VIA MEDICA

ORIGINAL ARTICLE

Int Marit Health
2024; 75, 1: 55–60
10.5603/imh.99413
www.intmarhealth.pl

ISSN 1641-9251
eISSN 2081-3252

Characteristics of Polish travellers admitted at the University Centre of Maritime and Tropical Medicine in Poland, 2023

Krzysztof Korzeniewski[1, 2]

[1]Department of Epidemiology and Tropical Medicine; Military Institute of Medicine — National Research Institute, Warsaw, Poland
[2]Department of Tropical Medicine and Epidemiology, Institute of Maritime and Tropical Medicine, Faculty of Health Sciences, Medical University of Gdansk, Poland

ABSTRACT

Background: *After COVID-19 restrictions were lifted, people started to travel again. Each year, thousands of Poles travel internationally, and many travel to tropical or subtropical destinations in Asia, Africa or South America. The aim of this article was to describe the characteristics of Polish travellers based on the information from a retrospective 12-month review of the medical records of Polish patients seeking pre-travel advice at the largest diagnostic and treatment travel medicine centre in Poland in 2023.*

Material and methods: *The retrospective study was based on the analysis of medical records of 2,147 patients seeking pre-travel advice at the University Centre of Maritime and Tropical Medicine in Gdynia, Poland, between January and December 2023. The study focused on the analysis of the following patients' variables: age, sex, travel details (purpose of travel, length of travel, departure month, continents and countries to be visited). It also aimed to evaluate the range of prevention measures which were either recommended or administered to patients seeking pre-travel advice at the clinic (preventive vaccinations, chemoprophylaxis). In addition, it assessed the health status of the patients presenting at the travel medicine clinic; retrospective health assessments were based on the information from the interviews with the patients.*

Results: *Patients who sought pre-travel advice were mostly aged 36–65 years (49.5%), they were travelling for tourism purposes (78.3%), for a maximum period of 4 weeks (79.0%), mostly in November (15.2%) or in January (14.9%). Most travellers planned to visit Asia (55.5%) or Africa (29.0%); mainly Thailand (21.5%), Vietnam (8.5%), Kenya (8.3%) or India (8.2%). The most frequently administered immunoprophylaxis included vaccinations against typhoid fever and hepatitis A. Other commonly recommended/prescribed prevention measures included: insect repellents (69.3%), sunscreen (58.3%), antimalarials (35.8%), antithrombotic drugs (32.6%), and antidiarrheal drugs (25.6%). The analysis of patient interviews demonstrated that 61.8% of the travellers consulted at the clinic had no pre-existing medical conditions, while 38.2% required the use of chronic medications, mainly for allergies (14.3%), thyroid disorders (13.6%), cardiovascular diseases (9.3%), or psychiatric disorders (5.5%).*

Conclusions: *A large number of Polish travellers visit destinations where the risk of infectious and non-infectious diseases is high. Providing patients with professional advice during a pre-travel consultation will help protect against travel-associated health problems.*

(Int Marit Health 2024; 75, 1: 55–60)

Keywords: Polish travellers, international travel, risk assessment, prophylaxis

Krzysztof Korzeniewski, Department of Epidemiology and Tropical Medicine; Military Institute of Medicine — National Research Institute, 128 Szaserów St., 04–141 Warsaw, Poland, e-mail: kkorzeniewski@wim.mil.pl

