

Preference of treatment facilities among Malaysian Hajj pilgrims for acute respiratory symptoms

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Acute respiratory symptoms are among of the most common problems faced by Hajj pilgrims who frequently need medical attention. Respiratory diseases were the most common cause of admission to hospital, with pneumonia being the leading reason for admission in 39% of all patients.¹ Over the years, approximately 25,000 Malaysian Hajj pilgrims travel to Makkah, Kingdom of Saudi Arabia. They are managed by the Malaysian Hajj Fund (Tabung Haji), a government linked company to take care of Malaysian Hajj pilgrims. They stay in the holy land for almost 40 days. Approximately two-thirds of the Hajj pilgrims go to Madinah first for 8 days. Then, they reside in Makkah for the rest of the Hajj journey. After completing the Hajj ritual, they proceed to Jeddah, and stay at Madinatul-Hujjaj of Jeddah for 2 nights awaiting their flight back to their country. Another third of the Hajj pilgrims goes directly to Makkah, and comes back via Madinah. In the year 2007 Hajj season, 256 members of the Tabung Haji Malaysia medical mission went to the holy land to take care of approximately 26,000 Malaysian Hajj pilgrims. The main role of a medical mission member was to make sure the Hajj pilgrims could perform the ritual Hajj practice in optimum health conditions. This team included 4 physicians, 41 medical officers, one pharmacist, one dietician, 59 nurses, and 50 medical assistants. Other staff involved was an x-ray radiographer, a medical technologist, and a physiotherapist. Tabung Haji Malaysia provided 16 clinics in Makkah, 3 in Madinah, and one in Jeddah. They also have 3 hospitals in Makkah, namely, Hospital Aziziah (80 beds), Syishah Medical Center (98 beds), and Al-Janadriah clinic (41 beds). In Madinah, one of the clinics has a transit ward consisting of 19 beds. If the patients need further treatment in the holy land, they are referred to the Saudi Ministry of Health's hospitals. Sixteen ambulances were available for patients' transportation. Fifty percent of the patients received treatments due to respiratory diseases. The aim of this study is to determine the choice of health facilities among Malaysian Hajj pilgrims for acute respiratory symptoms. This study focuses on specific symptoms of acute respiratory tract manifestation such as cough (with or without sputum), sore throat, runny nose, fever, and its duration.

A cross-sectional study was conducted among 2,000 Malaysian Hajj pilgrims from 23rd December 2007 to 23rd January 2008. Ethical approval was obtained from the Universiti Sains Malaysia Research and Ethics Committee. Informed consents were obtained from the participants. Survey forms were distributed at Madinatul-Hujjaj, Jeddah, and Tabung Haji Clinic, Madinah, Saudi Arabia where pilgrims stayed on transit before returning to Malaysia. The response to the survey was on voluntary basis. The inclusion criteria were Malaysian citizens that performed Hajj in the 2007M/1428H Hajj season, coming back via Madinatul-Hujjaj, Jeddah, or Madinah, Saudi Arabia, and with at least one respiratory symptom. The exclusion criteria were Hajj pilgrims who could not read or write in the Malay language.

Data were entered and analyzed using the SPSS software (SPSS, Chicago, USA) version 12.0. Results were expressed in terms of the number and percentage. For continuous variable, they were categorized in groups and analyzed similar to categorical variables. A p -value of <0.05 was considered to be statistically significant.

Out of 394 pilgrims that returned the completed questionnaires, 375 (95.2%) had one or more respiratory symptoms, and were included in the study. These were: 355 cough, 308 runny noses, 230 fevers, and 222 sore throat. Sixty-one (16.3%) were taking self-medication, 278 (74.1%) sought treatment from a Tabung Haji clinic; 11 (2.9%) were admitted to hospital, and 62 (16.5%) did not take any treatment for acute respiratory symptoms. Some of them sought more than one type of treatment. There were significantly more Hajj pilgrims with cough ($p=0.011$), runny nose ($p=0.040$), sore throat ($p=0.012$), and fever ($p=0.001$) attending the Tabung Haji clinic. There were also significantly more patients with cough for more than 2 weeks ($p=0.037$), and runny nose more than 2 weeks ($p=0.002$) attending the Tabung Haji clinic. There was no significant association between any respiratory symptoms with self-treatment and hospital admission (Table 1).

As a field clinic, the Tabung Haji clinic could cater to respiratory symptoms among Malaysian Hajj pilgrims. The Hajj pilgrims with respiratory symptoms were significantly seeking treatment at the Tabung Haji clinic. Some of the Hajj pilgrims took medication that they brought from their country. When their conditions did not improve or worsen, they sought medical

Disclosure. This study was funded by the Ministry of Higher Education, Malaysia through Universiti Sains Malaysia Hajj Research Cluster, Malaysia.

