

SUDAN FEDERAL MINISTRY OF HEALTH

Travel Health in Sudan: Knowledge,  
Attitudes and Practices in 2 Main  
Points of Entry during 2009

2009

WORLD HEALTH ORGANIZATION

**Project Title:**

**Evaluation of Travelers Adherence to the Processes of International health Regulations 2005 in 3 Main Points of Entry in Sudan during Fall Season 2008**

Many countries around the world have been implementing similar studies in the area of travel medicine and health regulations; and this report and analysis for similar study that has been conducted to evaluate the adherence of international travels to/from Sudan to the requirements of International Health Regulations (2005) in Sudan. The study was conducted by a team of Sudanese team lead by the study principle supervisor Dr. Amjad Mohammed Idries from the Federal Ministry of Health as a part of collaborative activity with World Health Organization (WHO) – TDR.

Address for correspondence:-

**Dr. Amjad Mohammed Idries**

Directorate General of International Health

Federal Ministry of Health

Nile Avenue,

Khartoum,

Sudan.

P.O.Box 303.

Fax +249183772970

**For direct correspondence:-**

**E-mail address: [amjadwedaa@gmail.com](mailto:amjadwedaa@gmail.com)**

## Table of Contents:

Acknowledgements:.....	6
List of Abbreviations: .....	7
Chapter 1:.....	8
Introduction.....	8
Situational Analysis: .....	10
Study Scope and Rationale: .....	12
General objective: .....	13
Specific Objectives: .....	13
Chapter 2:.....	14
Design and Methodology:.....	14
Study Area/Setting:.....	14
Study Subjects:.....	14
Study Design:.....	15
Sample Size:.....	15
Sampling Technique: .....	16
Data Collection Methods, Instruments used, Measurements.....	17
Data Collection Tools: .....	17
Training Workshops: .....	17
Pilot Study:.....	18
Data Collection Techniques:.....	19
Indicators Used: .....	20
Chapter 3:.....	21
Results & Analysis.....	21
Scope and Limitations of the Data:.....	22
Presentation of the Results:.....	23
Results of the Indicators: .....	35
Chapter 5:.....	40
Interpretation and Discussion of the Results .....	40
Annexes: .....	45



**Acknowledgements:**

Some one may think that the truth is always in the outside and we have to go there and find it, although we adopt this approach in this study, it is very important to know that the truth is inside us. Are we believes in our self or not to find it - this is the most important truth.

If the words only can describe what is happening inside the human sole this can lead to great missing in a lot of things need to be expressed; but here unfortunately we have only our few words which could not give the persons who contribute in to this efforts their truthfully appreciation and thanks.

This study having sufficient power and appreciated support from World Health Organization the principal investigator and this team would like to thank all staff in WHO/EMRO-TDR for their support.

The author acknowledges with sincere thanks the valuable contributions which help to represent this effort in this way from to all of the staff in the following organizations;

Directorate of International Health, Federal Directorate of Epidemiology, Khartoum State Ministry of Health, Ministry of Foreign Affairs, Ministry of International Cooperation, Ministry of International Trade, Ministry of Transportation, Civilian Aviation Corporation, Port Authority Marine, Customs Police, Khartoum Airport, Othman Digna Port and National Medical Commission.

**List of Abbreviations:**

CAA	Civil Aviation Authority
FMOH	Federal Ministry of Health
HIV	Human Immunodeficiency Virus
IHR	International Health Regulations
KAP	Knowledge, Attitudes and Practices
KIA	Khartoum International Airport
NMC	National Medical Commission
ODS	Othman Digna Seaport
PAM	Ports Authority Marine
PoE	Point of Entry
WHO	World Health Organization

## **Chapter 1:**

### **Introduction**

In July 2007 World Health Organization (WHO) declared the enforcement of International Health Regulations (2005) into effect with universal acceptance from individuals, organizations and member states and other parties. Despite the fact that, many critics were reserved on some aspect of these regulations; still many opinions consider that the revision of these regulations and its update is one of the major steps that WHO takes. WHO was considering this component as important issue in order to ensure and help in public health system dynamics through round the world. This is because now days it is very difficult and challenging job, for all concerned bodies and parties, to attain the targeted world health security without this important and essential tool (IHR).

International Health Regulations (IHR) 2005 was aiming to guide, support and organize the relationship between different countries in the area of health when we consider the great revolution in travel, borders trade and overseas movements.

Although the issues regarding IHR are not newly introduced in the public health system components (because the previous regulations were introduced since 1969), but it is still valid that a lot of work, evaluation and involvements need to be done in order to attain the best practices regarding the proper implementation of these regulations.

The difference in health systems between each country and others (in terms of structure, process and capacities) usually lead to differences in the adherence of each country towards effective implementation especially when there are another partners involved in the implementation process; such as the



involvement of travelers (publics) as one of the major component these regulations care about them; and certainly to what ever degree these travelers adhere and consider the regulations during their travel planning this will help basically the health authorities to implement the IHR effectively.

In Sudan there is no operational study(s) that has been conducted regarding the implementation of International Health Regulations in general or specifically regarding the attitude of travelers from (and/or) to Sudan regarding their obedience to health regulations.

This study area (travelers' behavior and practice) is a very rich of information which could help the policy makers and health ministries to develop more efficient plans and educational programs to ensure the attainment of IHR objectives. This kind of studies were very helpful tool in this regards giving experience for many Asian Pacific countries that conduct similar studies specific for travelers pass through the international airports. The main focus of these studies was the knowledge, attitude and practice of travelers (whom move to or from endemic areas) toward different communicable diseases. The outcome of these studies helps these countries in a valuable way to understand the dynamics and statics of travelers and how they could be involved effectively in any possible future plans regarding the implementation of IHR.

Sudan is one of known countries that endemic with Malaria as statistics indicate that there is high transmission rate of Malaria, but also, there are another diseases were considered when we point out Sudan epidemic diseases pattern (IHR consider the vaccination for Yellow Fever is mandatory for all travelers come form Sudan). The fall season in Sudan is combining usually with highest transmission rates of Malaria so there is a pressing need to evaluate the travelers practice during their travel in this period of time.

## **Situational Analysis:**

Today's international travel seems to continue to grow substantially compared with each passing year, including travel to developing areas of the world that once were rarely visited in the past. Sudan is not exception from this revolution, and though, Sudan experience considerable growth in terms of travelers' number, nationalities approaching Sudan, destinations from which travelers come or travel to, etc.

Control of communicable diseases is one of the major component in the National Health Policy for federal ministry of health 2007 and this policy endorse the international regulations (including IHR 2005) as guidance of the national plans and standards to help in the control of these communicable diseases

This health policy reiterates the government's resolve for the enforcement and fulfillment of country's commitment towards implementation of international health regulations for trans-border control of communicable diseases.

The commitment in the government policy could be of valuable support to the research results and recommendations to be incorporated into the governmental health plans at national and states level especially after the establishment of IHR focal point which needs to be supported by evidence based information towards the development of effective interventions.

Federal Ministry of Health in Sudan has long relation with IHR and its process, since the country geographic location expose it to different kinds of endemic diseases in Sub-Saharan African countries. This was noted at different levels and sites in the country as collaborative plan between the ministry and its partners involve in this area.

These partners include:

- States Ministries of Health;
- Ministry of Foreign Affairs;
- Ministry of International Cooperation;
- Ministry of International Trade;
- Ministry of Transportation;
- Civilian Aviation Corporation;
- Port Authority Marine;
- Customs Police;
- Khartoum Airport;
- Othman Digna Port;
- National Medical Commission;
- Other relevant parties.

Despite this fact, still this partnerships with relevant entities was not clear to what extend this provide the suitable environment for strategic collaboration towards effective implementation of IHR (2005). In addition to that; it was not clear to what extend the two directions relationship between the travelers and the authorities was developed in this area, and what is the impact of this situation on the adherence of these travelers towards the requirements of IHR (2005).

**Study Scope and Rationale:**

This project was planned to serve as a tool for providing the most important facts about the knowledge, attitude and behavior of the international travelers those pass through some points of entry in Sudan.

This issue has been identified as a priority since there are increasing number of travelers to/from Sudan in the last few years. All of them were travel for different purposes, with different knowledge about the country and with different perspectives.

This airport and seaport survey was therefore performed to determine the travel health knowledge, attitudes and practices (KAP) of the travelers pass through the determined points of entry in Sudan.

This kind of studies weren't usually conducted in Sudan and this is the first kind of study being coordinated between the parties whom were responsible in apply and supervising the implementation of (IHR 2005) in the country.

The study was primarily conducted in order to assess the compliance of international travelers to International Health Regulations (IHR) requirements in three main points of entry in Sudan during the fall season 2008 in Sudan.

Through the last years there is no systematic study or assessment that have been developed or conducted to assess the current arrangements regarding the implementation of IHR in Sudan. It is important to know which kind of policies; plans or procedures need to be developed or redesigned and then to project for make useful changes to match well with the expected social changes and health sector development in Sudan in this period to time.

This study will provide necessary information in this area of health system could help the policy makers to better understanding of the system dynamic regarding communicable diseases preparedness system focusing on cross borders movements and travel.

**General objective:**

To assess the compliance of international travelers to International Health Regulations (IHR) requirements in three main points of entry in Sudan during the fall season 2008 in Sudan.

**Specific Objectives:**

1. To identify the implementation gap in the behavior of international travelers at international points of entry regarding their travel procedures (pass through it) as a part of International Health Regulations requirements IHR in particular.
2. To evaluate the awareness and knowledge of international travelers through study areas about the health situation in Sudan and how this affect their travel planning and to what extent this affect their interactions with authorities' procedures.
3. To study the role of the governmental and non governmental agencies and their contribution in the educational activities about traveling health regulations that help the travelers to become more committed to the IHR requirements.

## **Chapter 2:**

### **Design and Methodology:**

#### **Study Area/Setting:**

According to international definitions; this study was conducted in 2 main Points of Entry (PoE) in Sudan in addition to other relevant sites and according to the situation in the country.