Received: 16.02.2024 Accepted: 28.02.2024

INTRODUCTION

As the COVID-19 pandemic has slowed down, the number of international travel arrivals has sharply increased. With a sudden growth in the numbers of international tourist arrivals, it has become necessary to implement a system for monitoring travellers' health. Pre-travel and post-travel health assessment is one of the elements of such a system. It can help identify specific needs of individual travellers, especially those planning a visit to a high-risk country, and thus prevent many travel-associated health problems. An effective pre-travel health consultation should not be limited to advice on immunoprophylaxis and chemoprophylaxis but should also include an in-depth patient interview and physical examination. All the information obtained during the consultation need to be entered into patient's medical records, which is to be confirmed by a signature of both the patient and the consulting physician. Keeping clear and accurate medical records has become a standard in all travel medicine clinics in North America and western European countries. Good record keeping is required by most healthcare insurance companies and if the documentation is incomplete or inaccurate, insurance companies tend to interpret all inaccuracies or errors to the patient's advantage. In the West, it has long been understood that travel medicine is a complex, multi-disciplinary field of medicine that requires extensive theoretical and practical knowledge. Travel medicine specialists are not only responsible for prescribing the right immunoprophylaxis and chemoprophylaxis but are also charged with the diagnosis and treatment of travel-related illnesses. We may only hope that Polish healthcare providers will follow the trends set at the end of the 20th century by the pioneers of travel medicine from western countries. The COVID-19 pandemic with its mass-scale vaccination programmes, sanitary restrictions as well as diagnostic and treatment difficulties, gave us an opportunity to reflect on the safety of international travellers, especially in terms of health screening and global epidemiological surveillance. It is important to stress that a pre-travel consultation cannot be limited to the administration of vaccines against a dozen or so infectious diseases or prescribing a patient antidiarrheal drugs, as these measures are only a small part of a pre-travel health assessment. Unfortunately, some travel medicine clinics have been known to provide low quality pre-travel counselling. This is largely attributable to the lack of comprehensive knowledge of travel-related risk factors that are present in different parts of the world, the ignorance of the latest guidelines on international travel safety, and a poor knowledge of the recommended diagnostic and therapeutic strategies used for the management of travel-related health problems. Focusing solely on the strategies for preventing infectious diseases is not the best method to prepare a patient for international travel. In fact, a large number of retrospective studies which analysed medical records of patients consulted at travel medicine clinics in the US, Canada or countries in Western Europe demonstrated that the most significant and most common threats for international travellers include: an increased risk of traffic accidents, injuries from adventure tourism or extreme sports, cardiovascular risks (this particularly applies to the elderly travellers) and health problems associated with exposure to unfamiliar climate, e.g. headaches from dehydration or overexposure to the sun, and not, as is commonly assumed, infectious or parasitic diseases.

It becomes increasingly important that a pre-travel consultation should also include a mental health assessment because a growing number of travellers are treated for psychiatric disorders, such as depression or anxiety. Symptoms of mental disorders may exacerbate during travel causing serious problems. When consulting a patient with pre-existing illnesses, it will be necessary to check if they use any chronic medications in order to select the most appropriate chemoprophylaxis and to minimize the risk of adverse drug events or interactions with other prescription drugs. One of the biggest challenges facing travel medicine practitioners in the coming years is to digitize their patients' medical records. Because of the problems associated with population aging, such as increased morbidity and polypharmacy (simultaneous use of multiple medications), one may expect that in order to provide a patient with professional pre-travel and post-travel counselling it will soon become necessary to create comprehensive electronic databases and to introduce such IT solutions that will enable healthcare practitioners to monitor travellers' health in real-time and to promptly archive all their medical records. After the COVID-19 pandemic has officially been declared over and before the next global outbreak of an infectious disease (according to the WHO it is only a matter of time), when the number of international tourist arrivals returns to pre-pandemic levels and so the number of patients seeking pre-travel advice also rises, one may expect even greater challenges and growing expectations both from patients and the healthcare sector [1].

The aim of this paper was to describe the characteristics of Polish travellers based on the information obtained from a retrospective 12-month analysis of medical records of the patients seeking pre-travel advice at the largest diagnostic and treatment travel medicine centre in Poland in 2023.

MATERIAL AND METHODS

STUDY POPULATION

All patients (n = 2,147) who sought pre-travel advice at the Clinic of Travel Medicine, Tropical Diseases and Occupational Medicine at the University Centre of Maritime

and Tropical Medicine (UCMTM) in Gdynia, between January and December 2023 were enrolled in the present study. Patients' demographics (age, sex), travel details (purpose of travel, length of travel, departure month, continents, and countries to be visited) as well as preventive measures taken (pre-travel vaccinations, chemoprophylaxis, other) were recorded and analysed. In addition, the study assessed the health status of the patients presenting at the travel medicine clinic, health assessments were based on the information from the patient interviews.

