
A Survey of International Inbound Passengers on Their Knowledge of the Health Statement

Abstract

The present survey used the cross-sectional method to study the extent of knowledge of international inbound passengers concerning the Health Statement. In February 2000 at the Hsiaokang International Airport in Kaohsiung, inbound domestic passengers arriving from Hong Kong, Macao, the Philippines, Vietnam, Thailand, Singapore, Malaysia and Japan were randomly selected for study. A structured questionnaire was used to personally interview 611 of these passengers. The results were processed and analyzed with SPSS for Windows 8.05 soft. Of those interviewed, 300 (49.1%) were males; and 284 (46.0%) were females. 48% (293/611) of them had their travel arrangements made by travel agents; and 41.1% (251/611) did not. 46.0% (281/611) knew that there was a quarantine office at the airport, though only 0.3% (2/611) knew that it was named the Center for Disease Control of the Department of Health. 53% (324/611) knew how to correctly fill in the Health Statement. 0.3% (2/611) had symptoms of diarrhea. No statistically significant difference by sex ($p>0.05$) was noted in passengers' ability to correctly answer the Health Statement. Of those passengers who had their

travel arrangements made by travel agents, 49.5% (139/281) knew how to correctly fill in the Health Statement; whereas 60.1% (149/248) of passengers who did not have their travel arranged for them knew how to do so. 74.5% (204/274) of passengers who knew there was a quarantine office at the airport knew how to fill in the Health Statement. This was higher than the 37.3% (120/322) of passengers who did not know of the existence of a quarantine office at the airport though they did know how to fill in the Health Statement. Both differences were statistically significant ($p < 0.05$).

The Health Statement used at international ports of entry by the Center for Disease Control, the Department of Health, is a rapid method of collecting information on imported communicable diseases. Survey findings showed that travel agents played a significant role in passengers' knowledge about the Health Statement: (the Health Statement was in most cases filled in by travel agents for passengers). Thus the cooperation of travel agents and tour leaders is extremely important to the health education of passengers and the screening of imported communicable diseases.

Introduction

In 1992, a total of 4,214,734 person-times of Taiwanese traveled abroad. This number increased to 5,912,383 person-times in 1998, an increase of 1.7 million person-times. Most of them (4,467,828 person-times, 75.56% of all) visited Asian countries and mainland China (22.4%). Tourism accounted for 60.2% of all; and 99.60% traveled by plane. Inbound foreign passengers totaled 2,298,705 person-times, arriving primarily by plane^(1,2).

Quarantine of passengers in Taiwan has gone through several stages. In the

early 1970's, a "disease surveillance questionnaire" was administered to passengers by quarantine officers; in August 1979, this questionnaire was renamed the "quarantine questionnaire" and consisted of three parts; in January 1985, it was changed to a two part questionnaire and named "Dear passenger and questionnaire". This practice was discontinued in August 1988 due to the high cost and low efficacy. In August 1994, a plague outbreak occurred in India; and in January through March 1995, many Japanese visitors contracted cholera in Indonesia. On April 1, 1985, the practice began for passengers coming directly from Bali, Jakarta, and Surabaya of Indonesia, Puket island of Thailand, and Vietnam to fill in a Health Statement. In late 1997, Hong Kong had an outbreak of avian flu (H5N1); passengers from Hong Kong were required to fill in the Health Statement for a month from January 1 to 31, 1998. In the period between April 1995 and June 1999, a total of 3,483,824 copies of the Health Statement were collected. On 12,751 copies of the statement (0.37% of the total), symptoms were reported. In all, 36 cases of notifiable and reportable diseases and 74 cases of other diseases were identified in this way^(3,4).

Collection of the Health Statement was time-consuming and impractical. After evaluation, the Statement was made a part of the Immigration Declaration and collected by customs officers. How to collect information on the health status of passengers requires further review, and quarantine authorities should be concerned with this issue.

The present survey on the knowledge of passengers about the Health Statement was a follow-up of previous studies on the public health of inbound and outbound passengers. The findings could be used for the formation of disease control policies.

