

Research Article

Travel Health Knowledge, Attitude and Practices among Egyptian Travelers, Part1; Risk Perception, Health Seeking Behavior and Subjective Evaluation of Travel Health Services in Egypt

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Abstract

Background: international civilian travel globally has experienced continued expansion. Outbound travel is increasing in Egypt. The travel health practice and research in Egypt lag behind both needs and demands. Therefore, this study was done in two parts to assess travel health KAP among Egyptian Travelers.

Methods: this survey was conducted at the departure halls of Cairo International Airport and included 1500 travelers to Africa (excluding North Africa), Southeast Asia or Latin America An interview questionnaire that measures the KAP of travelers inquiring about socio-demographic data, previous travel history, current journey details, perception of travel-associated risks, presence of risks management plans and details about the received pre-travel health services and travel health-information seeking behavior. Subjective evaluation of travel health services and suggestions for improvement were also inquired about.

Results: the travelers were mainly males; 89.3%, less than 40 years (82%), living in urban residence (89.1), married (65.9%), university educated (83.3), traveling for work (69.1%) and their destination was Africa (61.3%), Asia (28.4%) and Latin America (10.3). They had poor travel-associated risk perception and only 13.4% had risk management plan. Less than half (42.4%) sought any information about destination and 11.9% sought health information and their source of information was mainly internet (98.7%). The majority had poor level of various travel related practices including seeking pre-travel health services (87.9%), receiving pre-travel vaccines (91.3%) and using malaria chemoprophylaxis (90.6%). The travel health services were rated good by 0.5% of travelers and bad, very bad or undetermined by 11.4%, 61.3% and 26.9% respectively.

Conclusion: Egyptian travelers, although mostly educated, had poor travel health perception and practice and are unsatisfied by the travel health services in Egypt.

Introduction

Since the advent of modern commercial aviation in the 1950s, and over the past 6 decades, international civilian travel globally has experienced continued expansion and virtually uninterrupted growth [1]. The number of departures in Egypt was 4,863,000 as of 2014. The inbound and outbound tourism segments have witnessed a positive growth in 2014, despite the sluggish growth during the global downturn [2]. Outbound travel recovered swiftly during 2011 as many Egyptians who could afford, left the country due to instability. The number of departures was predicted to

increase at an average annual rate of 3% [3]. Since the 1990's, the number of sciatic articles on travel medicine has increased almost threefold compared to the preceding decades, implicating the increase of importance and attention by the medical profession of this discipline of infectious diseases [4].

Many studies have highlighted the underutilization of pre-travel health advice, the lack of knowledge regarding travel medicine, and the large number of travelers that are unaware of the health risks abroad [5, 6]. The European Travel Health Advisory Board (ETHAB) utilized a knowledge, attitude and practice

(KAP) survey in order to assess the KAP associated with travel health. They highlighted a lack of knowledge among travelers, even experienced ones and the poor utilization of the preventive measures [5]. Several consecutive studies have investigated the KAP of travelers, most of them used a standardized questionnaire developed by ETHAB. Almost all of these studies were conducted at international airports in various countries of the world [7-9].

The travel health practice and research in Egypt lag behind both needs and demands. Almost none is known about where Egyptian travelers got their travel health knowledge from and how they perceive the health risks of travel and what measures are taken to avoid potential risks. Therefore, this study was done in two parts to assess travel health KAP among Egyptian Travelers. In this part 1, we describe and evaluate the current travel health seeking behavior, risk perception, different pre-travel practices and the satisfaction and evaluation of adequacy of pre-travel health services.

Methods

This survey study was conducted at the departure halls of Cairo International Airport. The Egyptian travelers were 18 years or older randomly selected from those whose final destination was Africa (excluding North Africa), Southeast Asia or Latin America. Using a power of 80% to detect a significant level of health knowledge among travelers = 23.1 %, [10] Alpha error= 5%, with a precision of 3%, the minimal required sample size was calculated by Epi-Info software to be 756. Because no data for Egyptian travelers are available, we assumed that Egyptians are less knowledgeable about travel health than Asians (a selected close reference), so we decided to expand the sample size to 1500 travelers.