DATA COLLECTION

Patients were requested to fill in a pre-travel questionnaire prior to the consultation. Patients were asked to provide the following information: their personal details, travel details, activities planned, past and present medical history (e.g., pre-existing diseases, the use of chronic medications). During a visit, a consulting physician completed the remaining sections of the questionnaire, including the information on the current health status of the patient, the list of vaccinations taken before the visit or those recommended to the patient during the visit, as well as the list of any other prevention measures suggested to the patient.

ETHICAL CONSIDERATIONS

For this non-interventional cross-sectional study, a decision of the Bioethics Committee was not required.

RESULTS

TRAVELLERS' AND TRAVEL CHARACTERISTICS

Of 2,147 travellers enrolled in the present study, 50.7% were men, and 49.3% were women. Patients who sought pre-travel advice were mostly aged 36–65 years old (49.5%), they were travelling for tourism purposes (78.3%), for a maximum period of 4 weeks (79.0%), mostly in November, January, February, and December (50.5% of travellers in total). The Clinic of Travel Medicine, Tropical Diseases and Occupational Medicine at the University Centre of Maritime and Tropical Medicine in Gdynia does not provide medical consultations for children or adolescents under 18 years old (Table 1).

MEDICAL HISTORY

The analysis of the information collected in the patient interviews showed that 61.8% of the travellers enrolled in the study had no pre-existing medical conditions, while 36.0% had underlying conditions and required chronic medications, mainly for allergies (14.3%) and thyroid disorders (13.6%) (Table 2).

TRAVEL DESTINATIONS

The data generated in the study showed that Asia was the most popular travel destination for Polish travellers

Table 1. Characteristics of Polish travellers consulted at the UCMTM between January and December 2023 (n = 2147)

Travellers and travel characteristics	Number of travellers (%)
Sex	
Male	1088 (50.7)
Female	621 (49.3)
Age (years)	
< 18	0 (0.0)
18–35	1011 (47.1)
36–65	1063 (49.5)
> 65	73 (3.4)
Reason of travel	
Tourism	1681 (78.3)
Business	387 (18.0)
Others	79 (3.7)
Length of travel	
< 4 weeks	1696 (79.0)
> 4 weeks	451 (21.0)
Month of travel	
November	327 (15.2)
January	321 (14.9)
February	235 (10.9)
December	203 (9.5)

Table 2. Medical history of Polish travellers consulted at the UCMTM between January and December 2023 (n = 2147)

Patients' medical history	Number of travellers (%)
No abnormalities	1327 (61.8)
Patients taking chronic medications	820 (38.2)
Allergies	307 (14.3)
Thyroid disorders	293 (13.6)
Cardiovascular diseases	200 (9.3)
Psychiatric disorders	119 (5.5)
Gastrointestinal diseases	96 (4.5)
Diabetes mellitus	71 (3.3)
Skin diseases	70 (3.3)
Respiratory illnesses	69 (3.2)
Neoplasms	38 (1.8)
Neurological diseases	37 (1.7)
Urogenital diseases	32 (1.5)
Pregnancy	8 (0.4)

(55.5%), with Thailand (21.5%), Vietnam (8.5%) and India (8.2%) being the top three most visited Asian countries (Table 3).

VACCINES AND RECOMMENDED CHEMIOPROPHYLAXIS

Typhoid fever (one dose) and hepatitis A vaccine (2 doses) were the two most frequently prescribed/administered vaccines. Other commonly recommended/prescribed prevention measures included: the use of insect repellents, the use of sunscreen, antimalarial, antithrombotic, and antidiarrheal medications (Table 4).