The study was included the following sites:

1. Khartoum International Airport (Main Airport in Sudan).
  - Departure.
  - Arrival.
2. Othman Digna Port -Sawakin – Red Sea state (Main Seaport in Sudan):
  - Departure.
  - Arrival.
3. National Medical Commission.

#### **Study Subjects:**

Although this study is mainly targeting the international travelers pass through the 3 main points of entry, the study was included also the main officers and personnel those deal directly or indirectly with the international travelers included in the study subjects.

*The included subjects were targeted as follows:*

- Sudanese travelers.
- Non Sudanese travelers.
  1. Departing through the PoE.
  2. Arriving through the PoE.

*The excluded subjects were as follows:*

1. The crew of all flights and passages whether through air or sea in the selected sites.
2. The travelers pass through the determined points of entry but are not international travelers (domestic passages).
3. Transit passengers
4. International travelers pass through lands pints of entry.

### **Study Design:**

This study was designed as a cross-sectional survey conducted during fall season 2009 in Sudan targeting the international travelers pass through the determined points of entry or seeking the services at the national medical commession as a part of their international travel process.

### **Sample Size:**

According to the definitions in the study sampling technique below; this clustering system outline the sample size calculation based on travel movement during the study period of time. The sample size required for this study was calculated based on the statistics and reports obtained from Civil Aviation Authority (CAA) and Ports Authority Marine (PAM).

In total study sample size include **2046** international travelers passed through the selected points of entry during the fall season 2009.

- Khartoum International Airport = total of **1256** travelers:

- **891** international travelers departing from the airport.

- **365** international travelers arriving at the airport.

- Othman Digna Seaport = total of **790** travelers:

- **790** international travelers departing from the airport.

### **Sampling Technique:**

*The travelers were divided into the following groups:*

- Sudanese & Non Sudanese travelers:

1. Departing through the PoE:

2. Arriving through the PoE:

The inclusion of this clustering method was aimed to test whether (or not) the adherence of the international travelers affected by their destinations.

Randomized cluster selection of the travelers through the above defined categories was considered in order to ensure representative subjects were selected.

The information providers (travelers) were informed by the purposes of the study and were asked to voluntarily participate in the study and filling the questionnaire.



## **Data Collection Methods, Instruments used, Measurements**

### **Data Collection Tools:**

The data needed for this study was collected through different tools including:

1. Structured self-administrated questionnaires trilingual (English, French & Arabic) targeting the travelers pass through the study sites (attached).
2. Check lists formulated to insure the validity of the documents (International Vaccination Certificate or other Relevant Documents) that the travelers used during their international travel in accordance to the international requirements.

### **Training Workshops:**

***In Khartoum:*** The study sample size that planned to be conducted in Khartoum International Airport was estimated to represent 50% of the total targeted population in the study. For that reason the data collectors assigned for this task was increased from 2 to be 5 personnel. This was aimed to efficiently distribute trained data collectors throughout the study sites.

***In Swakin:*** The study sample size was relatively less than that of KIA, accordingly only 4 data collectors were hired to collect the data from this site.

***In National Medical Commission:*** Only 2 persons were used to collect the data.

The training workshops were targeting mainly to transfer the basic skills on the data collection techniques in this study in addition to the background about the International Health Regulations and its requirements as orientation for the data collectors.

Note: The program was designed for one day and the program is attached.

**Pilot Study:**

The pilot study was primarily planned to serve as active training technique for the data collectors in the study site. In addition to that this piloting study was also aiming to test the validity and the relevance of the data collection tools used in the study.

The pilot study ended for 5 days in Khartoum International Airport in both the arrival and departure halls and for 2 days in Othman Digna Seaport in both the arrival and departure halls.

Data collectors and supervisors were directly deal with the travelers pass through the airport and distribute the questionnaires targeting each category of the population included in the sample.

After the completion of the pilot study period, at both sites, the study team conducted an evaluation meeting that aimed to discuss the outcomes of the pilot study and the main recommendations regarding the data collections technique.

*The main findings of this pilot study were considering the following:*

1. The load in data collection process, based on the statistics, was found in the departure site. As the number of departing travelers was almost 3 times more than the arrival numbers. Accordingly the number of data collectors should be distributed in accordance to this fact. This was considered during the data collection process in Khartoum International Airport and in other study sites.
2. It was revealed that the importance of obtaining the timetable for the flights and arrival and departure during the week. This is important due to the fact that; the airport is sometimes was not in use by the travelers due to concentration of the flights in certain period during the day.

3. Some minor editions need to be done in the questionnaires in the following:

- Departure Questionnaire:
  - Item number 6 in Arabic edition.
  - Item number 6 in English edition.
  - Item number 6 in French edition.
- Arrival Questionnaire:
  - Item number 6 in Arabic edition.
  - Item number 6 in English edition.
  - Item number 6 in French edition.

The pilot study was very useful in obtaining some important recommendations for technical changes in the data collection techniques.

#### **Data Collection Techniques:**

- The developed questionnaire was distributed in the waiting rooms at the departure and arrival sites at the selected points of entry.
- The questionnaire was distributed by well trained data collectors with help and support of technical supervisors in the study sites.

Check lists was filled by well trained data collectors directly from the documents and certificates of the international travelers with help and support of employers.

**Indicators Used:**

1. Demographic data about the international travelers.
2. Percentage of international travelers gets pre-travel health advice.
3. Percentage of international travelers gets certain set of pre-travel health planning steps.
4. Percentage of international travelers undergoes medical examinations regarding their travel from and/or to Sudan.
5. Percentage of international travelers receives educational information about the health situation about their destinations.
6. Percentage of international travelers complaining about the international health procedures that they are subjected to.
7. The awareness of coming travelers about the existence of Malaria in Sudan.
8. The awareness of coming travelers about the health requirements for travel to/from Sudan.

## **Chapter 3:**

### **Results & Analysis**

- For the simplicity and mapping out of the results; the reading of each indicator should be in accordance to the number of specific indicators.
- Each indicator presentation will include the results from different sites of data collection.

### **Scope and Limitations of the Data:**

The data gathering and analysis is adapted in a way that to produce results that could be utilized easily to compare the situation in Sudan with that in other similar countries and to identify the gaps in policies and plan and the intervention needed to fill these gaps.

The plan was suppose to include El-Genina Airport - West Darfur state in the selected points of entry. At the planning phase, and due to the situation in Darfur, this airport was authorized by CAA to receive direct international flights from outside Sudan. This was aimed mainly to provide a fast track system for receiving donation supply to this area (this was also permitted for other selected domestic airports). For the purpose of this study; this was considered in the study sites sampling. In 2008 the system was changed dramatically and the international flights were only permitted in KIA and other 2 small airports with very limited capacity. For this reason the study team decided to withdraw this site from the study setting.

Although the study team of adopt the methodology agreed in the primarily proposed methodology, it seems that some logistical issues make very difficult to apply the same planned activities and with the stated timelines (details in the action plan below).

## Presentation of the Results:

### A. Structure and Demographics of the Sample:

#### 1. Port type

		Frequency	Percent
	KIA*	1256	61.4
	SSP**	790	38.6
	Total	2046	100.0

\* Khartoum International Airport

\*\* Sawakin Sea Port

#### 2. Destination status

		Frequency	Percent
	Departure	1681	82.2
	Arrival	365	17.8
	Total	2046	100.0

#### 3. Questionnaire language

		Frequency	Percent
	Arabic	1808	88.4
	English	238	11.6
	Total	2046	100.0

#### 4. Nationalities

		Frequency	Percent
	Sudanese	1671	81.7
	Arabic	120	5.9
	African	47	2.3
	Asian	92	4.5
	American	12	.6
	European	104	5.1
	Total	2046	100.0

#### 5. Nationalities summery

		Frequency	Percent
	Sudanese	1671	81.7
	Non-Sudanese	375	18.3
	Total	2046	100.0

#### 6. Gender type

		Frequency	Percent
	Male	1455	71.1
	Female	591	28.9
	Total	2046	100.0



### 7. Age group

		Frequency	Percent
	NA	47	2.3
	18 - 24 years	342	16.7
	25 - 40 years	921	45.0
	More that 40 years	736	36.0
	Total	2046	100.0

**B. Travelling Plan:**

**8. Expected travelling period**

		Frequency	Percent
	NA	117	5.7
	1-2 weeks	563	27.5
	2-4 weeks	520	25.4
	More than 4 weeks	846	41.3
	Total	2046	100.0

**9. Visit category**

		Frequency	Percent
	NA	327	16.0
	Resident	771	37.7
	Non-resident	948	46.3
	Total	2046	100.0

**10. Number of times traveling from/to Sudan**

		Frequency	Percent
	NA	49	2.4
	1st time	299	14.6
	2-5 times	673	32.9
	more	1025	50.1
	Total	2046	100.0

**11. Purpose of travelling**

		Frequency	Percent
	NA	39	1.9
	leisure	512	25.0
	business	265	13.0
	work	617	30.2
	study	99	4.8
	other	514	25.1
	Total	2046	100.0

**12. Any medical examinations after retuning**

		Frequency	Percent
Valid	NA	2	.1
	Yes	134	6.5
	No	242	11.8
	Not relevant	1668	81.5
	Total	2046	100.0

**C. Travel Health Planning:**

**13. Seeking any health information about your destination**

		Frequency	Percent
	NA	82	4.0
	yes	703	34.4
	no	1261	61.6
	Total	2046	100.0

**14. Health advice about your destination**

		Frequency	Percent
	NA	44	2.2
	Yes	317	15.5
	No	1685	82.4
	Total	2046	100.0

**D. Relation with the Authorities:**

**15. Notified by the authorities during planning**

		Frequency	Percent
	NA	66	3.2
	Yes	194	9.5
	No	1786	87.3
	Total	2046	100.0

**16. Notified by the authorities in the port**

		Frequency	Percent
	NA	66	3.2
	Yes	82	4.0
	No	1898	92.8
	Total	2046	100.0

**17. Fill any forms regarding health information**

		Frequency	Percent
	NA	53	2.6
	Yes	404	19.7
	No	1589	77.7
	Total	2046	100.0

**18. Any medical examinations done in the port**

		Frequency	Percent
	NA	293	14.3
	Yes	161	7.9
	No	1592	77.8
	Total	2046	100.0

**19. If yes, the examination with his/her agreement**

		Frequency	Percent
	NA	315	15.4
	Agreement	95	4.6
	No agreement	16	.8
	Not relevant	1620	79.2
	Total	2046	100.0

