

Full Length Research Paper

A study of travel medicine among National and International travellers in Egypt

Naglaa A. El Sherbiny^{1*} and Ghada M. Wafik²

¹Fayoum University, Faculty of Medicine, Cairo, Egypt.

²Fayoum University, Faculty of Tourism, Cairo, Egypt.

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Travel medicine has emerged as a new field of medicine that involves pre-travel evaluation, contingency planning during travel, and post-travel care. Its implementation showed major discrepancies among different countries. This study aims to assess the health information given to travelers and detect their sources of information. This is a cross sectional analytical observational study of 397 travelers implemented on different travel destinations all over Egypt. It adopts self-administered structured questionnaires according to the International Travel Health Questionnaire (ITHQ) and in-depth interviews with managers in the Ministry of Tourism. The results showed that 17.5% of the international travelers and none of the national travelers heard about the ITHQ; whereas, 58.9% of the international travelers and 26.8% of the national travelers took information about safety measures from different sources. However, there was a lack of travelers' knowledge about safety measures with no obvious role of travel agencies.

Key words: Travel medicine, traveler safety, travel agent health advice.

INTRODUCTION

Travel medicine is a new multidisciplinary specialty concerned with risk assessment and measures to protect the health of travelers (Louton, 2010). It is a constantly changing medical branch, which aims to address epidemiology, prevent diseases and injuries amongst travelers, and offer precise, up-to-date problems management. It includes pre-travel consultation and evaluation, contingency planning during travel and post-travel follow-up and care according to information provided by the WHO (Leggat, 2005).

International travels expose individuals to new cultural, psychological, physiological and microbiological experiences. The travelers' abilities to adapt, cope and survive are influenced by many variables, such as personality and experience, which differ according to age, gender, culture, race, social status, education and health status, as well as, the length of the trip and the diversity of planned activities (Amanda et al., 2010; Johnathan,

2003).

Shaywitz and Ausiello (2002) added that people travel internationally for a variety of reasons other than tourism, and they include business, study and research programs, visiting relatives, adventure, medical tourism, or responding to an international disaster, according to statistics from the World Tourism Organization (An agency of the United Nations responsible for gathering statistical information on international tourism). The number of people travelling internationally increases every year, as shown by the international tourist arrivals that the number reached 935 million in the year 2010 and is expected to reach 1.6 billion by the year 2020 (UNWTO, 2011; WHO, 2010).

For many people, travel agencies should be viewed by experts in all areas of travel information, including knowledge and advice about health and safety issues. Well-traveled agencies are more likely to refer patients to travel medicine clinic, for immunization as yellow fever or meningitis and general checkup, especially for old people with chronic diseases (Jeff et al., 2003).

The primary focus of the travel medicine clinic is to

*Corresponding author. E-mail: nas02@fayoum.edu.eg

prevent health problems by providing education about the health risks, immunization and decrease risk of contracting infectious diseases. Some countries have travel medicine societies and provisions for a periodic distribution of recommendations, but many countries have no national pre-travel guidelines (Schlagenhauf et al., 2010).

The aim of this work is to assess the health information given to travelers and measure the level of awareness about vaccination, transmission and prevention of diseases; and detect the different sources of information.

SUBJECTS AND METHODS

Study design

This is a cross sectional, analytical, observational study among national and international travelers from different travel destinations all over Egypt. The recruitment of respondents for this study was on a voluntary basis; however, the age of recruitment is above 18, so that English speakers would be able to understand the questionnaire in order to have good communication with the interviewers.

Study sample

According to the Ministry of Tourism Report in Egypt, more than 14.6 million travelers visited Egypt in 2010. Therefore, to calculate a sample size with a confidence level of 95% and a confidence interval of 5%, the sample size was 384 travelers (Calculated using Statcalc, Epi-Enfo. Under widows 7).

Methods

1. Self-administered structured questionnaires were created based on the items included in the International Travel Health Questionnaire (2010). Trained interviewers were present to distribute the questionnaires, answer questions and check completeness of the questionnaires.
2. In-depth interview was done with managers in the Ministry of Tourism about the WHO traveler questionnaire, medical information and advice to travel agencies. This includes common diseases and ways of prevention, and procedures taken in the airport to achieve safety for all travelers.

Ethical consideration

This study was reviewed and approved by the Faculty of Medicine, Beni Suf University Research Ethical Committee (FMBSUREC), and a waiver of consent form was approved, as we used an anonymous self-administered questionnaire, which did not gather any private or sensitive information from the respondents.

Statistical analysis

Data collected were coded and analyzed using SPSS software version 18 under windows 7. Simple descriptive analysis in the form of percentage distribution, means, mode and standard deviations was done. However, suitable inferential statistics was done to test the level of significance with a confidence level of 0.05.