DISCUSSION

Travellers planning to visit a country with difficult environmental or climate conditions (e.g. countries with hot temperatures, high humidity or low sanitary standards) need to take all the necessary precautions in order minimize the risk of infection during travel and protect their health and life. The recommended prevention measures for travellers include having a pre-travel health assessment, receiving all the recommended travel vaccinations, getting counselling on self-medication (antimalarial prophylaxis, prevention and treatment of diarrhoeas, the use of chronic medications, travel medical kit) [2]. Patients seeking advice at a travel medicine clinic should prepare for their visit if they are to receive optimal pre-travel counselling. First, they should be ready to answer any questions concerning their travel details, e.g. their travel itinerary (continents and countries to be visited, the type of climate at the destination), the dates of departure and return. They will also need to inform the physician about the type of activities planned (leisure or active tourism, extreme sports, e.g. snorkelling, scuba diving, mountaineering, bungee jumping, skydiving) [3], and be ready to answer questions about their accommodation standard (hotels, low budget hostels). Most importantly, they will need to provide the physician with all the necessary information on their past and present medical history including their immunization history (the need to complete the primary vaccination course or to administer booster doses) [4], allergies to drugs, egg white (component of vaccines) or Hymenoptera venom, the history of any acute or pre-existing medical conditions, the use of chronic medications, immunodeficiency [5], carriage of infectious pathogens (HIV, HBV, HCV, other), pregnancy or breastfeeding [6]. It is recommended that travellers over sixty-five and patients with cardiovascular diseases or cardiovascular risks (such

Table 3. The most visited continents and countries by Polish travellers consulted at the UCMTM between January and December 2023 (n = 2147)

Destinations	Number of travellers (%)
Continents	
Asia	1191 (55.5)
Africa	622 (29.0)
South America	141 (6.6)
North & Central America	102 (4.7)
Europe	32 (1.5)
Australia & Oceania	28 (1.3)
Several Continents	31 (1.5)
Countries	
Thailand	462 (21.5)
Vietnam	183 (8.5)
Kenya	178 (8.3)
India	176 (8.2)
Tanzania/Zanzibar	152 (7.1)
Indonesia/Bali	146 (6.5)
Sri Lanka	94 (4.4)
Cambodia	93 (4.4)
Philippines	66 (3.1)
Malaysia	56 (2.4)

Table 4. The list of vaccines and chemoprophylactic agents prescribed/recommended to Polish travellers consulted at the UCMTM between January and December 2023 (n = 2147)

Vaccines (against)	Number of doses
Typhoid fever (1 dose)	1930
Hepatitis A (2 doses)	1588
Tetanus, Diphtheria, Pertussis, Polio (1 dose)	1237
Rabies (2 or 3 doses)	1169
Hepatitis A + B (3 doses)	686
Yellow fever (1 dose)	562
Cholera (1 or 2 doses)	193
Japanese encephalitis (2 doses)	192
Chemoprophylaxis	**Number of travellers (%)**
Repellents	1489 (69.3)
Sun protection	1251 (58.3)
Antimalarial drugs	768 (35.8)
Antithrombotic drugs	699 (32.6)
Antidiarrheal drugs	550 (25.6)
Altitude sickness	70 (3.3)

as obesity, arterial hypertension, hypercholesterolemia) should have a resting ECG test performed before travelling internationally [7]. All international travellers are recommended to have a dental check-up before travel, to check if they have any dental or periodontal problems. Women are recommended to have a consultation with a gynaecologist and patients with eye problems should have a consultation with an ophthalmologist [8]. Each traveller must prepare and carry a travel medical kit to all destinations. The kit should include medical supplies (medications and wound dressing materials), all the required documents including the International Vaccination Certificate for those travelling to yellow fever endemic countries, a travel insurance policy, a photocopy of the passport and passport photos in case it should be necessary to obtain a visa when entering any country. The medical kit should include a supply of drugs taken for chronic medical conditions, antimalarial drugs, and contraceptives. All drugs should be carried in sufficient quantity for the entire visit. The drugs should be carried in carry-on luggage and in original containers for security reasons (e.g. in case of an inspection by border security). For the same reasons, all liquid medications and cosmetics in quantities of more than 100 ml will need to remain in checked luggage. Liquids in quantities of less than 100 ml may be kept in carry-on luggage but will have to be carried in a transparent plastic bag with a seal. The traveller's medical kit should also contain: antimalarial medications (when visiting malaria-endemic countries), an insect repellent containing DEET (N,N-diethyl-meta-toluamide) or picaridin, probiotics, antidiarrheal medication, medications to treat common infections of the respiratory tract and the urinary tract, analgesics, antipyretics, antihistamines, a pre-filled syringe with adrenaline (for travellers with Hymenoptera allergy), motion sickness medications, itch relief gel for insect bites, skin disinfectants, eye drops (emollient, anti-inflammatory), wound dressing materials, a spare pair of eyeglasses and/or spare contact lenses (for travellers with vision defects), UV protection sunglasses [9], sunscreen, soothing sunburn cream, hand disinfectant, a face mask (preferably an FFP2 mask). In general, the medical kit should contain all the necessary drugs and medical items which may be needed by an individual traveller according to the duration of travel, the destination, and health risk factors at a given destination.