Study Procedure

Development of the Questionnaire: An interview questionnaire that measures the KAP of travelers was developed through internet-based literature search on worldwide KAP studies, guidance by ETHAB standardized questionnaire [11]. and frequent meetings of the authors. The questionnaire inquired about socio-demographic data, previous travel history, current journey details, perception of travel-associated risks, presence of risks management plans, details about the received pre-travel health services and travel health-information seeking behavior. Subjective evaluation of travel health services and suggestions for improvement were also inquired about.

Pilot Study: A pilot testing of the questionnaire was carried out from January to October 2014 at Alexandria fever hospital. The questionnaire was tested on 50 individuals among those being evaluated for blood-borne viral infections (HCV, HBV and HIV)

as a prerequisite for traveling to gulf countries. Accordingly, questionnaire modifications were made including rephrasing, adding or removing some questions.

Data Collection: It continued from November 2014 to October 2015. The time spent for interviewing each participant ranged between 35 to 45 minutes, thus the researcher was able to interview 10-15 travelers daily.

Statistical Analysis

Data were fed to the computer and analyzed using IBM SPSS software package version 20.0. Categorical data were presented in frequencies. Quantitative data were described using mean/median and standard deviation. Mann Whitney test was used for non-parametric quantitative variables to compare between two groups, while Kruskal Wallis test was used when more than two groups were compared. Spearman coefficient was done to correlate between two non-parametric quantitative variables. Significance of the obtained results was judged at the 5% level.

A score for perception of travel associated risks was developed by assigning a score of 0 for “not exposed to any risk” answer and a score of 1 for each possible risk answer giving a maximum total sum score of 23. The score of perceived travel associated risks was leveled as follows:

- Low level of perception of travel associated risks (0-7)
- Medium level of perception of travel associated risks (8-15)
- High level of perception of travel associated risks (16-23)

A Scoring system was also established for each of the travel health related practices including risk management plan, carrying protective measures, seeking pre-travel health services and information, receiving vaccines, using malaria prophylaxis and intent to use prophylactic measures. A Likert-like scale was applied where a score of 0 was given for no or malpractice and a highest score were given to the best practice. The total sum of scores for each parameter questions was grouped into three ranked categories. The lowest was referred to as (poor), the middle was referred to as (fair) and the highest was referred to as (good).

Ethical Considerations

The study strictly followed the ethical guidelines of Helsinki Declaration and was approved by the High Institute of Public Health Ethics Committee. Participation of travelers was on voluntary basis after getting their written informed consent.

Results

The sociodemographic description of participating travelers is shown in (Table 1).

Socio-demographics characteristics (n = 1500)	No.	%
Gender		
-Male	1340	89.3
-Female	160	10.7
Age in years		
- >30	538	35.9
- 30 to >40	691	46.1
- 40+	271	18.1
Min. – Max.	18.0 – 78.0	
Mean ± SD	33.10 ± 7.117	
Residency		
-Rural	163	10.9
-Urban	1337	89.1
City of residency		
-Cairo	534	35.6
-Al-Giza	276	18.4
-Alexandria	172	11.5
-Al-Beheira	106	7.1
-Kafr-Elsheikh	61	4.1
-Al-Qaliobeya	85	5.7
-Al-Daqahlia	55	3.7
-Al-Gharabia	30	2
-Al-Fayuom	13	0.9
-Damietta	6	0.4
-Al-Menoufeya	14	0.9
-AL-Sharqeya	33	2.2
-Canal cities (Suez, Port Said, Ismaeleya)	59	3.9
-Upper Egypt cities (Assuit, Beny Suef, Elmenia, Sohaj, Qenna)	56	3.7
Marital status		
-Single	510	34
-Married	988	65.9
-Widowed	2	0.1
Presence of offspring		
-No	713	47.5
-Yes	787	52.5
Number of family members		
- 2->5	891, 59.4	
-14	609 40.6	
Min. – Max.	2.0 – 9.0	
Mean ± SD	4.28 ± 1.58	
Occupation		
-Housewife	40	2.7
-Professional (professor, researcher, teacher, lawyer...)	570	38
-Employee	150	10
-Worker (labor, guard, ...)	66	4.4
-Artisanal work (carpenter, smith, plumber, painter...)	188	12.5
-Athlete	152	10.1