RESULTS

Four hundred and forty questionnaires were distributed among international and national travelers. From these, 397 complete, accurate questionnaires were available for analysis with a respondent rate of 90%, from 285 international travelers and 112 national travelers. The age of the respondents ranged from 19 to 75 years with a mean (\pm SD) of 42.21 ± 13.17 years and a mode of 45.

The purpose of travelling for the majority (75.8%, N = 216) of the international respondents was for vacation, while that for 21.4% (N = 61) of the respondents was for training. The period of stay for these respondents ranged from 3 to 30 days (mean \pm SD; 12.4 ± 6.1 days). While almost half of the national respondents (45.5%; N = 51) traveled for business, 26.8% (N = 30) of them traveled for training and attending conferences, while 27.7% (N = 31) traveled for religious pilgrimages (Hajj and Umraa), with a period of stay ranging from 5 to 365 days (mean \pm SD; 175.8 ± 173.9 days).

Travel destinations

Most international travelers came from European destinations (57.5%, N = 164), including England, Germany, Sweden, Norway, France, Spain, Denmark and Ukraine. African travelers accounted for 22.1% of respondents (N = 63) to include individuals from Zambia, Malawi, Kenya, Tanzania, Zimbabwe, Sudan, Ghana, Liberia and Eretria. Other respondents came from South America (10.2%, N = 29), North America (6.3%, N = 18) and Asia (3.9%, N = 11). More than half of the international travelers (64.9%; N = 185) had their trips arranged by a travel agency and 35.1% (N = 100) arranged their trips by themselves. Of the national travelers, 54.5% (N = 61) arranged their trip through a travel agency and 45.5% (N = 51) by themselves.

Knowledge of travelers about international travel medical questionnaire

It is revealed that only 17.5% of the international travelers and none of the national travelers heard about this questionnaire. As regards the travelers' opinion about importance of seeking medical advice before travelling, 100% of national travelers and 76.5% of international travelers agree about its importance. In addition, 44.9% of international travelers and 27.7% of national travelers take vaccinations before travelling (Table 1).

Sources of information

There is an important part of the questionnaire related to the source of information obtained by travelers about

Table 1. ITMQ information and practice in International and National travelers.

Items	International travelers		National travelers	
	No.	Percent	No.	Percent
Has information about (ITMQ)	50	17.5	0	0
Fill the ITMQ	31	10.9	0	0
Importance of seeking medical advice	218	76.5	112	100
Practice of taking vaccine	128	44.9	31	27.7

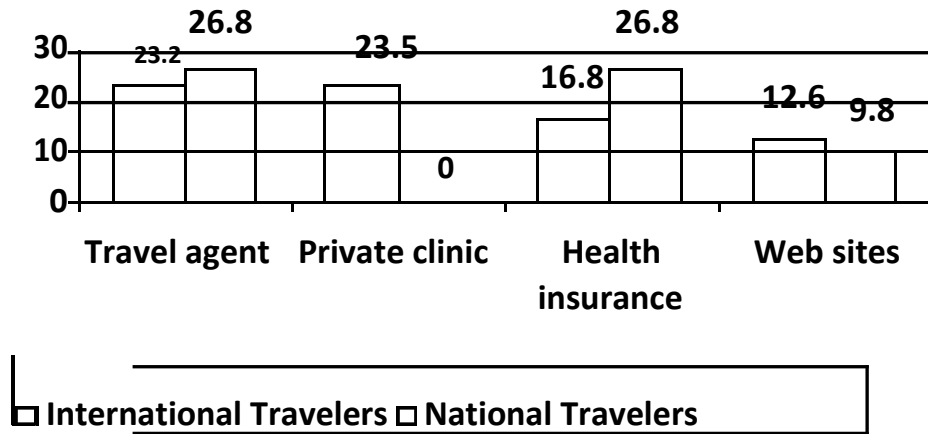


Figure 1. Sources of information in both groups.

common diseases and ways of prevention of these diseases. Data analysis revealed that 58.9% (N = 168) of the international travelers and 26.8% (N = 30) of the national travelers get information before traveling. These information were obtained from different sources including: travel agencies, governmental (health insurance) and private clinics, and the internet. However, 42.8 (N = 122) and 9.8% (N = 11) of international and national travelers got information from only one source, whereas 15.4 (N = 44) and 26.8% (N = 30) of the international and national travelers, respectively got information from more than one source. There was difference between source of information among international and national travelers as 26.8 and 23.2% and 26.8 and 16.8% of international and national travelers took information from travel agencies and health insurance, respectively. Thus, there was a great difference as regards private clinic, in that 16.8% of the national travelers took information from it, while none took information from it. Regarding the internet as source of information, the national travelers (12.6%) were more than the international travelers (9.8%) (Figure 1).