**E. Vaccination and Medical Examinations:**

**20. Vaccination certificate**

		Frequency	Percent
	NA	168	8.2
	Yes	1353	66.1
	No	525	25.7
	Total	2046	100.0

**21. International vaccination certificate was mandatory for boarding**

		Frequency	Percent
Valid	NA	162	7.9
	yes	602	29.4
	no	1282	62.7
	Total	2046	100.0

**22. Forbidden to enter Sudan for any health-related process**

		Frequency	Percent
Valid	NA	483	23.6
	Yes	48	2.3
	No	1457	71.2
	Not relevant	58	2.8
	Total	2046	100.0

**23. Why forbidden, if applicable**

		Frequency	Percent
	NA	1998	97.7
	no vaccination certificate	48	2.3
	Total	2046	100.0

**24. Vaccinated against Yellow Fever**

		Frequency	Percent
	NA	104	5.1
	Yes	1483	72.5
	No	459	22.4
	Total	2046	100.0

**25. Any other types of vaccination or medical examinations**

		Frequency	Percent
	NA	269	13.1
	Yes	453	22.1
	No	1324	64.7
	Total	2046	100.0



**26. He/she get any test or vaccine**

		Frequency	Percent
	NA	312	15.2
	Test	169	8.3
	Vaccine	213	10.4
	Not relevant	1352	66.1
	Total	2046	100.0

**27. Type of other vaccine(s) & tests**

		Frequency	Percent
	Hepatitis vaccine	143	7.0
	other vaccine	46	2.2
	HIV test	42	2.1
	Other test	78	3.8
	Not relevant	1352	66.1
	HIV & Hepatitis tests	35	1.7
	Meningitis	38	1.9
	Total	2046	100.0

**F. Malaria and its Prevention:**

**28. Aware about Malaria existence in some areas in Sudan**

		Frequency	Percent
	NA	98	4.8
	Yes	1763	86.2
	No	185	9.0
	Total	2046	100.0

**29. Any preventive measures taken**

		Frequency	Percent
	NA	151	7.4
	Yes	926	45.3
	No	969	47.4
	Total	2046	100.0

**30. If no, will you take these measures after retuning?**

		Frequency	Percent
	NA	107	5.2
	Yes	690	33.7
	No	1249	61.0
	Total	2046	100.0

### Results of the Indicators:

Indicator	Travelling by air	Travelling by sea	Sudanese	Non Sudanese
Percentage of international travelers gets pre-travel health advice.	14.0%	17.8%	11.3%	34.4%
Percentage of international travelers gets certain set of pre-travel health planning steps	11.1%	19.4%	7.9%	31.0%
Percentage of international travelers undergoes medical examinations regarding their travel from and/or to Sudan.	1,4%	5.3%	5.4%	6.3%
Percentage of international travelers receives educational information about the health situation about their destinations.	14.0%	17.8%	11.3%	34.4%
Percentage of international travelers complaining about the international health procedures that they are subjected to.	Less than 1.0%	Less than 1.0%	Less than 1.0%	1.1%
The awareness of coming travelers about the existence of Malaria in Sudan.	94.1%	Not applicable	Not applicable	94.1%
The awareness of coming travelers about the health requirements for travel to/from Sudan.	54.8%	Not applicable	Not applicable	53.4

<b>Indicator</b>	<b>Age: less than 24 years</b>	<b>Age: 25-40 years</b>	<b>Age: more than 40 years</b>
<b>Percentage of international travelers gets pre-travel health advice.</b>	19.6%	18.1%	11.3%
<b>Percentage of international travelers gets certain set of pre-travel health planning steps</b>	13.5%	13.0%	10.7%
<b>Percentage of international travelers undergoes medical examinations regarding their travel from and/or to Sudan.</b>	4.5%	9.3%	1.8%
<b>Percentage of international travelers receives educational information about the health situation about their destinations.</b>	19.6%	18.1%	11.3%
<b>Percentage of international travelers complaining about the international health procedures that they are subjected to.</b>	2.1%	1.0%	0.0%
<b>The awareness of coming travelers about the existence of Malaria in Sudan.</b>	88.9%	97.2%	92.3%
<b>The awareness of coming travelers about the health requirements for travel to/from Sudan.</b>	68.5%	62.4%	40.6%

<b>Indicator</b>	<b>1-2 weeks</b>	<b>2-4 weeks</b>	<b>More than 4weeks</b>	<b>Residents</b>	<b>Non- residents</b>
<b>Percentage of international travelers gets pre-travel health advice.</b>	18.7%	18.7%	13.6%	20.2%	71.9%
<b>Percentage of international travelers gets certain set of pre-travel health planning steps</b>	16.7%	13.7%	9.5%	5.6%	19.0%
<b>Percentage of international travelers undergoes medical examinations regarding their travel from and/or to Sudan.</b>	53/	55/	37	64	81
<b>Percentage of international travelers receives educational information about the health situation about their destinations.</b>	18.7%	18.7%	13.6%	8.3%	24.1%
<b>Percentage of international travelers complaining about the international health procedures that they are subjected to.</b>	Less than 1.0%	Less than 1.0%	Less than 1.0%	Less than 1.0%	Less than 1.0%
<b>The awareness of coming travelers about the existence of Malaria in Sudan.</b>	88.5%	100.0%	94.8%	Not applicable	Not applicable
<b>The awareness of coming travelers about the health requirements for travel to/from Sudan.</b>	79.6%	46.3%	45.4%	Not applicable	Not applicable

<b>Indicator</b>	<b>1st time</b>	<b>2-5 times</b>	<b>More than 5 times</b>
Percentage of international travelers gets pre-travel health advice.	22.7%	36.3%	36.4%
Percentage of international travelers gets certain set of pre-travel health planning steps	14.7%	13.1%	10.2%
Percentage of international travelers undergoes medical examinations regarding their travel from and/or to Sudan.	4.2%	1.7%	9.4%
Percentage of international travelers receives educational information about the health situation about their destinations.	24.1%	17.1%	11.2%
Percentage of international travelers complaining about the international health procedures that they are subjected to.	0.0	1.3%	Less than 1.0%
The awareness of coming travelers about the existence of Malaria in Sudan.	88.2%	93.3%	100.0%
The awareness of coming travelers about the health requirements for travel to/from Sudan.	46.6%	50.4%	82.4%

<b>Indicator</b>	<b>Leisure</b>	<b>Business</b>	<b>Work</b>	<b>Study</b>	<b>Other</b>
<b>Percentage of international travelers gets pre-travel health advice.</b>	30.0%	12.3%	41.0%	7.9%	6.3%
<b>Percentage of international travelers gets certain set of pre-travel health planning steps</b>	15.8%	14.7%	4.9%	4.0%	2.5%
<b>Percentage of international travelers undergoes medical examinations regarding their travel from and/or to Sudan.</b>	1.6%	1.1%	7.0%	2.4%	3.0%
<b>Percentage of international travelers receives educational information about the health situation about their destinations.</b>	18.6%	14.7%	21.1%	74.1%	3.9%
<b>Percentage of international travelers complaining about the international health procedures that they are subjected to.</b>	Less than 1.0%	0.0	Less than 1.0%	0.0	0.0
<b>The awareness of coming travelers about the existence of Malaria in Sudan.</b>	100.0%	90.5%	94.5%	66.7%	100.0%
<b>The awareness of coming travelers about the health requirements for travel to/from Sudan.</b>	75.0%	69.8%	39.3%	33.3%	92.4%

## **Chapter 5:**

### **Interpretation and Discussion of the Results**

Travelers around the world usually came from different cultures and different backgrounds regarding their perceptions towards health aspects. These travelers can range in age from very young infants and small children to octogenarians; they may have pre-existing medical conditions or may be pregnant or contemplating pregnancy. Additionally, the purposes for international travel today are varied and, in addition to tourism, can include business, study, visiting friends and relatives, or responding to an international disaster.

The travel medicine as since was considerable developed and upgraded significantly during the few decades to be in alignment with the advancement in the area of international travel and the regulations that control its process.

This can be mainly addressing certain aspects including:

#### **Pre-Travel Health Measures:**

Travelers should realize the importance of consulting health-care providers 4-6 weeks before international travel. This should be considered as priority step in order to reduce the risk of illness or injury abroad. In some case the traveler may find him/her self in case of imminent travel is imminent, in this case some vaccines may be squeezed in its schedules in order to provide protection, and information to reduce health risk could still be beneficial. Certain and small set of pre-travel steps may considerably provide significant public health protection. At the individual level it is important to note that, an individualized assessment is some times is very crucial for the determination of risk of illness that may impose



any public health threats for the travelers themselves and/or the publics in general. Each traveler needs to realize the value of health and the risks that traveling internationally may pose. This does not mean that people should not travel, but just as in any other activity in life, the experience will be more enjoyable if travelers are adequately prepared and equipped with the knowledge of how to protect their health.

Looking closely to the IHR (2005), it is clearly recognized that, most of the immunizations known today were not required under the IHR. Instead of that, it is usually highly recommended to protect the health of the travelers as well as the general publics. Nevertheless, an International Certificate of Vaccination against yellow fever is required by some countries as a condition for entry (including Sudan). Despite that, in other countries the vaccination against yellow fever was required only if the travelers arrived from a destination(s) where the disease is or may be present.

Studies have shown that the majority of travelers from the United States and other countries do not seek pre-travel health advice and our study in Sudan reveals no exceptional case from that. Some prefer to travel knowing they have little risk for illness outside the ordinary and accordingly they may take a decision not to go through this health advice. Others seek adventure despite its risks; and even travelers with chronic illness may understand the serious nature of the risks taken at the expense of exacerbating life-threatening underlying diseases. It is critical that the health-care provider understand the traveler's health risk tolerance and discuss openly with the traveler the wisdom of a particular itinerary.