-Religion man	115	7.7
-Health care worker (doctor, nurse, pharmacist...)	123	8.2
-Trade man	85	5.7
-Others (not working, student, military persons)	11	0.7
Level of Education		
-Illiterate	9	0.6
-Less than 9 years education	81	5.4
-Secondary	160	10.7
-University education and post graduate	1250	83.3
Type of education (n=1410)		
-Literature	419	29.7
-Scientific	867	61.5
-Medical	124	8.8
Monthly income		
-Not enough	416	27.7
-Enough	1073	71.5
-Enough and saving	11	0.7

Table 1: Distribution of the travelers at Cairo International Airport according to their socio-demographic characteristics.

The majority of them (78.5%) had no reported chronic medical condition. The distribution of the travelers according to the current journey details is illustrated in (Table 2).

Journey details (n = 1500)	No.	%
Travel destination (country and city)		
-East Africa	211	14.1
-Central Africa	285	19
-West Africa	254	16.9
-Southern Africa	169	11.3
-South East Asia	221	14.7
-South Asia	125	8.3
-Asia Others	81	5.4
-North Latin America	25	1.7
-Central Latin America	41	2.7
-South Latin America	88	5.9
Type of destination (rural/urban)		
-Urban	1279	85.3
-Rural	1	0.1
-Do not know	220	14.7
Altitude of destination		
-Do not know	689	45.9
-High	51	3.4
-Same as sea level	760	50.7

Type of accommodation in destination		
-Hotel	641	42.7
-Private house	790	52.7
-Youth hostel	23	1.5
-Others (residency in a factory, residency in a hospital, worship places)	46	3.1
Purpose of travel		
-Tourism	176	11.7
-Work	1037	69.1
-Study	3	0.2
-Seeking medical treatment	4	0.3
-Sports	140	9.3
-Others**	140	9.3
Length of stay in days		
Mean ± SD	115.97 ± 118.748	
Presence of companions*		
-No	295	19.7
-Spouse	312	20.8
-Offspring	163	10.9
-Relatives	37	2.5
-Friends	47	3.1
-Work colleagues	845	56.3
-Others (parents)	3	0.2
Duration between journey planning and date of travel		
-Two weeks or less	85	5.7
-Three weeks	81	5.4
-1 month	579	38.6
-More than 1 month	755	50.3

Table 2: Distribution of the travelers at Cairo International Airport according to the journey details.

Africa was the destination for 61.3% of travelers while Asia accounted for 28.5%. Almost half of the participants (658; 43.9%) had a history of previous travel; Africa (51.8%), Asia (46.5%), Europe (14%), North America (5.6%), South and Central America (0.9% each), and Australia (0.5%). Only 224(34%) of studied travelers with history of traveling abroad stated that they had received any vaccination before their previous travels; meningococcal (59%), yellow fever (55.4%), influenza (1.3%), cholera (0.9%), HAV (0.4%) and HBV (0.4%) vaccines.

Regarding the previous travel associated health problems; diarrhea was the most encountered health problem among travelers (39.5%), followed by ear problems (19.6%) and less frequently fever (7.9%), dizziness (7.9%), syncope (3.8%), insomnia (3.6%), jet lag (3.5%) and high-altitude sickness (0.8%). On the other hand,

about one third (33.6%) of travelers did not declare any previous post-travel health condition. About half of the travelers (47.5%) did not perceive any travel-associated risks. The frequencies of various risk perception are illustrated in (Figure 1)

