

Characteristics of Polish travellers: six-month experience from the University Centre of Maritime and Tropical Medicine in Gdynia, Poland

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ABSTRACT

Background: The number of international travels has grown substantially over the last decade, both globally and in Poland. Thousands of Poles travel to tropical or subtropical countries in Asia, Africa or South America each year. The aim of this paper was to discuss the characteristics of Polish travellers seeking pre-travel consultation at the largest diagnostic and treatment travel medicine clinic in Poland.

Materials and methods: This retrospective study was based on the analysis of medical records of 1291 patients seeking pre-travel advice at the University Centre of Maritime and Tropical Medicine in Gdynia, Poland, between 1 July and 31 December 2022. The study comprised the analysis of the following patient variables: age, sex, travel details (purpose and length of travel, continents and countries to be visited, activities planned). The study also aimed to evaluate the range of prevention measures which were recommended/administered (preventive vaccinations, chemoprophylaxis). In addition, it assessed the health status of the patients presenting at the travel medicine clinic.

Results: Patients who sought pre-travel advice were mostly people aged 18–35 years old (50.1%), travelling for tourism (72.2%), for a maximum period of 4 weeks (85.0%), travelling in December (24.3%) or in November (22.2%). Most of the Polish travellers consulted at the clinic travelled to Asia (56.2%), mainly to Thailand (27.3%), Vietnam (10.8%) or India (8.7%). Most travellers were planning a beach holiday (56.4%). As regards extreme activities, scuba diving was the most popular among the patients involved in the study (22.5%). The most frequently administered immunoprophylaxis were vaccines against typhoid fever (76.3%) and hepatitis A (56.2%). Other commonly recommended/prescribed prevention measures included: probiotics (75.9%), repellents (73.6%), antimalarial drugs (60.9%), and antidiarrheal antibiotics (51.9%). The analysis of patient interviews demonstrated that 42.4% of Polish travellers consulted at the clinic complained of no medical problems while 36.0% were taking chronic medications, mainly for allergies (17.1%) or thyroid disorders (12.2%).

Conclusions: A growing number of people from Poland travel to destinations where the risk of infectious disease exposure or transmission is high. Providing a patient with appropriate advice during a pre-travel consultation will help protect the traveller against travel-associated risks at their intended destinations.

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

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INTRODUCTION

The number of international travels has grown substantially over the last decade, both globally and in Poland. The unprecedented growth in the number of international travels was possible due to the development of international air transport. In the pre-pandemic period, international tourist arrivals were projected to reach 1.8 billion by 2030, and each region of the world reported an annual increase in international tourist arrivals [1]. However, the coronavirus disease 2019 (COVID-19) pandemic, which broke out in 2020, brought the global travel sector to a standstill, and earlier projections were no longer applicable. The global lockdown had a major impact on individuals and their behaviours. People, unaccustomed to the new situation of being 'locked down,' eagerly awaited the opportunity to be able to travel again [2]. Once the COVID-19 restrictions had been lifted, many people resumed travelling. The question that arises is whether people have learned any lessons from the pandemic. Will travellers become more aware of how important it is to comply with the basic prevention measures (e.g. immunoprophylaxis and chemoprophylaxis), to minimize the risk of exposure to travel-associated hazards, or to have a pre-travel consultation before travelling to areas where infectious diseases are endemic or epidemic. In 2019, Polish people made over 12.7 million international trips, mostly to the Mediterranean coast but also to tropical or subtropical countries in Asia, Africa or South America [3]. Until mid-2022, the number of Polish tourists travelling internationally has grown substantially compared to the previous year. Owing to the increasing number of international travels, there are now more patients who report to travel medicine clinics for a pre-travel consultation. This creates new challenges for health care providers, namely the provision of optimal pre-travel counselling and prophylaxis, the evaluation of the patients' health status after taking their medical history, the collection of information on the most popular travel destinations and activities planned (including high-risk behaviours), the assessment of the epidemiological situation at the destinations to be visited and post-travel health assessment. The aim of this paper was to discuss the characteristics of Polish travellers based on the information obtained from a 6-month analysis of the profiles of the patients seeking pre-travel consultation at the largest diagnostic and treatment travel medicine clinic in Poland.