The importance of asking questions and gathering information cannot be over-emphasized. In several recent studies, results have shown that a small portion of travelers do not even report seeking general information about their travel

destination. If a traveler is using a travel agency or tour operator, it is helpful to ask questions to find out as much information about the trip as possible. Regardless of whether travelers are planning their own trips or joining a tour group, travelers should know as many details as possible about their modes of travel, their travel destinations, lodging, food, and activities during the trip.

Travelers should make certain that there is enough time to see a health-care provider and obtain any necessary vaccinations before they travel. Far less than half of all travelers who seek pre-travel health advice report obtaining information from a travel medicine specialist/travel clinic, and usually a slightly greater portion report seeking this information from their general practitioner/family doctor (4-7). Ideally, travelers should see a health-care professional about 4-6 weeks before traveling, giving an optimal amount of time for any necessary vaccines; however, if a trip is scheduled in one week or even in one day, it is always beneficial to try to seek travel health advice from an expert.

One of the most important ways that travelers can protect themselves is to be prepared with helpful details when they see their health-care provider.

The responsibilities of the travel industry, including travel agencies, tour operators, air and cruise lines do not culminate with the final booking of the tickets or hotel rooms. These members of the travel industry, too, should learn about the basics of travel medicine as it affects the areas of the world where their customers are traveling. Customers making travel plans often look to their travel agents to advise them on all aspects of their trip, including health risks and preventive actions they should take. In recent years, studies in several areas around the world have documented that travelers report seeking general information about their travel destination and health advice from their travel agents. Although the role of the agent is not to provide personal medical consultations, acknowledging travel health risks (such as the presence of malaria

or the fact that vaccinations may be beneficial) and providing resources in travel medicine can be very helpful. Studies have shown that although members of the travel industry are generally supportive of a role in travelers' health and many even report having policies about providing travelers with health information, the majority does not refer travelers to a travel medicine specialist/travel clinic. These studies also suggest that travel health advice is not consistent in content or in frequency. Although it might be tempting to shy away from disclosing possible health risks, this is not the most advantageous option. People wanting to travel will most likely travel regardless of possible health risks, especially if they know that they can take actions to help prevent getting sick. Additionally, a healthy trip and a positive experience, as a result of proper preventative health behaviors, will be motivation to travel again in the future. As well, it would be beneficial for the industry to refer travelers, particularly those with destinations in the developing world, to a local travel clinic. Travel agencies and tour operators should network with their local clinics to improve their knowledge, and travel clinics should reach out to provide educational sessions and resources to share with the traveling public through their local travel agencies. The reinforcement of travel health advice with written health information has become an integral part of travel medicine practice.

## References

1. International Health Regulations 2005, World Health Organization.
2. International travel and health, World Health Organization, 2007 (ISBN 978 92 4 158039 7).
3. International Health Regulations (2005) Areas of work for implementation June 2007, WHO/CDS/EPR/IHR/2007.
4. Travel Characteristics and Health Practices Among Travellers at the Travellers' Health and Vaccination Clinic in Singapore, Vernon J Lee, Annelies Wilder-Smith Ann Acad Med Singapore 2006;35:667-73
5. Epidemiological Surveillance and International Health Regulations 1999, SEA/EPID/126.
6. Global Public Health Surveillance under New International Health Regulations Michael G. Baker\* and David P. Fidler. Emerging Infectious Diseases (www.cdc.gov/eid) Vol. 12, No. 7, July 2006.
7. Cross border Collaboration on Emerging Infectious Diseases, World Health Organization 2007 , SEA-CD-166.
8. Knowledge, attitudes and practices in travel-related infectious diseases: the European airport survey , Van Herck K, Van Damme P, Castelli F, Zuckerman J, Nothdurft H, Dahlgren AL, et al. ... J Travel Med. 2004;11:3-8.
9. Spanish travelers to high-risk areas in the tropics: airport survey of travel health knowledge, attitudes, and practices in vaccination and malaria prevention, LOPEZ-VELEZ R , Bayas JMJ Travel Med. 2007;14:297-305.
10. Quality assessment in a travel clinic: a study of travelers' knowledge about malaria, TEODOSIO R , Goncalves L, Atouguia J, Imperatori E, J Travel Med. 2006;13:288-93.

## **Annexes:**

- **Annex 1:** Questionnaire targeting travelers at arrival sites (English).
- **Annex 2:** Questionnaire targeting travelers at arrival sites (Arabic).
- **Annex 3:** Questionnaire targeting travelers at arrival sites (French).
- **Annex 4:** Questionnaire targeting travelers at departure sites (English).
- **Annex 5:** Questionnaire targeting travelers at departure sites (Arabic).
- **Annex 6:** Questionnaire targeting travelers at departure sites (French).
- **Annex 7:** Check List for revising the international travelers' health documents (certificates) with regard to IHR 2005.
- **Annex 8:** Implementation and Action Plan
- **Annex 9:** Similar Studies:
- **Annex 10:** Data Collectors Training Workshop Program

## **Annex 8:**

### **Implementation and Action Plan:**

- After the approval of the project by WHO/EMRO-TDR committee and receiving of the approval, the study team leader initiate the communications with all relevant bodies especially in the Federal Ministry of Health. This was mainly aimed to get consensus from different partners towards the methodology of this project and the outcomes that obtained from the results by the end of the project period.
- The collaboration received from these departments and partners was encouraging the study team and facilitate the implementation of this project in different sites.
- The study team leader started to communicate with different parties to advocate for the project and its implementation and this including the following organizations:

#### **World Health Organization office in Sudan:**

- Communications including the follow-up the TSA signature in addition to the disbursement of funds allocated to the project.

#### **Epidemiology Department in FMOH:**

- The department includes the national focal point for the implementation of IHR 2005.

#### **Sudanese Civil Aviation Corporation:**

- The corporation is the higher authority that responsible for the airports in Sudan and the communications was aimed to obtain the permission to work in Khartoum International Airport.

**National Seaports Corporation:**

- The corporation is the higher authority that responsible for the seaports in Sudan and the communications was aimed to obtain the permission to work in Othman Digna Port.

**Khartoum International Airport:**

- The airport is one of the project's sites; the communications was aimed to inform the higher management about the study using demonstration documents including the data collection tools.

**Othman Digna Port in Sawakin:**

- The corporation is one of the project's sites; the communications was aimed to inform the management about the project in addition to obtain more data and statistics about the number of travelers passed through the port during the last year.

**National Medical Commission:**

- The commission is one of the project's sites the communications was aimed to inform the management about the project.

***Data Collection in Khartoum Airport:***

After the communications was completed between Ministry of Health and Khartoum International Airport management, the parties agreed on timeline to conduct the actual data collection survey in Khartoum International Airport within 2 weeks. Due to issues related to security reasons this period was determined as initial period that could be extended based on the need for that.

For the data collection process the study data collectors (trained) were divided into two groups. The first group was assigned to collect the data from the departure hall and this was composed of 3 data collectors. The other group was

consisting of 2 data collectors and it was selected to collect the data from the arrival hall.

The data collectors used the final data collection questionnaires after the editing based on the findings from the pilot study (see Annex 4 for data collection questionnaires).

The data collection in Khartoum International Airport was finalized within the determined period with good overall performance (94.2%) compared to the target in the sample size.

Total of **1256** travelers have been surveyed through standardized questionnaire especially prepared for this purpose. 69% of the samples have been collected from the departure hall.

Most of the travelers pass through the airport were Sudanese, with a majority of Egyptian citizens for non Sudanese travelers.

The travelers were approached in the waiting rooms in the departure hall (when waiting for their flights), while the passengers in the arrival hall were approached in the luggage waiting room.

The appointment of the travelers in the study sample was totally done through random selection based on the information about the expected number of passengers in each targeted flights (obtain form departure hall manger).

The sampling interval was then determined based on the targeted sample size for each flight for e.g. each 5th passenger in a row of chairs would be approached).

The data collectors then present themselves for the travelers and explain all essential information to get the informed consent from the passengers.



This information provided to the passengers includes the following:

1. Data collector's name and employer organization.
2. S/He is in a task to collect data for scientific study.
3. Explaining that this study is managed by Federal Ministry of Health to evaluate health related processes that the travelers go through during their traveling planning.
4. The inclusion in this study sample is completely random.
5. The response (or refuse to response) was not linked, in any way. to the procedures in the airport and isn't part of the requirements.
6. The data collection will be through a questionnaire; this questionnaire doesn't include any personal information out her/him.
7. Refusal to not participate in the study has no any implications.
8. Ask for verbal permission to respond to the questionnaire.

In case that the passenger agrees to respond to the questionnaire; the data collector gave her/him 10 minutes to go through the questionnaire and to respond. The data collector returned to collect the questionnaire. On the other hand if the passenger refused to participate; the data collector thanked her/him and then approached the next passenger (based on the sampling interval).

Although the questionnaires were designed as self administrative questionnaires, the response to filling the questionnaires is relatively and in general could be considered as very good. With average of (4%) of the targeted travelers whom refused to respond to the questionnaires.

On of the problem the technical problems that faced the study team during the data collection process in the airport was the issue of language barrier. This was concerned the data collectors when approaching travelers those not speaking any of the selected languages as inclusion criteria in the study population. This

was included Arabic, English and French as main languages. The problem appeared especially with the Chinese citizens and some other nationalities those don't speak these three languages.

There is no estimate for the number of the passengers those excluded due to this problem but as soon as this problem was identified, the same sampling techniques were used in order to insure that this was not affected the randomization of the selection.

#### ***Data Collection in National Medical Commission:***

The study team leader started the communications with the management in the national medical commission in order to arrange for the implementation of the study in the commission.

The commission expressed its welcoming to host the data collection and agreed to start the data collection in the second week in April 2009. The data collected from this site was very limited due to the fact that not all of the transactions done in this commission were involving the travelers who planned to travel in certain time period. Accordingly; this was limit the scope of the data could be obtained from this site. After 3 days of primarily data collection process, the study team decided to terminate the data collection process.

#### ***Data Collection in: Othman Digna Port in Sawakin***

The same general preparations framework done for the data collection process performed for Khartoum International Airport was also followed for this study site (this include; approval, data collection period, counterpart officers and the monitoring system). The 2 parts agreed conceptually on the best time of collecting the data which was during Ramadan. This was due to the fact that; during the rest period of the year the movement during this seaport was very

limited and this may affect the feasibility of having the data collection process at any other period.