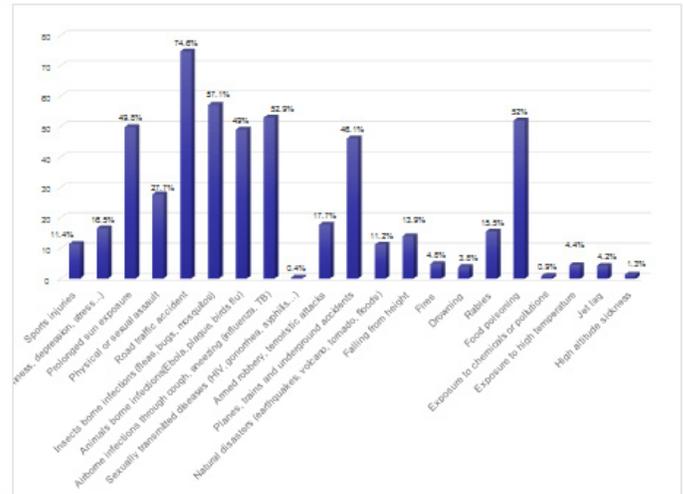


Figure 1: Types of risks in destination in travelers who perceived any travel-health-related risks

The distribution of travelers according to their travel risks management plan is presented in (Table 3).

Travel risk management plans (n=1500)	No.	%
Presence of risk plan for potential risks		
-Not perceiving risks	713	47.5
-No risk management plan	586	39.1
-Yes, for most of them	86	5.7
-Yes, for some of them	115	7.7
Infection control measures (n=175)*		
-Food, drinks sanitation	166	94.9
-Vaccination	87	49.7
-Masks	19	10.9
Sports injuries preventive measures (n=53)*	51	96.2
-Sports shoes		
-Helmets	0	0
-Safety belt	4	7.5
-First aid bag	6	11.3
Occupational accidents preventive measures (n=19)*		
-Protective clothes	2	10.5
-Helmets	18	94.7
-Ear pieces	1	5.3
-Anti-slippery shoes	1	5.3

Violence accidents preventive measures (n=98)*		
-Commitment to organized program	69	70.4
-Commitment to laws	55	56.1
-Carseat belt	23	23.5
Healthy lifestyle measures (n=146)*		
-Personal hygiene measures	105	71.9
-Safety rules	11	7.5
-Not exposed to sun for long period	98	67.1
Carrying protective measures (n=455)*		
-Antidiarrheal drugs	161	35.4
-Ant allergic drugs	79	17.4
-Antibiotics	178	39.1
-Drugs for chronic diseases	120	26.4
-Malaria chemoprophylaxis	137	30.1
-Mosquito repellents	12	2.6

-Sun screens	24	5.3
-Helmets	1	0.2
-Special clothes or shoes	46	10.1
-Others**	36	7.9
Requirement of special health certificate for the country of destination		
-Do not know	600	40
-No	899	59.9
-Yes	1	0.1

Table 3: Distribution of the travelers at Cairo International Airport according to travel risks management plans.

The mean total score of perceived travel-associated risks was low (2.7). The differences in total score of travel-associated risks perception according to various travelers and travel-related factors are shown in (Table 4).

	Perception of travel associated risks total score[^]				Test of sig.	p
	No.	Mean	±SD	Median		
Gender					z= 4.493*	<0.001*
-Male	1340	2.82	2.9	2		
-Female	160	1.69	2.4	0		
Age in years					KW χ^2 = 24.774*	<0.001*
-<30	538	3	2.87	3		
-30 to <40	691	2.73	2.98	2		
-40+	271	2.01	2.84	0		
Residency					z = 2.031*	0.042*
-Rural	163	3.15	2.97	4		
-Urban	1337	2.64	2.93	1		
Marital status					z = 6.038*	<0.001*
-Not married	512	3.26	2.87	4		
-Married	988	2.4	2.93	0		
Education level					KW χ^2 = 29.110*	<0.001*
-Illiterate	9	4	3.16	5		
-Less than 9 years education	81	3.92	2.97	5		
-Secondary	160	3.42	2.93	4		
-University and post graduate education	1250	2.52	2.9	0		
Education type					KW χ^2 = 16.407*	<0.001*
-Literature	419	2.25	2.66	0		
-Scientific	867	2.65	2.94	1		
-Medical	124	3.63	3.32	4		
Monthly income					KW χ^2 = 57.728*	<0.001*
-Not enough	416	3.65	3.03	4		
-Enough	1073	2.34	2.82	0		
-Enough and saving	11	1.82	2.23	0		
Medical history						