MATERIALS AND METHODS

STUDY POPULATION

All patients ($n = 1291$) who sought pre-travel consultation at the Clinic of Travel Medicine, Tropical Diseases and Occupational Medicine at the University Centre

of Maritime and Tropical Medicine (UCMTM) in Gdynia, between 1 July and 31 December 2022 were enrolled in the present study. Patients' demographics (age, sex), travel details (purpose of travel, length of travel, departure date/month, continents and countries to be visited, activities planned) 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 patient interviews.

DATA COLLECTION

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

ETHICAL CONSIDERATION

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

RESULTS

TRAVELLERS' AND TRAVEL CHARACTERISTICS

Of the total number of 1291 travellers included in the present study, 670 (51.9%) were men, and 621 (48.1%) were women. Patients who sought pre-travel advice were mostly individuals aged 18–35 years old (50.1%), travelling for tourism (72.2%), for a maximum period of 4 weeks (85.0%), who were travelling in December (24.3%) or in November (22.2%). It is important to emphasize that 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 below 18 years old. As regards the type of holiday activities, most patients consulted at the clinic were planning a beach holiday (56.4%), scuba diving was found to be the most popular (22.5%) extreme sport among Polish travellers (Table 1).

MEDICAL HISTORY

The analysis of the information collected in the patient interviews showed that 42.2% of Polish travellers enrolled in the study did not complain of any medical problems, while 36.0% were taking chronic medications, mainly for allergies (17.1%) or thyroid disorders (12.2%) (Table 2).

Table 1. Characteristics of Polish travellers consulted at the University Centre of Maritime and Tropical Medicine in Gdynia between July and December 2022 (n = 1291)

Travellers and travel characteristics	All travellers
Sex	
Male	670 (51.9%)
Female	621 (48.1%)
Age [years]	
< 18	0 (0.0%)
18–35	647 (50.1%)
36–65	595 (46.1%)
> 65	49 (3.8%)
Reason of travel	
Tourism	932 (72.2%)
Business	296 (22.9%)
Others	63 (4.9%)
Length of travel	
< 4 weeks	1098 (85.0%)
> 4 weeks	193 (15.0%)
Month of travel	
December	314 (24.3%)
November	287 (22.2%)
Activities planned	
A beach holiday	728 (56.4%)
Scuba diving	291 (22.5%)
Safari	268 (20.7%)
Mountain trekking	261 (20.2%)

TRAVEL DESTINATIONS

The data generated in the study showed that Asia was the most popular travel destination among Polish travellers (56.2%), with Thailand (27.3%), Vietnam (10.8%) and India (8.7%) being the top three most visited countries (Table 3).

VACCINES AND RECOMMENDED CHEMIOPROPHYLAXIS

As regards immunoprophylaxis, the most frequently administered vaccines were the typhoid fever vaccine (76.3%) and the hepatitis A vaccine (56.2%). Other commonly recommended or prescribed prevention measures included: probiotics (75.9%), repellents (73.6%), antimalarial drugs (60.9%), and anti-diarrheal antibiotics (51.9%) (Table 4).

Table 2. Medical history of Polish travellers consulted at the University Centre of Maritime and Tropical Medicine in Gdynia between July and December 2022 (n = 1291)

Patients' medical history	All travellers
No abnormalities	548 (42.4%)
Patients taking chronic medications	465 (36.0%)
Allergies	221 (17.1%)
Thyroid disorders	158 (12.2%)
Cardiovascular conditions	95 (7.4%)
Mental illnesses/disorders	69 (5.3%)
Respiratory illnesses	54 (4.2%)
Gastrointestinal illnesses	47 (3.6%)
Diabetes mellitus	32 (2.5%)
Neoplasms	27 (2.1%)
CNS conditions	25 (1.9%)
Urogenital disorders	20 (1.5%)
Skin diseases	16 (1.2%)
Pregnancy	8 (0.6%)

CNS – central nervous system

Table 3. The most visited continents and countries by Polish travellers consulted at the University Centre of Maritime and Tropical Medicine in Gdynia between July and December 2022 (n = 1291)

Destinations	All travellers
Continents	
Asia	725 (56.2%)
Africa	321 (24.9%)
South America	98 (7.6%)
North and Central America	91 (7.0%)
Several continents	28 (2.2%)
Europe	19 (1.5%)
Australia and Oceania	8 (0.6%)
Countries	
Thailand	352 (27.3%)
Vietnam	139 (10.8%)
India	113 (8.7%)
Tanzania/Zanzibar	87 (6.7%)
Kenya	80 (6.2%)
Indonesia/Bali	76 (5.9%)
Cambodia	63 (4.9%)