Table 1 - Association between specific respiratory symptoms, duration, and treatment preference by Malaysian Hajj pilgrims with respiratory symptoms.

Symptom	N	Self treatment			Attending Tabung Haji clinic			Admitted to hospital		
		Yes (%)	No (%)	OR (95% CI)	Yes (%)	No (%)	OR (95% CI)	Yes (%)	No (%)	OR (95% CI)
Cough	375	55 (90.2)	300 (95.5)	0.43 (0.16-1.16)	268 (96.4)	87 (89.7)	3.08 (1.24-7.65) ^a	10 (90.9)	345 (94.8)	0.55 (0.07-4.53)
Duration of cough more than 2 weeks*	362	20 (33.3)	128 (42.4)	0.68 (0.38-1.22)	117 (44.2)	31 (32.0)	1.68 (1.03-2.75) ^b	4 (40.0)	144 (40.9)	0.96 (0.27-3.47)
Runny nose	375	47 (77.0)	261 (83.1)	0.68 (0.35-1.32)	235 (84.5)	73 (75.3)	1.80 (1.02-3.16) ^c	9 (81.8)	299 (82.1)	0.98 (0.21-4.63)
Duration of runny nose more than 2 weeks [†]	365	10 (16.4)	81 (26.6)	0.54 (0.26-1.11)	78 (29.1)	13 (13.4)	2.65 (1.40-5.04) ^d	4 (40.0)	87 (24.5)	2.05 (0.67-7.45)
Sore throat	375	37 (60.7)	185 (58.9)	1.08 (0.61-1.88)	175 (62.9)	47 (48.5)	1.81 (1.13-2.88) ^e	5 (45.5)	217 (59.6)	0.57 (0.17-1.88)
Duration of sore throat more than 2 weeks [‡]	367	8 (13.6)	39 (12.7)	1.08 (0.48-2.45)	39 (14.3)	8 (8.5)	1.79 (0.81-4.00)	3 (27.3)	44 (12.4)	2.66 (0.68-10.40)
Fever	375	37 (60.7)	193 (61.5)	0.967 (0.55-1.70)	184 (66.2)	46 (47.4)	2.17 (1.36-3.47) ^f	9 (81.8)	221 (60.7)	2.91 (0.62-13.67)
Duration of fever more than 2 weeks [‡]	367	1 (1.6)	9 (2.9)	0.55 (0.07-4.42)	8 (3.0)	2 (2.1)	1.43 (0.30-6.85)	0 (0.0)	10 (2.8)	-

p-value significant at <0.05, ^a*p*=0.011, ^b*p*=0.037, ^c*p*=0.040, ^d*p*=0.002, ^e*p*=0.012, ^f*p*=0.001.

*13 respondents were excluded from analysis because they did not answer the question on duration of cough

[†]10 respondents were excluded from the study because they did not answer the question on duration of runny nose

[‡]8 respondents were excluded from the study because they did not answer the question on duration of sore throat and fever

treatment at their maktab (group) clinic. A minimal number of patients were referred to hospitals for further management. From the 278 seeking treatment from the Tabung Haji clinic for respiratory symptoms, only 9 patients (3.2%) needed further management at a hospital. Although respiratory conditions were the most common cause of hospital admission,¹ and the second most common intensive care admission,² a low hospital admission rate is expected in this series. The hospital is the last place for Hajj pilgrims to seek treatment. The Hajj pilgrims tried to avoid admission if they have milder symptoms. Some of the Hajj pilgrims still refuse to be admitted in severe condition, and wishes that they die during the holy period.³ More than 15% of Hajj pilgrims did not take modern medication if they contact acute respiratory symptoms. They probably had milder symptoms, and self-limiting condition. Distinguishing between the causes of acute respiratory symptoms is difficult. To differentiate one type of rhinitis from another, for example, is difficult because the diagnostic criteria for various forms of rhinitis are not always clear-cut.⁴ Only 51% of the etiological agents for acute respiratory syndromes were identified.⁵ Some of the acute respiratory syndromes are caused by emotion and exertion, which can be treated by avoidance of the risk factors and specific medication.

In conclusion, the Tabung Haji clinic is one of the important health facilities for Malaysian Hajj pilgrims to seek treatment for acute respiratory symptoms during the Hajj season.

Acknowledgment. We would like to acknowledge The Custodian of the Two Holy Mosques Hajj Research Center, Umm Al-Qura University, Makkah for supporting the accommodation and transportation during the research in Makkah, Tabung Haji Malaysia for continuous support and recommendation, and Ms. Rohana Che Yusof and Mr. Mohd Bazlan Hafidz Mukrim for helping in the data key-in.

Received 5th May 2009. Accepted 8th June 2009.

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