-No	1178	2.72	2.89	2	z= 1.079	0.28
-Yes	322	2.61	3.11	0		
Previous travels						
-No	842	3.48	2.98	4	z = 11.685*	<0.001*
-Yes	658	1.69	2.54	0		
Destination						
-Africa	919	2.98	3.01	3	KW χ^2 = 24.752*	<0.001*
-Asia	427	2.21	2.81	0		
-America	154	2.35	2.64	0		
Purpose of travel						
-Tourism	176	2.34	2.85	0	KW χ^2 = 5.268	0.384
-Work	1037	2.83	3.02	2		
-Study	3	2.67	3.06	2		
-Seeking medical treatment	4	3	3.46	3		
-Sports	140	2.33	2.21	2		
-Others**	140	2.56	3.03	0		
Presence of health insurance						
-No	1152	2.82	2.96	2	z = 3.124*	0.002*
-Yes	348	2.27	2.81	0		
KW: Kruskal Wallis test for comparing between the different studied groups z: z value for Mann Whitney test *: Statistically significant ^: Travel's associated risks total score range (0 - 23) **Others = Parents or husband accompany, visiting relatives, attending conference, making a movie, Quran memorization competition, relief committee, traditional arts competition.						

Table 4: Mean standard deviation and median of the studied travelers' total score of perceived travel-associated risks by some socio-demographic and travel characteristics.

Only 12.1% of travelers sought for pre-travel health services and the mean time between travel and obtaining their health services was 1.74±4.8 days. Two main sources for pre-travel health services were mentioned by travelers namely governmental hospitals and malaria prophylaxis center (40.7% and 78.6% respectively). About 30.8% sought pre-travel health services in traveler's vaccination centers and 13.7% in private hospitals. Only one traveler sought the service in a private clinic.

The main health services received by travelers were vaccination and prophylactic drugs (70.9% and 78.6% respectively). Other health services included health education (1.1%), laboratory investigations (1.1%) and radiological investigations (0.5%). General medical examinations were done in 14.3% of them. Seeking pre-travel health services was significantly higher among travelers above 40 years (19.2%, P <0.001). There was no sex or residence predilection for seeking pre-travel health services. Moreover, this practice did not differ significantly among experienced and first-time travelers 11.1% vs. 12.9% respectively, or by the time of trip preparation. However, it was significantly higher among travelers traveling for seeking medical treatment (P<0.001).

Regarding the feasibility of obtaining the pre-travel health service, 73.6% stated that it was difficult to get the pre-travel health

services either due to farness and inaccessibility of the services (46.7%), lack of specialized travel clinics (33%), overcrowding (16.5%), high cost (1.6%) or due to long time routine procedures (0.5%). Less than half of travelers sought any information before travel, health information accounted for only 11.9% of the general information sought by travelers. The type of information, barriers, sources and degree of satisfaction are detailed in (Table 5).

Travel information (n=1500)	No.	%
Seeking any information about destination		
-No	864	57.6
-Yes	636	42.4
Type of general information sought (n=636)*		
-Weather	552	86.8
-Altitude	120	18.9
-Rural or urban	102	16
-Life styles	158	27.8
-Prices	515	81

-Crowding	87	13.7
-Transportation	388	61
-Entertainment places	225	35.4
-Crimes rates	56	8.8
-Health information	76	11.9
-Others**	42	6.6
Type of health information sought (n=76)*		
-Prevalent diseases	32	42.1
-Mode of transmission of these diseases	3	3.9
-Preventive measures for these diseases	8	10.5
-Therapeutic modalities for these diseases	3	3.9
-Required vaccination	66	86.8
Perceived barriers for not seeking health information (n=1424)*		
-There was no time	241	16.9
-They are not necessary	217	15.2
-I will know what I need there	306	21.5
-I depend on the companions	243	17.1
-I am not susceptible as I received the preventive measures	89	6.3
-I do not know that there are health risks associated with travel	878	61.7