Data collectors, whom were subjected to the training, were also divided into groups of two; the first group was assigned to collect the data from the departure hall and this was composed of 2 data collectors. The other group was consisting also of 2 data collectors and it was selected to collect the data from the arrival hall.

The data collectors used the final data collection questionnaires after the editing based on the findings from the pilot study (see the annexes for data collection questionnaires).

The data collection was finalized within the determined period with relatively good overall performance (89.7%) compared to the target in the sample size.

Total of **790** travelers have been surveyed through standardized questionnaire especially prepared for this purpose. **100%** of the samples have been collected from the departure hall. Most of the travelers pass through the seaport were Sudanese.

The appointment of the travelers in the study sample was totally done through random selection based on the information about the expected number of passengers in each targeted flights (obtain form departure hall manger).

The sampling interval was then determined based on the targeted sample size for each ship.

The data collectors then present themselves for the travelers and explain all essential information to get the informed consent from the passengers.

This information provided to the passengers includes the following:

1. Data collector's name and employer organization.
2. S/He is in a task to collect data for scientific study.
3. Explaining that this study is managed by Federal Ministry of Health to evaluate health related processes that the travelers go through during their traveling planning.
4. The inclusion in this study sample is completely random.
5. The response (or refuse to response) was not linked, in any way, to the procedures in the airport and isn't part of the requirements.
6. The data collection will be through a questionnaire; this questionnaire doesn't include any personal information out her/him.
7. Refusal to not participate in the study has no any implications.
8. Ask for verbal permission to respond to the questionnaire.

**Data Management and Analysis Plan:**

- The data analysis process was included mixed analysis methods according to the type of data and the tool of data collection, but in general it was done using the following:
  - Manual analysis.
  - Computer programs (SPSS).
- To ensure the quality of data the process of data entry and data analysis was done in the period immediately after the completion of data collection process from the study sites.
- The data entry and analysis was conducted with support of specialized personnel in the area of statistical analysis.

## **Annex 9:**

### **Similar Studies:**

The study conducted in Sudan may be considered as part of series of studies that taken place in this area of work. The presentation of these studies' results was not intended to be done for comparability purpose. As the scope of each study was vary considerably from the other studies and the objectives as well as the methodologies were also significantly different. Still; there are some similarity and area of overlapping and interests.

This includes the following:

- The linkage between the purpose of the travel and the knowledge, attitude and practice o the travels;
- Pre-travel and post-travel advices (reasons, time, scope, how);
- Types of tests or medical examinations associated with the travel from/to the country;
- Types of vaccines were associated with the travel from/to the country;
- The patterns of diseases transmission and prevention measures (especially Malaria of Sudan's case and similar cases).

Based on that the reader may find it useful to compare the results obtained from the study in Sudan with that found in other countries in the data presented in this table:

<b><u>Study Title</u></b>	<b><u>Author/s</u></b>	<b><u>Main findings</u></b>
<b>1. Knowledge, attitudes and practices of business travelers regarding malaria risk and prevention</b>	Weber R; Schlagenhauf P; Amsler L; Steffen R	<ul style="list-style-type: none"> <li>• Among the investigated business travelers, 6% had experienced malaria infection, and 29% had previously had blood smears tested for malaria at least once.</li> <li>• Almost all business travelers, 95%, knew that mosquitoes are the main vectors of malaria.</li> <li>• The infection risk between dusk and dawn was known to 71%, and the incubation time to 36%. Apart from fever (99%) and headache (63%), other malaria symptoms were known to only 13% to 36% of the travelers.</li> <li>• If signs of illness such as fever and headache occurred, 63% would react adequately and seek medical advice within 24 h.</li> <li>• Only 16% of the travelers to African high-risk areas followed the recommended behavior concerning anti-mosquito and antimalarial strategies; 31% of those on trips to low-risk areas used an adequate protective strategy.</li> <li>• Of the business travelers using chemoprophylaxis during travel, just 50% continued intake post travel, as requested, after leaving the endemic area.</li> </ul>
<b>2. Travelers' knowledge, attitudes, and practices on</b>	Van Herck K; Zuckerman J; Castelli F; Van Damme P; Walker E;	<ul style="list-style-type: none"> <li>• The study showed that more than one-third of travelers questioned had not sought pre-travel health advice and of those who did, over 20% sought advice 14</li> </ul>

<b>prevention of infectious diseases: results from a pilot study</b>	Steffen R;	<p>days or less prior to travel.</p> <ul style="list-style-type: none"> <li>• One-third of the respondents were aged 50 or more, and 20% had planned their trip less than 2 weeks before leaving.</li> <li>• Only a minority were able to demonstrate that they had been immunized as per the World Health Organization or national recommendations.</li> <li>• Respondents often misperceived both the risk of malaria at the destination and recommended preventive measures.</li> </ul>
<b>3. A population-based comparison between travelers who consulted travel clinics and those who did not</b>	Duval B; De Serre G; Shadmani R; Boulianne N; Pohani G; Naus M; Rochette L; Fradet MD; Kain KC; Ward BJ	<ul style="list-style-type: none"> <li>• Only 15% of trips had been preceded by a visit to a travel clinic.</li> <li>• The probability of visiting a travel clinic was approximately 10 times greater for travelers considered to be in the high-risk category than for those in the low-risk category, but the former represented only 2% of the total.</li> <li>• The probability of visiting a travel clinic was approximately 23 times greater for travelers who were aware of the health risks in their country of destination.</li> <li>• Income level was not associated with attendance at a travel clinic, and cost was rarely mentioned as a reason for not attending such a travel clinic before departure.</li> </ul>
<b>4. Travelers' knowledge of prevention and treatment of travelers' diarrhea</b>	Johnson JY; McMullen LM; Hasselback P; Louie M; Saunders LD	<ul style="list-style-type: none"> <li>• Almost half reported they received some information on travel-related diseases and on TD prior to the flight.</li> <li>• When education level was controlled for, the mean score for people who had obtained information on TD was</li> </ul>

		<p>significantly higher than that for those who did not have such information.</p> <ul style="list-style-type: none"> <li>• A high proportion of travelers correctly identified risk levels associated with specific foods consumed during travel, and many recognize that they are at an increased risk of acquiring diarrheal illness while traveling in a developing country.</li> </ul>
<p><b>5. Quality assessment in a travel clinic: a study of travelers' knowledge about malaria.</b></p>	<p>Teodósio R; Gonçalves L; Atouguia J; Imperatori E</p>	<ul style="list-style-type: none"> <li>• There was a significant improvement of travelers' knowledge in the post-consultation group, with 98.5% of individuals understanding that malaria is transmitted by mosquito bite, 91.5% that malaria may be prevented by appropriate prophylactic medication, and 93% knowing that malaria is prevented by avoiding mosquito bites.</li> <li>• However, almost half of the post-consultation group did not realize that there was no vaccine available for preventing malaria or that avoiding unsafe food and drink did not prevent malaria.</li> <li>• About 53% gave correct answers about malaria incubation periods, and 91.1% were able to identify the initial symptoms of malaria.</li> </ul>
<p><b>6. Spanish travelers to high-risk areas in the tropics: airport survey of travel health knowledge, attitudes, and practices in</b></p>	<p>Lopez-Velez R; Bayas JM</p>	<ul style="list-style-type: none"> <li>• Fifty-eight percent of travelers were male and the mean age was 38 years. Thirty-six percent were traveling to tropical areas for the first time.</li> <li>• The main reason for travel was tourism (82%) or business (12%). The mean time preparing the trip was 39 days; 73% looked for information a mean of 19 days</li> </ul>



<b>vaccination and malaria prevention.</b>		<p>in advance and 54% were advised in travelers' clinics.</p> <ul style="list-style-type: none"> <li>• Fifty-five percent received no travel vaccines. A total of 48.1% of tourists and 30.1% of business travelers were vaccinated.</li> <li>• The most frequent vaccines administered were as follows: typhoid fever, 32%; yellow fever, 29%; tetanus-diphtheria, 24%; and hepatitis A, 14%. Malaria prophylaxis was taken by 422 travelers including mefloquine (44%), atovaquone-proguanil (17%), chloroquine (16%), chloroquine-proguanil (15%), doxycycline (3%), and unknown (5%).</li> </ul>
<b>7. Travel health knowledge, attitudes and practices among Australasian travelers.</b>	<p>Wilder-Smith A; Khairullah NS; Song JH; Chen CY; Torresi J</p>	<ul style="list-style-type: none"> <li>• Of 2,101 respondents (82% Asian, 17% Western), 31% had sought pretravel health advice and only 4% sought travel health advice from the travel medicine specialist.</li> <li>• The risk of vaccine-preventable infectious diseases and malaria at the destination country was perceived to be low.</li> <li>• Overall, fewer than 5% of travelers had been vaccinated in preparation for their trip.</li> <li>• The most frequent travel vaccinations were for hepatitis A and B. Only 40% of travelers to malaria-endemic areas carried malaria prophylaxis.</li> <li>• Compared to Western travelers, those of Asian nationality were significantly less likely to obtain pretravel advice and malaria prophylaxis and to receive travel</li> </ul>

		vaccinations.
<b>8. Knowledge, attitudes and practices in travel-related infectious diseases: the European airport survey.</b>	Van Herck K; Van Damme P; Castelli F; Zuckerman J; Nothdurft H; Dahlgren AL; Gisler S; Steffen R; Gargalianos P; Lopéz-Vélez R; Overbosch D; Caumes E; Walker E	<ul style="list-style-type: none"> <li>• Although the majority of travelers (73.3%) had sought general information about their destination prior to departure, only just over half of the responders (52.1%) had sought travel health advice.</li> <li>• Tourists and people traveling for religious reasons had sought travel health advice more often, whereas travelers visiting friends and relatives were less likely to do so.</li> <li>• Hepatitis A was perceived as the most probable among the infectious diseases investigated, followed by HIV and hepatitis B.</li> <li>• In spite of a generally positive attitude towards vaccines, 58.4% and 68.7% of travelers could not report any protection against hepatitis A or hepatitis B, respectively.</li> <li>• Only one in three travelers to a destination country with at least some malaria endemicity were carrying antimalarial drugs.</li> <li>• Almost one in four travelers visiting a high-risk area had an inaccurate risk perception and even one in two going to a no-risk destination were unnecessarily concerned about malaria</li> </ul>
<b>9. Travelers' knowledge, attitudes and practices on the prevention of infectious</b>	??????	<ul style="list-style-type: none"> <li>• African destinations accounted for 99% of the total. Traveler mean age was 42 years, with 30% aged 50 years or above.</li> <li>• Leisure (42%) and business (37%) were the commonest travel reasons; 8% of subjects</li> </ul>