Health services

Regarding the health services offered to travelers in the

airport, only 14.7 (N = 42) and 27.7% (N = 31) of the international and national travelers, respectively asked about taking vaccine. The medical staff in the airport asked about the history of chronic diseases (25.6%, N = 73), allergy (33%, N = 94), fever in the past 48 h (8.07%, N = 23), and even medication taken in the international airport (29.1%, N = 83), but not in the national airport. Moreover, none of the national travelers asked about these topics except vaccination (Table 2).

Results of the in-depth interview

The in-depth interview with a small group of managers revealed that the Ministry of Tourism did not implement the WHO standard traveler questionnaire, or give the travel agencies any medical information. Therefore, the travel agencies could not give any medical advice because they were afraid to give incorrect information.

The international travelers know most of the safety medical information about the destination they will visit which include (infectious diseases, fever, purity of water), from their travel agencies, medical clinics and websites. About the Egyptian travelers, they collect most of the information they need through the different websites. In the case of travelling to Hajj or Umraa, the travelers must take vaccines, which are obligatory by Saudi Arabia, and

Table 2. Health service provision in both groups.

Items	International travelers				National travelers				P value
	Yes		No		Yes		No		
	No	Percent	No	Percent	No	Percent	No	Percent	
Vaccination	42	14.7	243	85.3	31	27.7	81	73.3	0.000*
History of chronic diseases	73	25.6	212	74.4	0	0	112	100	0.000*
History of allergy	94	33	191	67	0	0	112	100	0.000*
History of fever in past 48 h	23	8.07	262	91.9	0	0	112	100	0.000*
Recent medication	83	29.1	202	70.9	0	0	112	100	0.000*

P* < 0.01 considered highly significant.

if they travel to African countries, the travel agencies advise them to take vaccines.

Finally, they recommend co-operation between governmental and private sectors (Ministry of Tourism and Ministry of Health and Medical Insurance) and (Travel Agencies) give medical information to travelers through brochures or websites.

DISCUSSION

Steffen and DuPont (1994) stated “the art of travel medicine is by selecting the necessary prevention strategy without unnecessary adverse events, cost or inconvenience”. Travel medicine emerges in response to the needs of the travelling population worldwide. It deals with risk management including pre-travel consultation and risk assessment for different age groups concerning pre-travel chronic diseases and general condition of the traveler, vaccination and health advice concerning safety (Leggat et al., 2002).

In this cross sectional study, we found that most international travelers were coming from developed European countries (57.5%). The majority of international respondents that traveled on purpose for vacation is 75.8%, while 45.5 and 27.7% of the national respondents traveled for business and religious reasons, respectively. These results were in agreement with the results of (WHO, 2010) which reported that in 2008, more than half of all international arrivals were motivated by leisure, recreation and holidays, while business travel accounted for about 15% of arrivals and travel for other purposes as visiting friends and relatives, religious reasons (pilgrimages) and health treatment are 27%. In addition, Davidson and Bradley (2004) documented that more than half of the respondents (54%) in their study travelled on vacation.

From these developed countries, only 17.9% know the international health questionnaires and 10.9% of them filled them out. In addition, we found that 27.7% of national travelers to Saudi Arabia took vaccines before traveling, which is obligatory by the Ministry of Health in Saudi Arabia for obtaining the visas (Saudi Arabia

Regulation, 2010).

Considering the situation of travel medicine in Egypt, The Ministry of Health uses preventive measures for some infectious diseases such as yellow fever, cholera, plague, malaria and meningitis in the form of vaccination in an international vaccination center in Cairo airport and another two centers, one in Cairo and the other in Giza. The information about International Health Regulations (tips and instructions for health) presented by WHO are available for all travelers visiting these centers, and are available on the website of the Ministry of Health. Quarantine procedures in Egypt are regulated by International Health Regulations and the Laws of the local quarantine namely: Law No., (44) of (1955) as amended by Law No., (9) of (2004). There were preventive measures for travelers coming from or going to areas endemic with certain diseases. The most important season is (Hajj) with millions of pilgrims traveling to Saudi Arabia by air, sea or land with the precaution of vaccination especially for meningitis. Raising the health awareness of the pilgrims is an important focus with regards to the mode of transmission, prevention of respiratory tract infection and food safety to prevent diarrheal diseases (EMOH web site).

The results of this study revealed that 58.9% of the international travelers and 26.8% of the national travelers took information about diseases prevention from different sources including: travel agencies, governmental (health insurance) units, private clinics and through the internet. The health insurance in Egypt provides information about the adverse effects of vaccination, that is, it is obligatory to take the vaccine in governmental health units in order to obtain a certificate which is an important document for traveling, especially to Saudi Arabia. Our results showed agreement with that concluded by Leggat et al. (2007), who recorded that 40% of his study population sought advice on travel health from their general practitioner and/or travel clinic. Nonmedical sources of information on travel health included travel books and guides (40.5%), internet (35.7%), and travel agencies (19.0%). In addition, Regina et al. (2010) approved that among travelers who sought medical advice, the internet and primary care providers were the most common sources of information.