Sources of pre-travel health information (n=76)*		
-Travel agency	3	3.9
-Tourism offices	1	1.3
-Family	4	5.3
-Friends, work colleagues	30	39.5
-Specialized physician	4	5.3
-Pharmacist	3	3.9
-Internet	75	98.7
-Embassy	3	3.9
-Others	1	1.3
Degree of satisfaction about received pre-travel health information (n=76)*		
-Not satisfied at all	16	21.1
-Not satisfied	38	50
-Satisfied	21	27.6
-Extremely satisfied	1	1.3
*Multiple response question		
**Others =Hotels, shopping places, political information, residential places, life expenses, recreational activities, libraries and museums.		

Table 5: Distribution of the travelers at Cairo International Airport according to travel health-seeking information.

Travel health related practices were described in general as poor. The details are illustrated in (Table 6).

Travelers practices	Levels of practices score (n=1500)					
	Poor <50%		Fair 50%-75%		Good 75%+	
	No.	%	No.	%	No.	%
Preparing risk management plan	1299	86.6	115	7.7	86	5.7
Detailed risk management plan	1468	97.9	32	2.1	0	0
Carrying protective measures	1056	70.4	353	23.5	91	6.1
Seeking pre-travel health services	1318	87.9	0	0	182	12.1
Seeking information about destination	864	57.6	0	0	636	42.4
Received pre-travel vaccines	1370	91.3	0	0	130	8.7
Use of malaria chemoprophylaxis	1359	90.6	0	0	141	9.4
Use of malaria chemoprophylaxis as required (right timing)	1356	90.4	47	3.1	97	6.5
Intent to use prophylactic measures	995	66.3	427	28.5	78	5.2

Table 6: Distribution of the travelers at Cairo International Airport according to the level of Travel health related practices.

Inquiry into traveler’s opinion about the quality of travel health services, 61.3% of travelers stated that the quality of travel health services is very poor and only 0.5% stated that it is of good quality. Their suggestions to improve the service are listed in (Table 7).

Evaluation of travel health service and suggestions about travel health (n=1500)	No.	%
Opinion about the quality of travel health services		
-Very bad	919	61.3
-Bad	171	11.4
-Undetermined	403	26.9
-Good	7	0.5
-Very good	0	0.0
Traveler’s suggestions to improve the travel health services*		
-I do not know	625	41.7
-Decline to answer	272	18.1
-Suggestions related to travel health education and public health - awareness	313	20.9
-Suggestions related to access to travel health service	356	23.7
-Suggestions related to vaccination and malaria chemoprophylaxis	47	3.1
Travelers’ suggestions about the information that they would like to know before travel*		
-I do not know	345	23.0
-Decline to answer	277	18.5
-Destination’s climate	103	6.9
-Transportation in destination county	77	5.1
-Ways of communication	82	5.5
-Safety and security	90	6.0
-Economic aspects	255	17.0
-Religious issues	39	2.6
-Tourism information	190	12.7
-Culture and language	34	2.3
-Information about sanitation	26	1.7
-Information related to malaria	54	3.6
-Information related to other diseases	587	39.1

-Miscellaneous issues	163	10.9
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Table 7: Distribution of the travelers at Cairo International Airport according to evaluation of travel health service and suggestions about travel health.

Discussion

Unlike most European travelers where travelers to tropical countries are usually above 40 years old and the purpose of travel is mostly for leisure [11] travelers from less developed countries [12]. Including Egypt are young (mean age was 33 in this study) and their main purpose of travel is to work. This reflects how important it is for this productive energetic group to keep them healthy. Diarrhea was the most frequent health problem (39.5%) among experienced travelers, a figure that is similar to what was found in other studies [13-15]. Ear problems represented the second most frequent health problem (one fifth) among them which was mainly related to changes in pressure inside the plane itself rather than being caused by injury or infection acquired in destinations [16]. A similar figure (19%) was reported among travelers on a south American expedition [17]. None of the experienced travelers in this study reported respiratory infection in their previous travels which disagrees with many studies stating respiratory infections as a major travel health associated problem [18-19]. However, this may be attributed to recall bias or low perceived severity of flu/ common cold as a respiratory disease. Only 7.9% of experienced travelers mentioned fever as travel associated problem. Similarly, in Italy fever accounted for 7% of health problems in returned travelers from the tropics [20] Fever represented 26% and 29% of travel associated problems in the GeoSentinel surveillance and

