate clothing covering the limbs, use of closed shoes; and avoiding forests, lakes or still water. Use of insects' repellents can also be of help. Finally, to prevent sexually transmitted diseases, there should be avoided the rotation to sexual partners and the use of condoms is extremely important. If a person presents ulcers in the genital area or discharge from the urethra, they should immediately seek for medical care (9).

#### 4. KNOWLEDGE AND ATTITUDES OF INTERNATIONAL TRAVELERS ABOUT TRAVEL MEDICINE

Every traveler should obtain information needed to reduce risk factors prior to the departure. Healthcare professionals should be able to inform the travelers and to evaluate their needs (1). Despite this, only a few patients are well-informed about the conditions and risk factors they should expect during a trip.

Toovey et al. (11) conducted a study at the airport of Johannesburg, South Africa, to evaluate the precaution measures of those who travelled from a developing country into a high-risk country, against infectious diseases, such as malaria. Results indicated that 46% of the cases were preparing the trip for a month, whereas at a rate of 86% there was some kind of pre-travel consultation, through travel seminars and the internet. Hepatitis A and B vaccinations had been found at a rate of 37%, and 27% respectively. Vaccination against yellow fever was found at a rate of 76% in the endemic zone. Finally, 49% of the cases had not received any kind of malaria treatment.

In 2004, Wilder et al. studied the use of travel medicine services in five Australian and Asian airports. Among 2,101 participants, the 31% asked for some kind of information before the departure, whereas only 4% asked a travel medicine healthcare professional. During the travel preparation, a percentage of 5% of travelers had been vaccinated. Vaccination against hepatitis A and B were most common. Finally 40% of the participants had received some kind of malaria treatment (12).

According to the study of Davidson et al. (12), on the knowledge and attitudes of travelers in John F. Kennedy's airport, New York, 203 questionnaires were distributed, asking about the measures that travelers take against malaria during a trip preparation. An additional 201 questionnaires were given out to evaluate of the vaccination coverage against infectious diseases. At a rate of 36%, travelers had been informed from a travel medicine health-care professional. The 46% of the travelers in countries of high-endemicity took medication against malaria. Vaccination against tetanus, hepatitis A and B and yellow fever was found at a rate of 11%, 14%, 13% and 5% respectively.

In Van Herck's study (13) it was found that 73.3% of the travelers asked for some kind of information before the departure, 52% of whom asked a travel medicine health-care professional. Although the majority of the sample expressed positive attitudes towards vaccination, a very high percentage of 58.4% and 68.7% respectively, of the respondents took no protection against Hepatitis A and B. Finally, in the study of Han et al, 16.7% of the sample (n=1.704) had received pre-travel medical care, the majority of them by their family doctor (86%). However, one-fifth of respondents reported an incident of injury or an illness during the trip (14).

#### 5. DISCUSSION

Since travel medical services are constantly expanding, the number of people who use these services is expected to further increase. Interventions at an individual level and the contribution to protect public health put the issue in a high priority in both medical and the nursing science.

Travel medicine professionals should be well prepared and provide specialized knowledge in infectious diseases. Continuous professional training and education is required to maintain the health level of travelers, and assess their needs to protect them from potential health risks. Awareness for prevention measures and the appropriate preparation to encounter a potential health problem is expected to surpass undesirable conditions affecting both the safety and the health status as well as the mental and physical well-being of travelers. Additionally is equally important to secure compliance of travelers with regulations to provide a healthy trip. Information from trusted internet resources contributes to an updated and accessible information, while the expanding services of travel medicine should be supported by the state policies and regulations.

To conclude, travelling for business or leisure around the world may be unhealthy. The importance of proper preparation prior to the travel requires to be adequately informed by specialized healthcare professionals, and receive appropriate vaccinations and medications, when required. The results of the review of travelers knowledge and attitudes on travel medicine finally indicates the need for further development of travel medicine and the expansion of the availability of the already existing services.

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