Method and Materials

1. Office in-charge of the Survey: the Fifth Branch Bureau of the Center for Disease Control, the Department of Health
2. Survey Time: February 11, 2000
3. Subjects for Survey: By random multi-step method, passengers arriving on the first flight on February 11, 2000, from Hong Kong, Macao, the Philippines, Vietnam, Thailand, Singapore, Malaysia and Japan at the Hsiaokang International Airport were selected for survey (at least 60 effective copies of the questionnaire from each area).
4. Survey Method: The cross-sectional method was used. Passengers were interviewed in person with a structured questionnaire while they were waiting at the Immigration.
5. Contents of Questionnaire (see Appendix):
 - 1) sex, 2) travel arranged by travel agent (yes, no), 3) knowing about an office at the airport responsible for the health of passengers (yes, no), 4) knowing about the Health Statement part of the Immigration Declaration (yes, no), 5) self-reported symptoms (vomiting, diarrhea, abdominal pain, coughing, sore throat, insect bites, fever, lymph gland swelling).
6. Statistical Analysis: The SPSS for Windows 8.05 soft was used. Chi-square method was used for testing. When α level = 0.05 and $p < 0.05$, the difference was considered statistically significant.

Results

A total of 611 copies of the questionnaire were collected (73 from Hong Kong, 75 from Macao, 74 from the Philippines, 72 from Vietnam, 75 from

Thailand, 75 from Malaysia, and 93 from Japan), 300 (49.1%) males, and 284 (46.5%) females. 48.0% of them (293/611) had their travels arranged by travel agents; and 41.1% (251/611) did not. 46.0% of them (281/611) knew that there was a quarantine office at the airport; though only 0.3% (2/611) knew that it was named the Center for Disease Control. 53.5% (327/611) of all passengers did not know that there was such an office at the airport. 53.0% (324/611) of them knew how to correctly fill in the Health Statement; 44.5% (272/611) did not. 0.3% of them (2/611) had diarrhea. They came from mainland China via Macao.

1. No statistically significant difference between the sexes of the inbound passengers regarding their knowledge about the Health Statement was noted ($p > 0.05$).
2. 49.5% (139/281) of passengers who had their travels arranged by travel agents knew how to correctly fill in the Health Statement. This was lower than the 60.1% (149/248) of passengers who did not have their travels arranged by travel agents and yet knew how to correctly fill in the Health Statement. The difference was statistically significant ($\chi^2 = 5.98, p < 0.05$).
3. 74.5% (204/274) of those who knew of the existence of a quarantine office at the airport knew how to correctly fill in the Health Statement. This was higher than the 37.3% (120/322) of those that did not know that there was a quarantine office at the airport but knew how to fill in the Health Statement. The difference was statistically significant ($\chi^2 = 82.51, p < 0.05$).
4. 69.9% (51/73) of passengers arriving from Hong Kong knew how to correctly fill in the Health Statement. This was higher than the 52.2% (273/523) of passengers NOT arriving from Hong Kong who knew how to

fill in the Health Statement. The difference was statistically significant ($\chi^2 = 8.06, p < 0.05$).

5. Passengers arriving from Macao, the Philippines, Vietnam, Thailand, Singapore, Malaysia and Japan did not have any statistically significant differences in their knowledge of the Health Statement ($p > 0.05$).

Discussion

1. 46.0% (281/611) of the passengers surveyed knew of the existence of a quarantine office at the airport. However, only 0.3% (2/611) of them knew that the office was named the Center for Disease Control of the Department of Health. This finding indicates that many passengers were still unaware of the reorganization of the disease control system and its functions.
2. In July 1999, the Health Statement was made a part of the Immigration Declaration. Only 53.0% (324/611) of the passengers knew how to correctly fill in the Health Statement. More should be done by the quarantine and disease control authorities to educate passengers about the Health Statement.
3. 49.5% (139/281) of passengers who had their travels arranged by travel agents knew how to correctly fill in the Health Statement. This was lower than the percentage of those who did not have their travels arranged. The difference was statistically significant. In most cases, passengers who have their travels arrangements made by travel agents are helped by tour leaders with their immigration procedures. The Immigration Declaration is, in most cases, filled in for passengers by travel agents in advance.

Most passengers who have their travels arranged, do not read the Immigration Declaration carefully, and thus do not know about the Health Statement either.