Before taking any drug, the patient should read the information on the contraindications to its use (they are listed in the patient leaflet) and possible interactions with other drugs. If a patient takes any medications for pre-existing medical conditions, they should write down the generic name of the drug (also known as international non-proprietary name) so that they can purchase the drug abroad in case their medical kit is lost or they do not have a sufficient quantity of the drug for the entire visit. When planning a visit to a country with difficult climate conditions or when travelling to areas with a considerable risk of exposure to infectious/invasive diseases (either epidemic or endemic), a traveller will need to be informed of the basic disease prevention measures. These include gradual acclimatization (the process of adapting to a different environment), personal and clothing hygiene, accommodation hygiene, food and water precautions. Travellers are also recommended to check the current travel recommendations and advise for a country they are planning to visit and ensure that their travel insurance includes coverage for the costs of medical treatment abroad and medical evacuation. The recommended measures for avoidance of insect bites include the use of insect repellents, wearing protective clothing (clothes with long sleeves and long trouser legs), avoiding being outdoors between dusk and dawn (when mosquitoes are most active) especially in areas near standing water. Travellers are advised to use mosquito nets to protect themselves against insect bites indoors (by using bed nets and placing insect screens/nets on all windows and ventilation grills) [10]. Travellers are strongly recommended to avoid contact with local animals, both domesticated (dogs, cats) and undomesticated ones. If a traveller is bitten or scratched by an animal, they should wash the wound thoroughly with soap and water as soon as possible and then contact the nearest medical facility to be treated with post-exposure vaccination against rabies. Travellers who have previously received a course of pre-exposure rabies vaccine (a minimum of 2 doses or 3 doses) should be given 2 booster doses of the vaccine: the first one on the day of exposure and the second one 3 days later. Unvaccinated travellers (i.e. individuals who have never been vaccinated or have not received a complete series of the rabies vaccine) should be treated with the 5-dose regimen (known as the Essen regimen) with doses being administered on days: 0 (the day of exposure), 3, 7, 14, 28 or a 4-dose regimen (the Zagreb regimen) with 2 doses being administered on the day of exposure (at different sites), and next 1 dose on day 7 and 1 dose on day 21 after exposure (2-1-1). Rabies immunoglobulin HRIG (at a dose of 20 IU/kg body weight) is used for post-exposure prophylaxis in unvaccinated individuals; rabies immunoglobulin should be administered before a patient receives the first dose of the rabies vaccine [1]. To avoid involvement in traffic accidents, travellers are advised to take the following precautions: do not drive after drinking alcohol, always wear a seat belt, always wear a helmet when riding a bicycle or a motorcycle, avoid travelling on buses/minibuses which are crowded, avoid travelling at night. Other recommended travel safety precautions include: prevention of high altitude illness (gradual acclimatization), avoidance