<p><b>diseases: results from a study at Johannesburg International Airport</b></p>		<p>were visiting friends or relatives.</p> <ul style="list-style-type: none"> <li>• Forty-six per cent of travelers prepared for their trip at least 1 month in advance; 86% had sought pre-travel health advice, with travel clinics and the Internet being rated highest by travelers for quality of advice.</li> <li>• World Health Organization immunization guidelines were followed poorly: only 37% and 27%, respectively, of travelers had demonstrable proof of protection against hepatitis A and B, with 40% of all Q-vac travelers unable to produce a vaccination certificate.</li> <li>• Of travelers to yellow fever- endemic countries, 76% were able to produce a valid vaccination certificate; 22% of travelers to countries not endemic for yellow fever had nevertheless been specifically immunized against yellow fever for their journeys.</li> <li>• Forty-nine per cent of Q-mal travelers carried either no or inappropriate antimalarials.</li> </ul>
<p><b>10. Travel health knowledge, attitudes and practices among United States travelers.</b></p>	<p>Hamer DH; Connor BA</p>	<ul style="list-style-type: none"> <li>• Overall, 404 questionnaires were completed, including 203 focused on malaria and 201 on vaccine-preventable diseases.</li> <li>• Latin America and Asia were the most common destinations.</li> <li>• Only 36% of travelers sought travel health advice, despite the fact that more than half prepared their trip at least a month in advance.</li> <li>• Only 17% of travelers considered</li> </ul>

		<p>themselves at high risk for hepatitis A.</p> <ul style="list-style-type: none"> <li>Although the majority of travelers (73%) to a high-risk malaria-endemic region perceived malaria as a high health risk, only 46% of them were carrying antimalarial medications.</li> <li>Additionally, although the majority of travelers believed that vaccines were effective for prevention, few were vaccinated for their journey: 11% for tetanus, 14% for hepatitis A, 13% for hepatitis B, and 5% for yellow fever.</li> </ul>
<b>11. Perception and knowledge about some infectious diseases among travelers from Québec, Canada.</b>	Provost S; Soto JC	<ul style="list-style-type: none"> <li>Risk perception was less important for hepatitis A and B (44% and 41%, respectively).</li> <li>Most travelers considered diarrhea as slightly or not severe, and hepatitis as severe illnesses.</li> <li>A majority had adequate knowledge about transmission of diarrhea but knowledge concerning hepatitis was less accurate.</li> <li>In the multivariate analysis, the most important associations were noted between perception of risk of diarrhea and knowledge about transmission of diarrhea (odds ratio [OR] 3.2); and between perception of risk of hepatitis and perception of severity of hepatitis (hepatitis A: OR 3.9; hepatitis B: OR 5.9).</li> <li>Consultation in a travel clinic before departure was associated with perception of higher risk of hepatitis A and of infectious diseases in general (OR 2.1).</li> </ul>

**Annex 10:**

**Evaluation of Travelers Adherence to the Processes of International  
Health Regulations 2005 in 3 Main Points of Entry in Sudan during 2008**

**Data Collectors Training Workshop Program**

<b>Opening Session</b>	
<b>Opening and Notes</b>	09:00 – 09:20
<b>Introduction</b>	09:20 – 10:00
<b>Break</b>	10:00 – 10:30
<b>Session 2</b>	
<b>IHR 2005 Outlines</b>	10:30 – 11:30
<b>Health Aspects in IHR 2005</b>	11:30 – 12:30
<b>Discussions</b>	12:30 – 13:20
<b>Break</b>	13:20 – 13:50
<b>Session 3</b>	
<b>Self- presentation skills</b>	13:50 – 14:20
<b>Data Collection Tools</b>	14:20 – 15:20
<b>Discussions</b>	15:20 – 15:50
<b>Closing</b>	15:50 – 16:00
<b>Break</b>	16:00 – .....



Preservation of public health usually is a responsibility of all in different parties, and the travel between different countries implies usually of some health procedures that aiming to ensure the traveler safety and health in all his actions.

This questionnaire is part of scientific study aim to evaluate the travelers' health procedures in airports and ports in Sudan that the travelers subjected to it during their travel from or to Sudan. So please kindly answer the questions included below for your grateful participation.

### General Information:

**Arrival**

Nationality	.....		
Sex	<input type="checkbox"/> Male	<input type="checkbox"/> Female	
Age	<input type="checkbox"/> 18-24	<input type="checkbox"/> 25-40	<input type="checkbox"/> More than 40
Expected stay period in Sudan	<input type="checkbox"/> 1 week-2weeks	<input type="checkbox"/> 2week-4weeks	<input type="checkbox"/> More than 4 weeks
Visit Type	<input type="checkbox"/> Resident	<input type="checkbox"/> Non Resident	
Number of times visiting Sudan	<input type="checkbox"/> First time	<input type="checkbox"/> 2-5 times	<input type="checkbox"/> More
Travel Purpose	<input type="checkbox"/> Leisure	<input type="checkbox"/> Business	<input type="checkbox"/> Work Mission <input type="checkbox"/> Study <input type="checkbox"/> Other

1. Did you seek any health information about Sudan and type of diseases in Sudan?

☐ Yes

☐ No

2. Did you ask for health advice about Sudan from your travel agency?

☐ Yes

☐ No

3. Were you notified by the authorities in the country you came from during your travel planning about any health precautions in Sudan?

☐ Yes

☐ No

4. Were you notified by the authorities in Sudan at the airport/port about any health precautions in Sudan?

☐ Yes

☐ No

5. Did the authorities in Sudan at the airport/port ask you to fill any forms regarding health information about yourself and your address in Sudan?

☐ Yes

☐ No

6. Were you ever subjected to any medical examinations in any airports/ports that you pass through during your travel to Sudan?

☐ Yes

☐ No

**7. If yes, was the process done under your agreement or not?**

☐ Under your Agreement ☐ Without your Agreement

**8. Do you have the international vaccination certificate issued from your country health authority?**

☐ Yes ☐ No

**9. Was the presence of the international vaccination certificate for mandatory to the authorities' approval to let you pass you through the airport/port to enter Sudan?**

☐ Yes ☐ No

**10. Were you ever forbidden to enter Sudan for any health-related process?**

☐ Yes ☐ No

**11. If yes, what was the reason(s)?**

☐ You haven't vaccination certificate ☐ Problem in the vaccination certificate  
☐ Expiration of the vaccination certificate ☐ Other

**12. Have you ever vaccinated against Yellow Fever in last few years?**

☐ Yes ☐ No

**13. Did you carry out any other types of vaccination or medical examinations related to your travel to Sudan?**

☐ Yes ☐ No

**14. If yes, what vaccination(s)/examination(s) .....**

**15. Did you know that Malaria is existent in some areas in Sudan?**

☐ Yes ☐ No

**16. Did you get any preventive measures (e.g. administration of preventive medicines) to avoid getting Malaria?**

☐ Yes ☐ No

**17. If no, will you take these measures after you enter Sudan?**

☐ Yes ☐ No

**18. Do you plan to get any medical examinations after you leave Sudan?**

☐ Yes ☐ No



الحفاظ علي الصحة العامة هي مسئولية مشتركة بين الجميع في كل المجالات، والسفر بين الدول المختلفة يتضمن في العادة بعض الاجراءات الصحية التي تهدف في المقام الاول الي ضمان صحة المسافر خلال حله وترحاله.

هذا الاستبيان هو ضمن دراسة تهدف الي دراسة الاجراءات الصحية للمسافرين عبر المطارات والموانئ في السودان من خلال الاجراءات التي يخضع لها المسافرين من وإلى السودان، لذا نرجو شاكركم بالاجابة علي الاسئلة المضمنة في الاستبيان للمساهمة في هذه الدراسة.

### بيانات عامة:

### وصول

الجنسية	.....
النوع	<input type="checkbox"/> ذكر <input type="checkbox"/> انثى
العمر	<input type="checkbox"/> بين 18-24 سنة <input type="checkbox"/> 25-40 سنة <input type="checkbox"/> اكثر من 40 سنة
المدة المتوقعة للسفر	<input type="checkbox"/> اسبوع-اسبوعين <input type="checkbox"/> اسبوعين-4 اسابيع <input type="checkbox"/> اكثر من 4 اسابيع
نوع الزيارة	<input type="checkbox"/> مقيم <input type="checkbox"/> طلب اقامة
عدد مرات السفر الي السودان	<input type="checkbox"/> اول مرة <input type="checkbox"/> 2-5 مرات <input type="checkbox"/> اكثر
الغرض من السفر	<input type="checkbox"/> عطلة/استجمام <input type="checkbox"/> تجارة <input type="checkbox"/> مهمة عمل رسمية <input type="checkbox"/> دراسة <input type="checkbox"/> اخرى

1. هل قمت باجراء اي بحث عن معلومات صحية حول السودان وطبيعة الامراض فيه؟

☐ نعم ☐ لا

2. هل قمت بطلب من مقدم خدمة السفر أو وكالة السفر لاي استشارات صحية حول السودان؟

☐ نعم ☐ لا

3. هل تم اخطارك من قبل السلطات الصحية في الدولة التي انت قادم منها اثناء الاعداد للسفر باي محازير صحية محددة حول السودان؟

☐ نعم ☐ لا

4. هل تم اخطارك من قبل السلطات الصحية في السودان في المطار/الميناء باي محازير صحية عن السودان؟