Travel agencies encouraged giving objective information on the hazards related to traveling and their avoidance. The responsibilities of the travel agencies include not only tour operators, air and cruise lines, booking of the tickets or hotel rooms, but also continuing health education and sharing of the basic health ideas learnt about the basics of travel medicine as it affects their customers (Jeff et al., 2003; Amanda et al., 2010).

The advice for the travelers given by the International Society of Travel medicine and agents pointed out that they are not doctors to give advice to travelers, so travel agencies are afraid to give out incorrect information and advice (Jeff et al., 2003). Therefore, it is beneficial for travel agencies to work together with travel medicine clinics in order to promote clients' health and give reciprocal benefit for both parties, which will ultimately benefit mutual clients (Schiff, 2001).

Conclusion

It is clear from the results of this study that there is a lack of traveler's knowledge about safety measures and health information on disease prevention. It is necessary to develop an international protocol with validated information resources implemented at the national level. The role of the travel agencies is not so prominent, so there must be collaboration between the Ministry of Health and Ministry of Tourism to transfer the most updated health information to travel agencies and inform them about different sites for travel medicine clinics to guide the travelers. Thus, the Ministry of Health set standards of training for general practitioners, about different topics related to travel medicine.

REFERENCES

- Amanda D, Whatley, Phyllis E Kozarsky (2010). Traveler's Health (Yellow Book) (CDC Health Information for International Travel), chapter I "Planning for Healthy Travel, Responsibilities of the Traveler, Clinician and Travel Industry.
- Davidson HH, Bradley AC (2004). Travel Health Knowledge, Attitudes and Practices among United States Travelers. *J. Travel. Med.*, 11: 23-26.
- Egyptian Ministry Of Health (2010). [http:// www.MOHP.gov.eg/](http://www.MOHP.gov.eg/). Last access on November / 19th/2010.
- Jeff W, Donna P, Lisa H (2003). Chapter 8 Travel agent's Health and Safety Advice in *Managing Tourist Health and Safety in the New millennium*, Elsevier Science.
- Johnathan C (2003). Chapter 2 Traveller's Health : An Epidemiological Overview in *Managing Tourist Health and Safety in the New millennium*, Elsevier Science.
- Leggat PA, Ross MH, Goldsmid JM (2002). Introduction to travel medicine. In: Leggat PA, Goldsmid JM, editors. *Primer of travel medicine*. 3rd ed. Brisbane: ACTM Publications, 1: 3-21.
- Leggat PA (2005). Travel medicine, An Australian perspective. *J. Travel. Med. Infect. Dis.*, 3: 67-75.
- Leggat PA, Mills D, Seare R (2007). Level of concern and sources of information of a group of Brisbane hostellers for personal safety and terrorism when traveling abroad. *J. Travel. Med.*, 14:2: 112-116.
- Louton L (2010). The challenges of travel medicine in 21st century. 14 th International Congress on Infectious Diseases (ICID) Abstracts, *Int. J. Infect. Dis.*, 14 (1): 2-478.
- Regina CL, Sowmya RR, Athe T, Thomas L, M. Anita B, Nina M, Gary B, Emad Y, Edward TR (2010). Pre-travel Health Advice-Seeking Behavior Among US International Travelers Departing From Boston Logan Int. Airport. *J. Travel. Med.*, 17(6): 387-391, November/December
- Saudi Arabia Regulation (2010). Health conditions to travelers to Saudi Arabia for (Hajj) for the year 1431 H-2010: *J. Infect. Public Health*, 3: 92-94.
- Schiff AL (2001). The travel industry and medical professionals. In: Steffen, Dupont, eds. *Textbook of Travel Medicine and Health*. Hamilton, Ontario, Canada: BC Decker Inc, pp. 11-15.
- Schlagenhauf P, Santos O'Connor, Parola P (2010). The practice of travel medicine in Europe. *Clinical Microbiology and Infection*, CMI, 16(3): 203-208.
- Shaywitz DA, Ausiello DA (2002). Global Health: A Chance for Western Physicians to Give - and Receive. *Am. J. Med.*, 113: 354-357.
- Steffen R, DuPont HL (1994). Travel Medicine: What's that? *J Travel Med.*, 1: pp.1-3.
- WHO (2010). International Travel and Health Situation as on 1 January 2010 Chapter 1 health risks and precautions, general consideration. pp. 1-2.
- (UNWTO) World Tourism Barometer (2011). First Printing, Jan, Version (25/01/11), Madrid, Spain. Available at http://www.unwto.org/facts/eng/pdf/barometer/UNWTO_Barom11_advance_january_en_excerpt.pdf