of excessive sun exposure (by using sunscreen), avoidance of exposure to blood-borne pathogens (tattooing, piercing) or using needles which are not sterile (the risk of HIV, HCV, HBV transmission), consistent use of condoms during casual sex (the risk of STD transmission) [11], avoiding walking barefoot in places which can be contaminated with faeces of the local animals (the risk of parasitic infections such as cutaneous larva migrans) [12], taking good dental care (brushing the teeth regularly using bottled or boiled water only) [13]. Each person planning to travel internationally should have the basic knowledge concerning the acclimatization processes, i.e. the body adapting a new time zone, to a new place (different climate and environmental conditions) and to changes in altitude (atmospheric pressure). The human body adjusts to a different climate by changing the functions of the cardiovascular, respiratory and urinary systems and it can adapt to low sanitary standards and different food by changing the function of the digestive system. The period of adaption can vary between individuals and may take longer in the elderly or obese travellers [7]. Both travellers and doctors providing pre-travel advice at travel medicine clinics should be familiar with the basics of travel medicine that were briefly discussed in this article.

CONCLUSIONS

Poles travel to destinations where the risk of infectious and non-infectious diseases is high. Providing patients with appropriate advice during a pre-travel consultation will help protect the travellers against travel-associated illnesses.

ARTICLE INFORMATION AND DECLARATIONS

Data availability statement: The data used in the article come from the medical records of patients admitted at the University Centre for Maritime and Tropical Medicine in Gdynia.

Ethics statement: Author declares no conflict of interest in relation to this article.

Author contributions: Preparation of the project, selection data and typescript.

Funding: No funding.

Acknowledgments: No acknowledgements.

Conflict of interest: Author declares no conflict of interest in relation to this article.

Supplementary material: No supplementary material.

REFERENCES

1. Korzeniewski K. Travel Medicine 2023-2024. Travel Medicine: Gdynia 2023: 13–63 [in Polish].
2. Korzeniewski K. Travel health prevention. Int Marit Health. 2017; 68(4): 238–244, doi: 10.5603/IMH.2017.0042, indexed in Pubmed: 29297575.
3. Korzeniewski K. Extreme traveler. Int Marit Health. 2020; 71(4): 281–290, doi: 10.5603/IMH.2020.0048, indexed in Pubmed: 33394494.
4. Korzeniewski K, Pokorna-Kałwak D. Immunoprophylaxis for travellers. Pol Merkur Lekarski. 2019; 47(282): 232–239, indexed in Pubmed: 31945026.
5. Wasilczuk K, Korzeniewski K. Immunocompromised travellers. Int Marit Health. 2017; 68(4): 229–237, doi: 10.5603/IMH.2017.0041, indexed in Pubmed: 29297574.
6. Korzeniewski K. The pregnant traveller. Int Marit Health. 2018; 69(1): 63–69, doi: 10.5603/IMH.2018.0010, indexed in Pubmed: 29611616.
7. Woś M, Korzeniewski K. The older traveller. Int Marit Health. 2018; 69(4): 285–296, doi: 10.5603/IMH.2018.0045, indexed in Pubmed: 30589069.
8. Korzeniewski K. Post-travel screening of symptomatic and asymptomatic travelers. Int Marit Health. 2020; 71(2): 129–139, doi: 10.5603/IMH.2020.0023, indexed in Pubmed: 32604457.
9. Korzeniewski K. Eye diseases in travelers. Int Marit Health. 2020; 71(1): 78–84, doi: 10.5603/IMH.2020.0015, indexed in Pubmed: 32212152.
10. Korzeniewski K, Gaweł B, Krankowska D, et al. Fever of unknown origin in returning travellers. Int Marit Health. 2015; 66(2): 77–83, doi: 10.5603/IMH.2015.0019, indexed in Pubmed: 26119676.
11. Korzeniewski K, Juszczak D. Travel-related sexually transmitted infections. Int Marit Health. 2015; 66(4): 238–246, doi: 10.5603/IMH.2015.0045, indexed in Pubmed: 26726895.
12. Korzeniewski K, Juszczak D, Jerzemowski J. Skin lesions in returning travellers. Int Marit Health. 2015; 66(3): 173–180, doi: 10.5603/IMH.2015.0034, indexed in Pubmed: 26394319.
13. Fedor A, Bojanowski I, Korzeniewski K. Gastrointestinal infections in returned travelers. Int Marit Health. 2019; 70(4): 244–251, doi: 10.5603/IMH.2019.0039, indexed in Pubmed: 31891179.