☐ نعم ☐ لا

5. هل طلبت منك السلطات الصحية في السودان عند الوصول ملئ اي بيانات صحية محددة او عنوانك في السودان؟

☐ نعم ☐ لا

6. هل حدث ان خضعت لاي فحص طبي في اي من المطارات/الموانئ التي مررت بها قبل وصولك للسودان؟

☐ لا

☐ نعم

7. اذا كانت الاجابة بنعم، هل تمت عملية الفحص بموافقتك ام بدون موافقتك؟

☐ موافقتك ☐ بدون موافقتك

8. هل لديك شهادة تطعيم دولية موثقة من الجهات الصحية في بلدك؟

☐ لا

☐ نعم

9. هل تم اشتراط وجود شهادة للتطعيم كشرط اساسي لعبورك عبر المطار/الميناء للدخول الي السودان؟

☐ لا

☐ نعم

10. هل حدث ان تم منعك من الدخول الي السودان بدافع اجراءات صحية؟

☐ لا

☐ نعم

11. اذا كانت الاجابة بنعم، ما هو السبب؟

☐ عدم وجود شهادة تطعيم ☐ وجود مشكلة في شهادة التطعيم ☐ انتهاء صلاحية شهادة التطعيم ☐ اخرى

12. هل تم تطعيمك ضد الحمى الصفراء خلال الاعوام القليلة السابقة؟

☐ لا

☐ نعم

13. هل خضعت لاي نوع اخر من انواع التطعيم او الفحص الطبي مرتبط باجراءات السفر الي السودان؟

☐ لا

☐ نعم

14. اذا كانت الاجابة بنعم، ما هو نوع التطعيم/الفحص .....

15. هل تعلم بوجود مرض الملاريا في بعض المناطق في السودان؟

☐ لا

☐ نعم

16. هل قمت باي اجراءات وقائية (تناول مضاد للملاريا مثلاً) للحيلولة دون الاصابة بمرض الملاريا؟

☐ لا

☐ نعم

17. اذا كانت الاجابة بلا، هل ستقوم بهذا الاجراءات الوقائية بعد دخولك للسودان؟

☐ لا

☐ نعم

18. هل تخطط لاجراء اي فحوصات صحية عقب مغادرتك للسودان؟

☐ لا

☐ نعم

La préservation de la santé publique est une responsabilité commune concernant tous dans tous les domaines; aussi, voyager enter les pays inclue, généralement des procédures sanitaires visant, à la première place, à assurer la santé du voyageur durant ses voyages.

Ce questionnaire est une partie d'une étude des procédures sanitaires visant les voyageurs partant du ou entrant dans le Soudan, par les aéroports et les ports maritimes au Soudan.

Prière de répondre aux questions ci-dessous, en vous remerciant en avance pour votre participation très appréciée à cette étude. **Arrivée**

**Informations générales:**

<i>Nationalité</i>	.....
<i>Sexe</i>	<input type="checkbox"/> Masculin <input type="checkbox"/> Féminin
<i>Age</i>	<input type="checkbox"/> 18-24 ans <input type="checkbox"/> 25-40 ans <input type="checkbox"/> Plus de 40 ans
<i>Période envisagée du séjours au Soudan</i>	<input type="checkbox"/> 1-2 semaines <input type="checkbox"/> 2-4 semaines <input type="checkbox"/> Plus de 4 semaines
<i>Type du voyage</i>	<input type="checkbox"/> Résident <input type="checkbox"/> Non-résident
<i>Nombre des voyages au Soudan</i>	<input type="checkbox"/> Première fois <input type="checkbox"/> 2-5 fois <input type="checkbox"/> Plus de 5 fois
<i>Raison(s) du voyage</i>	<input type="checkbox"/> Loisirs <input type="checkbox"/> Travaux <input type="checkbox"/> Mission de Travail <input type="checkbox"/> Etudes <input type="checkbox"/> Autre

1. Avez-vous fait, avant de partir, une recherche des informations sanitaires sur le pays destiné et les maladies y existant ?

☐ Oui ☐ Non

2. Avez-vous demandé de l'agence de voyage, ou la personne qui vous a rendu les services de voyage des informations sanitaires sur le pays destiné ?

☐ Oui ☐ Non

3. Avez-vous été(e) averti(e) par les autorités sanitaires soudanaises durant vos préparations de votre voyage, des précautions sanitaires quelconques au pays destiné ?

☐ Oui ☐ Non

4. Avez-vous été(e) averti(e) par les autorités sanitaires soudanaises à l'aéroport/au port des précautions sanitaires quelconques ?

5. Avez-vous été(e) demandé(e) par les autorités soudanaises à l'aéroport/port de remplir certaines informations sanitaires, ou votre adresse au Soudan ?

☐ Oui ☐ Non

6. Avez-vous été(e), dans n'importe quel aéroport/port vous y avez débarqué avant d'arriver au Soudan, soumis(e) à des tests médicaux ?

☐ Oui ☐ Non

7. Si la réponse est "OUI", avez les tests été fait en/sans vertu de votre accord?

☐ En vertu de votre accord

☐ Sans vertu de votre accord

8. Avez-vous un certificat de vaccination international issu des autorités sanitaires dans votre pays ?

☐ Oui

☐ Non

9. Avez votre départ du Soudan par l'aéroport/le port été conditionné par l'obtention du certificat international de vaccination ?

☐ Oui

☐ Non

10. Si vous n'êtes pas résident(e) au Soudan, avez-vous jamais été(e) interdis(e) d'entrer au Soudan pour des raisons sanitaires ?

☐ Oui

☐ Non

11. Si la réponse est "OUI", pour quelle(s) raison(s) ?

☐ Manque du certificat international de vaccination

☐ Problème concernant le certificat international de vaccination

☐ Expiration du certificat international de vaccination

☐ Autre

12. Avez-vous été(e) vacciné(e) contre la fièvre jaune dans les années précédentes ?

☐ Oui

☐ Non

13. Avez-vous été(e) vacciné(e) ou soumis(e) à d'autres tests médicaux relatifs à votre voyage au Soudan ?

☐ Oui

☐ Non

14. Si la réponse est "OUI", quel test(s) ?

.....

15. Saviez-vous qu'il y a le paludisme dans quelques parts du Soudan ?

☐ Oui

☐ Non

16. Avez-vous fait n'importe quelles procédures préventives (ingestion des médicaments contre-paludisme, par exemple) pour vous protéger u paludisme ?

☐ Oui

☐ Non

17. Si la réponse est "NON", allez-vous faire ses procédures quand vous vous installez au Soudan ?

☐ Oui

☐ Non

18. Allez-vous faire procédures quand vous partez du Soudan ?

☐ Oui

☐ Non

**(Fin du questionnaire)**

***Merci de votre participation !***

Preservation of public health usually is a responsibility of all in different parties, and the travel between different countries implies usually of some health procedures that aiming to ensure the traveler safety and health in all his actions.

This questionnaire is part of scientific study aim to evaluate the travelers' health procedures in airports and ports in Sudan that the travelers subjected to it during their travel from or to Sudan. So please kindly answer the questions included below for your grateful participation.

## Departure

### General Information:

Nationality	.....		
Sex	<input type="checkbox"/> Male	<input type="checkbox"/> Female	
Age	<input type="checkbox"/> 18-24	<input type="checkbox"/> 25-40	<input type="checkbox"/> More than 40
Travel expected period	<input type="checkbox"/> 1 week-2weeks	<input type="checkbox"/> 2week-4weeks	<input type="checkbox"/> More than 4 weeks
Visit Type	<input type="checkbox"/> Resident	<input type="checkbox"/> Non Resident	
Times you depart from Sudan	<input type="checkbox"/> First time	<input type="checkbox"/> 2-5 times	<input type="checkbox"/> More
Travel Purpose	<input type="checkbox"/> Leisure <input type="checkbox"/> Business <input type="checkbox"/> Work <input type="checkbox"/> Mission <input type="checkbox"/> Study <input type="checkbox"/> Other		

1. Did you seek any health information about your destination and type of diseases in it?

☐ Yes

☐ No

2. Did you ask for health advice about your destination from your travel agency?

☐ Yes

☐ No

3. Were you notified by the authorities in Sudan during your travel planning by any health precautions about your destination?

☐ Yes

☐ No

4. Were you notified by the authorities in Sudan at the airport/port about any health precautions you should take?

☐ Yes

☐ No

5. Did the authorities in your destination embassy ask you to fill any forms regarding health information about yourself and your address in the country?

☐ Yes

☐ No

6. Were you ever subjected to any medical examinations in any airports/ports that you pass through during your travel before you arrive to Sudan?

☐ Yes

☐ No

**7. If yes, was the process done under your agreement or not?**

☐ Under your Agreement ☐ Without your Agreement

**8. Do you have the international vaccination certificate issued from your country health authority?**

☐ Yes ☐ No

**9. Was the presence of the international vaccination certificate mandatory for the approval of the authorities to let you pass you through the airport/port before you leave Sudan?**

☐ Yes ☐ No

**10. "In case you are not resident" Were you ever forbidden from entering Sudan for any health-related process?**

☐ Yes ☐ No

**11.If yes, what was the reason(s)?**

☐ You haven't vaccination certificate ☐ Problem in the vaccination certificate  
☐ Expiration of the vaccination certificate ☐ other

**12.Have vaccinated against Yellow Fever in last few years?**

☐ Yes ☐ No

**13.Did you carry out any other types of vaccination or medical examinations related to your travel procedures from Sudan?**

☐ Yes ☐ No

**14.If yes, what vaccination(s)/examination(s) .....**

**15.Did you know that Malaria is existent in some areas in Sudan?**

☐ Yes ☐ No

**16.Did you get any preventive measures (e.g. administration of preventive medicines) to avoid getting Malaria?**

☐ Yes ☐ No

**17.Do you plan to get any medical examinations after you leave Sudan to your destination?**

☐ Yes ☐ No

الحفاظ علي الصحة العامة هي مسئولية مشتركة بين الجميع في كل المجالات، والسفر بين الدول المختلفة يتضمن في العادة بعض الاجراءات الصحية التي تهدف في المقام الاول الي ضمان صحة المسافر خلال حله وترحاله.