Table 4. The most common vaccines and chemioprophylaxis prescribed to Polish travellers consulted at the University Centre of Maritime and Tropical Medicine in Gdynia between July and December 2022 (n = 1291)

Vaccines and chemioprophylaxis	All travellers
Vaccines against	
Typhoid fever	985 (76.3%)
Hepatitis A	725 (56.2%)
Tetanus, Diphtheria, Pertussis, Polio	544 (42.1%)
Rabies	485 (37.6%)
Cholera	271 (21.0%)
Hepatitis A+B	261 (20.2%)
Yellow fever	250 (19.4%)
Japanese encephalitis	93 (7.2%)
Chemioprophylaxis	
Probiotics	980 (75.9%)
Repellents	950 (73.6%)
Antimalarial drugs	786 (60.9%)
Antidiarrheal antibiotics	670 (51.9%)
Sun protection	542 (42.0%)
Antithrombotic	115 (8.9%)
Altitude sickness	45 (3.5%)

DISCUSSION

Travel medicine is one of the fastest growing medical fields. The growth of travel medicine as a separate specialty is linked to an increase in the number of international and intercontinental travels. Only a few decades ago, travellers from temperate climates mainly travelled to the tropics for business purposes. However, with the growing popularity of air travel, the number of people travelling internationally has surged in recent years. Currently, millions of tourists from all over the world travel to developing countries in Asia, Africa or South America each year. Surveys of American travellers visiting countries in Asia, Africa and Central or South America showed that between 15% and 70% of the travellers have experienced a travel-related health problem. Most travel-related illnesses are mild, but 1–5% of travellers become ill enough to seek medical care during travel [4]. A study conducted by travel medicine specialists demonstrated that of 100,000 travellers from developed countries who visit developing countries for a period shorter or equal to 1 month: 50% will develop a travel-related illness (manifesting with mild symptoms normally); 8% of travellers will seek medical care while abroad; 1100 travellers will be unfit for work after return;

300 travellers will need to be hospitalized during travel or after return; 50 travellers will require medical evacuation; and 1 person will die of an illness or an injury [5]. The study by Freedman et al. [6] shows that the most common travel-related health problems of international travellers include acute and chronic gastrointestinal disorders (10%), skin lesions (8%), respiratory tract infections (5–13%), and fevers of unknown origin (3%). Pre-travel consultation is therefore essential for those travelling internationally. It helps identify travel-associated risk factors as well as offers education on how to avoid or minimize those risks, thus enabling the patient to travel safely. During a pre-travel consultation, a patient should receive all the necessary information on how to prepare for a trip and how to behave in a new, unfamiliar environment. Patients should also receive counselling regarding the most common human and animal-borne diseases which are prevalent at the intended destinations; the indications/contraindications to the use of mandatory and recommended pre-travel vaccinations, antimalarial chemoprophylaxis, and antidiarrheal drugs; strategies for risk avoidance; and finally education on how to prepare the travel first aid kit. In recent years, travel medicine clinics have witnessed a rise in the number of patients with underlying health conditions. The group of high-risk travellers comprise the elderly, patients with chronic illnesses and individuals who are immunocompromised. It is particularly important that high-risk travellers receive optimal counselling (based on the results of the physical examination, past and present medical history and laboratory tests results) and are offered individually tailored prevention measures [7–9]. A health care provider offering pre-travel counselling needs a high level of knowledge of the global epidemiological situation and of the latest guidelines and strategies for infection control proposed by the World Health Organization and Centres for Disease Control and Prevention [1].

The present study was based on the 6-month analysis of medical records of 1291 patients-international travellers who sought pre-travel advice at the UCMTM in Gdynia. Patients' demographics, their past and present medical history, preventive measures taken (vaccinations, chemoprophylaxis), and travel characteristics (countries and continents to be visited, activities planned) were recorded and analysed. The findings of the present study were compared to the data obtained from the studies conducted at the travel medicine clinic at the Academic Medical Centre in Amsterdam (the Netherlands) [10] and the Communicable Disease Centre at the Hamad International Airport (Qatar) [11], which analysed the profiles of international travellers who presented at the clinics for a pre-travel consultation.