4. More of those passengers who were aware of the existence of a quarantine office at the airport than those who were not aware of such an office knew how to correctly fill in the Health Statement. The difference was statistically significant. This finding indicates that passengers who are more concerned with health information know more about the Health Statement.
5. More passengers arriving from Hong Kong knew about the Health Statement than passengers arriving from other cities did. The difference was statistically significant. In late 1997, there was an avian flu outbreak (H5N1) in Hong Kong. In the month of January 1998, passengers arriving from Hong Kong were required to fill in the Health Statement. Quarantine officers were present at Immigration to help passengers with the Health Statement. The avian flu in Hong Kong, the massive information campaign, and the intensified quarantine measures during this period had made passengers more aware of the information and importance of the Health Statement.

Conclusion

Travel agents and tour leaders seemed to play an important role in the passengers' knowledge of the Health Statement. For effective disease control, their cooperation should be sought for further education, communication, and some incentive measures.

Limitations in the Survey

The person-to-person interview of passengers was conducted while they were waiting at the Immigration. The time available was short and the questionnaire had to be made brief.

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Questionnaire for the Survey on the Knowledge of the Health Statement

Date :

Flight No :

Interviewer :

Dear Passenger,

We are from the Center for Disease Control. This is a survey about your knowledge of the Health Statement. Thank you for your cooperation.

The Fifth Branch Bureau, CDC, DOH

1. Sex : 1) Male 2) Female.2. Travelling arranged by travel agents : 1) Yes 2) No3. Do you know there is a quarantine office at the airport responsible for the health of the people? 1) Don't know 2) Know : Name of the Office _____4. Do you know there is a Health Statement in the Immigration Declaration?
1) Don't know 2) Know

5. Did you have any of the following symptoms on this trip?

 1) diarrhea, abdominal pain, vomiting (____ times a day) 2) coughing, soar throat 3) mosquito, insect bite 4) fever 5) lymph swelling

Results for the Survey on the Knowledge of the Health Statement

Item	Passengers		Health Statement		χ^2 Value
	No (%)	Yes (%)	No (%)	Yes (%)	
Sex (N=570)					
Male	293 (51.4)	163 (55.6)	130 (44.4)		0.13
Female	277 (48.6)	150 (54.2)	127 (45.8)		
Arranged by Travel Agents (N=529)					
Yes	281 (53.1)	139 (49.5)	142 (50.5)		5.98*
No	248 (46.9)	149 (60.1)	99 (39.9)		
Quarantine Office (N=596)					
Knew	274 (46.0)	204 (74.5)	70 (25.5)		82.51*
Did not know	322 (54.0)	120 (37.3)	202 (62.7)		
Hong Kong (N=596)					
Yes	73 (12.2)	51 (69.9)	22 (30.1)		8.06*
No	523 (87.8)	273 (52.2)	250 (47.8)		
Macao (N=596)					
Yes	72 (12.1)	42 (58.3)	30 (41.7)		0.52
No	524 (87.9)	282 (53.8)	242 (46.2)		
Philippines (N=596)					
Yes	73 (12.2)	35 (47.9)	38 (52.1)		1.38
No	523 (87.8)	289 (55.3)	234 (44.7)		
Vietnam (N=596)					
Yes	71 (11.9)	38 (53.5)	33 (46.5)		0.02
No	525 (88.1)	286 (54.5)	239 (45.5)		
Thailand (N=596)					
Yes	74 (12.4)	42 (56.8)	32 (43.2)		0.20
No	522 (87.6)	282 (54.0)	240 (46.0)		
Singapore (N=596)					
Yes	72 (12.1)	34 (47.2)	38 (52.8)		1.68
No	524 (87.9)	290 (55.3)	234 (44.7)		
Malaysia (N=596)					
Yes	72 (12.1)	38 (52.8)	34 (47.2)		0.08
No	524 (87.9)	286 (54.6)	238 (45.4)		
Japan (N=596)					
Yes	89 (14.9)	44 (49.4)	45 (50.6)		1.02
No	507 (85.1)	280 (55.2)	227 (44.8)		

χ^2 -tset. $P^* < 0.05$.