هذا الاستبيان هو ضمن دراسة تهدف الي دراسة الاجراءات الصحية للمسافرين عبر المطارات والموانئ في السودان من خلال الاجراءات التي يخضع لها المسافرين من وإلى السودان، لذا نرجو شاكركم بالاجابة علي الاسئلة المضمنة في الاستبيان للمساهمة في هذه الدراسة.

### بيانات عامة:

### مغادرة

الجنسية	.....
النوع	<input type="checkbox"/> ذكر <input type="checkbox"/> انثى
العمر	<input type="checkbox"/> بين 18-24 سنة <input type="checkbox"/> 25-40 سنة <input type="checkbox"/> اكثر من 40 سنة
المدة المتوقعة للسفر	<input type="checkbox"/> اسبوع-اسبوعين <input type="checkbox"/> اسبوعين-4 اسابيع <input type="checkbox"/> اكثر من 4 اسابيع
نوع الزيارة	<input type="checkbox"/> مقيم <input type="checkbox"/> طلب اقامة
عدد مرات السفر من السودان	<input type="checkbox"/> اول مرة <input type="checkbox"/> 2-5 مرات <input type="checkbox"/> اكثر
الغرض من السفر	<input type="checkbox"/> عطلة/استجمام <input type="checkbox"/> تجارة <input type="checkbox"/> مهمة عمل رسمية <input type="checkbox"/> دراسة <input type="checkbox"/> اخرى

1. هل قمت باجراء اي بحث عن معلومات صحية حول الدولة المتجه اليها وطبيعة الامراض فيها؟

☐ نعم ☐ لا

2. هل قمت بطلب من مقدم خدمة السفر أو وكالة السفر لاي معلومات صحية حول الدولة المتجه اليها ؟

☐ نعم ☐ لا

3. هل تم اخطارك من قبل السلطات الصحية في السودان اثناء الاعداد للسفر باي محازير صحية محددة حول الدولة المتجه اليها ؟

☐ نعم ☐ لا

4. هل تم اخطارك من قبل السلطات الصحية في السودان في المطار/الميناء باي محازير صحية؟

☐ نعم ☐ لا

5. هل طلبت منك السلطات في سفارة الدولة المتجه اليها عند طلب التأشيرة ملئ اي بيانات صحية محددة او عنوان اقامتك في السودان لاغراض صحية؟

☐ نعم ☐ لا

6. هل حدث ان خضعت لاي فحص طبي في اي من المطارات/الموانئ التي مررت بها قبل وصولك للسودان؟

☐ لا

☐ نعم

7. اذا كانت الاجابة بنعم، هل تمت عملية الفحص بموافقتك ام بدون موافقتك؟

☐ بدون موافقتك

☐ موافقتك

8. هل لديك شهادة تطعيم دولية موثقة من الجهات الصحية في بلدك؟

☐ لا

☐ نعم

9. هل تم اشتراط وجود شهادة للتطعيم كشرط اساسي لعبورك عبر المطار/الميناء للخروج من السودان؟

☐ لا

☐ نعم

10. "في حال انك غير مقيم" هل حدث ان تم منعك من الدخول الي السودان بدافع اجراءات صحية؟

☐ لا

☐ نعم

11. اذا كانت الاجابة بنعم، ما هو السبب؟

☐ عدم وجود شهادة تطعيم ☐ وجود مشكلة في شهادة التطعيم ☐ انتهاء صلاحية شهادة التطعيم ☐ اخرى

12. هل تم تطعيمك ضد الحمى الصفراء خلال الاعوام السابقة؟

☐ لا

☐ نعم

13. هل خضعت لاي نوع اخر من انواع التطعيم او الفحص الطبي مرتبط باجراءات السفر من السودان؟

☐ لا

☐ نعم

14. اذا كانت الاجابة بنعم، ما هو نوع التطعيم/الفحص .....

15. هل تعلم بوجود مرض الملاريا في بعض المناطق في السودان؟

☐ لا

☐ نعم

16. هل قمت باي اجراءات وقائية (تناول مضاد للملاريا مثلاً) للحيلولة دون الاصابة بمرض الملاريا اثناء اقامتك في السودان؟

☐ لا

☐ نعم

17. هل ستقوم باجراء اي فحوصات صحية عقب وصولك للدولة المتجه اليها؟

☐ لا

☐ نعم



La préservation de la santé publique est une responsabilité commune concernant tous dans tous les domaines; aussi, voyager enter les pays inclue, généralement des procédures sanitaires visant, à la première place, à assurer la santé du voyageur durant ses voyages.

Ce questionnaire est une partie d'une étude des procédures sanitaires visant les voyageurs partant du ou entrant dans le Soudan, par les aéroports et les ports maritimes au Soudan.

Prière de répondre des questions ci-dessous, en vous remerciant en avance pour votre participation très appréciée à cette étude **Départ**.

**Informations générales:**

<i>Nationalité</i>	.....
<i>Sexe</i>	<input type="checkbox"/> Masculin <input type="checkbox"/> Féminin
<i>Age</i>	<input type="checkbox"/> 18-24 ans <input type="checkbox"/> 25-40 ans <input type="checkbox"/> Plus de 40 ans
<i>Période envisagée du voyage</i>	<input type="checkbox"/> 1-2 semaines <input type="checkbox"/> 2-4 semaines <input type="checkbox"/> Plus de 4 semaines
<i>Type du voyage</i>	<input type="checkbox"/> Résident <input type="checkbox"/> Non-résident
<i>Nombre des départs du Soudan</i>	<input type="checkbox"/> Première fois <input type="checkbox"/> 2-5 fois <input type="checkbox"/> Plus de 5 fois
<i>Raison(s) du voyage</i>	<input type="checkbox"/> Loisirs <input type="checkbox"/> Travaux <input type="checkbox"/> Mission de Travail <input type="checkbox"/> Etudes <input type="checkbox"/> Autre

1. Avez-vous fait, avant de partir, une recherche des informations sanitaires sur le pays destiné et les maladies y existant ?

☐ Oui ☐ Non

2. Avez-vous demandé de l'agence de voyage, ou la personne qui vous a rendu les services de voyage des informations sanitaires sur le pays destiné ?

☐ Oui ☐ Non

3. Avez-vous été(e) averti(e) par les autorités sanitaires soudanaises durant vos préparations de votre voyage, des précautions sanitaires quelconques au pays destiné ?

☐ Oui ☐ Non

4. Avez-vous été(e) averti(e) par les autorités sanitaires soudanaises à l'aéroport/au port des précautions sanitaires quelconques ?

5. Avez-vous été(e) demandé(e) par les autorités de l'ambassade du pays destiné, durant l'application pour le visa, de remplir certaines informations sanitaires par, ou votre adresse au Soudan, pour des raisons sanitaires ?

☐ Oui ☐ Non

6. Avez-vous été(e), dans n'importe quel aéroport/port vous y avez débarqué avant d'arriver au Soudan, soumis(e) à des tests médicaux ?

☐ Oui ☐ Non

7. Si la réponse est "OUI", avez les tests été fait en/sans vertu de votre accord?

☐ En vertu de votre accord ☐ Sans vertu de votre accord

8. Avez-vous le certificat international de vaccination issu des autorités sanitaires dans votre pays ?

☐ Oui

☐ Non

9. Est-ce que votre départ du Soudan par l'aéroport/le port a été conditionné par l'obtention d'un certificat international de vaccination ?

☐ Oui

☐ Non

10. Si vous n'êtes pas résident(e) au Soudan, avez-vous jamais été(e) interdis(e) d'entrer au Soudan pour des raisons sanitaires ?

☐ Oui

☐ Non

11. Si la réponse est "OUI", pour quelle(s) raison(s) ?

☐ Manque du certificat international de vaccination      ☐ Problème concernant le certificat international de vaccination

☐ Expiration du certificat international de vaccination      ☐ Autre

12. Avez-vous été(e) vacciné(e) contre la fièvre jaune dans les années précédentes ?

☐ Oui

☐ Non

13. Avez-vous été(e) vacciné(e) ou soupi(e) à des tests médicaux relatifs aux procédures du voyage du Soudan ?

☐ Oui

☐ Non

14. Si la réponse est "OUI", quel test ?

.....

15. Saviez-vous qu'il y a le paludisme dans quelques parts du Soudan ?

☐ Oui

☐ Non

16. Avez-vous fait n'importe quelles procédures préventives (ingestion des comprimés contre-paludisme, par exemple) pour vous protéger du paludisme ?

☐ Oui

☐ Non

17. Allez-vous faire des tests médicaux quand vous arrivez au pays destiné ?

☐ Oui

☐ Non

***(Fin du questionnaire)***

***Merci de votre participation !***

## Check List

\*\* Note for data collector: Please fill this list by your self after you check the required document carefully

### General Information:

<b>Nationality</b>			
<b>Sex</b>	<input type="checkbox"/> Male	<input type="checkbox"/> Female	
<b>Age</b>	<input type="checkbox"/> 18-24	<input type="checkbox"/> 25-40	<input type="checkbox"/> More than 40
<b>Expected travel period</b>	<input type="checkbox"/> 1 week-2weeks	<input type="checkbox"/> 2week-4weeks	<input type="checkbox"/> More than 4 weeks
<b>Number of times travel</b>	<input type="checkbox"/> First time	<input type="checkbox"/> 2-5 times	<input type="checkbox"/> More

What	Status
1. There is International Vaccination Certificate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If no, any other related document? ( <u>Escape if Q1 =yes</u> )	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Certificate is valid regarding its expiration date?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. Country of issuing same for his/her nationality?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. English or French is one of certificate language?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6. Certificate including vaccination against Yellow Fever?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7. Vaccination against Yellow Fever taken in a period more than 10 days? ( <u>Escape if Q6=no</u> )	<input type="checkbox"/> Yes <input type="checkbox"/> No
8. Passport number written (similarly) in the certificate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9. Any name in the passport had separated Certificate? ( <u>In cases of additive persons</u> )	<input type="checkbox"/> Yes <input type="checkbox"/> No
10. Any amendment or change (s) in the certificate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
11. Signed or imprint by the person who hold it?	<input type="checkbox"/> Yes <input type="checkbox"/> No