The analysis of the generated data shows that most patients who sought pre-travel advice at the Polish clinic were aged 18–35 years old (50.1%), travelling for tourism

(72.2%), for a maximum period of 4 weeks (85.0%). The data from the Dutch study, which involved 1749 patients, demonstrated that the median age of travellers was 35 years; the median length of travel was 21 days; and the main purpose of travel was tourism (53.3%) (vs. 7.3% visiting friends and relatives and 10.2% business travel) [10]. The data from travel medicine clinics in the USA [12], Singapore [13] and Spain [14] suggest that vacation/tourism is one of the most common reasons for international travel, with rates ranging from 49% to 81.6%. The data from the Communicable Disease Centre in Qatar, where a total of 279 patients were consulted within a 6-month period, show that the mean age of travellers was 31 years (80% of travellers were between 18 and 59 years old), the mean travel duration was 46 days (range 3–90 days; and the most common reason for travel was tourism – 57.3% (vs. 12.9% pilgrimage, 12.2% business travel) [11].

The analysis of the medical records of the Polish patients shows that 36.0% of travellers were taking chronic medications, mainly for allergies (17.1%) or thyroid disorders (12.2%). In comparison, 31.1% of travellers consulted at the Dutch clinic reported the use of chronic medications, mainly for cardiovascular diseases (7.5%), such as hypertension, hypercholesterolaemia [10]. The findings are consistent with the data reported by travel medicine clinics in the United States [12] and in France [15], where cardiovascular diseases have been described as one of the most frequent chronic conditions among international travellers presenting for a pre-travel consultation. The results of the study conducted at the Qatari centre found that 21% of travellers who participated in the study had pre-existing medical conditions and were taking chronic medications, mostly for cardiovascular diseases and diabetes mellitus [11].

The present study found that Asia (56.2%) was the most popular travel destination for Polish travellers, with Thailand (27.3%), Vietnam (10.8%) and India (8.7%) being the top three most visited countries. The most popular travel destination among Dutch citizens was found to be South-East Asia (the top two visited countries were Thailand and Indonesia). Dutch travellers visiting friends and relatives (VFRs) mainly travelled to Surinam in South America and Ghana in Africa [10]. Tanzania, including Zanzibar (16.5%), and Kenya (15.1%) in East Africa were the most common destinations for travellers consulted at the Qatari centre [11]. As regards prevention measures, 76.3% of travellers consulted at the UCMTM in Gdynia received the typhoid fever vaccine (which was the most commonly administered vaccine in this study group) and 56.2% received the hepatitis A vaccine. Antimalarial drugs were prescribed to 60.9% of the consulted travellers. In the Dutch clinic, the most commonly administered vaccines were those against hepa-

titis A (88.6%) and typhoid fever (85.1%). In addition, a large number of Dutch patients required vaccination against yellow fever, as 27.3% of the travellers (mostly VFRs) intended to travel to countries in South America or Sub-Saharan Africa where yellow fever is endemic and vaccination against disease is required for all travellers. A total of 73% of Dutch patients were prescribed antimalarial drugs [10]. Similar vaccination rates were reported by travel medicine clinics in the United States [12] and in Sweden [16]; the rates of patients who received antimalarial chemoprophylaxis were similar in the United States [12] and in France [15]. At the Qatari centre, the most commonly prescribed vaccines included the typhoid fever vaccine (69%), tetanus/diphtheria/pertussis vaccine (55%) and the hepatitis A vaccine (49.3%). Antimalarial drugs were prescribed to 42.3% of the international travellers [11].

Travel medicine clinics set up in the developed countries have seen an increase in the number of patients presenting for a pre-travel consultation, counselling, health risk assessment and pre-travel immunization and chemoprophylaxis. The present study is the first of its kind to discuss the characteristics of international travellers (including their health assessment) who presented at an outpatient travel medicine clinic in Poland for a pre-travel consultation. The results of the present analysis should prompt further research into developing effective strategies for reducing travel-associated health problems in international travellers.

CONCLUSIONS

A growing number of people from Poland and other developed countries travel to destinations where the risk of infectious disease exposure or transmission is high. Providing a patient with appropriate advice during a pre-travel consultation will help protect the traveller against travel-associated risks at their intended destination.

Conflict of interest: None declared

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