in German travelers destined to tropical and subtropical zones respectively [21,22]. Only one third of the present study participants claimed that they did not encounter any health problem in their previous travels compared to 74% of American travelers, which could be attributed to better pre-travel health services and awareness in the latter group [23]. Only 34% of experienced travelers had received pre-travel vaccination that comprised mainly of required or highly recommended vaccines namely; meningococcal vaccine received by travelers to KSA for Pilgrimages and yellow fever vaccine received by the travelers to Africa which represented the most frequent previous travel destination (51.8%). The perceived health risk in the current survey was poor and reflected on the absence of risk management plan in 86.6% of travelers. Moreover, only 30.3% of the participants were carrying protective measures. The situation was different among travelers studied in Spain [24] and Peru [12] Where 91.2 % and 47.3% of travelers were carrying medications.

Risk perception is a very important safeguard for self-protection [25]. This was higher among those <30 years despite

their poor travel health related knowledge and poor practices. This might be attributed to more apprehension, more concern about the risks and temptations of traveling. This could compel them to express more positive attitudes towards various hazards in destinations.

Moreover, there was higher perception of travel risks among illiterate despite having lower knowledge about travel associated risks. This can be explained by hidden fear and inability to cope with stress and risks [26]. Education provide better opportunities and skills to deal with risks and that might have decreased one's perception of endangering risks. However, gender, age, destination, and region related travel experience had different impacts on the travelers' risk perception [27]. However, older age, and higher level of education were predictors of increase travel's risk perception in KSA [28] and Qatar [29]. Only 12.1% of travelers sought pre-travel health service although, 83.3% are well educated, 89.1% are of urban residence, 72% have satisfactory income and 43.9% of them had previous travel history. This was far lower than what was reported in South African; 86% [30], Spanish; 83.1% [24], European; 40% [11], American; 36% [31], Australian; 32% [9], Dubai; 22.8% [32] and Qatar; 19% [29]. Moreover, in the present study, only 11.9% of travelers sought health information about destination. This explains in part the low risk awareness and perception. LaRocque et al [33], found that 46% of international travelers in Australia did not pursue health information of any type; a lack of concern about health problems related to the trip was the most commonly cited reason which was also the case in our study.

The internet proved to be the most popular source for health information (98.6%) for Egyptian travelers than it was for the Japanese (64.1%) [34], European (24%) [11] or the US travelers (19%) [31]. This reflects the unavailability of professional travel health services and it can be anticipated that the information was unsatisfactory and the quality may vary greatly between sources and within them [11]. Ideally, travelers should seek medical advice at least 4-6 weeks before departure. An important factor for inadequate pre-travel seeking behavior was reported to be the increasing number of last minute travelers who planned their trip in less than 2 weeks [6, 32]. On the contrary in the current study, although the majority had enough time to plan their travel (three weeks or more), 85% and 93.1% of those who had planned their trip more than one month prior to their trip did not seek pre-travel health service or health information respectively and the mean time for obtaining health services before travel for those who did was too short (1.74±4.8 days) The Egyptian travel health services was not satisfactory as 61.3% of participants stated the service was very bad and 26.9% were neutral, unlike elsewhere [9,32] where satisfaction was highly rated.

High proportion would like to know information about diseases in destination (39.1%), despite that 61.7% of them did not know that

there are diseases associated with travel. However, some travelers may have been sensitized by interviewing questionnaire that made them more curious about the importance of getting health information and services before travel.

Conclusion

Egyptian travelers to tropical areas are usually young educated males travelling for work. They generally have poor perception of travel-associated health risks and eventually do not have risk management plan. A minority seeks health information before travel and the internet is their main source of information. Their pre-travel practices are Poor and only one eighth seek any pre-travel services. The travel health services in Egypt have to be improved and were evaluated by the travelers as poor.

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